

**REPUBLIC OF SOUTH SUDAN
TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING
NON FORMAL TVET COMPETENCY BASED CURRICULUM**

LEARNER'S BOOK

**CERTIFICATE OF PROFICIENCY
IN
CATERING AND HOSPITALITY SERVICES**

SEPTEMBER 2019

DISCLAIMER

This training guide has been produced by the EMPOWER Project with financial support of the European Union. Its contents are the sole responsibility of the EMPOWER Consortium and do not necessarily reflect the views of the European Union.

FOREWORD

Learners are central to the success of any competence-based learning approach. This document is the Learner's Book which has been developed as part of the competence-based learning package of the South Sudan non-Formal TVET Curriculum development assignment. The purpose of this book is to provide essential competence-based learning information to the trainees of the seven priority trades. The document is presented in six sections.

Section one gives general introduction and goes further to give information on learning program, structure, organization of the training course contents, learning strategies in a competency based learning environment and how to use the learner's book. Section two provides for the theory of competence-based learning and its assessment criteria. Section three provides for the competency profile of the Certificate of Proficiency (Level I) holder and market job opportunities available on successful completion of the training. Section Four gives information on the various learning modules for the trade. Section five gives information on the on-job training during industrial attachment and section six gives the summary notes for theoretical understanding of the various modules theories, trade tools, equipment's and knowledge. This has been provided in the form of learning information sheet.

The competence-based curriculum gives the learners an opportunity for the second chance education through the acquisition of technical and vocational skills. It is my wish to the learners of these curricula to take this life-long journey seriously and make use of the learning opportunities provided to them to be of value addition. These opportunities will enable them acquire skills for direct employment in the relevant industries as well as for self-employment in the practice of trade specific skills.

The Ministry of General Education and Instruction wishes all the users of this Learner's Book the very best in their quest for discovering knowledge through competence-based learning.



Hon. Deng Deng Hoc Yai
Minister of General Education and Instruction

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ACRONYMS AND ABBREVIATION

AAH	Action Africa Help International
ACROSS	Association of Christian Resource Organisation Serving Sudan
ASK	Attitude Skills and Knowledge
APMC	Afri-Project Management Consultants
BBC MA	BBC Media Action
BEST	Basic Employable Skills Training
CBET	Competence Based Education and Training
DACUM	Developing A Curriculum
DDR	Disarmament, Demobilization and Reintegration
EBTVET	Enterprise Based Technical and Vocational Education and Training
EMPOWER	EU Constium implementing TVET project in South Sudan
EST	Employable Skills Training
EU	European Union
FCA	Finn Church Aid
GTZ	German technical development cooperation
IBTVET	Institution Based Technical and Vocational Education and Training
ICT	Information Communication Technology
ILO	International Labour Organization
JICA	Japan International Cooperation Agency
MCC	Module Completion Certificate
MoA	Ministry of Agriculture
MoGEI	Ministry of General Education and Instruction
MoG	Module Outcome Guide
MoLPSHRD	Ministry of Labour, Public Service and Human Resource Development
MTC	Multi-Purpose Training Centre
NFTVST	Non Formal Technical and Vocational Skills Training
NGO	Non-Governmental Organization
NRC	Norwegian Refugee Council
NVQF	National Vocational Qualifications Framework
OJT	On-The-Job training (OJT)
OJTC	On Job Training Curriculum
OHS	Occupational Health and Safety
PLAR	Prior Learning Assessment and Recognition
PLE	Prior Learning Experience
PPE	Personal Protective Equipment
PTH	Practical training hours
PV	Photovoltaic
RPL	Recognition of Prior Learning

RPLE	Recognition of Prior Learning experience
SDGs	Sustainable Development Goals
SSOPO	South Sudan Older People's Organization
TAR	Training Achievement Record
TTH	Theory training hours
TVET	Technical Vocational Education and Training
SMoL	State Minister of Labour
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
VOSDO	Vocational Skills Development Organization
VQF	Vocational Qualification Framework

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1.0 SECTION ONE: INTRODUCTION TO LEARNERS BOOK

1.1 INTRODUCTION

This learners' book is an information book that provides learners of certificate of proficiency (COP) in Catering and Hospitality Service trade with the key and strategic information that they need to know as they go about their competency based learning experiences. The curriculum learning experience has been designed such that the trainees learn both at the IBTVET and EBTVET. The South Sudan Non-Formal Competency based TVET curriculum has been designed to facilitate learning at three places namely, Theory classes at the IBTVET, Practical classes at the IBTVET practical workshop and on job training experience in the place of work within the respective industry of the trade.

This document provides learners with the key information about the competency based learning for the COP in Catering and Hospitality service. It gives the specific objectives for each of the competencies development learning modules as derived from the learning outcomes in the main curriculum training syllabus and the associated Trainers' Guide. The learning activities for each module are reflected in the Learners' Guide only in order to avoid unnecessary repetition and also with the understanding that each activity can only be executed effectively under the guidance of the trainer who is the facilitator of learning.

The document gives a sample revision questions and self-competency assessment questions. These are provided within the Learner's Guide to enable learners to gauge the extent to which they have digested the material associated with each module and learning outcomes as contained in the training syllabus. The learners are advised not to set the limit of his/her

scope of subject knowledge and competence to the few sample questions provided in this book. They should read wider so as to gain more knowledge and competencies. This is a long life learning journey experience and learners are encouraged to be motivated and learn to learn the skills that will increase their chances of getting sustainable livelihood within their communities and be motivated to continue with their lifelong learning journey so as to contribute to the attainment of SDG 4 in South Sudan.

Learning Information Sheet comprising of summarized notes for each unit of the module has been provided in this Learners' book only. The notes in the information sheet are only meant to compliment other additional references and reading materials provided by the trainer. Learners are also advised to obtain further reading materials from school/college libraries as well as from the internet and other prescribed text books.

The specific trade occupation skills that once acquired will lead to the award of certificate of proficiency in Catering and Hospitality Service trade are organised in the form of Modules which are in themselves self-contained complete Basic Employable Skills Training (BEST) programs capable of being offered and certified on their successful completion as single modules with the exception of module I that cuts across all the trades. The module one covers the issues surrounding specific trade theory, trade tools and equipment, occupational health and safety. Fundamentals of trauma awareness and understanding of competency based learning and its assessment criteria.

1.2 PRESENTATION OF OF THE LEARNERS BOOK

The course comprises of five modules of competencies with each module being a certifiable basic industry employable skill in the practice of occupation of Catering and Hospitality Service skills in the Catering and Hospitality Sector related work environment. The course aims at formal, non-formal and informal training for persons who wish to acquire the right knowledge, attitude and skills that will enable them to either engage in salaried employment in Catering and Hospitality Service business operating firms at junior level or be self-employed by managing their own business within the trade of Catering and Hospitality service course. The course training curriculum has been designed and developed to achieve the objectives of providing multi skilled worker for the occupation of Catering and Hospitality industry in South Sudan and beyond.

1.3 ORGANIZATION AND PRESENTATION OF THE LEARNERS BOOK

The competency based learning course for the Certificate of Proficiency in Catering and Hospitality comprises of life skills, trade theory, modules of technical competency in Catering and Hospitality, workshop practical training skills and on job training industrial attachment.

The course is structured into Core competencies attainment modules and Cross Cutting Skills Modules. Modules are subdivided into Units of Learning specific competencies which are further sub-divided into Learning Outcomes with Assessment Criteria. Each module is a comprehensive self-contained employable skills short course training capable of being offered alone. Each modules training has been designed to last for about 80-120 hours.

The course has been designed to allow for practical on the job training industrial attachment on completion of each module or with an option of industry attachment at the end of the IBTVET training on all the prescribed modules.

1.4 TRAINING AND LEARNIN STRATEGIES

Competency-based training delivery is based on the defined competency standards, which are established by the national industry standards or trade occupation standards. The traditional role of a trainer in delivery of this kind of training program changes and shifts towards facilitation of learning. A facilitator encourages and assists trainees to learn by themselves.

Trainees learn at their own pace. Individual differences are considered. Trainees present themselves for assessment only when they are ready. As trainees learn at different paces, they might well be at different stages in their learning, thus learning must be tailored to suit individual needs of the learners.

1.5 HOW TO USE THIS LEARNERS BOOK

This is a learner's book and as the name suggests, focuses on facilitating learning. Its aim is to guide the learners in conducting self-paced study that will enable them gain competencies and be certified with the skills for each module and with the entire modules on completion of all the qualifying modules of competency for certificate of proficiency in Catering and Hospitality Service trade.

This book is to guide learners of this important skills development program on the key learning testing questions, competency assessment criteria of self-assessment, formative assessment and summative assessment.

The learner's book also provides information on fundamentals of competency based learning and the differences between the traditional knowledge based approach to Education and competency based education and training approaches. It goes further to show learners on the key competencies profile for certificate of proficiency in Catering and Hospitality Service trade and job profile of the COP holder in Catering and Hospitality Service trade.

1.6 PRESENTATION OF THIS LEARNERS BOOK

The document is presented in six sections with section one providing for the introduction to the learner's book and goes further to give information on learning program structure, organization of the training course contents, learning strategies in a competency based learning environment, how to use the learners book and presentation of the learner's book.

Section two provides for the theory of competency based learning and its assessment criteria. Section three provides for the competency profile of the certificate of proficiency holder in Catering and Hospitality Service and market job opportunities available on successful development of the competencies upon the completion of the training. Section Four gives information on the various learning modules for gaining competencies

in the occupation of Catering and Hospitality service trade. Section five gives information on the job training during industrial attachment and section six gives the summary notes for theoretical understanding of the various modules theories, trade tools, equipment's and Occupational Health and safety. This has been provided in the form of learning information sheet which appears at the end of this document.

2.0 SECTION TWO : COMPETENCY BASED EDUCATION AND TRAINING

2.1 WHAT IS A COMPETENCY BASED LEARNING APPROACH?

Many learners and stakeholders of TVET learning eco system have taken their education and learning experience through the use of tradition approach. As such most people are not familiar with system requirement for effective competency-based learning approaches. This section of the learner's book is meant to provide you with basic answers to some of the most frequently asked questions about competency-based education learning, training, assessment and certification. The term competency-based education is an approach to designing learning programs with a focus on learners demonstrating that they attained module specific competencies as a result of going through their respective learning system. These competencies are related to knowledge, skills and abilities rather than time spent in a classroom to achieve the competencies.

According to the Competency-Based Education Network (C-BEN) 2017. The term competency-based education combines an intentional and transparent approach to curricular design with an academic model in which the time it takes to demonstrate competencies varies and the expectations about learning are held constant. Learners acquire and demonstrate their knowledge and skills by engaging in learning exercises, activities and experiences that align with clearly defined programmatic outcomes. Students receive proactive guidance and support from faculty and staff. Learners earn credentials by demonstrating mastery through multiple forms of assessment, often at a personalized pace. Competency-based education therefore is an approach to teaching and learning that clearly identifies the competencies that students must master on a module for them to be declared competent and awarded with module of competency completion certificate.

The certificate is issued on a gradual process and upon completion of the entire prescribed modules the learners are awarded with certificate of proficiency for that respective trade. Each module is designed to be a basic employable skills training module. Certificate is issued on the completion of each module because this can be an exit point to some learners who feels that they gained something and would wish to go a get employment and return latter to continue with the acquisition of skills.

The modern use of competency based approach to education and training concept has its origin in the United States of America in the late 1960s and 70s. Since then, many countries of the world are using the approach in the delivery of their education system and especially in the area of TVET programs. The individual and gradual training module certification received by the learners will later on qualify the learners for prior learning assessment experience when they wish to join other courses that could have similar modules that they have been trained on and certified to be competent in.

2.2 INFORMATION ON HOW TO CONDUCT COMPETENCY ASSESSMENT

Attainment of competency is undertaken through competency based assessment. There are different kinds of assessment that are administered to the learners. The most popular assessments that are usually administered to learners of these programs are:

Table 2.1 Information of types of assessment criteria

SNO	ASSESSMENT	DETAILS
1	Initial assessment:	This kind of assessment is taken on the admission to the vocational training centre. Its aim is to engage the occupation of interest and level of trauma based on the learner's background. South Sudan is one of the conflict affected countries of Africa. The learners being admitted in to these programs comes from various traumatised back ground and experiences. This assessment will help the institution, trainer and the sponsor to gauge the motivation for learning and identify any learning difficulty or challenge likely to be faced by the learners. This assessment will also inform on the need of giving learners numeracy and literacy skills.
2	Prior learning experience assessment:	This is carried out by the teacher who is engaged with the training of the learner. Since learners come from different background the aim of this assessment is to establish if the learner had previously acquired some competencies either through learning on the industry job working environment. In such a case the learner will apply for prior learning assessment and if they meet the requirement then such prior learning experience will be recognised and exempted. The forms for this application is provided for in the trainer's guide.
3	Self-assessment guide:	This is done by the learner on completion of each module. If the learner is convinced that he or she is now ready to be assessed then the learner will inform the trainer that he or she is ready to be assessed. Samples of these self-assessment guides for each module have been developed.

4	Formative Assessment:	<p>This is the assessment provided by the trainer to certify that the learner has attained the competencies. The trainee's performance in the formative assessment will be recorded on the trainee's achievement record. Instructors of this curriculum needs to be trained on how to administer a competency based assessment. This is because in a competency based learning assessment, the learner is either competent or not yet competent. When assessed and proved competent then they are awarded certificate of competency in that respect module or modules. If the assessment result shows that they are not yet competent then the communication is made to the learners who will repeat the learning on those modules until when they have attained competency and are ready for the assessment. The learning progression is individualised and each learner progresses in his or her own pace.</p>
5	5. Summative assessment:	<p>This is done at the end of the training by an external assessor from the industry. In most cases it is done practically when the learners are practicing their acquired skills through on job training. This curriculum design has provided for 20 hours on job training industrial attachment after each and every module or with an option of taking the on Job training on completion of all the prescribed modules. South Sudan needs to put down systems and policies to govern this kind of assessment practice and there is a need to identify professionals from each trade who can be used to go and administer this important assignment. This will also require active industry participation. In the absence of these, the trainers might be allowed to use the IBTVET assessment as the countries prepares to roll out this kind of assessment. There is also a great need for this training curriculum to be supported to be supported EBTVET training guide. These will be two. One for supporting the learner and the other one for supporting the on job training instructor.</p>
6	Competency attainment Verification	<p>This is done both internally and externally by the verifiers to confirm that indeed the competency has been attained by the learners</p>

2.3 INFORMATION ON CERTIFICATION SYSTEM FOR COMPETENCIES ATTAINED.

Learners who demonstrates the attainment of competencies will be issued with respective modules of competency certificate that shows that the learner has attained the competencies in the respective level occupation module and modules. There is no certificate being issued for module I as it is not an employable skills training. The certification is issued on a module by module basis and there will be gradual certification for each module where competencies have been attained. On completion of all the prescribed modules for the level training program, the learner will then be awarded with a final competency certification with the issue of certificate of proficiency in Catering and Hospitality Service trade.

3.0 SECTION THREE : COMPETENCY PROFILE FOR LEVEL 1 CATERING AND HOSPITALITY SERVICE

3.1 COMPETENCY PROFILE

The term competency profile refers to the key learning skills experience areas that trainees of the curriculum program are expected to demonstrate competence in as a proof that they have acquired learning through the occupation learning system and environment. The competence profile informs the formulation of learning outcomes, contents of design of modules of competency, application of Blooms taxonomy learning experience action verbs, self-assessment guide, formative assessment, summative assessment, verification and certification. In this document the competency profile has been classified in to 3 categories namely:

1. Core, Technical /functional or hard skills
2. Soft skills or self /personal skills
3. Business skills

The table below shows the competency profiles of the certificate of proficiency holder in Catering and Hospitality Service occupation.

Table 2.1 COMPETENCY PROFILE FOR COP IN CATERING AND HOSPITALITY SERVICE

Technical competencies	Soft skills competencies	Business skills
<ol style="list-style-type: none"> 1. Perform BASIC FOOD PREPARATION 2. Perform Basic food COOKING 3. Make Basic CAKE AND BREAD for various functions 4. Perform BASIC FOOD SERVICE 5. Perform HOUSE-KEEPING PROCEDURES 6. Perform basic LAUNDRY-WORK PROCEDURES 7. Perform basic Front office operations 8. Basic knowledge of billing guests and night auditing 	<ol style="list-style-type: none"> 1. Manage interpersonal communication 2. Self-Trauma awareness, assessment and management skills 3. Skills for Managing and dealing with e difficult and complaining customers 4. Environmental safety awareness 5. Knowledge of basic equipment's and tools for Catering and Hospitality profession. 6. Occupational Health and safety for Catering and Hospitality profession. 7. Learning to learn and self-study skills for the occupation of Catering and Hospitality service. 	<ol style="list-style-type: none"> 1. Small Catering and hospitality service business assistant 2. Perform basic Customer care services in Catering and Hospitality service trade. 3. Self-entrepreneur in Catering and Hospitality service business operations 4. Catering and Hospitality Service Service Business information and records keeping 5. Perform first aid

4.0 SECTION FOUR TRAINING SYLLABUS FOR LEVEL I CATERING AND HOSPITALITY SERVICE

4.1 MODULES OF COMPETENCY FOR BASIC CATERING AND HOSPITALITY SERVICE TRAINING

Table 4.1: Modules for training level I catering and hospitality

CODE	MODULES	NOMINAL HOURS	ON JOB I TRAINING HOURS
4.1	TRADE THEORY, SAFETY AND TOOLS IN CATERING AND HOSPITALITY	80	
4.2	BASIC FOOD PREPARATION AND COOKING	100	20
4.3	CAKE AND BREAD MAKING	100	20
4.4	BASIC FOOD SERVICE SKILLS	100	20
4.5	HOUSEKEEPING PROCEDURES	100	20
4.6	LAUNDRYWORK PROCEDURES	100	20
4.7	BASIC FRONT OFFICE OPERATIONS	100	20
TOTAL		680	120

TOTAL CHS MODULE COMPLETION TRAINING HOURS 800

4.1 MODULE 4.1: MODULE OF COMPETENCY FOR COP TRAINING IN CATERING AND HOSPITALITY

4.2 MODULE 4.2 BASIC FOOD PREPARATION AND COOKING TECHNIQUES

Table 4.2: Basic Food Preparation and Cooking Techniques Module

A: MODULE CODE	4.2	TTH	PTH	OJT
		30	70	20
B: UNITS OF MODULES				
<p>Unit of Learning 4.2.1: Observe and comply with occupational safety, health and environment practices</p> <p>On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <ul style="list-style-type: none"> 4.2.1.1 Understand occupational hazards 4.2.1.2 Outline accidents & safety 4.2.1.3 Perform first aid treatment 4.2.1.4 Explain waste disposal methods 4.2.1.5 Identify signs of pest infestation 4.2.1.6 Explain importance of energy conservation 				
<p>Unit of Learning 4.2.2: Observe principles of nutrition</p> <p>On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <ul style="list-style-type: none"> 4.2.2.1 Discover nutritional content of food. 4.2.2.2 Order special dietary requirements 				
<p>Unit of Learning 4.2.3: Observe and comply with hygiene practices</p> <p>On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <ul style="list-style-type: none"> 4.2.3.1 Recognize types of hygiene during food preparation. 4.2.3.2 Explain causes of food poisoning 4.2.3.3 Identify cleaning equipment and agents for use in food preparation 4.2.3.4 Examine cleaning and maintenance of different surfaces for carrying out food preparation 				
<p>Learning Unit 4.2.4: Use and Care of Kitchen Equipment</p> <p>On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <ul style="list-style-type: none"> 4.2.4.1 Categorise Kitchen equipment 4.2.4.2 Use and care of weighing and storing equipment 4.2.4.3 Use and care of food preparation equipment 4.2.4.4 Use and care of cooking equipment. 4.2.4.5 Use and care of food presentation equipment. 4.2.4.6 Identify materials used to make different kitchen tools and equipment 				
<p>Unit of Learning 4.2.5: Organize the Kitchen</p> <p>On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <ul style="list-style-type: none"> 4.2.5.1 Describe kitchen sections 4.2.5.2 Identify kitchen brigade 4.2.5.3 Carry out basic kitchen procedures. 				

Unit of Learning: 4.2.6: Select food commodities correctly

On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:

4.2.6.1 Categorize food commodities.

4.2.6.2 Use herbs, spices and condiments

4.2.6.3 Understand meat parts

4.2.6.4 Select poultry

4.2.6.5 Classify fish

4.2.6.6 Explain milk and milk products

4.2.6.7 Understand use of eggs

4.2.6.8 Select vegetables and fruits

4.2.6.9 Categorize cereals

4.2.6.10 Explain use of fats and oils

Unit of Learning: 4.2.7: Practice cooking of food

On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:

4.2.7.1 Classify cooking methods

4.2.7.2 Produce stock, soup and sauce

4.2.7.3 Prepare potato dishes.

4.2.7.4 Produce farinaceous dishes/cereals

4.2.7.5 Make vegetable dishes.

4.2.7.6 Produce egg dishes

4.2.7.7 Prepare beef dishes.

4.2.7.8 Produce fish dishes

4.2.7.9 Produce chicken dishes

C: Sample Questions

1. Identify and explain common causes of accidents in the kitchen.
2. Explain the elements of fire triangle.
3. Apply firefighting devices.
4. Outline fire emergency procedures
5. List the contents of first aid kit.
6. Explain methods of waste disposal
7. Identify common pests, signs of pest infestation and their control
8. What are the advantages and disadvantages of fuel used in hospitality establishments?
9. State factors to consider when purchasing or hiring kitchen equipment.
10. Using examples explain the following:
 - Cooking kitchen equipment
 - Storing kitchen equipment.
11. Summarize essential nutrients found in food.
12. Distinguish between food poisoning and food borne illness
13. Illustrate different vegetable cuts.
14. Differentiate herbs from condiments
15. Explain degree of doneness.
16. Identify points to consider when purchasing fish.
17. Explain uses of milk.
18. Explain the functions of eggs in food production.
19. Identify vegetables classification.
20. List the reasons of cooking food.
21. State three potato dishes.
22. State four ways of preparing eggs.

4.3 MODULE 4.3: CAKE AND BREAD MAKING

Table 4.3: Cake and Bread Making Module

A: MODULE CODE	4.3	TTH	PTH	OJT
		30	70	20
B: UNITS OF MODULES				
<p>Unit of Learning 4.3.1: Observe and comply with hygiene practices On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <ul style="list-style-type: none"> 4.3.1.1 Classify types of hygiene. 4.3.1.2 Explain causes of food poisoning. 4.3.1.3 Identify and use cleaning equipment and agents 4.3.1.4 Cleaning and maintenance of different surfaces. 				
<p>Unit of Learning 4.3.2: Use and Care of Kitchen Equipment On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <ul style="list-style-type: none"> 4.3.2.1 Categorise kitchen equipment 4.3.2.2 Use and care of weighing and storing equipment. 4.3.2.3 Use and care of food preparation equipment. 4.3.2.4 Use and care of cooking equipment. 4.3.2.5 Use and care of food presentation equipment. 4.3.2.6 Identify materials used to make different kitchen tools and equipment to avoid damage when washing or cooking 				
<p>Unit of Learning 4.3.3: Apply different cakemaking methods On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <ul style="list-style-type: none"> 4.3.3.1 Explain making cakes methods 4.3.3.2 Produce rubbed in cake. 4.3.3.3 Produce creamed cake. 4.3.3.4 Produce whisked cake. 4.3.3.5 Produce melted cake. 				
<p>Unit of Learning: 4.3.4: Make and use cake icing and decorate On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <ul style="list-style-type: none"> 4.3.4.1 Prepare and use butter icing 4.3.4.2 Prepare and use glaze icing 4.3.4.3 Prepare and use royal icing 4.3.4.4 Prepare and use fondant icing 4.3.4.5 Prepare and use fudge icing 				
<p>Unit of Learning: 4.3.5: Preparation of yeast dough On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <ul style="list-style-type: none"> 4.3.5.1 Explain types of yeast 4.3.5.2 Prepare buns and rolls 4.3.5.3 Prepare croissants 4.3.5.4 Prepare bread 4.3.5.5 Prepare doughnuts 				

C: Sample Questions

1. Identify and explain common causes of accidents in the kitchen.
2. List the contents of first aid kit.
3. Explain methods of waste disposal
4. Identify common pests.
5. State factors to consider when purchasing or hiring kitchen equipment.
6. List ingredients used in cake making.
7. Explain methods of making cakes.
8. State reasons for common faults in cake making.
9. List points to consider when making icing.
10. Outline procedure for making the following icings butter icing;
11. Explain conditions necessary for yeast fermentation.

4.4 MODULE 4.4: BASIC FOOD SERVICE SKILLS

Table 4.4: Basic Food Service Skills Module

A: MODULE CODE	4.4	TTH	PTH	OJT
		30	70	20
B: UNITS OF MODULES				
<p>Unit of Learning 4.4.1: Use and care food service equipment</p> <p>On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.4.1.1 Select service equipment</p> <p>4.4.1.2 Describe Tableware</p> <p>4.4.1.3 Handle Chinaware and glassware.</p> <p>4.4.1.4 Use restaurant linen.</p>				
<p>Unit of Learning 4.4.2: Describe hospitality industry</p> <p>On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.4.2.1 Describe food and beverage operations</p> <p>4.4.2.2 Explain the attributes and etiquette of service staff</p> <p>4.4.2.3 Explain importance of back of house departments</p> <p>4.4.2.4 Discuss food service methods</p>				
<p>Unit of Learning 4.4.3: Apply menu knowledge</p> <p>On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.4.3.1 Explain types of menus.</p> <p>4.4.3.2 Design a menu card</p> <p>4.4.3.3 Identify accompaniment and covers for different dishes.</p>				
<p>Unit of Learning 4.4.4: Practice basic technical skills</p> <p>On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.4.4.1 Use of a service salver</p> <p>4.4.4.2 Use of a service plate</p> <p>4.4.4.3 Carry plates and glasses.</p>				
<p>Unit of Learning 4.4.5: Carry out previous preparation tasks</p> <p>On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.4.5.1 Carry out mis-en-scene and mis-en-place tasks</p> <p>4.4.5.2 Lay the table.</p> <p>4.4.5.3 Fold napkins</p>				
<p>Unit of Learning 4.4.6: Carry out service of meal (Table service)</p> <p>On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.4.6.1 Welcome and seat a guest</p> <p>4.4.6.2 Take an order</p> <p>4.4.6.3 Carry out meal service</p> <p>4.4.6.4 Clear soiled plates.</p> <p>4.4.6.5 Bill a guest.</p> <p>4.4.6.6 Carry out post service tasks.</p>				

C: Sample Questions

1. List potential hazards in the work place.
2. Outline the sequence of an accident report.
3. Describe different types of waste produced in the work place.
4. Name the types of fuels commonly used in hospitality establishments.
5. Explain the term tableware.
6. Explain the attributes and etiquette of service staff.
7. Explain importance of the following back of house department of wash up.
8. Discuss the table food service methods.
9. Explain different types of menus.
10. Explain the uses of a service plate
11. Differentiate between Mis en scene and mis en place tasks.

4.5 MODULE 4.5: HOUSEKEEPING PROCEDURES

Table 4.5: Housekeeping Procedures Module

A: MODULE CODE	4.5	TTH	PTH	OJT
		30	70	20
B: UNITS OF MODULES				
<p>Unit of Learning 4.5.1: Selection and use of housekeeping equipment and cleaning agents On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.5.1.1 Classify cleaning equipment 4.5.1.2 Use and care of manual cleaning equipment. 4.5.1.3 Use and care mechanical cleaning equipment. 4.5.1.4 Selection and use of cleaning agents</p>				
<p>Unit of Learning 4.5.2: Apply housekeeping operations On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.5.2.1 Explain the functions of housekeeping department. 4.5.2.2 Explain cleaning frequencies 4.5.2.3 Explain cleaning methods 4.5.2.4 Identify floors types 4.5.2.5 Identify Wall coverings</p>				
<p>Unit of Learning 4.5.3: Practice Cleaning of Public Areas On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.5.3.1 Clean a painted wall 4.5.3.2 Clean corridors 4.5.3.3 Clean staircase 4.5.3.4 Clean a bathroom. 4.5.3.5 Clean windows and window panes/glasses 4.5.3.6 Make a bed</p>				
<p>C: Sample Questions</p> <ol style="list-style-type: none"> 1. Explain how to prevent the hazards in housekeeping department. 2. State the causes and prevention of fire. 3. Explain methods used to dispose refuse. 4. Explain ways of controlling pests. 5. Discuss causes of infections 6. State factors to consider when choosing cleaning equipment. 7. List the properties of a good detergent. 8. Explain the functions of housekeeping department. 9. State the reasons for cleaning. 10. Explain the Bed making procedure 				

4.6 MODULE 4.6: LAUNDRYWORK PROCEDURES

Table 4.6: Laundry Work Procedures Module

A: MODULE CODE	4.6	TTH	PTH	OJT
		30	70	20
B: UNITS OF MODULES				
<p>Unit of Learning 4.6.1: Selection and use of Laundry Equipment and Laundry Agents On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.6.1.1 Identify laundry tools and equipment 4.6.1.2 Use and care of drying and ironing equipment 4.6.1.3 Use of laundry agents</p>				
<p>Unit of Learning 4.6.2: Apply Knowledge on Textile Science On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.6.2.1 Classify textile fibers. 4.6.2.2 Discuss vegetable fibers. 4.6.2.3 Discuss animal fibers</p>				
<p>Unit of Learning 4.6.3: Carry out Laundry Operations On completion of this learning unit, the trainee will be able to demonstrate the following competencies according to industry standards and/or requirements:</p> <p>4.6.3.1 Illustrate care label symbols. 4.6.3.2 Explain laundering processes 4.6.3.3 Remove stains. 4.6.3.4 Launder table linen and napkin 4.6.3.5 Launder woolen article. 4.6.3.6 Launder shirt and blouse</p>				
<p>C: Sample Questions</p> <ol style="list-style-type: none"> 1. Outline the procedure of preparing laundry starch. 2. Use a Flow chart to illustrate the laundering process. 3. State the principles of laundering articles. 4. Explain any laundry equipment. 5. State four laundry agents 6. Identify symbols found on label on a garment. 7. State the Points to consider when removing stains. 8. Explain the Treatment of the following types of black ink stain. 9. Outline the Process of laundering white cottons. 10. State the importance of Starching of articles. 11. State the General rules for ironing articles. 12. State the qualities of a well laundered article 				

5.0 SECTION FIVE : ON JOB TRAINING GUIDE

5.1 ON THE JOB TRAINING INDUSTRIAL ASSIGNMENT

Table 5.1: Industrial Attachment training guide

	All modules	
Module Level:	I	
Total Hours:	100	
Prerequisite	Modules of Level I	
Learning Outcomes	Performance Indicators	Assessment Criteria
2.6.1 Food Preparation and Cooking	2.6.1.1 Occupational safety, health and environment practices. 2.6.1.2 Principles of nutrition. 2.6.1.3 Hygiene practices. 2.6.1.4 Kitchen equipment handling 2.6.1.5 Kitchen organization. 2.6.1.6 Food commodities selection. 2.6.1.7 Food cooking practice.	<ul style="list-style-type: none"> • Direct observation • Practical demonstration
2.6.2 Cake and Bread Making	2.6.2.1 Occupational safety, health and environment practices 2.6.2.2 Hygiene practices. 2.6.2.3 Kitchen equipment handling 2.6.2.4 Cake making methods. 2.6.2.5 Cake icing and decoration. 2.6.2.6 Yeast doughs preparations.	<ul style="list-style-type: none"> • Direct observation • Practical demonstration
2.6.3 Food Service Skills	2.6.3.1 Occupational safety, health and environment practices 2.6.3.2 Food service equipment handling 2.6.3.3 Hospitality industry description 2.6.3.4 Knowledge of menu 2.6.3.5 Technical skills practice 2.6.3.6 Previous preparation tasks practices	<ul style="list-style-type: none"> • Direct observation • Practical demonstration
2.6.4 Housekeeping Procedure	2.6.4.1 Occupational safety, health and environment practices 2.6.4.2 Hygiene practices 2.6.4.3 Housekeeping equipment and cleaning agents selection and use 2.6.4.4 Housekeeping operations practices 2.6.4.5 Public areas cleaning practices	<ul style="list-style-type: none"> • Direct observation • Practical demonstration

2.6.5 Laundry-work Procedures	2.6.5.1 Occupational safety, health and environment practices 2.6.5.2 Hygiene practices 2.6.5.3 Laundry equipment and laundry agents selection and use 2.6.5.4 Textile science knowledge application 2.6.5.5 Laundry operations practice	<ul style="list-style-type: none"> • Direct observation • Practical demonstration • Oral Questioning, • Presentations by trainees, 																								
<p>Sessional assessment will be adopted and the following guidelines should be followed regarding Industrial attachment marks:</p> <table border="0" style="width: 100%;"> <tr><td>1. Participation</td><td style="text-align: right;">25%</td></tr> <tr><td>2. Attendance</td><td style="text-align: right;">10%</td></tr> <tr><td>3. Time Management</td><td style="text-align: right;">10%</td></tr> <tr><td>4. Log book:</td><td style="text-align: right;">15%</td></tr> <tr><td>5. Safety</td><td style="text-align: right;">5%</td></tr> <tr><td>6. Communication skills</td><td style="text-align: right;">5%</td></tr> <tr><td>7. Creativity</td><td style="text-align: right;">5%</td></tr> <tr><td>8. Customer care</td><td style="text-align: right;">5%</td></tr> <tr><td>9. Cleanliness and hygiene</td><td style="text-align: right;">5%</td></tr> <tr><td>10. Readiness to be corrected</td><td style="text-align: right;">5%</td></tr> <tr><td>11. Team work</td><td style="text-align: right;">5%</td></tr> <tr><td>12. General conduct</td><td style="text-align: right;">5%</td></tr> </table>		1. Participation	25%	2. Attendance	10%	3. Time Management	10%	4. Log book:	15%	5. Safety	5%	6. Communication skills	5%	7. Creativity	5%	8. Customer care	5%	9. Cleanliness and hygiene	5%	10. Readiness to be corrected	5%	11. Team work	5%	12. General conduct	5%	
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11. Team work	5%																									
12. General conduct	5%																									
<p>Internal evaluation & marks: Total internal marks are 100. Marks shall be awarded at the end of every module of the attachment</p>																										

6.0 SECTION SIX : LEARNERS INFORMATION SHEET

6.1 BASIC FOOD PREPARATION AND COOKING

Control of Substances Hazardous to Health (COSHH)

The Control of Substances Hazardous to Health Regulations 1999 (COSHH) state that an employer shall not carry on any work which is liable to expose any employees to any substance hazardous to health unless he has made a suitable and sufficient assessment of the risks created by work to the health of these employees.

What does COSHH require?

- The basic principles of occupational hygiene underlie the COSHH Regulations.
- Assess the risk to health arising from work and what precautions are needed.
- Introduce appropriate measures to prevent or control the risk.
- Ensure that control measures are used, that equipment is properly maintained, and procedures observed.
- Where necessary, monitor the exposure of the workers and carry out an appropriate form of surveillance of their health.
- Inform, instruct and train employees about the risks and the precautions to be taken

The employer's responsibilities are to:

- Provide and maintain premises and equipment that are safe and without risk to health
- Provide supervision, information and training
- Issue a written statement of 'safety policy' to

employees, to include general policy with respect to the health and safety at work of employees, the role of the organization in ensuring the policy is carried out, how the policy will be made effective.

- Consult with employees' safety representative and establish a Safety Committee.

Employees' Duties

- Employees have a duty to use correctly all work items provided by the employer in accordance with the training and instructions they have received to enable them use the items safely.
- Employees must immediately inform their employer, or person responsible for health and safety, of any work situation that might present a serious and imminent danger.
- Employees should report any shortcomings in the health and safety protection arrangements in the company

6.2 SAFETY IN THE KITCHEN

Hazard

Hazard means anything that can cause harm e.g. Chemicals, electricity, working from ladders.

Hazards in the kitchen

- a) Slippery floors
- b) Unmaintained surfaces
- c) Damaged equipment
- d) Poor posture
- e) Falling objects
- f) Sharp tools and objects

- g) Unprotected electrical wires
- h) Hot equipment
- i) Unskilled workers

Causes of accidents include;

- (i) Excessive haste
- (ii) Distraction
- (iii) Failure to observe and apply safety rules

Prevention

- (i) Excessive haste should be avoided in the kitchen. Golden rule “Never run in the kitchen”, should be observed.
- (ii) Accidents may be caused by not concentrating on the job at hand through lack of interest, personal worry or paying attention to something else. Always keep your mind on the job at hand.
- (iii) Always observe safety rules when using equipment in the kitchen.

Types of accidents

- Cuts; use knives properly, avoid misuse of China or glassware.
- Burns; assume that every pot and pan is hot.
- Falls; Keep floors clean and dry.
- Strains; ask for assistance to lift heavy loads from point A to B.

Accidents caused by careless use of machines.

- a) One person should operate controls of machine at a time.
- b) Machine should be in correct running order before use.
- c) Manufacturer’s instructions must be followed on the use of machines.
- d) Machine attachments should be correctly assembled and only correct tools used.
- e) When using mixing machines, hands should not be placed inside the bowl until the blades have stopped moving.

- f) Plugs should be removed from sockets when the machine is being cleaned. This is to prevent accidental switching on by someone else.

Cuts and scratches

- a) Use correct knives for appropriate jobs
- b) Learn to operate machines in the kitchen. If you don’t understand always ask for assistance.
- c) Never try to catch a falling knife. Move out of its way and let it fall down.
- d) Never use a knife to open lids or tins.
- e) Knives should always be sharp and clean. Blunt knives cause accidents due to excessive pressure that is usually applied when cutting.
- f) Knife handles should always be free of grease to avoid slipping off.
- g) Knives should always be carried pointing down.
- h) Knives should not be put in wash up sinks.
- i) Store knives in a safe dry place when not in use.
- j) Cutting blades on machines should always have guards in place when machines are not in use.
- k) Use chopping board for cutting purposes.
- l) Fingers should not be inserted when machines are in use.

Burns and scalds

A burn is caused by dry heat while a scald is caused by moist heat.

- a) Wear suitable clothing in the kitchen. Sleeves of jacket must be rolled down. Aprons must be worn to a sensible length.
- b) Oven gloves must be used when handling hot pans, removing or putting anything in the oven.
- c) Trays or hot pans containing hot liquids should be handled properly and carefully.
- d) Dust white flour on hot items from the oven to caution everybody who might want to handle the item.
- e) Hot pans or trays removed from the oven should be placed on a safe place.

- f) Handles of cooking pans should not protrude over the edge of the stove as the pan may be knocked down easily.
- g) Avoid splashing hot fat when frying by carefully lowering food into the hot fat.
- h) Avoid splashing when passing hot liquids through a strainer.

Safe clothing

- Wear strong, comfortable shoes with good grip
- Do not wear excessively loose clothing otherwise sleeves may be caught when working using machines
- Keep uniforms free of pins and gadgets which may drop in food.

Safety in the kitchen

- a) Learn to operate all the machines in the kitchen. If you don't understand, ask your Supervisor.
- b) Keep the blades of the knives and slicers always sharp.
- c) Store knives in safe and dry places when not in use.
- d) Knives should never be left in a sink or in an area where they cannot be seen.
- e) Never try to catch on a falling knife. Move out of its way and let it fall.
- f) Use an appropriate knife for the appropriate job.
- g) Never use a knife to open lids or tins.
- h) Hold knives and sharp tools by the handle.
- i) Use a chopping board and cut away from your body.
- j) Hold knives close to your body with sharp end facing down.
- k) Do not be absent minded when using a knife.
- l) Always turn the machine off before cleaning it and after use.
- m) Know the safety guards and precautions of every machine and use them.
- n) Dust white flour on hot items from the oven to caution everybody else who might want to handle them.

Safety measures in the kitchen

- a) Remove the nails when opening boxes or crates and do not bend them.
- b) Store heavy materials at the bottom of the shelves and light ones on top.
- c) Keep food containers covered unless in actual use.
- d) Keep the store very clean and eliminate the hiding and breeding places for rats and cockroaches.
- e) Do not store any material near the light bulbs.
- f) Use ladders to get things from the top of your store, not crates, chairs or boxes.
- g) Avoid carrying or lifting too heavy objects. If you lift heavy ones, keep your back straight.
- h) Open any food materials away from food.

Food preparation operations

- a) Use only dry cloth or towels to handle hot utensils.
- b) Lift edges of covers on side away from you, from a boiling or steaming pot.
- c) Keep stove tops and hoods free from grease to avoid dangerous fires.
- d) Keep handles of pans away from stove in line with the edge to avoid the blushing off.
- e) Keep the pans handle away from an open flame.
- f) Seek for help in moving heavy and hot containers.
- g) Check all the urns spigot and valves are in good order.
- h) When drawing hot water or coffee turn the spigot slowly to avoid the rush and splash.
- i) Clean the oven after cooling down.
- j) Protect food from foreign substances e.g. broken bottles etc.
- k) Avoid over filling containers with hot liquids for foods.

Fire breakout in the kitchen

- a) When fire breaks out in the kitchen, consider the following points: -
- b) Switch off all the energy supplies (i.e. gas main switch, electricity main switch).

- c) Close all the windows and ventilations.
- d) If the fire is small, try to extinguish using the available fire extinguisher i.e.
 - Rubbish or wood fire use water,
 - Oil fire— use foam or baking soda,
 - Electrical fire— use CO₂.
- e) If the fire is uncontrollable, make sure everybody leaves the kitchen or the building.
- f) Call the fire brigade and follow their instructions.

Prevention of fire in the kitchen

- a) Keep the hoods, oven ranges, deep fat fryers etc., from accumulated grease or dirt.
- b) Avoid splattering liquids (water or stock) into very hot oil or fat.

Drawers and doors

- a) Keep the doors closed to avoid pinching fingers and hands.
- b) Open and close doors by handles or knobs to avoid crushing fingers.

Machine used for food preparation

- a) Never use any machine you have not been trained to use.
- b) Switch 'off' machine before cleaning or adjusting it.
- c) Check all switches on electric appliances to see that they are 'off' before plugging into the outlet.
- d) Proper care should be taken when cleaning the slicing machine.
- e) Do not start a mixing machine until the bowl or kettle is fixed properly.
- f) Always use the proper tool for pushing food into a grinder.

China and glassware

- a) Exercise care in handling China and glassware dishes.
- b) Chipped or cracked China and glassware should be discarded.
- c) Use a dust pan and broom to sweep up the broken China and glassware broken pieces.

- d) Never mix pot and China and glassware in one sink.
- e) Do not use a glass as an ice scoop.
- f) Drain off water from sink (soapy water) if you suspect a broken glass.

Floors

- a) Keep the floors clean and dry always.
- b) Walk carefully in the kitchen during the humid and muggy weathers; the floors tend to be slippery.
- c) Do not run in the kitchen.
- d) Do not leave utensils on the floor otherwise one falls on them.

ELEMENTS OF THE FIRE TRIANGLE

For a fire to start, three things are needed:

- (i) A source of ignition (heat); such as hot surfaces, electrical equipment, naked flame or smoke
- (ii) Fuel; flammable gases, liquids or solids.
- (iii) Oxygen; which is always present in the air.

If any one of the three is missing, then fire will not start.

TYPES OF FIRE

Fires are classified into;

- (i) Class A; fire involving solid materials such as wood, papers etc.
- (ii) Class B; fires involving liquids or liquefiable solids such as paints, oils or fats.
- (iii) Class C; fires involving gases.
- (iv) Class D; fires involving metals

Firefighting equipment

- (i) Bucket of water
- (ii) Bucket of sand
- (iii) Hose reels
- (iv) Fire extinguishers
 - Red; used for wood, paper, fabrics I etc.
 - Blue; used for flammable liquids and gases.
 - Cream; used for flammable liquids, oils, fats
 - Green and black; used for electrical and flammable liquids.
- (v) Fire blankets

Fire emergency

In the event of fire;

- Operate the nearest fire alarm.
- Attack the fire if no personal risk is involved.
- Close the windows, switch off electrical appliances.
- Close the door and report immediately to the supervisor.
- Carry out instructions e.g. arouse/awake guests and make sure that rooms are empty.
- Report to the assembly point for roll call
- Do not use lifts.

Accident reporting

If, despite training and vigilance, accidents occur it is a legal requirement that fatalities and major injuries must be reported immediately to the relevant enforcing authority. The accident report subsequently made in writing should provide the following information:

- Personal particulars of persons injured.
- Date and time of accident.
- Where and how the accident happened.
- Nature and extent of injuries occurring.
- Particulars of any witnesses.
- Description of any treatment given and by whom.

In any organization or company an accident book must be kept on the premises. If it is not the employer's premises or his principal premises, then records should also be kept at head office. The accident book must show for any accident:

Fire breakout in the kitchen

When fire breaks out in the kitchen, consider the following points: -

1. Switch off all the energy supplies (i.e. gas main switch, electricity main switch).
2. Close all the windows and ventilations.
3. If the fire is small, try to extinguish using the available fire extinguisher i.e.
 - Rubbish or wood fire use water,

- Oil fire— use foam or baking soda,
 - Electrical fire— use CO₂.
4. If the fire is uncontrollable, make sure everybody leaves the kitchen – building.
 5. Call the fire brigade and follow their instructions.

Prevention of fire in the kitchen

- Keep the hoods, oven ranges, deep fat fryers etc. from accumulated grease or dirt.
- Avoid splattering liquids (water or stock) into very hot oil or fat.

FIRST AID

First aid is skilled application of accepted principles of treatment when injury or sudden illness occurs.

First Aid box

First aid boxes are required to be available to all members of staff in the establishment under First Aid Regulations. The box must be checked regularly to ensure they contain the following:

- a) Waterproof adhesive dressings
- b) Rolled bandages
- c) Triangular bandages
- d) Sterilized cotton wool
- e) Sterilized dressing
- f) Pair of tweezers
- g) Scissors
- h) Safety pins
- i) Antiseptic
- j) Pain killers
- k) Plastic gloves
- l) Report book to report all injuries

First aid treatment

Shock

This may be caused through an injury-giving rise to pain, through hemorrhage or mental stimulus such as bad news. The patient complains of feeling cold and shivery and a pale face. Breathing becomes shallow and fast. Pulse rate increases.

- Lay the patient flat on the back with the head low and turned to one side.
- Raise the legs.
- Loosen all tight clothing
- Keep the patient warm by covering them with a blanket.
- Avoid giving anything by mouth.

Fainting

This is brief loss of consciousness caused by temporary not having enough oxygen flowing to the brain. This can be caused by sudden pain, sudden fright, lack of food and standing for a long time.

- Advise the person to sit on a chair and lean forward with head between the knees.
- Let the person take deep breaths.
- If the person is unconscious, lay the person down, raise the legs.
- Loosen tight clothing
- Place the person in a place with plenty of fresh air or under a shade.

Cuts and abrasions

- Wash the wound under running water.
- Protect the wound with a sterile swab.
- If bleeding continues, apply direct pressure to the wound.
- Dress a small wound with an adhesive dressing and a large one with a dressing, pad and bandage.

Nose bleeding

This can occur after a punch, sneezing or blowing or picking the nose.

- Get the person to sit with the head forward.
- Loosen any tight clothing round the neck and chest.
- Let the person to breathe through the mouth.
- Pinch the soft part of the nose. After 10 minutes release the pressure and repeat if necessary.
- Warn the person not to blow the nose.
- If bleeding does not stop after an hour, then seek for medical help.

Fractures

A fracture is a broken or cracked bone. A person suffering from broken bones should not be moved until the injured part is secured so that it cannot move.

Burns and scalds

Burns are caused by dry heat, hot fat or oil. A scald is caused by moist heat.

Burns may also be caused by clothes catching fire. The flames should be smothered with a blanket and the patient laid down and then treated for shock.

For minor burns where the skin is not broken;

- Place the injured part under slowly running water.
- Keep it there for at least 10 minutes or until the pain ceases.

For more serious burns or scalds;

- Exclude air by covering the affected part with clean dry dressing.
- Do not apply lotions or ointments.
- Do not break the blisters.
- Treat for shock.
- If necessary, seek medical attention.

Electric shock

Electric shock can be caused by a variety of faults in and mishandling electrical equipment and may result in burns, shock and even death.

- Switch off the current.
- If not possible, free the person by using a dry insulating material. Avoid using bare hands to prevent transmission.
- If breathing has stopped, give artificial respiration and send for a doctor.
- Treat any burns as explained above.

Poisoning

Poison is any substance which if taken into the body in sufficient amounts can cause temporary or permanent damage. Poisoning may result from swallowing, inhaling or injecting poisonous substances. Symptoms of food poisoning include abdominal pains, nausea, headaches,

fever and the person may have symptoms of shock.

- Get the person to rest
- Give plenty of drinks
- Seek medical help.

6.3 WASTE DISPOSAL

The disposal of waste products is essential as lack of it or absence of an efficient system would be a health hazard. Bacteria growth is fast in such a medium and if not attended would result to fatal diseases.

Types of waste

- Solid; composed of refuse, garbage and rubbish.
- Liquid/sewage; this is liquid waste from sinks, baths, lavatory basins and WC pans.
- Gaseous; carbon dioxide from burning coal, oil or natural gases.

Methods of waste disposal

- Burying/landfilling; this is large scale planned burial of solid waste; broken glass, bottles, cups, plates and items that are no longer useful can be buried.
- Burning; papers, pieces of cloth etc. can be burned
- Recycle/salvage industry; in most businesses there will be significant amount of waste that can be recycled. Separation of different items is then necessary. The sorted-out papers, glass or scrape metals can be recycled.
- Re-use/animal feeding; food waste can be used as animal feed.

PESTS AND PEST CONTROL

Pests

Pest is an organism which has characteristics that are regarded by human beings as injuries or unwanted. Pests can be serious sources of contamination and disease. Pests carry food poisoning bacteria into food premises on their fur or feathers, feet or paws, saliva, urine and droppings.

Common pests, signs of pest infestation, and

their management and control

Rats and mice (rodents)

Rats and mice are more likely to be found in kitchens and dining areas than in bedrooms. Signs to look for;

- Droppings
- Smear
- Holes
- Runways
- Gnawing marks
- Grease marks
- Claw marks
- Damage to stock
- Rat odor

Ways of controlling rats include:

- Use of snap traps; the traps can be used again and again. There is a bait tied securely to the trigger.
- Use of chemicals e.g. Zinc phosphide to kill rats.
- Baits and traps inside and outside.
- Block entries where they could use to get in.

Flies

Flies land on animal excreta, refuse and decaying matter and contaminate their legs, wings and bodies with harmful bacteria which are then deposited on food. They also contaminate food with excreta and saliva.

Signs to look for:

- Sighting of the flies
- Hearing them
- Dead insects
- Maggots

Ways of controlling:

- Aerosol sprays (insecticides)
- Electronic fly killers
- Window netting to prevent entry
- No buildup of waste in the kitchen
- Make sure refuse bins have close fitting lids
- Sealed containers, no open food left out.

Cockroaches

Cockroaches like warm, dark places. They leave their droppings and liquid that give of unpleasant smell.

Signs that they are present:

- Sighting dead or alive cockroaches
- Nymphs, eggs, larvae, pupa, egg cases
- Unpleasant smell

Ways of controlling:

- Hygienic storage and disposal of food and waste
- Cleanliness of all areas where food is handled.
- Aerosol sprays (insecticides)

Mosquitoes

Mosquitoes are known for spreading malaria which is common disease in the tropics. The female mosquito which feeds on human blood transmits the disease to a healthy person. Control measure include;

- No stagnant water should be left to prevent their breeding grounds.
- Sleeping under mosquito nets
- Mosquito sprays

Ants and termites

Most hotel infesting ants are found in the kitchen where there is food and water.

Ants and termites will be sighted in premises. The control of ants includes:

- Proper sanitation to prevent infestation.
- Clean up food and beverage spillages immediately from floors and counter tops.
- Use of insecticides.

Other insects that need to be controlled in the hospitality establishments include:

- **Silverfish;** small silver colored insects that feed on starchy foods. They are found in moist areas. They thrive in badly ventilated areas, hence improving ventilation will help control them.

- **Beetles;** are found in warm places and can also carry harmful bacteria from place to place.
- **Fleas;** these are insect pests found in unhygienic conditions. Fleas bite their hosts, causing annoyance and in human, large red, itching spots appear on the skin. Fleas cover considerable distances because of their jumping powers. They like darkness and warmth and are capable of laying large number of eggs in cracks of floors. Spray with insecticides to eradicate them.
- **Bed bugs;** feed by sucking human blood and deposit their eggs in cracks and crevices of woodwork, behind wall papers etc. They give out unpleasant smell. Their bites cause irritation and may result in large red patches on people. Bed bugs can be eliminated by heat treatment and by fumigation

Pest control

- Reporting any damage in buildings and fittings and organizing for prompt repair.
- Windows and other openings to the outside environment should be fitted with insect proof screens.
- Keeping entrance to buildings clean and clear.
- Keeping food areas clean and not leaving out traces of food or liquids overnight.
- Make sure refuse areas are regularly checked and cleaned.
- Refuse containers should be regularly emptied and should have tight fitting lids.
- Effective stock control and regular cleaning of storage areas.
- Dry commodities stored in sealed containers above the ground.

FUEL USED IN THE KITCHEN

Fuels are energy providers in the kitchen. Before deciding on the fuel to use, consider the following factors:

- a. Safety.
- b. Cost.

- c. Efficiency: - the speed at which heat becomes
- d. available.
- e. Storage space and requirements
- f. Constancy of supply
- g. Cleanliness and ventilation.
- h. Cost of equipment, installation and maintenance.

Fuel types:

- a. Electricity,
- b. Charcoal
- c. Firewood
- d. Gas, and
- e. Oil (kerosene).

Electricity

Advantages

- a) Clean to use and maintain.
- b) Easily controlled and labor saving.
- c) Little heat is lost.
- d) No Fuel storage is required.
- e) It is efficient.
- f) Very clean.

Disadvantages

- a) High initial cost of equipment and maintenance.
- b) Special utensils are required.
- c) It cannot be stored.
- d) It is not portable.
- e) Cost is generally high.

Fire wood and charcoal

Advantages

- Low maintenance costs

Disadvantages

- a) Require storage space.
- b) Unclean because of dust and dirt formed during combustion.
- c) Heat produced cannot be controlled.
- d) Supply may be disrupted by lack of transport.

Paraffin

Advantages

- a) Convenient.
- b) Easier to move/transport.
- c) Uniform heating.
- d) Easier to maintain/Repair.
- e) Efficient.

Disadvantages

- a) Need for storage tanks.
- b) Sources of supply may be affected by external circumstances.
- c) Produces soot.

Gas

Advantages

a) Convenient

- b) Free from smoke and dirt hence clean
- c) Easily controlled with immediate full head and the flames are visible.
- d) Colorless
- e) Burn with little or no soot.
- f) Gas heating equipment requires minimum maintenance once it is properly installed.
- g) Burn with high degree of efficiency

Disadvantages

- a) Hazardous in case of leakage
- b) Regular cleaning is necessary for efficiency.
- c) Can get finished without notice

In case of gas leakage:

- a) Open all doors and windows.
- b) Check whether a gas tap is left on, or if a pilot light has gone out. If so, turn off the appliance.
- c) If in doubt, turn off the gas supply at the meter and phone for emergency service.

Energy conservation

The basic principles of energy conservation are: -

- a) Obtaining the best tariff available.
- b) Purchasing the most suitable energy efficient equipment.

- c) Reducing heat loss to a minimum.
- d) Matching heat and cooling loads on environmental systems whenever possible to the demands.
- e) Maintaining all equipment to optimum efficiency.
- f) Ensuring that the operating periods of systems and equipment are set correctly.
- g) Using heat recovery systems.
- h) Monitoring energy consumption.
- i) Training staff to be energy efficient.



6.4 INTRODUCTION TO NUTRITION

NUTRIENTS

All foods are made of chemical substances called nutrients. Food is any solid or liquid which when swallowed, provides the body with materials that enable it to carry out one or more of the following functions;

- Growth and repair
- Energy production
- Regulation of body processes

Nutrients include:

PROTEINS: provides materials for body growth repair, and are also used as a source of energy.

Sources of protein;

- a) High biological value protein is found in animal foods e.g. meat, fish, eggs, milk and cheese.
- b) Low biological value proteins are found in vegetable foods e.g. cereals (wheat and barley) and pulses (peas, beans and lentils)

Functions of proteins

For growth and tissue repair especially for children, expectant and nursing mothers and invalids.

CARBOHYDRATES

1. Sugars

- a) Dry heat; when exposed to dry heat, sugar changes to a brown sticky substance called caramel.
- b) Moist heat: Sugar first dissolves, then becomes a syrup which caramelizes and finally burns when the water evaporates.

2. Starch

- a) Dry heat Starch changes to dextrin
- b) Moist heat; Starch grains first soften then absorb water and swell causing some to rupture. The starch then dissolves to form a paste.

Deficiency of carbohydrates

- a) Anorexia Nervosa; is severe weight loss as a result of avoidance of food due to fear of being overweight.
- b) Bulimia Nervosa; this is characterized by gross overeating followed by self-induced vomiting or taking large doses of laxative drugs.

FATS AND OILS (LIPIDS)

Fats and oils also known as lipids.

Summary of the functions of fats

1. Energy; when fat is broken down in the body energy is released.
2. Formation of adipose tissues; Excess fat which is not required immediately for energy is stored in the adipose tissues where it is used as
 - An energy reserves
 - An insulating layer under the skin to prevent excessive heat loss from the body.
 - To protect delicate organs e.g. kidney from physical damage.
3. Provide adequate fat-soluble vitamins

Sources of fat in the diet

- a) Meat and fish
- b) Butter and margarine
- c) Milk cream and cheese
- d) Eggs
- e) Cooking fats and oils

Effect of heat on fat

1. Melting; when exposed to heat fat melt.
2. Smoke point; when fat is heated to about 2000c it starts to decompose producing smoke.
3. Flash point; when fat is heated to very high temperature, the vapors given off ignite. This temperature is known as the flash point.

Storage of fats

If fats are not well stored, they break down and develop a bad taste and flavor also called rancid taste or flavor, this process is called rancidity.

Requirement of fat

- There is a link between high fat intake and coronary heart disease (CHD) and stroke.
- Narrowing of blood arteries is caused by buildup of fatty deposits which can cause a blood clot leading

to coronary heart disease or stroke.

- Fat should therefore be taken in limited amounts.
- A high intake of saturated fats increases cholesterol in the blood. Fish oils are healthy because they inhibit formation of blood clots or reduce blood pressure.

Practical ways of reducing total fat intake

1. Eating less red meat but more chicken and fish.
2. Eating oily fish e.g. salmon, trout, sardines,
3. and mackerel at least once in a week. Replacing butter and hard margarine with soft margarines and low-fat spreads.
4. Using reduced fat products e.g. skimmed or semi-skimmed milk, low fat yoghurt etc.
5. Grill, boil, steam or use microwave rather than frying.
6. Use liquid oils e.g. olive, corn oil for cooking rather than lard or hardened cooking fats.

VITAMINS:

Vitamins are required by the body in small amounts to regulate the maintenance and growth of the body and to control metabolic reactions in the cells. They are classified in two groups;

- a) Water soluble vitamins
- b) Fat soluble vitamins

Water-soluble vitamins

Are vitamin C (ascorbic acid) and B complex

Functions

- Aids in healing of wounds
- Is necessary for formation of collagen in connective tissues which binds the body cells together.
- It is important in the absorption of iron in the intestines.
- Required for building and maintenance of the skin and the digestive system.
- It works together with vitamin E as an anti-oxidant in the prevention of coronary heart disease.
- Required for production of blood and renewal of the walls of blood vessels.

Sources

- Vegetables and fruits: fresh fruits but not dried ones.
- Found in liver and kidney in small amounts.
- Also found in milk

Requirement

Lactating mothers and pregnant women require higher amounts of vitamin C for formation of antibodies in breast milk and protection of the fetus respectively.

Deficiency

Lack of vitamin C in the diet causes scurvy.

Symptoms: Bleeding gums and loose teeth, General body weakness, Loss of weight, anemia, Fatigue Hemorrhage

Connective tissue not made nor maintained and poor healing of wounds.

Effect of cooking on vitamin c

- It is destroyed by heat
- Bicarbonate of soda destroys vitamin C
- Foods should be cooked and served quickly to prevent loss of vitamin C due to oxidation.

THIAMINE/VITAMIN B1

Functions

- Necessary for release of energy from carbohydrates during digestion.
- Required for normal growth in children.
- Required for proper functioning of the nerves

Deficiency of thiamine

- a) If thiamine is not taken in the right amounts, glucose is not properly oxidized.
- b) Digestion of glucose ends at an intermediate substance called pyruvic acid.
- c) The buildup of pyruvic acid in the blood causes muscular weakness, palpitations of the heart and degeneration of nerves which are the main symptoms of Beriberi

d) Other symptoms of thiamine deficiency include depression, irritability, defective memory, and anxiety, retarded growth in children, inflamed or painful nerves leading to weak muscles with reduced reflexes, fatigue, weight loss etc. There are two types of beriberi;

- Wet beriberi
- Dry beriberi

Wet beriberi; Patient suffers from edema (fluid filled tissues)

Dry beriberi; severe emaciation and wastage of tissues. Such a condition would be summed up as “it would rather sit than stand” “I would rather lie down than sit” “I would rather die than live”

Sources of thiamine; brown rice, Whole wheat flour, cereal grains, dried brewer’s yeast, (supplement), meat especially bacon, ham and pork, potatoes peas nuts and milk.

RIBOFLAVIN/VITAMIN B2

Is a yellow water-soluble compound.

Functions

- Most of its functions are similar vitamin B1.
- It forms part of the enzyme system concerned with oxidation of glucose to yield energy.

Sources

Good sources include the liver, kidney eggs, and cheese. The liver is a particularly good source. Other sources include milk, cereals and meat.

Deficiency

Leads to:

- Cracks at the corner of the mouth
- Red tongue
- Swollen eyes and in severe cases blood

vessels invade the cornea of the eye.

Requirements

- Body weight and gender; in men is 1.3mg and women 1.1 mg.
- Increased requirement during pregnancy and lactation

Effect of heat on riboflavin

It withstands high temperatures as compared to thiamine.

VITAMIN B3 (NIACIN)/ NICOTINIC ACID

This type of vitamin is consumed in food, but it can also be formed in the body from the amino acid.

Functions

Niacin, like the thiamine and riboflavin forms part of an enzyme system concerned with oxidation of glucose to yield energy.

Sources

- Meat (especially offal), fish and cheese.
- Pulses, vegetables and cereals.

Deficiency

Deficiency of niacin leads to a disease known as pellagra

Symptoms

- Diarrhea
- Scaling and discoloration of the parts of the skin exposed to the sun
- Dementia (mental disorders)

Pellagra has been called as a disease of 3Ds i.e.

- a) Diarrhea
- b) Dermatitis (scaling of the skin)
- c) Dementia (mental disorder)

Pellagra is rampant in communities whose main diet is maize. Maize is deficient in tryptophan which could be converted to niacin by the body.

Effect of heat on nicotinic acid/niacin

Niacin is more resistant to heat and only small amounts are lost during cooking.

VITAMIN B6 (PYRIDOXINE)

This vitamin is water soluble

Functions

It is a co-enzyme in chemical reactions in the cells especially those concerned with protein synthesis.

Deficiency

Deficiency of vitamin B6 is rare but it is important for women on oral contraceptives and pre-menstrual syndrome.

Sources

Meat, liver, fish and some vegetables

Effect of heat on pyridoxine

Is stable to heat but can be lost through cooking water

VITAMIN B12 (COBALAMIN / CYANOCOBALAMIN)

Functions

Cobalamin is needed together with folic acid (vitamin B5) for formation of red blood cells.

Sources

- It occurs naturally in foods of animal origin and yeast.
- Liver is the richest source but it is also found in milk, meat, fish and eggs

Deficiency

Causes pernicious anemia which results from abnormal red blood cells.

FOLATE (VITAMIN B5)

Functions

- Essential for normal growth in children
- Necessary for formation of red blood cells. It works

together with cobalamin in formation of red blood cells.

- Required for release of energy from food, especially amino acids
- It is important for production of nucleic acids i.e. RNA & DNA

Sources

Folate is found in a wide range of foods which include;

- Potatoes
- Spinach
- Green leafy vegetables
- Green beans
- Peas
- Bananas
- Grape fruits
- Oranges
- Yeast extracts
- Cereals
- Pulses
- Bread and
- Dairy products.

Deficiency

- Retarded growth in children
- Megaloblastic anemia whereby the red blood cells become enlarged and cannot give up their oxygen properly to the body cells.
- Lack of folate in early pregnancy leads to a condition called SPINA BIFIDA in the baby which causes permanent disability.

FAT SOLUBLE VITAMINS

They include: Vitamin A (retinol); D (cholecalciferol); E (Tocopherol) Vitamin K

RETINOL (VITAMIN A)

Vitamin A is found in animal foods in the form of retinol, but plant source of vitamin A is in the form of Carotene.

Carotene is converted into retinol in the body

Functions

- Essential for growth in children
- It acts as an anti-oxidant in the body
- Maintains a healthy skin and mucous membrane
- Enables one to see in dim light

Sources

- Rich sources of vitamin A in the form of retinol include: Cod liver oil; Liver; Eggs; Milk
- Sources of carotene is the yellow orange pigment found in fruits e.g. mangoes, carrots, tomatoes etc.
- It is also found in vegetables e.g. Spinach, cabbage etc.

Deficiency

- Leads to night blindness
- Poor growth in children
- Irritable mucous membrane and poor health of the skin
- Results to xerophthalmia – an infection

Effect of heat on vitamin a (retinol)

- Small amounts are lost due to prolonged cooking
- Retinol in fatty foods is lost due to oxidation during storage.
- Excess intake of retinol leads to hyper vitaminosis.

CHOLECALCIFEROL / CALCIFEROL (VITAMIN D)

Is formed by the action of sunlight on the skin of humans and animals. It can also be prepared in a synthetic form called ergocalciferol

Functions

- Necessary for strong bones & teeth
- Required for absorption of calcium from the intestines
- important for the uptake of calcium and phosphorous

by the bones and teeth

Sources

- Occurs naturally in foods of animal origin e.g. fish liver oils, oily fish eggs, butter, liver & cheese, margarine, herring etc.
- **Sunlight** – vitamin D is formed in the skin, on exposure to sunlight

Deficiency

- Children develop rickets this results due to failure of the body to absorb calcium leading to softening of the bones. The long bones bend under the weight of the body resulting to knock knees or bow legs which are symptoms of rickets.
- **Osteomalacia**; a condition in which bones become soft, weak and painful. It is common among the elderly house bound women.
- Deficiency of vitamin D also occurs in religious groups which require covering of almost the whole body with cloth.

Effect of heat on calciferol

-It is stable to heat and insoluble in water therefore cooking has no effect on vitamin D.

VITAMIN E

Functions

- It is a natural anti-oxidant
- It helps reduce viscosity in vegetable oils which are normally unsaturated
- Prevents oxidation of ascorbic acid in fruits and vegetables
- In the body, vitamin E acts as an antioxidant protecting the cell from damage by free radicals which result from normal chemical reactions in the body.
- Vitamin E acts as an antioxidant prevent deposits of fat (plaque) in the arteries which would lead to coronary heart disease
- It gives protection against some forms of cancer

which result due to damage of the cell DNA in the cells.

NB: carotene and vitamin C also have antioxidant properties

Sources

Rich sources include;

- Wheat germ
- Vegetable oils
- Nuts
- Margarine
- Egg yolk etc.

Deficiency

- Occurs in premature babies fed on foods deficiency in vitamin E.
- It also occurs in people who are unable to absorb and utilize vitamin E adequately. Such people develop nervous system problem.

VITAMIN K FUNCTIONS;

Essential for normal clotting of blood.

Sources

- Green vegetables are rich sources.
- It is also synthesized by the bacteria in the intestine.

Deficiency

Premature babies are infected by vitamin K because they normally have low levels of vitamin K.

MINERAL ELEMENTS

This are chemical elements required by the body other than carbon hydrogen, oxygen and nitrogen.

Main functions of mineral elements

- Calcium, phosphorus and magnesium are the main constituents of bones and teeth
- Some elements are present as soluble salts which help to control the composition of body fluids e.g.

potassium and magnesium present inside body cells while sodium and chlorine are found in fluids outside the cells.

- Most trace elements are concerned with the enzymes system in the body.

Types of mineral elements

There are two major types; Macro elements; Micro elements

Macro-elements

This are the major mineral elements present in the body in relatively large amounts

Micro elements; also called trace elements. They occur in small quantities in the body.

Examples

(Macro-minerals) Major minerals (Micro-mineral (Trace elements)

Calcium	Copper
Chlorine	Iodine
Iron	Fluorine
Magnesium	Selenium
Phosphorus	Zinc
Potassium	Cobalt
Sodium	Chromium
Sulphur	Manganese
Molybdenum	Calcium

Functions of mineral elements

- Necessary for formation and development of strong bones and teeth.
- Calcium is one of the essential factors required for the clotting of blood.
- Calcium is required for the normal functioning of muscles and nerves in the body.

Sources

- Milk and milk products e.g. cheese, yoghurt etc., are rich sources of calcium.

- Sardine fish are a rich source
- Fruits and vegetable contain calcium in variable amounts.

Deficiency

- The amount of calcium absorbed in the intestines depends on the amount of vitamin D present in the body.
- Phytic acid found in the brain of cereals and oxalic acid in spinach and rhubarb interfere with absorption of calcium in the intestines leading to deficiency.
- Effects of deficiency of calcium are the same as the effects of deficiency of vitamin D because vitamin D is Essential for absorption of calcium.
- Severe calcium deficiency causes rickets in children and osteomalacia in adults. These diseases are mostly caused by lack of vitamin D than lack of calcium in the diet.
- Osteoporosis occurs in elderly women after menopause. This is characterized by gradual loss of calcium from bones make the bones porous and easy to fracture. These losses of calcium are due to lack of hormone estrogen. Replacement of estrogen (hormone replacement therapy HRT) reduces the loss of calcium from the bones.

Effects of cooking on calcium

Small amounts may be lost in cooking water; it is stable to heat.

IRON

Functions

- Iron is a component of hemoglobin. It gives blood its red color and hemoglobin is required for transportation of oxygen.
- Iron is also found in myoglobin. This is the oxygen carrier in muscles.
- It is present in small amounts in all body cells where it forms part of the enzyme system.
- Iron is also stored in the bone marrow, liver and spleen

Sources

- Liver and kidney
- Egg yolks
- Cereals (lost if the germ and bran are removed).
- Potatoes and pulse
- Dried fruits

Deficiency;

Causes anemia number of red blood cells reduce leading to reduced oxygen being reduced oxygen being carried to tissues.

Symptoms;

- Fatigue,
- Head ache,
- Dizziness
- Deficiency of folic acid leads to anemia due to poorly formed red blood cells

Effects of cooking on iron

- Small amounts may be lost in cooking water
- It is stable to heat

PHOSPHORUS

Functions

- Combines with calcium to form calcium phosphate, which is an essential component of the bones and teeth.
- It is present in all living cells where it enables cells to release energy.
- Extra energy is stored in the cells as a high energy phosphate compound which would be broken down to release energy when required.
- Phosphorus is used for formation of nucleic acids i.e. DNA and RNA

Sources:

Most foods

Deficiency; is rare

Effect of cooking on phosphorus; it is stable to heat

SODIUM AND CHLORIDE

Functions

- Present in ions of fluids surrounding the body cells (extra cellular fluids)
- Essential in regulation of water contents in the body.
- Used for acid base balance
- Ensure proper functioning of muscles and nerves
- Chlorine is required for production of hydrochloric acid in the gastric juice
- Sources Table salt (sodium chloride); Most natural foods

Deficiency

- In hot climates, during extraneous work, large amounts of salts may be lost through sweating this causes lowering of the salt concentration in the tissue fluids resulting in muscular cramps and tiredness.
- Athletes and people on extraneous work should take in extra amounts of salt.
- High salt intake leads to Kidney disease and High blood pressure

Salt intake can be reduced by

- Using less salt in cooking, improve flavor by use of herbs, pepper etc.
- Not adding salt on table
- Eating less high sodium food e.g. cured/canned meat and vegetables
- Eating less salty snacks e.g. crisps,

Functions

- While sodium is found in extra-cellular fluid potassium is in the intercellular fluid where it regulates the fluid content in the cells.
- Potassium ensures proper functioning of the muscles and nerves.

Sources

Fruits are rich sources of potassium especially bananas. And Vegetables.

Deficiency

- Deficiency is rare but it may occur if potassium is not absorbed
- Poor absorption of potassium results from excessive use of laxatives

Symptoms

- Mental confusion
- Muscular weakness

Micro-minerals (trace elements) Iodine, Fluorine, Zinc, Iodine

Is required by the body in small amounts for formation of hormones which requires the rate of oxidation of nutrients in the body

Sources

- Milk
- Vegetables

Deficiency

- Insufficient intake results to goiter an enlargement of the thyroid gland
- Cabbage and turnips contain a substance called goistrogen which reduce the absorption of iodine. Excessive intake of cabbage and turnips can lead to goiter

WATER

Water is vital for life. The body needs water second to air. Two thirds of the body's weight are water.

Functions

- For blood and for all body secretions and digestive juices
- To assist in digestion, absorption and assimilation of food.
- To assist in excretion of waste and elimination

from kidneys.

- To help regulate body temperature.
- To act as a lubricant in joints and membranes.

Sources

- Water content of drinks
- Foods with high liquid content e.g. fruits

6.5 PERSONAL, KITCHEN AND FOOD HYGIENE.

HYGIENE

Hygiene is the science and practice of maintaining health and preventing diseases.

Personal hygiene

- a. Bath regularly at least once a day.
- b. Persons with running nose, common cold or are sneezing should never handle food.
- c. Hands should be washed with soap and hot water before handling food and after visiting washrooms or after using a handkerchief.
- d. Wash hands immediately after handling raw meat or poultry.
- e. Hair should not come into contact with food. Hence lady's hair should be covered to avoid breaking hair getting into the food.
- f. No licking of hands or touching of nose, ear or mouth when producing food.
- g. Kitchen clothing must be comfortable, easy to wash, a material that withstands frequent washing, a material that absorbs sweat and light color that exposes dirt.
- h. Shoes must be comfortable and low heeled because in the kitchen, staff remain on their feet for long hours.
- i. Food should be tasted with a clean spoon and saucer. Avoid dipping fingers in the food and licking.
- j. Do not smoke in food areas.

Kitchen hygiene

- a. Any spilt food should be cleaned at once. Nothing should be in the kitchen which attracts vermin.
- b. All equipment should be clean.
- c. Dish cloths and tea towels should be washed daily, soaked in bleach or boiled.
- d. Work surfaces should be washed every day.
- e. Bins should be lined and have tight fitting lid.
- f. Bins should be emptied, then washed and disinfected.
- g. Cleaning equipment and materials must be provided to ensure proper cleaning of the kitchen surfaces.
- h. Kitchen should have adequate ventilation so that fumes from stoves are taken out.
- i. Adequate supply of light is necessary so that staff working in the kitchen do not strain. Lighting can be artificial or natural.

Food hygiene

- a. Food hygiene are practices related to food management and cooking to prevent food contamination and food poisoning.
- b. Cook food thoroughly.
- c. Food should be covered to prevent contamination.
- d. Avoid direct handling of cooked food.
- e. Hot food should be eaten while still hot.
- f. If food is to be eaten cold or stored, then it should be cooled rapidly.
- g. Cooked food should not be stored for too long. The maximum time should be three days in the refrigerator.
- h. It is not advisable to reheat food.
- i. Wash hands thoroughly before touching food.
- j. Do not use the same chopping board for foods.

Identification of cleaning agents and equipment

To assist in the removal of soil, selection of appropriate cleaning agents is important. When using cleaning agents, it is important to;

- a. Use the correct chemical for the job.
- b. Always read the label.
- c. Follow the cleaning specifications
- d. Use the correct quantity
- e. Apply in the correct way
- f. Apply safely and with care

Cleaning agents used include;

- a. Glass cleansers and polishers
- b. Carpet cleaners, Organic solvents, Abrasives and Deodorizers
- c. Toilet cleansers, Laundry aids, Floor strippers and Disinfectants
- d. Bleaches, Detergents and water

Cleaning equipment and materials

1. Brushes
2. Dust pan and brush
3. Dusters
4. Mop and bucket
5. Trolleys
6. Squeegee
7. Ladders
8. Vacuum cleaners
9. ladders

Cleaning methods used

Cleaning agents are applied using different cleaning methods, which include;

- Scrubbing
- Buffing
- Wiping
- Mopping
- Dusting
- Vacuuming
- Polishing

Principles of cleaning

1. When cleaning, the following principles must be observed;
2. Remove all surface soil and obstructions before

cleaning.

3. Follow the most the least obstructive and disturbing methods of cleaning especially early in the morning.
4. Restore the surfaces to as near perfect condition as soon as possible.
5. Always use the simplest method of cleaning and the mildest detergent.
6. Beware of safety hazards.
7. Remove all dust and dirt. Do not transfer to another area.
8. Carry out cleaning in the quickest possible time.

Methods of cleaning kitchen surfaces

- Remove debris and loose particles.
- Use hot soapy water to remove grease and other forms of soil.
- Rinse with hot water then cold to remove traces of detergent.
- Apply disinfectant, leave for contact time recommended.
- Rinse of the disinfectant
- Allow to dry or use dry cloths.

Importance of food safety

Effectiveness of food safety is important throughout the hospitality industry. It means putting in place all measures needed to make sure that food and drinks are suitable, safe and wholesome. Ensuring compliance with the law and good standard of food safety enables a business to;

- a. Avoid any incidence of food poisoning
- b. Build a good reputation
- c. Give customers and staff confidence in food and services provided.
- d. Incurring of less wastage, therefore running costs made lower.
- e. Provide pleasant working conditions for staff.
- f. Lead to staff retention and greater job security
- g. Build and retain desired levels of business

Failure to manage food safety can be extremely dam-

aging to a business and can lead to poor reputation, serving of notices by enforcement officers, legal actions, high fines and even closure, as well as the resulting bad publicity.

Food poisoning and food borne illness

Food poisoning is an acute intestinal illness that is the result of eating foods contaminated with pathogenic bacteria and/or their toxins. Food poisoning is an illness characterized by stomach pains, diarrhea, fever, head ache and sometimes vomiting. It develops within one to forty-eight hours after eating infected foods.

Food borne illness; is an illness caused by pathogenic bacteria and/or their toxins but in this case the pathogens do not need to multiply in the food, they just need to get into the intestine where they start to multiply. Symptoms of food borne illness include; severe abdominal pain, diarrhea, vomiting, blurred vision, flu symptoms etc.

CROSS CONTAMINATION

Cross contamination can be caused by;

- Raw food and cooked food touching e.g. poultry and meat.
- Raw meat or poultry dripping on cooked ready to eat food.
- Soil from dirty vegetables coming into contact with high risk foods.
- Dirty cloths, staff uniform or equipment.
- Same chopping board used for raw then cooked food.
- Not washing hands after touching raw food, then touching cooked food.
- Pests spreading bacteria from their bodies in the kitchen.
- Different people touching hand contact surfaces e.g. fridge and cupboard doors

To prevent transfer of bacteria by cross contamination, the following should be observed:

- Ensure food is obtained from reliable sources.
 - Handle food as little as possible. Use tongs, disposable plastic gloves and other suitable equipment.
 - Ensure work surfaces are clean and sanitized.
 - Use color coded cloths and chopping boards for raw and cooked food areas.
 - Pay attention to avoid contamination when handling raw poultry, meat and fish.
 - Wash fruits and vegetables thoroughly.
 - Clean methodically and frequently.
 - Train staff in 'clean as you go' procedures.
 - Unpack food delivery boxes away from open food.
 - Protect food from contamination while it is cooling in the kitchen.
 - Keep foods covered and refrigerated as much as possible.
 - Use color coded equipment
 - Take care when defrosting frozen raw items such as chicken to prevent them dripping on other items.
- Rashes
 - Other infectious illness
- e. Cover cuts with waterproof bandage
 - f. Wear clean apron, coat or uniform
 - g. Keep the hair neat and covered
 - h. Don't eat or chew gum in food rooms
 - i. Don't cough or sneeze near food and dishes
 - j. Don't scratch or pick your nose
 - k. Wash hands and arms with soap, hot water and brush.
 - l. Always wash hands;
 - After using the toilet
 - After coughing and sneezing
 - After using a handkerchief
 - After handling raw food
 - Before entering a food room
 - Whenever they are dirty and cooking will prevent food contamination
 - m. Keep nails short, clean and free of nail varnish
 - n. Keep fingers out of food and use tongs or utensils
 - o. Proper storing and cooling will prevent contamination
 - p. Store all food in clean dry places

Color-coded cutting boards

Chopping boards usual have the following color-coding;

- White for dairy products
- Red for raw meat and poultry
- Brown for vegetables
- Yellow for cooked meat
- Green for fruits and salads
- Blue for raw fish

PREVENTION OF FOOD POISONING

The personal hygiene is the key to good culinary profession

- a. If sick stay at home
- b. Start with a clean body and clean hair
- c. Wear clean clothes and avoid jewelry in the kitchen
- d. Report to the supervisor and see a doctor if suffering from the following:
 - Diarrhea
 - Vomiting
 - Sores
 - Boils



6.6 KITCHEN TOOLS AND EQUIPMENTS

Tools: manual working instruments that make work easier to perform

Equipment: - necessary items for particular purpose. Kitchen equipment may be divided into three categories;

- i. Large equipment – ranges, steamers, boiling

- pans, sinks etc.
- ii. Mechanical equipment – peelers, mixers, refrigerators, dish washers etc.
- iii. Utensils and small equipment – pots, pans, whisks, bowls, spoons etc.

Kitchen equipment can also be classified according to the functions performed by the equipment;

- i. Cooking equipment
- ii. Holding equipment
- iii. Food preparation equipment
- iv. Serving equipment
- v. Washing equipment
- vi. Waste disposal equipment

Handling of tools and equipment:

- All Kitchen equipment is expensive. It is therefore important that we must always see that all works efficiently and this depends on care and maintenance.
- Instructions given by manufacturers on how to keep their apparatus in efficient working order must be followed.
- Arrangements should be made with maintenance department for regular check-up.

Care and maintenance

- i. Knives should be kept sharp
- ii. Don't push or pull pots on the floor or throw point A – B.
- iii. Glass materials should be handled with care.
- iv. Use correct cleaning material – steel wool, scotch brite etc.



- v. Cleaning of big machines or large equipment to be done regularly e.g. oven, cookers etc.

Materials used to manufacture tools and equipment

- Aluminum.
- Copper
- Plastic
- Glass.
- Chinaware.
- Wood.
- Stainless steel and Cast Iron
- Silver and Enamel
- Fiber glass
- Melamine

Points to Consider When Buying Kitchen Tools and Equipment:

a. Material: Aluminum, Copper, Silver, Iron, Stainless Steel, Wood, Plastic, Glass and China ware. When buying the tools and equipment, one should consider the material used to manufacture. The material selected will affect the;

- Durability
- Ease of maintenance
- Appearance
- Weight
- Sanitation
- Cost of the equipment/ tools

b. Type of Establishment

- Hotels.
- Canteens.
- Institutions etc

c. Type of Kitchen

- Convectional Kitchen.
- Production Kitchen.
- Finishing Kitchen.
- Satellite Kitchen.
- Ready Food Kitchen.

d. Type of Fuel

- Electricity
- Gas.
- Steam.
- Oil
- Charcoal.

e. Budget

Depends on amount of money available.

f. Safety Factors.

- Avoid Equipment with corners
- Design.

g. Cost; initial cost and cost of installation

h. Capacity; ability to do and produce better quantity products in required time and adaptability to other uses.

i. Skills; Training of labor required to operate the equipment

j. Availability of spare parts

6.7 COOKING EQUIPMENT

Baking, roasting, braising



General-purpose oven: these ovens are used for a variety of cookery activities. They may be fueled either by gas or electricity. Less common types are oil or solid fuel.

Convection oven:

these ovens may more accurately be described as

forced-air convection ovens. Fueled by either gas or electricity these ovens have a fan to force the circulation of the hot air inside.

Combination microwave and convection Oven:

This type of oven has a single compartment which can be used as microwave, or convection, or a 'combination of both methods simultaneously. Where microwave and convection are used at the same time this optimizes the advantages of both methods.

Boiling



Boiling pan

Pans for boiling are available either as (i) round casting, or (ii) squared casting to fit in with modular arrangements of other equipment. Both gas and electric direct heating are available as well as steam jacket operated.



Deep-frying

Thermostatically controlled deep fryer: The temperature of the frying medium is automatically maintained at an appropriate level to minimize fire risks, and avoid greasy or overcooked food. Electric and gas models are available, the latter providing the best temperature

control and reducing the fire-risk to a minimum.

Grilling



Over-heat/salamander grill: Food is cooked on grids, bars or trays on, a heat source which is gas or electric. Salamander grills may be free-standing, wall-mounted or built-in to part of a range.

Steaming



Steaming equipment is made from aluminum or stainless steel, to prevent rusting, and designed to operate at atmospheric low or high pressure.

Atmospheric Pressure steamer: Steam is produced either internally, from a cistern of water, or externally from a steam generator. The water is heated by either gas or electricity to generate steam and food cooks in the steamy atmosphere produced. There is a vent situated at the top of the cooking compartment

for excess steam to escape and ensure that atmospheric pressure is not exceeded.

Convection steamer: Convection steamers cook at atmospheric pressure but differ from atmospheric pressure steamers because the air/steam is forced to circulate by means of a fan or high-velocity jets of steam. Food cooks quicker than in traditional atmospheric steaming but slower than in high-pressure equipment. Models are available as single, double or triple compartments.

Multi- Purpose



Braff Pan: These are relatively new pieces of equipment suitable for large catering operations. They are shallow, square vessels which are used for a variety of cooking operations such as boiling, braising, poaching, shallow-frying and stewing. Particular features are the large surface area and tilting facility. They are heated by either gas or electricity and are usually floor-standing.

Holding equipment

Hot food



Bain-marie: This is basically a well containing hot water into which pots are placed to keep their contents hot for service. Bains-marie may be free-standing or incorporated into a cooking range. They may also be a

part of a service-counter arrangement, being open as previously described, or enclosed with fitted containers and lids. They may be heated by gas, electricity - or sometimes in the case of the enclosed by direct steam. After use they are cleaned by draining off the water through the run-off, refilling with detergent water, rinsing and refilling.

Hot cupboard (hotplate): Hot cupboards are



containers used to keep cooked foods hot for service, they may also be used for heating service dishes and plates. Hot cupboards may be heated by gas, electricity or steam.

Plate Warmers/dispensers: These are units for heating and storing plates for service. The plates are stacked onto a round plate-size sprung platform which raises the pile as plates are removed.

Cold food

Cold rooms: Maintained at a temperature of 100c, these walk-in rooms are designed for the storage of perishable goods which do not require temperatures as low as the refrigerator. They may incorporate a walk-in freezing compartment and are designed in a variety of sizes usually tailored to suit and individual kitchen size

Refrigerator: This is a container for the cold storage of perishable food. The temperature will vary according to the intended use:

- General purpose 4°C
- Fresh meat 0°C - 2°C

- Fresh fish 0°C - 2°C
- Salad 6°C



In large establishments it is more usual to have separate refrigerators for different commodities, e.g. wet fish would be stored in a wet-fish cabinet; dairy and grocery products, fresh meat, etc. in their respective cabinets.

Blast chillers: These are large units which are designed to cool hot food to chilling temperatures in a minimum amount of time. Once the food is brought to the required temperature it is removed to chilled storage units. Blast chillers are usually used as part of a cook-chill system. Blast chillers are available for coping with loads of between 20 kg and 60 kg. The larger loads are accommodated by trolley loading.

Blast freezers: These are part of the technology



essential for the rapid freezing of raw or cooked food. They are used in catering as part of cook-freeze operations. Small or large models are available for dealing

with loads in the range of 11kg to 400 kg.

Frozen food storage cabinet: A container for the storage of frozen foods at a temperature of below -18°C. Sizes vary from small, single-door cupboards to walk-in freezer rooms.

Bowl choppers (cutters)



These are usually table-top models and are used for cutting raw meat, fish, pates, coleslaw, breadcrumbs, etc. The blade action also includes a mixing function as well. The texture of the chopped product will be finer the longer the chopping operation. There is a built-in safety device so that the blades will not rotate if the cover is removed.



Food mixers

These may be bench-top or floor-standing. Apart from whisking, mixing also have attachments for adding a mincer, vegetable slicer, cheese-grater and in some cases a liquidizer. Bowl sizes vary as follows: bench models: 4-20 litres; floor models: 20-100 litres. Food-mixers used in the bakery and confectionery industries will usually be larger and may have different mixing actions.

Food processors



These vary from small domestic 2-4 litre size to 30-45 litre floor-standing cutters/mixers. All types have a see-through cover and safety switch-off when the cover is removed. These machines are used for cutting, kneading, slicing, blending and liquidizing

Ice-cream-making machines



There is a variety of machines available from the bucket 6 qt capacity (manual or electric motor) to 100 litre per hour stainless steel electric. Some machines may combine the production of several products such as soft ice-cream, milk shakes.

Ice-making machines

There is a variety of machines giving different outputs. Apart from the machine size, room and water input temperature effect output as well. Outputs usually range from 500 to 10 000 cubes per hour. Storage capacity of machines varies from 1kg to 160 kg. Machines will usually have facilities for changing the size and shape of the ice-cubes.

Meat-slicing machines



Slicing machines may be either hand-operated or electrically-powered. They may be gravity-fed which means that the feeder-shelf to the blade slants so that the item is moved onto the blade by its weight. Alternatively, the feed may be automatic which means that it is held horizontally and moved along automatically as the machine handle rotates. All machines have a blade-guard which incorporates a safety micro-switch. A no-volt release switch and a mushroom panic button are also included for safety. All parts are detachable to facilitate cleaning.

Potato peeler

These are electrically powered to stir the potatoes



against the abrasive drum interior with a water input for continual washing. They operate with a carborundum peeler plate which may be fine- or coarse-grained in combination with abrasive drum sides.

Vegetable preparation machine

There are a variety of types ranging from attachments to food-mixers to dedicated stand-alone models. All machines perform a variety of operations such as grating, slicing, shredding, dicing and chipping, with the use of interchangeable cutting blades.

Beverage production and serving equipment

Beverages vending machines of hot beverages usually from powdered ingredients include cold drinks as well. Self-service machines credit-card operated.

Café sets

Used with under counter pressure boilers for making and storing black coffee at the rate of between 20 and 200 litres per hour, these also have a container for heating and storing milk at serving temperature.

Carbonated drinks dispenser



These machines are capable of producing up to 150 litres per hour of carbonated cold drinks. They operate in conjunction with different flavored syrups. They may be counter-top or free-standing models and single- or double-console. There may also be a thickness control for the drinks mix.

Espresso coffee machine

The traditional hot-beverage machine for the production of espresso or cappuccino coffee. These



machines may have between one and four fusion units and the function of these is to produce the individual cups of coffee with pressured steam at the rate of 5 seconds per cup.

Filter coffee machines



Electrically operated, there is a considerable range of models and makes available, some of which are capable of producing up to 150 cups of fresh coffee per hour. The water is either poured in manually, or plumbed in. The boiling water passes through freshly ground coffee in a filter which then passes into a serving jug below. Serving jugs when full of coffee kept hot on small round hotplates. Multiple units are available.

Hot-water boiler/dispenser



These may be heated by either gas or electricity and may be fitted or free standing. There is a wide range of capacities up to 54 litres. The fitted type may be

operated by expansion or alternatively by pressure with a gauge and valve for steam. The output of continuous boiling water for beverages ranges from 100 to 250 litres per hour.

Milk-shake machines



These may be counter- or console-models with single- or four-flavors available. They may also be push-button with built-in syrup containers and pump-operated. The usual output is eight shakes per minute with a storage capacity, of up to 60 litres.

Washing-up equipment



Conveyor dish-washers

These operate on the conveyor-belt principle as the name implies. The soiled items are loaded at one end and pass through the pre-wash, wash, rinse and, if included, drying tunnels, emerging at the other end ready for use. Outputs vary up to as much as 9 000

plates per hour. They are usually stainless steel, heated by electricity or steam and have variable belt-speed controls.

Front-loading batch dish-washers



The usual design is a single compartment with one or two sliding trays onto which soiled items are placed. All models have a selection of automatic programmes for lightly- to heavily-soiled items. Some models will have trays to specialize in particular items such as plates only, glasses only, etc. Programmes vary from 1 to 10 minutes and outputs may be as much as 1000 items per hour.

Glass-washing machine



Similar in operation to the front-loading batch-washers although counter models are available as well which may fit under a bar counter. Some machines are incorporated in units with counter, sink and storage racks. Some models will have a variable timer for different glasses.

Pass-through batch dish-washers

These operate with push-in trays at one side and pull-out at the other. The push-in and pull-out operation can be at an angle for corner models. Outputs may be up

to 1100 plates per hour. Other features may include;



Pan and utensil washer



Similar to the front-loading batch dishwasher, usually floor standing. They take heavily soiled items and have a timer included. They are powered by a motor unit and have a hydraulically driven shaft (thus making it electrically safe) and an assortment of interchangeable brush heads. They are usually situated over a pot wash sink but may be detachable for use in other areas of the establishment.

Waste-disposal units

All types of food production generate waste which must be removed as soon as possible. Waste-disposal units reduce the volume of waste by (0 producing a slurry of soft food-waste and disposing of it down the drain or producing a semi-dry pulp. They also crush both hard and soft waste and compacting it into a dense, solid material to be disposed of in the normal way. There is bench, trough or free-standing stainless-steel models available.



SMALL KITCHEN UTENSILS



whisk



Spatula



Pan



Cutlery/
Silverware



Grater



Sauce pan



Salt & Paper
shakers



Cup & saucer



Mug



Cake tin



Sause pan with lid



peeler



Rollin pin



Baking Sheet



Mug



Kitchen Scissors



Mixing Bowl



Kitchen tools



None Stick Saute Pan



Grill Pan



Blender



Electric Kettle

Knives



Paring knife (also referred to as office knife, turning knife, vegetable knife). Size 3"-4"

Used for turning vegetables, eyeing tomatoes, grooving or turning mushrooms, segmenting citrus fruit, peeling onions and shallots, etc



Filleting knife: Size 6". Used for filleting fish. Special characteristics thin, flexible blade.



Cook's knife (also referred to as: French cook's knife, general purpose knife, or vegetable knife). Size 10"-12".

Used for General purposes such as preparing vegetable cuts, dicing raw meat, cutting chicken for sauté, etc. Special characteristics firm blade, protruding heel, balanced weight between handle and blade



Chopping knife: Size 10"-14". Used for heavy general purpose such as trimming cutlet bones, chopping chicken carcass, chinning

best end of lamb, etc. (chopping is done with the heel of the knife). Special characteristics Firm, thick blade; balance between blade and handle; protruding heel.



Palette knife: Sizes 6"-12". A large number of varied uses such as: turning shallow-fried items e.g. fillet of sole meuniere; spreading

soft mixtures e.g. whipped cream, shaping preparations e.g. Pommes Byron; mixing, e.g. butter for spread- etc. Special characteristics according to use the blade may be flexible or, fairly stiff. There is an alternative handle known as a 'cranked handle' and this is used more in confectionery work.



Boning knife: Sizes 6"-7".

Used for boning butcher's meat as well as skinning and removing gristle. Special characteristics the blade is fairly narrow and tapers to a point. The handle should be of molded plastic shaped to accommodate the boning 'fist' hold.



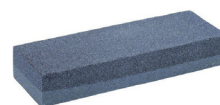
Carving knife (also known as ham knife): Size 8"-14".

Used for carving mostly large pieces of cooked meat.



Butcher's steel: Size 10"-14"

Used for keeping a sharp edge on all knives used for cutting. A lot of skill is required to use a steel successfully and instruction is essential. There are also a number of safety hazards when using a steel such as holding the point of knife too near chin; not having all the hand protected by the guard if the thumb is not in the right position; and distractions.



Carborundum stone:

Size 10"-12" Used for gaining a quick and very sharp knife edge.

Special characteristics easily broken, normally used by skilled cooks



Cooks' Fork: Size 5"-10" Used for holding meats firm when carving, lifting cooked meat slices, turning roast meat and birds

Doyle — many different sizes and either round or more usually oval. Used for placing on food service dishes and arranging food on top such as, sandwiches, pie dishes, etc.

Cloth

Examples of cloth items

Piping bags — made from waterproof nylon, strong cotton, canvas (used with a variety of tube shapes and sizes for such things as duchesse potatoes, meringue, etc.)

Muslin cloth — made from cotton (used for straining certain soups and sauces).

Tammy cloth — made from unbleached calico (used for straining certain soups and sauces, although now rarely seen in use).

Jelly bags — made from flannel (used for straining sweet and savory jellies).

Oven pockets — made from hessian, sometimes separate or linked.

Paper

Examples of paper items

Greaseproof paper: (e.g. for royal icing), lining cake tins.

Hand towels: small double-folded, thick, colored, absorbent paper. Used for drying hands once.
Kitchen paper: used for draining deep-fried foods, etc.

Silver foil: used for protecting foods to stiffening. Cutlet frills, pie collars, buffet skewers all decorative and quite expensive. Hand-made from clean white firm paper.

6.8 KITCHEN ORGANIZATION:

Kitchen: A room with a set of fitments and units where food is prepared and cooked for human consumption.

Organization: this is a structure or arrangements of related or connected items.

The organization of the kitchen depends on the following:

- a. Type of establishment.
- b. Size of establishment.
- c. Type of kitchen.
- d. Size of kitchen.
- e. Skills of the brigade (skilled or unskilled)
- f. Customer's needs
- g. Extent of the menu.
- h. Type of service.
- i. Hours of Operation

Advantages of a well-organized kitchen:

- a. Improvement in handling equipment, tools and raw materials.
- b. Improvement in employee working conditions.
- c. Reduction in operating expenses.
- d. Eliminates confusion.
- e. Better overall control of the kitchen.
- f. Better co-ordination of various kitchen operations (outlets)
- g. Greater customer satisfaction.

FUNCTIONS OF KITCHEN SECTIONS

CHEF'S OFFICE

Duties of the holder include:

- Manages the whole kitchen and supervises kitchen staff.
- To organize and Co-ordinate all kitchen functions.
- He handles the buying and control of kitchen com-

- modities / advising on purchasing of tools and equipment.
- He should be knowledgeable of nutrition and diet.
- Prepares rosters and duty assignments.
- Plans and design menus.
- Performs cost calculations.
- Trains apprentices.
- Responsible for sanitary conditions of the kitchen.
- Responsible for preparation and presentation of dishes.
- He is in charge of repair of kitchen equipment, safety and security.
- Attends daily meetings with the manager and other heads of departments related to food service e.g. purchasing agents and stewards.
- Monitoring and checking stores operations.

SAUCIER (HOT KITCHEN)

This is one of the major departments within the hot kitchen, which deals with the following tasks:

- Saucier prepares brown stock.
- Preparation of gravies, warm and hot sauces, which accompanies ready cooked dishes
- In charge of cooking and presentation of butcher's meat, game, poultry, fish and seafood dishes through different cooking methods e.g. roasting, boiling, stewing, sautéing e.g.
- Prepares hot appetizers e.g. mushrooms on toast, Egg Florentine, Egg cardinal, hot entrees and all hot sauces.
- Prepared a 'la Carte dishes which in most cases are prepared as per the order. Prepares meat garnishes.

Note: -The chef de parte in this department serves as the deputy head chef where there is no Sous chef.

ENTREMETIER (HOT KITCHEN)

The duties in the department includes

- Preparation of all hot soups.
- Pasta and farinaceous dishes

- Cheese and Egg dishes.
- All types of cooked vegetables, all potatoes & Root vegetable dishes.
- Spa cuisine, health food diets and vegetarian dishes.

Note: This department is the largest (with many workers) since it handles a wide variety of dishes. Farinaceous dishes made from cereal flour e.g. Chapatti, pasta dishes (macaroni, spaghetti)

GARDEMANGER

Is a French name with two different meanings, namely: -

1. The section, which handles all sorts of meats and meat products/salads and their dressings (cold).
2. A person in charge of the section –Garde manger

a. The Larder/Butchery

Duties

- Deboning, filleting, dressing, trussing, and portioning of all types of meats i.e. beef, veal pork, lamb, game, poultry, fish and sea foods.
- Preparation of all cold foods and controls freezer and refrigeration rooms.
- Breadcrumbs meat, fish and seafood.
- Prepares cold hors'd'oeuvres.
- Preparation of canapés and sandwiches.
- Preparation and presentation of all cold foods for buffet showpiece (center-pieces), garnishes, sandwiches

b. The Salads Corner

Duties:

- Preparation of types of salads i.e. simple, mixed, compound and special salads, the salads and dressing.

PATISSIER

- Supervises the pastry section of the kitchen.
- Plans dessert menus.
- Requisitions pastry raw materials and supplies.
- Scheduling of work of assistants.
- Decorates cakes and pastries.
- Tasting and costing of recipes.

- Preparation and presentation of pastries and deserts.

STILLROOM

- A room where hot beverages are made: -
- Tea, chocolate, and various types of coffee.
- Portions jam and butter.
- Toasts bread for various use
- Prepares and serves chilled juices.

The stillroom is usually busy during breakfast, lunch and dinner service.

Other areas include: - Pot wash and Wash-up

6.9 PROFESSIONAL ETHICS

Ethics: Something to do with character or custom of a particular group of people, a race or nation or something to do with dressing and food.

Definition of professional ethics

These principle rules or conduct governs certain fields of specialization / profession / nation or race.

Rules of conduct

1. Integrity: Refers to somebody honest and up-right in conduct to his profession.
2. Cleanliness: Meet the required standards i.e. personal, working and equipment
3. Punctuality: time conscious – reporting and duties assigned.
4. Interest and Effort: very keen, enthusiastic and fully exploits his/her academic and practical potential – all kitchen sections
5. Self-Organization: approaches situations and tasks in a logical / systematic and well-planned manner. Shows self-confidence.
6. Co Operation and Team Spirit: fits well in a team i.e. always identifies with the group by working together.

7. Acceptance of Authority: listens and carries orders and decisions as laid down by the establishment and present suggestions and alternatives where necessary.
8. Self-Control and Tactic: exercises self-control in all aspects. Makes tactful approaches to and corrections, puts his point diplomatically and cautious in handling discreet matters.
9. Responsibility and Reliability: Has strong sense of duty, requires no direct supervision to achieve the entrusted tusk. Is trustworthy and ready to accept consequences.
10. Adaptability and Flexibility: Fits in new and unforeseen situations and easily integrates with policies and procedures of the establishment with full emotions and stability.
11. Attitude: In order to be a good professional, you have to like your career and want to do it well. Be serious, professional works quickly, efficiently, neatly and safely.

Culinary professional ethics

Unwritten code of behavior and set of attitudes we call professionalism

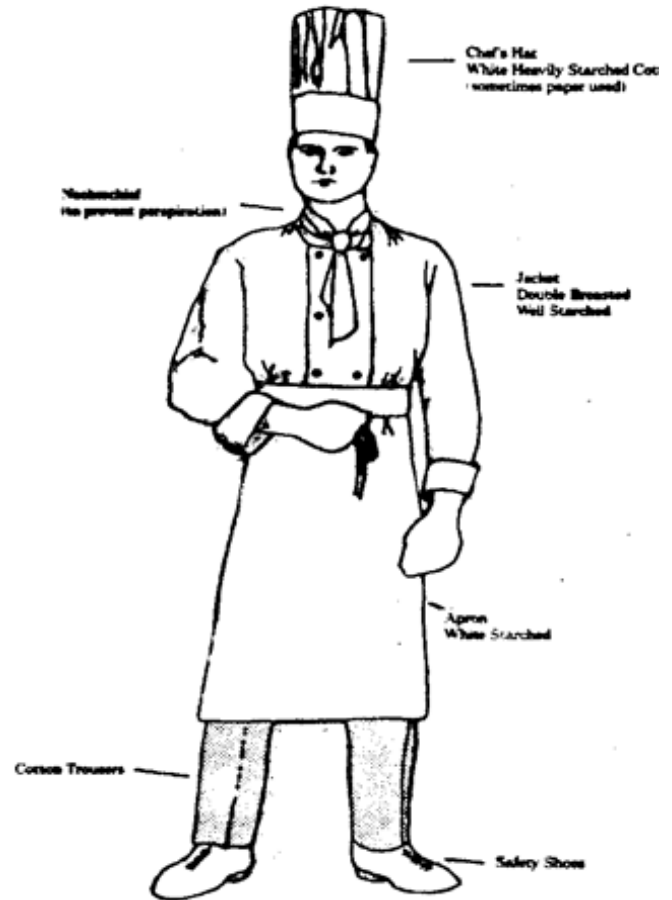
- a. Positive attitude towards the career; In order to be a good professional, you have to like your career and want to do it well. Be serious, professional works quickly, efficiently, neatly and safely.
- b. Staying power; Food service requires physical and mental stamina. Good health and willingness to work hard.
- c. Ability to work with people; Food service work is Team -work, cooperative with fellow workers. Self-control is more valued.
- d. Eagerness to learn; There is more to learn about food service than you will learn in life time. Be open to new ideas and experiment.
- e. Experience; gained through More practice and long duration (years)
- f. Dedication to quality; Good quality foods and

good service.

- g. Good understanding of the basics; Basic cooking methods techniques

The professional chef

- Knowledge; Chef must be able to identify, purchase, utilize and prepare wide variety of foods, should be able to train and supervise a safe skilled and efficient staff.
- Skill; Practical experience negligence produce consistently, quality foods and to organize the kitchen brigade
- Taste; He/she must be able to produce food that tastes great to retain and attract the consumer
- Judgment; selecting menu items determine. How of what item to order deciding whether and how to combine ingredients and approving finished items for service
- Dedication; Becoming a chef is hard work, so is being one. The work is physically taxing, long hours and the pace frequently hectic
- Pride; the professional chef should have a sense of pride. This should extend to personal appearance and behavior in and around the kitchen it should be well groomed and in uniform when working.



THE KITCHEN BRIGADE

The kitchen staff (brigade) is a working team of trained cook and beginners who produce and complete dishes under the management of the chef or food production manager. The structure and size of the staff, as well as its function are usually determined by the following factors;

- The size of establishment
- Type of establishment
- Organization of the establishment i.e. kitchen
- Equipment and tool available
- Food or dishes offered

In order to be a competent chef, regardless of the size of the establishment, a chef must be knowledgeable of;

- The duties performed in all stations (departments) in the kitchen.
- Food and food combination to be able to write and construct well balanced menus.
- Food and labor costs and show profit for his department.
- Have a good background in employer-employee relationship. He must be able to

A small brigade is a kitchen, which is run by a working chef assisted by the cooks/commis. Medium brigade is a kitchen run by a chef assisted by chef de' parties and cooks or for economic purposes, it may be run by the chef steward assisted by sous chefs, chef de' parties & cooks. Large brigade is a kitchen run by chef, chef de parties and commis

Chef

- This is the highest possible rank in the kitchen
- He is the person in authority in the kitchen.
- He has complete charge of food preparation and supervises the serving of foods for the dining rooms, banquets and all other functions.
- He may have one of the following titles: - Executive chef, head chef, chef steward or working chef.

Sous chef

Is second in command and is responsible for the physical aspect of the kitchen including supervision of the kitchen personnel as well responsible for training beginners. In large kitchens, there may be several sous chefs with specific responsibility for separate services such as banquets, Grillroom etc.

Banquet Chef

Is responsible for all parties / functions and banquets under the direct supervision of the executive chef, the banquet chef is responsible to all the stations to which party or banquet work has been assigned.

Chef de' partie

Is in charge of a department or section such as garden manager, saucier, Entremetier etc., one or more assistants i.e. cooks and commis report to the chief de' parte. He organizes the section, delegates the work to his assistant and is referred to as the backbone of the kitchen.

Chef Tournant (Relief or Swing Cook)

Trained cook who always reinforce when there is much work or when a staff is off duty, sick or on leave

Cook or commis

Assist the chief de partie with the varying amount of work e.g. Entremetier is larger than saucier hence more cooks/ commis in that partie. The senior cook/ commis are usually capable of taking over a great deal of responsibility and in some cases will take charge of the partie when the chef de partie is off duty.

Subsidiary chefs

- Crockery; Person responsible for washing/cleaning crockery e.g. glasses, water, Jugs, cups, plates etc.
- Pot washer; Person in charge of washing pots, pans and all other working tools and equipment.
- Silver man; Person responsible for Cleaning/polishing silver dishes, chaffing dishes, Cutleries.

- Baker: One who does the baking.
- Staff cooks.
- Grill cook: -Does the grilling in the open fire.

6.10 FOOD COMMODITIES/FOOD FLAVORINGS

Much of the enjoyment of eating depends on the flavorings added during preparation and when the food is about to be eaten.

Herbs and spices

Are aromatic substances obtained from plants and are either used in fresh or dried state.

Herbs: are leaves of aromatic plants used in the kitchen for flavoring food. Herbs have rich, strong smell and flavor. Examples of Herbs include; Oregano, mint, dill, tarragon, fennel, thyme, sage, rosemary, bay leaf, marjoram, parsley, celery, chervils, chives, basil etc.

Herb categories:

Herbs can be categorized as follows: -

- Fresh; freshly picked and used without alteration.
- Dried; they have water removed which concentrates their flavor.
- Pickled; Picked herbs are stored in brine
- Frozen; these are fresh herbs which have been freeze – dried and then vacuum packed. They are either frozen fresh at 0oc or blanched and frozen.

Nutritional Value.

Herbs have very little nutritional value themselves. They are important for the digestion as they stimulate appetite and the flow of the gastric juices.

Storage:

- Flavored vinegars should be stored under room temperature.
- Store dried herbs in a dry store in air tight containers away from direct sunlight
- Purchase herbs from a retailer with a fast turnover

because flavor is lost during storage.

- Discard herbs not used within a year.

CONDIMENTS:

Are added to food after or during cooking to enhance the flavor and taste. Condiments include;

- Vinegar: It's used for salad dressings, poached eggs, and sauces etc.
- Mustard sauce: Used for salad dressings, sausages, meat, sauces etc.
- Pickles: are used to decorate cold platters etc.
- Worcester sauce: Used for salad dressings, fish marinades etc.
- H and P sauce: - made from vinegar, salt, spices and sugar.
- Tomato ketchup: It is used for making sauces and as an accompaniment to snack dishes.
- Chili sauce: - is liquid made out of chili peppers, salt, herbs and vinegar.
- Tabasco sauce: -
- Soya sauce: It's mainly used for Japanese and Chinese dishes, also fish and sea food dishes.
- Chutney: Used for curry dishes as well as in cold sauces

EXTRACTS:

include;

- a. Stock cubes
- b. Aromat seasoning
- c. Maggi seasoning
- d. Monosodium glutamate

VEGETABLES

Vegetables are classified according to the part of the plant are removed from: roots, bulbs, flower heads, fungi, tubers, leaves, stems and shoots, seeds and pods, vegetable fruits and sea vegetables.

Vegetables can also be classified as:

- Above the ground; fruits and seeds, flowers, leaves, stem

- Below the ground; tubers, bulbs, roots
- Roots
- Beetroot and Carrots
- Parsnips, Radish and turnips
- Purchasing specification
- Generally clean and free from soil.
- Firm, not soft, free from bruising and blemishes, evenly sized and shaped.
- Flower Heads
- Cauliflower
- broccoli

Purchasing specification

- Cauliflowers should have tight and firm flower heads that are white in color.
- Other brassicas should also have tight heads and bright coloring.
- They should not feel limp and the stems should be strong.

Tubers

- Potatoes
- Sweet potatoes
- Yams

Purchasing specification

Clean and free from soil. Firm and not soft or dried-out skin. Even size and shape with no bruising or blemishes.

Bulbs

- Leek
- Onions
- spring onions

Purchasing specification

- Skin should not be damaged.
- No bruising or blemishes.
- Fennel should be crisp and firm, leeks should be predominantly clean and free from soil.

Leaves

- Brussel sprouts
- Cabbages
- Lettuce
- Spinach
- watercress

Purchasing specification

Should be fresh with leaves that are bright in color, crisp and not wilted.

Seeds and Pods

- Maize
- Peas
- Lady fingers (okra)
- French beans

Purchasing specification

- Peas and beans should be crisp. If purchased in pods, peas should be full and beans not stringy.
- Good, bright coloration and no bruising or damage.

Fruits

- Tomatoes
- Avocado
- pumpkin

Fruits can be classified into:

- Berry fruits
- Citrus fruits
- Fleshy fruits
- Stone fruits

Purchasing specification

- Ripe, firm to the touch and not too soft.
- Good deep coloration without bruising or blemishes.

Stems

- Asparagus
- celery

Purchasing specification

- Generally clean and free of soil.
- Stems should be firm, crisp and free of bruising.
- Bright coloring.

Fungi

Mushrooms/fungi are the only vegetables which do not grow from a green plant but in damp, dark, mossy conditions.

Purchasing specification

- Clean and free from grit, sand and soil.
- Ensure that wild mushrooms are easily identifiable.
No blemishes, bruising or early signs of wilting.

MEAT

It refers to any of the edible lean muscle parts of a beef carcass. Meat for the catering industry is the flesh of any animal reared for the table, most commonly beef, pork and lamb. It is a rich source of high-quality protein.

Tenderisers

There 2 types: -

- a. Marinades: -Vinegar and lemon juice.
- b. Blade or mechanical tenderization
 - Batting out or hammering.
 - A tenderising machine.

Cooking time:

Proper timing, together with the correct temperature plays an important role in cooking of meat. Overcooking or wrong temperature setting results in a dried-out product with a high degree of shrinkage and weight loss. Meat roasted, pan fried or grilled for the correct time and at the correct temperature is juicier, has more flavor, shrinks less, and is therefore more profitable.

To determine the cooking time of the various cuts the following points have to be taken into consideration: -

- Weight, size and shape of large cuts for roasting.

- Thickness of small cuts for pan frying and grilling.
- Degree of doneness required (Beef and Lamb)
- Type of cooking equipment used.
- Temperatures required.

Degree of doneness and their determination

Beef and Lamb is always roasted, pan fried or grilled to the point where the internal temperature reaches 85C. These various stages below this are called the degrees of doneness for meat. The degree to which the various cuts are cooked depends on customer's instructions. The determination of the various degrees of doneness of roasted, pan fried and grilled meat calls for experience. The following points should give some assistance: -

- **Very rare;** internal deep red color, very moist with warm juices and very soft to touch.
- **Rare;** Internal very red color, very moist with warmer juice, and soft to touch.
- **Medium rare;** internal lighter red color, moist with pink warm juice soft and springy to touch.
- **Medium;** Internal pink red color, moist with clear pink juices.
- **Well done;** internal light grey color, a little moist with clear or no pink juices.
- **Very well done;** internal stone-grey color, dry with clear or no sign of pink juices, very firm to touch.

Storage

Meat should always be covered by plastic wrap when stored in a refrigerator to help prevent oxidation of protein. The temperature should be 1-4°C and meat should always be used as quickly as possible. Frozen meat should be covered to prevent freezer burn and kept at -18°C. The thawing of meat should take place in a refrigerator.

Quality

The quality of meat is directly related to the cookery method. If a tender fillet steak is stewed for 2 hours it

will completely disintegrate in the sauce, if chuck beef is used it will be tender and succulent. On the other hand, if you grilled the chuck beef it would be almost impossible to chew. Prime cuts of meat are the more tender muscles that lend themselves to dry cookery methods such as frying and grilling.

Beef Hindquarter parts and suitable cooking methods

- Fillet; Grilling, roasting, frying
- Sirloin grilling, roasting, frying
- Wing rib Grilling, roasting, frying
- Thin flank Braising, stewing
- Rump Frying, roasting, braising
- Topside Braising, stewing, slow roasting
- Thick flank Braising, stewing
- Silverside Pickling, boiling
- Shin Consommé, braising
- Kidney Pies, puddings
- Fat (suet) Suet pastry, rendering

Quality points

- The muscle should be red with slight marbling
- The fat should be creamy in color and brittle
- There should be a pleasant aroma that shows no signs of rancidity
- The lean meat should not feel sticky to the touch

VEAL

Veal is the meat from milk-fed calves that are slaughtered at around 4 months. The meat is very pale in color, although a calf of 2% months is highly prized for its white flesh. Almost all the joints of veal are tender and can be cooked in a short time.

Quality points

- The fat is white, pleasant to smell and mainly situated around the kidneys
- The muscles should not feel sticky to the touch
- The flesh is very lean and a pale pink color except when a rose color is specifically ordered

LAMB AND MUTTON

Lamb is the meat from farmed sheep less than 12 months old. Over the age of 12 months the meat is technically described as mutton. The flesh can vary in color and flavor depending on the breed.

Quality points

- The lean flesh should be a ruddy red color
- The fat should be evenly distributed, dry to the touch and flaky in texture
- The smell of lamb is pleasing and characteristic to the animal
- The bones should be porous and have a small degree of blood present
- It is important to keep lamb cold when cutting the meat as otherwise the fat becomes greasy and knife handles become slippery

PORK

Pork is the meat from pigs which are usually slaughtered between 10-12 months old.

Quality points

- Pale pink flesh with a fine texture
- Skin should be free of bristle and not wet to the touch
- There should be a covering of fat that is not excessive
- The bones should be small and pink
- There should not be excessive connective tissue

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BACON

The meat from the pig to produce bacon is cured in salt brine or smoked.

Quality points

- The lean muscle should be pink, firm and not sticky to the touch
- The fat should be white and not excessive
- The rind must be free from wrinkles and not sticky
- The bacon in general should not feel wet or sticky to the touch.

POULTRY

Poultry include domestic birds suitable for food. These include;

- Chicken
- Goose
- duck and
- Turkey.

Food value

- Proteins, Fats and Vitamins
- Minerals; iron, sodium and phosphorus

Classification of poultry

- Chicken is usually classified as follows;
- Poussins; these are very young birds 400g to 600g in weight.
- Spring chicken; young birds 600g to 1,200g.
- Broilers; these are birds sold at 10 weeks. They are similar to spring chicken. They are tender but may lack flavor.
- Roasting chicken; 1.2 to 2.4 kg
- Boiling fowls; 1.6 to 2.8 kg
- Capons; neutered cockerels 2.8 to 3.2 kg

Hens are older birds that have had one or two laying seasons and are suitable for boiling or steaming.

General quality of poultry

The birds should: -

- Not have bony breast
- have strong beak
- have sharp claws
- have bright red cock
- have smooth skin on the leg
- Have firm and unbroken skin and flesh.

NB: poultry are best consumed when aged between 8 – 12 months

Slaughtering process

- Stunning
- Killing
- Bleeding
- Scalding: - immersing into hot water to loosen feathers
- De feathering: - removal of feathers
- Flaming
- Evisceration: removal of offal's
- Inspection
- Grading: The bird should be: -
 - a. Fully fleshed and meaty
 - b. Well finished (no defects)
 - c. Attractive overall appearance
- Chilling
- Dispatch

Purchasing

After inspection for wholesomeness and the subsequent grading of poultry, the approval stamp has to be attached to the wing or to the package of poultry and the cooling process follows before selling it.

Storing poultry

- a. Storing should be done in keeping the poultry

- either in a chilling room or temperatures of -18oc - -20oc.
- b. Poultry like any other meat product should be placed (packed) in polythene bags before freezing
- c. Should be stored without offal's
- d. d) Should be defrosted at refrigerator temperatures
- e. e) Cook chicken when fully defrosted to avoid salmonella food poisoning

FISH

Fish is a generic term for limbless cold-blooded vertebrate animals, with gills and fins living wholly in water and are used for food.

Classification of fish

Fish are generally divided into two groups:

- a. Fresh water fish
- b. Sea fish

Fresh water fish is further classified according to shape as; -

- Flat or round fish

Or according to fat content as: -

- Fatty or white fish

Sea fish is further classified according to habitat as: -

- Demersal fish; live at the bottom of the sea.
- Pelagic fish; swim freely near the surface in shoals (areas of shallow water)

Both groups are further broken down into families:

Food value

- Protein:
- Vitamins- A, C and D (iodine)
- Water
- Carbohydrates

- Minerals
- Fats

Quality points for fish

When buying fish, the following points should be looked for to ensure freshness:

- Eyes: Bright, Full and not Sunken.
- Gills: Bright red in color.
- Flesh: Firm and resilient, so that when pressed the depression goes quickly. The fish must not be limp.
- Scales: Should lie flat, moist and plentiful.
- Skin: This should be covered with a fresh sea-slime or be smooth, resilient and moist.
- Smell: The smell must be pleasant.
- Guts: belly of whole fish should be well rounded and clearly gutted

Storage of fish

Fish is subject to speedy decay by bacterial action and often causes food poisoning if it is not absolutely fresh.

- Fresh fish should be kept in a fish box containing ice under refrigeration and melting ice water should be drained during transportation.
- Fish should be stored in a separate fridge or part of a refrigerator used only for fish. Temperature should be maintained just around freezing point.
- Frozen fish must be kept in a deep-freezer
- Large pieces of fish can be vacuum packed and stored at -10c to +10c

EGGS

An egg is an infertile stuff, typically of the domestic fowl (Ducks, hens, Turkey etc.), enclosed in a chalky shell used for food.

Structure and composition of eggs:

A whole egg primarily consists of: -

- Yolk.

- White and,
- Shell

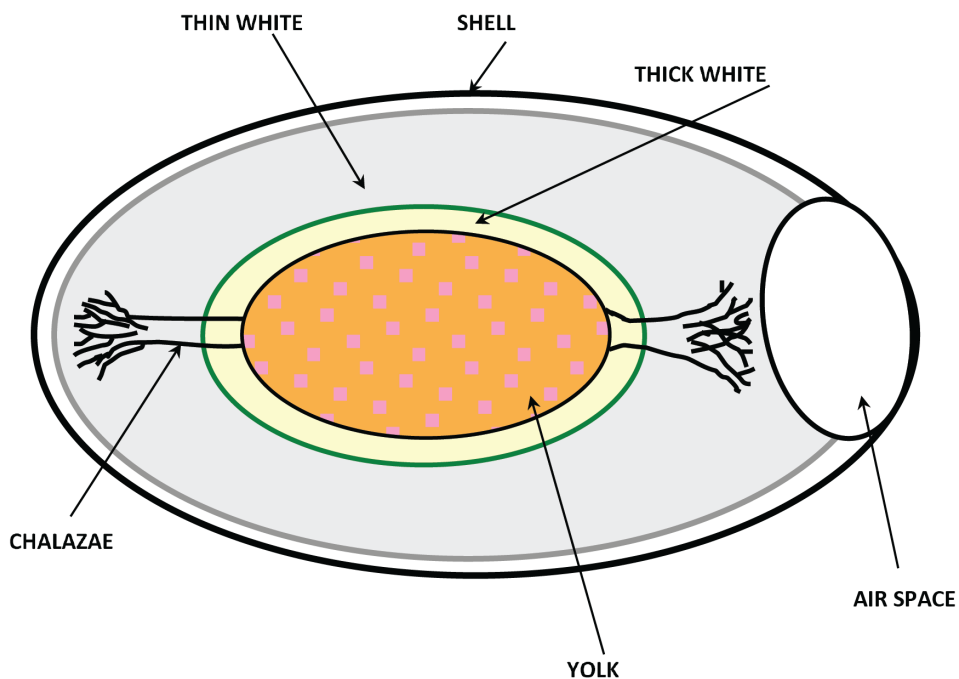
Yolk:

Forms 31% of the egg. It is held in position by the Chalazae (a rope like structure). Main component of Egg yolk is Fat, Iron, Vitamins and Protein. Color ranges from light to dark yellow depending on the diet of the chicken

Egg white

Primarily albumen protein Forms 58% of the egg. It is found in 3 layers, two are thin and watery and one is thick and viscous (having a thick and sticky consistency). Main components of egg white are water, Sulphur and protein.

THE PARTS OF AN EGG



Shells:

The shell is porous and fragile material. Absorbs odors and flavors into the egg and allows the egg to lose moisture even if unbroken. The shell is primarily made of phosphate and calcium carbonate. The shell may be brown or white depending on the breed of the hen and type of feed.

Quality eggs

Shell eggs for consumer should have the following qualities: -

- The shell should be clean, strong and slightly rough. White, brown or light in color.
- Internally perfect with shells intact
- Air space not exceeding 6 mm in depth.
- Yolk that does not move away from the centre of the egg on rotation.
- The yolk should be firm and dark yellowish in color. The yolk develops a greenish color around

it if over boiled due to reaction of sulfur and iron

Food value

- Protein and Fat.
- Minerals such as calcium, magnesium, phosphorus, zinc, sulfur and Iron.
- Vitamins: - A, D, E, and B.

Choice of eggs:

- The consumer chooses different sizes of eggs.
- It is advisable to purchase eggs where there is a fast turnover.
- Check that the eggs are not broken or cracked.

Cooking eggs

We cook eggs to increase digestibility and flavor, otherwise eggs are also eaten raw.

Methods: Frying, poaching, boiling

Storing of eggs.

- a. Store eggs with their blunt end facing upwards (that is the one with air space)
- b. Storage temperature range is between 7 – 13 degrees Celsius and they can keep fresh for one month. Eggs quality deteriorates quickly under warm conditions.
- c. Store eggs away from other food stuffs that might pass on undesirable flavors and odors.
- d. Clean eggs with damp cloth before storage since washing removes natural cover (muslin).

NB: Use eggs as fresh as possible because as they get older certain changes take place which affect their performances in food preparation.

- Water is lost by evaporation and this is replaced by air through the shell. As a result, the air space gets bigger.
- Water from the egg white passes to the yolk. This causes the yolk to get bigger and flat.

- The egg white becomes thin so that, when the egg is broken, the white spread out.
- The egg white may turn yellow and become cloudy.
- The yolk loses its central position because the thin white cannot keep the yolk centrally in the egg.
- There is a loss of carbon dioxide from the egg through the shell during storage. As a result, the egg becomes more alkaline.
- During storage bacteria may enter the egg through the porous shell and cause spoilage.

Functions and uses of eggs in food preparation:

The functions of an egg in food preparation can be classified according to different properties of the egg.

The 3 major functional properties are: -

- a. Coagulation
- b. Emulsification
- c. Foaming

Coagulation

This is the process of eggs changing from fluid form to a solid or Semi solid state through cooking e.g. boiling, poaching, frying, scrambled, omelet and custards. The following are functions associated with coagulation:

- Thickening agent: e. g. lemon meringue pie, liaison.
- Binding agent: e. g. burgers, fish cakes and potato croquettes, frying butter etc.
- Clarification: e.g. in consommé' making
- Coating: A surface coating of an egg coagulates preventing food from absorbing excessive amount of fat during frying. The food is also

coated with some kind of cereals such as bread-crumbs, desiccated coconut e. g. scotch egg, fish fillets and potato croquettes.

- Glazing: Whole egg, egg yolk or white may be used to glaze foods to give an attractive finish to the dish e.g. Breads and savory pies.
- Garnish: Used for decoration and salads.

Emulsification

The emulsifying properties of egg yolk are used in the preparation of cakes, hollandaise and mayonnaise. If vinegar and oil are shaken up together and left to stand, the liquids separate, with the oil forming the top layer and the vinegar the bottom layer. If an emulsifying agent such as egg yolk is used the two liquids are held together as an emulsion. Mayonnaise is an emulsion of oil and vinegar

Foaming

When egg white is whisked, bubbles of air are incorporated into it forming egg white foam. Examples of food which rely on this property of eggs are Meringues, soufflé's and omelets. Whole egg can be used to produce a foam e. g in making of a sponge cake.

Other uses of eggs

- a. Used in various ways for breakfast.
- b. Preparation of savory custards
- c. Filling for sandwiches
- d. Preparation of pancakes and waffles.
- e. Salads and first courses

MILK AND MILK PRODUCTS

Milk is the lacteal secretion from the mammary glands of female mammals e.g. cow, goat, sheep, camel etc.

Sources of milk.

Different animal species e.g.

- Cows
- Camels
- Sheep
- Goats

Food value and composition

Milk contains: -

- Proteins; Milk protein contains all the essential amino acids important for building body cells.
- Fats; milk fat are easily digested and contain fatty acids and vitamins.
- Sugar (Carbohydrates) – exists as lactose or milk sugar.
- Vitamins; Vitamins exist as; A, D, B – niacin, thiamin, riboflavin.
- Minerals; e.g. calcium, potassium, magnesium, sodium, chloride and chloride.

Storage of milk

Milk is vulnerable to the growth of bacteria, not only of harmless bacteria such as those which produce sour milk, but also disease-causing germs.

- Milk should be kept in a separate fridge or away from strong smelling foods.
- Milk should be kept cool by leaving it in a current of cold air.
- Milk should be kept covered to protect it from being contaminated by dust and flies.
- If a jug is used to store milk, it should be rinsed after use, then washed, scalded in boiling water and drained.

- Milk keeps better if it is kept in its original container. These containers are sterilized when milk is put in them.
- c. Yoghurt; is a coagulated milk product with a custard-like consistency.

Uses of milk

- Drinks: in hot chocolate, milk tea, milk coffee and milk shake.
- Soups: in cream soups e.g. Chicken, mushroom and tomato.
- Sauces: béchamel, custard etc.
- Batters: in pancakes, Yorkshire pudding.
- Egg custard; type mixtures – quiche Lorraine.
- Milk puddings; in rice pudding, milk jelly.
- Baked products; breads, scones, cakes.
- Glaze; for brushing over the surface of scones to give a smooth shiny finish.

Types of milk

Milk is available in the following forms: -

- Sour milk
- Powder milk
- Ultra-Heat Treated (UHT) milk
- Skimmed milk
- Pasteurized milk
- Whole milk

DAIRY PRODUCTS

- a. Cream; is the fatty or oily part of milk, which rises to the surface of the milk and can be skimmed.
- b. Butter; is made from pure cream or milk that is churned (churn is a sort of a barrel in which milk or cream is shaken till the fats are combined) until the butter fat is thrown out when it is pressed to squeeze out water.

- d. Cheese: The concentration of all or part of the components of milk obtained through the coagulation of the major milk protein by suitable enzymes and acid produced by beneficial bacteria.

Examples:

- Cottage cheese: - Skim milk.
- Cheddar cheese: - Whole milk.
- Cream cheese: - Milk enriched with cheese.
- Parmesan (Germany)

FATS AND OILS (LIPIDS)

These are different physical state of the same group of substance.

- Fats are solid or semi-solid chemical compounds at room temperatures (become liquid when heated.)
- Oils are simply fats which are liquid at room temperature except coconut and palm oil which remain semi solid.

Food value

- a. Fats and oil provide us with heat energy and fat-soluble vitamins (A, D, E, K)
- b. Fats in our body do act as an insulator against direct heat reserved by our skin before being dissolved in our body.

Sources of fat

Animal fats:

- a. Milk Fats: - Butter, Ghee and Cream.
- b. Body fats: - obtained from fat tissue of animals, Pork Fat (Lard), Poultry Fat, and Beef and Lamb Fat (Suet and dripping)
- c. Fish oil: - obtained from herrings, Anchovies, Pilchards and Sardines.

Plant fats:

- a. Fruit oils: - Olive oil, Palm oil, avocado oil
- b. Seed oils: - Sunflower, Peanut, Coconut, corn, Palm kernel, sesame, Walnut, Hazelnut, Linseed, Wheat germ, Pumpkin seed, Cotton seed, Groundnut, mustard oil, poppy seed oil, Soya bean etc.

Examples of animal fats:

- a. Butter
- b. Lard
- c. Suet
- d. Dripping
- e. Shortening

Storage

- Store fat in a cool dry place.
- Keep fats away from strong smelling food because they absorb flavors.

Uses:

- Used for frying and making salad dressings.
- Used to grease cooking vessels
- Infused oils (with herbs and spices) are intended for seasoning, marinades and salad dressings.
- Including air in cakes and pastry and improving flavor, texture and fuel-food value.
- Improving flavor, texture and fuel-food value of soups, sauces, salad dressings, various starchy mixtures and cooked vegetables.
- Shortening (to tenderize the flour mixture by limiting formation of long gluten strands as the fat serves to separate starch and gluten particles) pastry, biscuits and cake.

Margarine

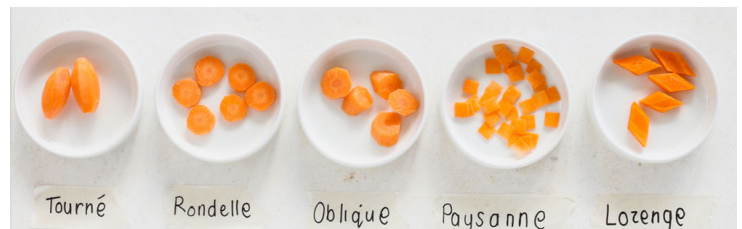
Margarine is a highly refined vegetable fat and/or animal fats with salt and properly cultured milk.

Food value

- Fats, water and vitamins A and D.

Uses of margarine

- Pastry and cake making
- Preparation of roux
- Preparation and finishing of sauces.
- Table use etc.



THE DIFFERENT VEGETABLE CUTS

Brunoise: is a method of cutting vegetables into fine dices (carrots, turnips, leek, sweet peppers, etc.)



Julienne: to cut vegetables into Julienne means to cut very thin sticks.



Macedoine: Vegetables cut into dices larger than a Brumoise



Paysanne: Vegetables cut into square thin slices



Chiffonade: is a coarse julienne of lettuce



Batonnets: are small sticks cut from carrots, turnips etc.



Turned Vegetables: are vegetables like carrots, turnips, potatoes cut into equal size and shape. This uniform cut is done by using a turnip-knife. As this is a

costly method of cutting vegetables, we must ensure that we use all the trimmings (soups, etc.)



MIS-EN-PLACE

Before starting to cook a dish, it is important that all the necessary raw materials and ingredients are ready on hand. One must also ensure that all the equipment and tools necessary to work are at our disposal. Only a correct mise-en-place allows you to work with speed so as to produce several dishes in an efficient and economical way.

- Study the recipe; Type of ingredients, tools and equipment to be used.
- Arrange tools and equipment; arrange the various tools and equipment needed for the dishes you prepare.
- Collect raw materials and ingredients; Weigh and measure the ingredients in the accurate quantities.
- Prepare ingredients ready to cook; Make the basic preparations like washing, peeling, cutting deboning, etc.
- Set up mise-en-place and check; Place the correct amount of the ingredients on the table or on trays and check that nothing is missing now you can start to cook.

COOKING METHODS

The methods of cookery are classified into two as follows: -

- (i) Moist heat methods
- (ii) Dry heat methods

Moist heat methods

These are methods whereby some form of liquid is used or produced by the food during the cooking process.

Boiling

This is the subjection of food to the action of heat in a liquid at 100 degrees Celsius. Gentle boiling is referred to as simmering. Boiling is used in;

- Preparation of stocks, sauces, and soups
- Cooking of eggs, pastas, rice, shellfish, some fish
- All types of vegetables and
- For items of meat and poultry which generally require extended cooking time

Poaching

This process is the subjection of food to the action of heat in a liquid, held as close to boiling- point. For most purposes the temperature of the liquid for poaching is 93 – 95 degrees Celsius. Poaching is widely for the cooking of

- Fish
- Poultry
- Game birds
- Certain offal
- Eggs
- Fruit

Various liquids can be used for this process including water, milk, stock or wine.

Steaming

This is the subjection of food to the action of heat in the form of steam under pressure. Food can be steamed by placing it in a perforated container or sieve which fits tightly over a pan of boiling liquid covered in turn by a tightly fitting lid. Steaming is suitable for the cooking of;

- Fish
- Meat
- Poultry

- Vegetables
- Various puddings

Stewing

This is the subjection of food to the action of heat while it is immersed in a minimum amount of simmering liquid or sauce. The food and its sauce or liquid are served together. Stewing is particularly suitable for;

- Tougher meats or poultry
- Vegetables
- Dried fruits like prunes and
- Fish

Braising

This is the subjection of food, while it is enclosed in a container with liquid or sauce, to the action of heat in an oven. The braising liquid or sauce should always be utilized and served with the item of food. Braising is a suitable method for cooking

- Tougher joints of meats and poultry
- Fish of a firm nature like salmon, bass, turbot and
- Vegetables such as leeks, celery and cabbage can also be braised.

For meats and poultry, the process normally starts with shallow frying to seal and flavor the outer surfaces. The liquid can either be stock, wines, marinades, sauces or a combination of any and should never completely cover the food. The meat/Poultry is cooked on a bed of root vegetables to impart aroma and flavor to both liquid and food.

Dry heat methods

These are methods whereby liquid is not necessary to the cooking process.

Pot-roasting

This is the subjection of food, which is enclosed in a container with butter, to the action of heat in the oven. The container should be covered with a tight-fitting lid and any added flavorings usually in the form of a bed of

root vegetables and herbs. The most suitable items of food for Pot- roasting are first quality tender joints of

- Meat
- Poultry
- Game
- Some offal e.g. calf's kidney, liver and sweet-bread.

Pot – roasting should be accompanied with basting to build up a certain degree of color and glazing.

Roasting

This is the subjection of food to the action of heat in an oven, or while it is rotating on a spit over or at the side of a fire. In both cases fat is used as a basting agent. The most suitable foods for roasting are;

- Prime quality tender joints of butcher's meat
- Poultry
- Game
- Vegetables such as potatoes
- Sweet potatoes
- Parsnips
- Certain whole fish such as lobster.

Baking

This is the subjection of food to the action of dry convected heat in an oven. Baking is widely used for almost all commodities but its main use is for;

- Confectionery
- Pastry and
- Bakery items.

Grilling

This is the subjection of food placed on grill bars to the action of radiated heat. The heat may be directed from above or below and the source of heat may be charcoal, wood, gas or electricity. The most suitable foods for grilling are;

- Tender cuts of butcher's meat
- Poultry
- Game

- Small cuts of fish
- Mushrooms
- Sausages
- Tomatoes and
- Hamburgers

Shallow frying

This is the subjection of food to the action of heat from a shallow layer of fat in a pan. Shallow frying is an excellent method of cooking for first quality tender

- Cuts of meat
- Poultry
- Game
- Fish fillets
- Sausages
- Vegetables and
- Fruits.

Stir-frying

Stir –frying is Chinese method of cookery carried out rapidly at very high temperature while constantly stirring the food. Ingredients for stir – frying must be cut into small pieces before cooking, placed in the hot wok.

Deep-frying

This is the subjection of food to heat while it is completely submerged in hot fat. Suitable items for deep frying include;

- Meat and poultry of prime quality
- Fish fillets
- Vegetables
- Potatoes
- Fruits in form of fritters

Most foods except for a few items like potatoes or onion rings need to be seasoned first then coated either with flour, eggs, batter, or egg and bread crumbs before deep frying. The fat must be hot enough to seal the outside surfaces of the food being fried. If not, the food will absorb fat and begin to leach its juices into the fat with subsequent spoilage both of the food and fat.

STOCK

Stock is a liquid containing soluble nutrients and flavors extracted from bones, vegetables by prolonged and gentle simmering. Good stock is the foundation for good cooking. The following should be considered when making stock;

- Bones and vegetables must be fresh.
- If bones are not fresh, then blanch.
- Bones should be chopped into small pieces.
- To ensure clean stock, remove scum and fat that appears on the surface of the stock.
- The strained stock should be cooled quickly.

Examples of other stock; chicken stock, fish stock etc.

WHITE STOCK	STOCK	
MISE EN PLACE		
NOTE: This stock may be prepared from veal or beef bones.		
QUANTITY	INGREDIENTS	REMARKS
5 kg	Egg plant Veal or beef bones chopped into small pieces	
	White bouquet garni	
	Salt	
	Water	

Preparation method

1. Place the beef or veal bones in cold water, blanch, refresh and drain off.
2. Place the bones in a stock pot and add 12 l t. Cold water.
3. Bring to the boil and skim off all scum.
4. Add the bouquet garni
5. Re-boil, reduce the heat and let it simmer for about 2 ½ to 3 hours.
6. Skim frequently.
7. Strain, re-boil and use according to the particular recipe.
8. If the white stock is not used immediately cool it down and kept it in a clean container in the refrigerator.

MISE EN PLACE		
QUANTITY	INGREDIENTS	REMARKS
1.5 kg	Fresh French beans	
80 gr	Buttered	
1	Medium sized Onion	Finely chopped
2	Cloves of garlic	
	Salt	
	Pepper	

Preparation method

1. Remove top and tail and side string of the beans, by breaking them off with fingers. Avoid waste! Wash and drain.
2. If young, small beans are used, leave them whole. Large beans are cut across the centre.
3. Plunge the beans into plenty of boiling water, bring to the boil rapidly. Remove all scum and cook until tender.
4. Refresh and drain the beans.
5. Melt the butter in a large frying pan, sweat onions and garlic without coloring and toss the beans sprinkle with some salt and very little pepper.
6. Serve in a loose dome shape in a deep vegetable dish.

GLAZED CARROTS	Vegetables	
MISE EN PLACE		
QUANTITY	INGREDIENTS	Select medium sized carrots
1 kg	Young carrots	
30 g	Butter	
5 g	Sugar	
	Salt	

Preparation

1. Wash, peel and rewash the carrots. Cut them into pieces of 3 cm. In length and divide these lengthwise into 4 to 6 sections depending on their size. Turn into barrel shape. (The carrots may also be cut into batonettes).
2. Place the carrots in a sauce pan, cover with cold water and add salt, butter and sugar.
3. Bring rapidly to the boil, and as soon as boiling is established lower the heat. Simmer for 20 minutes.
4. Increase the heat to rapidly evaporate the liquid until only a thick coating glaze remains. Toss the carrots several times during this operation.
5. At that point the carrots should be cooked and glazed.
6. Serve in a loose dome-shaped in a deep vegetable dish.

RATATOUILLE (STEWED VEGETABLE)		Vegetables
MISE EN PLACE		
QUANTITY	INGREDIENTS	Select medium sized carrots
300 g	Baby marrows	
300 g	Egg plant	
150 g	Sweet pepper	
1	Large Onion	
6	Cloves of garlic	
	Salt	
1 dl	Oil	
	Parsley	Chopped
2 dl	White stock or bouillon	

Preparation

1. Cut off the ends of the baby marrows and the egg plants. Peel the baby marrows partly. Do not peel the egg plants.
2. Cut baby marrows and egg plants into pieces of even size.
3. Cut the washed peppers into quarters, remove the core, seeds and stem. Cut into pieces.
4. Peel the tomatoes, cut into halves, remove the eyes and seeds and cut as for tomatoes concusses.
5. Peel onion and garlic and chop them finely.
6. Heat the oil in a stewing pan and sweat the onions and garlic without any coloring. Add the marrows and egg plants. Toss over the heat over the heat for 1 to 2 minutes; add the peppers and the tomatoes. Season with salt and pepper and finally add the stock.
7. Cover the pan, bring the ratatouille to the boil, reduce heat and simmer it gently for 20 to 30 minutes.
8. Taste, correct seasoning if necessary and serve in a deep vegetable dish. Sprinkle with some chopped parsley.

BRAISED RED CABBAGE		Vegetables
MISE EN PLACE		
QUANTITY	INGREDIENTS	Select medium sized carrots
1 kg	Red Cabbage	
1	Apples	
150 g	Red wine	
1	Vinegar	White wine or cider vinegar
	Salt	
3 g	Sugar	
1	Onion	
50 g	Cooking fat or pure lard	Chopped
7.5 dl	White stock	

Preparation

1. Cut away the base stalk and remove any discolored leaves or part of leaves or part of leaves.
2. Cut into quarters and cut away the centre stalk and any thick leaf stalk. Shred the leaves finely. Wash thoroughly in cold water, drain well.
3. Peel the apples, cut into quarters and remove the core. Slice them finely.
4. Marinate the cabbage with the wine and Vinegar, add the apples and keep it in the refrigerator for about 12 hours.
5. Heat the cooking fat, or better pure lard in a braising pan and sweat and finely sliced onions without any coloring.
6. Add the marinated cabbage together with the liquid, add the White stock and Salt, cover with a buttered grease proof paper. Bring to boil, cover with a lid and braise at the bottom of an oven at 150 degrees Celsius for about 1 to 1 ½ hours. The liquid, at the moment should be practically soaked up by the vegetable, or very little liquid should remain.
7. Finish off by adding very little sugar and vinegar.
8. Serve in a deep vegetable dish, add some of the remaining liquid.

EGG CURRY

Ingredients

- 4 boiled eggs and peeled off
- 2 tablespoons cooking oil
- 2 chopped onions
- 2 chopped cloves garlic
- 1 Finely chopped ginger
- 2 chopped tomatoes
- ¼ teaspoon of Garam masala

- ¼ teaspoon of black pepper powder
- ¼ teaspoon of turmeric powder
- 1 bunch chopped Dhania (coriander leaves)
- Salt to taste

Method

- Heat the cooking oil in a saucepan and add chopped onions.
- Let them cook for 2 minutes before adding the grated garlic and ginger.
- Lower the heat to medium level then sauté until your onions become tender and golden brown.
- After the onions are well browned, add your gram masala, turmeric, and pepper powders then sauté until the condiments produce a roasted aroma.
- Proceed to add your chopped tomato and continue stirring.
- At this level, you can add the ¼ cup of water and let the mixture boil.
- When it finally boils, you should turn the heat to low, add your boiled eggs and then cover and simmer your eggs for 10 – 15 minutes.
- You will then switch off the heat, add your chopped coriander leaves before stirring the mixture gently so that your eggs don't crumble.
- Serve the egg curry gravy with steamed rice or chapatti.



SCOTCH EGGS

Ingredients

- Eggs boiled eggs and peeled off
- sausages
- 100g breadcrumbs
- 1 beaten egg for coating
- Vegetable oil, for deep frying
- 100gm plain flour, seasoned with salt and ground black pepper

Method

- Shell the boiled eggs
- Skin the sausages.
- Place the seasoned flour on a grease proof paper. Then dredge each boiled egg on the flour.

- Wrap the sausage meat around each egg. Make sure the coating is smooth and completely covers each egg.
- Dip each sausage meat-coated egg in the beaten egg.
- Roll to coat completely, then dip and roll into the breadcrumbs to completely cover.
- Fry each Scotch egg in hot oil for 8-10 minutes, until golden and crisp and the sausage meat is completely cooked.
- Remove from the oil with a slotted spoon and drain on kitchen paper.
- Serve cool.



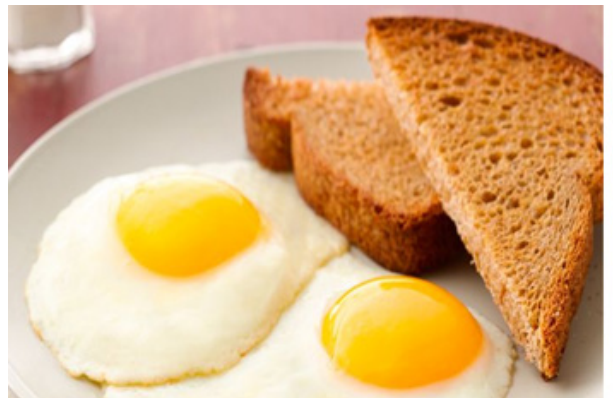
POACHED EGG

Ingredients

- 2 tablespoons vinegar
- 4 eggs
- Water

Method

- Make sure your eggs are really fresh. Fresh eggs have a thicker white near the yolk that will better hold a round shape as it cooks. You can tell how fresh an egg is by putting it in a glass of water; if it lies horizontally at the bottom, it is very fresh; if it starts to float or stand on end it is less fresh
- Crack your egg into a bowl or onto a saucer, this makes it easier to slide into the pan. If there is any very runny white surrounding the thicker white then tip this away.
- Add a drop of vinegar
- Bring the water to a boil, then reduce temperature.
- When water reaches a gentle simmer, pour in the egg.
- Poach the eggs for 3 minutes spooning the simmering water over the eggs.
- When the whites become opaque and feel firm to the touch they are done.
- Gently remove eggs with a slotted spoon and lay them on sheets of paper towel to dry.
- Serve immediately.



SCRAMBLED EGG

Ingredients

- 1 slice of wholegrain bread
- 1 medium egg
- Salt and pepper, to taste

Method

- Mix the egg in a bowl with salt and pepper
- Pour the mix into a heated, non-stick pan
- Stir constantly for 2 minutes, or until the egg is fully cooked
- Serve over toasted bread
- If necessary, seek medical attention.



6.11 CAKE MAKING

Cakes may be divided as follows

1. Cake without butter e.g. sponge cakes
2. Cake with butter. These may be
 - a. Plain cakes in which the weight of butter, sugar and eggs is half or less than half the weight of flour.
 - b. Rich cakes in which butter, sugar and eggs are equal to the flour

Ingredients Used in Cake Making

1. Flour - Use fine white flour for best results
2. Fat - Butter gives the best results, but margarine and lard may also be used
3. Sugar - There are several types of sugar in the market e.g. demerara sugar, granulated sugar (ordinary white sugar), castor sugar and icing sugar.
4. Eggs - These should be fresh if possible, that is couple of days old. The albumen of a newly laid egg will not hold much air.
5. Raising agents

The chemical raising agent used in cake making consist of an acid and an alkali. When these two chemicals meet in the presence of moisture, they neutralize each other and during the process of neutralization a gas, carbon dioxide is given off. When this gas is heated in the oven during baking, it expands and causes the cake to rise.

Some of the raising agents are

- Baking powder
- Bicarbonate of soda and lemon juice (or sour milk)
- Bicarbonate of soda and cream of tartar

- The greater the amount of air that can be entrapped in a cake mixture, the lighter will the cake be.

Baking and cooling

Cake structure is fragile, so proper baking conditions are essential for high quality products. The following guidelines will help in avoiding cake failures

- Pre heat the ovens.
- Make sure ovens and shelves are level.
- Do not let pans touch each other in the oven. If the pans touch, air circulation is inhibited and the cakes rise unevenly.
- Bake at the correct temperature.
- Do not open the ovens or disturb the cakes until they have finished rising and are partially browned. Disturbing the cakes before rising may cause them to fail.
- If steam in the oven is available, use it for creamed mixtures. These cakes bake with a flatter top if baked because steam delays the formation of the top crust.
- Test for doneness.
- Cool layer cakes and sheet cakes for 15 minutes in pans and then turn out while slightly warm.

Methods of making Cakes

There are four (4) main methods of making cakes

Rubbing in method

This is probably the best-known method and is used in producing some of the most famous types of biscuits, such as shortbread. Cakes made by this method are quick to prepare but are rather dry and will not keep for long. It is not practical to try to rub in more than

half fat to flour-the mixture will become rather sticky and difficult to handle. The procedure is as follows:

- a. Sift the flour and salt.
- b. Rub in the butter with the finger tips.
- c. Add sugar and then the eggs and liquid.

This method is suitable for plain cake mixtures e.g. sultana cake. Do not overwork the paste otherwise it will not combine and as a consequence you will not be able to roll it out especially in the rubbed in biscuits

Faults in rubbed in cakes.

- a. The texture is heavy and close.
 - Insufficient baking powder used.
 - Too much flour was used.
 - Too much fat was used.
 - Too much liquid was used.
 - Over mixing when the liquid was added.
 - The oven was too slow.
 - There was insufficient baking.
- b. The texture is coarse and open.
 - Too much baking powder was used.
 - There was insufficient mixing of the flour with the liquid.
 - Too hot an oven was used in baking.
 - A poor quality of fat was used.
- c. The texture is uneven with large holes in the cake.
 - Insufficient rubbing in of the fat. This left small lumps which melted and left a hole and a close texture.
 - Over mixing after the liquid had been added.
 - The mixture was put in to the tin in small spoonful, so large bubbles of air were entrapped.
- d. The cake is very dry.
 - Insufficient eggs in the mixture; the plainer the cake the sooner it will dry out.
 - Insufficient liquid was used.
 - Too much baking powder was used.
 - It was baked for too long.
- e. The small buns have spread on the tin.
 - Too much liquid was used.
 - The tin was greased too heavily. The fat melted

and pulled out the soft mixture before it had set.

- The oven was too cool.

Creaming Method

Cakes which have the fat and sugar creamed together first are the richer type, where the weight of the fat and the sugar is equal to, or more than, the weight of flour.

The procedure is as follows:

- a. Cream the butter and sugar. In cold weather it may be necessary to warm the butter, but great care must be taken that it does not warm. Continue creaming until the mixture is white and can easily drop from a spoon.
- b. Beat the eggs one by one with a little of the flour to prevent curdling.
- c. Add the rest of the sieved flour (with baking powder if used) and fruits if it is a fruit cake.

Faults in creamed mixtures.

- a. The cake has a heavy close texture.
 - The fat and sugar were insufficiently creamed. A fairly large quantity of air may be beaten in during this initial stage.
 - Insufficient beating while the eggs were added. Most of the air is beaten in during this process.
 - The mixture is curdled owing to too rapid addition of the egg or to the eggs being too cool.
 - Insufficient baking powder was used.
 - Too much liquid was used.
 - Cooked in too slow an oven, so that the air did not expand to its fullest extent before the gluten and albumen set.
 - Cooked in too quick an oven, so that the mixture formed a hard crust on the top before the air expanded.
 - It was insufficiently cooked.
- b. The texture is coarse and open.
 - The fat sugar and eggs were insufficiently creamed.

- Too much baking powder was used.
 - Too low a proportion of fat and sugar and too high a proportion of flour and liquid was used.
 - It was baked in too hot an oven.
- c. The texture is uneven with large holes in the cake.
- The flour was stirred into the fat, sugar and egg for too long and too heavily. The flour should be lightly folded in.
 - Insufficient mixing so that the flour was unevenly distributed.
 - The cake mixture was put in the tins a little at a time so air pockets formed.
- d. The texture is very dry and crumbly.
- Too much baking powder was used.
 - The cake was baked for too long in a cool oven.
 - The fat, sugar and eggs were curdled.
 - Bad storage
- e. A cake has risen unevenly.
- The oven was not correctly preheated.
 - The oven shelf was not level.
 - The cake was not placed in the center of the shelf.
- f. A cake has risen to a peak in the center and cracked badly.
- The cake was cooked in too hot an oven.
 - The cake was placed too high up in the oven.
- g. A cake has sunk in the middle.
- Over creaming of the fat, sugar and egg and/or the use of too much baking powder caused the mixture to rise and overstretch the gluten and albumen. These two collapsed and so the cake sunk in the center.
 - Too much liquid was used.
 - Wet fruits were used.
 - The oven door was opened and/or the cake moved before it had set.
 - The oven door was slammed.
 - The cake was cooked in too slow an oven.
 - The cake was removed before it had cooked.

The Melting Method

The melting method is as follows

- a. Sift flour, salt and raising agent.
- b. Add fruit if used.
- c. Melt butter, sugar and syrup.
- d. Stir hot mixture in to dry ingredients.

This method is suitable for ginger bread and ginger biscuits.

Faults in melting method.

- a. The mixture rose and then sunk in the middle.
 - Too much raising agent was used.
 - Too much syrup or treacle was used.
 - The oven was too hot.
 - The oven door was opened too soon.
- b. The cake is too dark and hard on the outside.
 - Too much syrup was used.
 - The cake was cooked for too long.
 - The oven was too hot.
- c. The cake is overcooked at the side and doughy in the center.
 - Too much syrup was used.
 - Too much liquid was used.
 - The oven was too hot.
 - The tin was too thin.
- d. The cake has risen and cracked.
 - There was too much flour or oatmeal.
 - Insufficient liquid was used.
 - Too much raising agent was used.
 - The cake was cooked too high up in the oven.

The Whisking Method

The whisking method is done as follows

- a. Whisk the eggs and sugar together until the mixture is thick, creamy and pale yellow in color.
- b. Fold in the sifted flour and baking powder.

This method is suitable for the very light types of cakes e.g. sponge cakes

NB: Butter may be used in this method, but it must be melted and warm and folded in at the end.

Faults in Whisking method

- a. The texture is close and heavy
- The eggs and sugar were insufficiently beaten.
 - The eggs and sugar were overheated while whisking.
 - The flour was carelessly folded in. If the flour is beaten or stirred in, the albumen will be broken down and the air released.
 - The flour was added too quickly. The heavy flour crushed out the air.
 - Too much flour was used.
 - The oven was too hot. The air had not expanded before the gluten and albumen collapsed.
- b. The crumb is moist and heavy or 'sad'.
- Too much sugar was used.
 - Insufficient baking. The cake was removed from the oven too soon.
 - The oven door was opened and/or the cake moved before it had set.
 - The oven was too hot. The air expanded too quickly and the gluten and albumen collapsed.
 - Too cool an oven. Insufficient heat to expand the air.
- c. There are hard lumps in the crumb.
The flour was not evenly folded in to the mixture.
This may be caused by;
- Adding too much flour at a time.
 - Insufficient folding in of the flour.
- d. A Swiss roll cracks badly when rolled.
- The texture was too close.
 - Overcooking.
 - The tin was not lined with greaseproof paper so the edges became hard.
 - It was not rolled on top of a damp cloth.
 - It was not rolled quickly enough.
- e. A sponge has sunk in the center.
- The oven was too hot. The air had been over expanded and the gluten was not able to hold so the cake collapsed.
 - The cake was moved too soon.
 - The oven door was slammed.

- Insufficient baking.
- f. Genoese has a heavy layer at the base.
- The fat was not the same temperature as the other ingredients.
 - Too much fat was added at one time.
 - The fat and flour were insufficiently folded in.

General Rules for Cake Making

- Collect all the required ingredients and weigh them.
- Sift the dry ingredients in order to incorporate air, mix the ingredients thoroughly and to get rid of any foreign matter. Have the fruits washed and dried.
- Before mixing, all ingredients should be at room temperatures. Ingredients not at the proper temperature can inhibit proper mixing, causing a batter to separate or to have lumps.
- Prepare the tins before mixing the cake i.e. greasing and lining them with grease proof paper.
- Have the oven pre heated.
- When baking, do not open the oven door as the cake may collapse.
- To test whether the cake is cooked, use a skewer.
- After baking the cake for the required time and it is ready, remove from the tin and cool on a cooling rack.



Rubbed in cake mixtures (rock cakes, biscuits, buns etc.)

Rock cake

Oven-190 C

Time-15 to 20 minutes

240gm plain flour
 2 ½ level tsp baking powder
 90-120gm sugar
 90-120gm margarine
 1 egg
 A little milk to mix.
 90gm currants or sultanas

Method

- Prepare the oven.
- Prepare the tin
- Sieve flour with baking powder.
- Rub in fat with finger tips until the mixture looks like fine breadcrumbs.
- Add the sugar and fruits.
- Beat the egg and mix with milk.
- Make a well in the flour. Put the liquid and use a knife or fork to mix to a stiff mixture or wooden spoon for softer mixtures.
- Divide into 12-16 pieces
- Place on lined baking sheet
- Egg wash
- Bake until brown.
- Test and cool it.

Test for cooking; evenly brown and firm to touch.

Storage; rubbed in cakes should not be kept for more



than 3 days as they tend to become dry.

Maize meal biscuits

Ingredients

- 90gm plain flour
- 30gm maize meal
- 60gm fat

- 60gm sugar
- ½ tsp baking powder
- ½ tsp vanilla essence
- 1 egg to bind

Method

- Sieve flour, maize meal and backing powder together.
- Rub in fat.
- Add sugar
- Mix to a stiff paste with beaten egg to which vanilla essence has been added.
- Roll out to ¼ inch and cut with 2-inch biscuit cutter.
- Place on greased baking sheet and bake at 190 C for 10-15 minutes or until brown.

Creamed cake mixtures (Victoria sandwich, queen cakes, Madeira cake etc.)

Queen cakes

Ingredients

- 90gm margarine
- 90gm castor sugar
- 120-150gm plain flour
- 1 level teaspoon baking powder
- 2 eggs

Method

- Sieve the flour and backing powder.
- Cream fat and sugar in a bowl until light, fluffy and white.
- Beat in one egg at a time, continue to beat after each addition until the mixture is smooth.
- Fold in the sifted mixture of flour and backing powder.
- Put in cake cases and bake for half an hour.



Victoria sandwich



Ingredients

- 125gm margarine
- 125g castor sugar
- 2 eggs
- 200g flour
- 1 tsp baking powder
- 50gm Red plum jam or whipped cream

Method

- Heat the oven to 180 C.
- Line two cake tins.
- Cream the butter and the sugar together until white and fluffy.
- Beat in the eggs.
- Sift over the flour and fold in using a large metal spoon.
- The mixture should be of a dropping consistency; if it is not, add a little milk.
- Divide the mixture between the cake tins and gently spread out with a spatula.
- Bake for 20-25 minutes until an inserted skewer comes out clean.
- Allow to stand for 5 minutes before turning on to a wire rack to cool.
- Sandwich the cakes together with jam, or whipped cream.

Test for cooking; as for rubbed in cakes. A fine skewer stuck in the centre comes out clean if the cake is cooked. Shrinkage from the sides of the tin indicates caking is complete.

Storage; depending on the ingredients. Creamed cakes keep for days or months in airtight containers.



Whisked cake mixtures (Swiss roll, Genoese sponge)

Swiss roll

Ingredients

- Large eggs at room temperature
- 125gm caster sugar.
- 125gm plain flour.
- 1 tablespoon warm water.
- 200gm red plum jam, about 200g.
- Extra caster sugar or icing sugar for dusting.

Method

- Grease Swiss roll tins with vegetable oil and then line the tins with grease proof paper.
- Whisk eggs and sugar together over hot bath of water until pale and thick.
- Remove from the water and whisk until cool.
- Fold in the flour lightly with a metal spoon to avoid crushing out the air.
- Pour the mixture into the prepared tin and use a spatula to smooth it evenly into the corners.
- Bake in the centre of the oven 220 C for 10-12 minutes, until golden and risen and just firm to the touch.
- Put the jam in a bowl and stir well to loosen
- Lay out a damp clean cloth on the work surface.
- Lay a piece of greaseproof paper that is larger than the sponge on top. Dust the greaseproof paper

- with caster sugar.
- j. Run a knife around the edge of the warm sponge and turn out on to the sugar-dusted paper.
 - k. Peel the paper off the base of the sponge.
 - l. Trim off the edges of the sponge.
 - m. Spoon the jam onto the sponge and spread out, leaving a little border of clean sponge all around.
 - n. Start rolling. Use the paper to help you roll the sponge tightly

Test for cooking; after light pressure the surface springs back. The sides will be shrunk a little. A pale golden brown.

Storage; use the day of cooking. These cakes dry after 2-3 days. Genoese sponge will keep for 3-7 days in air tight container.



Melted cake mixture

Ginger bread

Ingredients

- 240gm flour
- ½ tsp salt
- 2 level tsp ground ginger
- ½ tsp bicarbonate of soda
- 60gm brown sugar
- 120gm golden syrup or treacle
- ¼ pt. milk
- Tin 6-inch square.

Method

- a. Sieve powdered ingredients together.

- b. Melt fat, sugar and treacle or syrup in a pan until the fat has melted and the mixture is warm.
- c. Add the mixture to flour and add milk.
- d. Stir well until fully mixed.
- e. Pour into a lined greased tin.
- f. Bake half way up the oven, 170-180 C for ¾ to 1 hour.

Test for cooking; shrunk a little from the side of the tin. Evenly brown. Firm when pressed lightly.

Storage; store when cool in a tin. The cake should be kept for at 1 day to become moist.

CAKE ICING AND DECORATIONS

Icing cakes improves their appearance and makes them appealing to both children and adults. The type of icing depends on cake to be iced, occasion for which it is to be served and whether it is intended to keep for a longer period of time e.g. wedding cakes.

Points to remember when making icing;

- Always sieve icing sugar before use.
- Consistency is important in glace or royal icing.
- Flavor should be appropriate.
- Add color slowly. Strong color looks synthetic.



Butter icing

- Cream butter and icing sugar in 25gm butter to 50gm icing sugar proportion.
- Add coloring and flavor as desired.
- This can be piped easily in a variety of simple shapes.



Glaze icing

Glaze icing is glossy, soft and easily cut. Use 250gm of icing sugar to 3 tablespoon full water. Glaze icing should be carefully colored and flavored. The consistency should be such that that the icing coats the back of a spoon and flow over the cake and down the sides. Before icing the cake, coat with an apricot glaze made from 400gm apricot jam and 75 ml water heated until dissolves. Sieve and boil gently until clear.



Royal icing

Ingredients

- 200gm icing sugar
- 1 egg white
- 1 tsp lemon juice

Egg white and lemon is whisked slightly. Sieved sugar is beaten in until it can stand in peaks for piping. An addition of a drop of glycerine makes the icing soft. Royal icing is a firm icing used to cover wedding cakes. It can be used for elaborate piped decorations.

Fondant icing

Ingredients

- 200gm icing sugar
- 250ml water



- ½ tsp cream of tartar or 1 ½ tsp glucose syrup
- This is made by boiling sugar and water. Then add glucose syrup or cream of tartar which reduces rate at which sugar re crystallizes. Mixture is cooled, the beaten and kneaded until smooth, fine and glossy. Fondant in this form can be stored in a covered jar until required for use.

Fudge icing



This is suitable for children birthday cakes. It sets firm and crisp on the surface but remains soft underneath.

Ingredients

- 600gm icing sugar
 - 250ml water
 - 2 egg whites
- Dissolve sugar in the water.
 - Then boil the dissolved sugar to 114 C.
 - Pour on stiffly beaten egg white and whisk until it has a coating consistency.
 - Pour immediately on to the cake where it sets quickly.

6.12 YEAST COOKERY

Yeast is a living organism. It is a plant of the fungi group. It is biological leaveners that must be alive in order to be effective. The viability of the yeast must be tested by proofing.

Conditions for fermentation of Yeast

The following must be supplied;

- a. Food, usually in the form of water.
- b. Moisture, milk or water. Milk improves the nutritive value; water acts more quickly.
- c. Warmth, supplied by the liquid and surroundings.

Types of Dough

- **Lean dough**-It is low in fat and sugar. Hard crusted breads and rolls, including French and Italian breads, Kaiser rolls and other hard rolls are all lean doughs. Breads made from lean doughs tend to have a chewier texture. more bite and a crisp crust
- **Rich (Enriched) dough products**-Rich doughs contain high proportions of fat, sugar and sometimes eggs, e.g. brioche and challah bread. When fats are introduced, they change the dough's texture as well as the way in which it behaves during mixing, kneading, shaping and baking. Enriched dough is usually softer, and the finished product has a more tender bite after baking than items from lean doughs. They may be golden in color because of the use of eggs and butter, and the crust is soft rather than crisp.

Steps in Yeast Dough Production.

- Scaling ingredients-All ingredients must be weighed accurately.
- Mixing-There are two purposes of mixing; to combine all the ingredients into a dough and secondly, to distribute the yeast.
- Proving (Fermentation)
- Knocking back
- Scaling or portioning the dough.

- Proofing
- Baking
- Cooling.

6.13 BREAD MAKING

Basic ingredients in bread include flour, water, yeast and salt. Other ingredients are optional and may include milk, egg, fat, sugar and ascorbic acid.

Ingredients in Bread Making

1. **Flour.** Bread flour or strong flour is recommended for bread making because the quantity and quality of the gluten formed will be sufficient to produce a loaf that has good volume with the characteristic bread. The starch in the flour is a good source food for the yeast.
2. **Water.** Water is necessary for the yeast cells to grow and multiply. The liquid dissolves the salt in the recipe and sugar if used and disperses these ingredients in the flour. The liquid helps in the even distribution of the yeast. The water used should be tepid in order to supply the warmth necessary for fermentation of the yeast.
3. **Yeast.** Yeast produces carbon dioxide under anaerobic conditions which exist in the dough. The carbon dioxide formed acts as a 'leavening' agent.
4. **Salt.** Salt flavors the dough, affects the action of amylases and helps to maintain the supply of maltose for the yeast cells. It has an inhibiting effect of protein-splitting enzymes in the flour; this is desirable because these enzymes have a weakening effect on the gluten in the dough. Yeast doughs made without salt are sticky. It is also an important flavor component in breads as it enhances both the subtle flavors in other ingredients and those that result from the fermentation process. Without salt, bread tastes flat.
5. **Fat.** Fat has a tenderizing effect on the crumb. The loaf has a better volume than when fat is not used; the crust browns more and the bread stales more easily.

Reasons for Failure in Bread Making.

- i. Bread with large holes in it.
 - Insufficient kneading. Thorough kneading distributes the gas throughout the dough.
 - The oven not being hot enough during the first 10 minutes of baking. Consequently, the yeast plant was not killed and continued to grow and to produce carbon dioxide which collected in pools and gave rise to large holes in the bread.
 - Over proved.
- ii. Bread that is sour to the taste
 - The rising and proving steps took too long and the acids which are produced during those steps increased in to great proportion.
 - The dough was allowed to become cold and the yeast plant was retarded in its growth.
- iii. A badly shaped loaf.
 - The bread was allowed to prove too long.
 - The bread was put into a cool oven, hence the dough continued to rise over the sides of the tin.

Method

- a. Sieve flour and salt in a warm bowl.
- b. Add yeast to warm milk
- c. Rub in fat ii the flour where salt and sugar has been added.
- d. Make a well in the centre and add the yeast mixture.
- e. Mix into a soft dough.
- f. Cover with a clean cloth wrung out of warm water.
- g. Place in a warm place to rise for $\frac{1}{2}$ to $\frac{3}{4}$ hour. Until the dough rises to double its size.
- h. Turn out onto a lightly floured board or table and Knead until the dough is even in texture and contains no large holes when cut in half.
- i. Divide into even sizes. Shape into small round buns.
- j. Put to prove on a greased tray for about 15 minutes.
- k. Put in the oven $\frac{2}{3}$ way up.
- l. Bake for 10 minutes at 450 F.
- m. Glaze with milk or egg.
- n. Return to the oven to dry off for 1 minute.

Basic recipe

Dinner rolls



Ingredients

- 240gm flour
- 30gm fat
- $\frac{1}{2}$ tsp salt
- 1 level tsp sugar
- 1 tsp yeast
- 350 liquid (milk or water)

White Bread



Ingredients

- 500gm flour
- 2 level tsp salt
- 1 level tsp sugar
- 25gm yeast
- 300ml warm liquid (water or milk)
- 15-25gm margarine

Method

- Keep ingredients and dough warm
- Mix dry ingredients in a warm bowl.
- Rub in fat
- Stir to dissolve yeast in warm water.
- Pour blended yeast to dry ingredients.
- Turn onto a lightly floured board or table and knead for 10 minutes.
- Continue to knead until a soft ball of dough forms and clears the sides of the bowl, about 7 to 10 minutes.
- Place the dough in a lightly greased bowl
- Cover with plastic wrap and leave to rise until doubled in size, about 45 minutes to 1 hour.
- Turn the dough out onto a clean, lightly floured surface and knock back to remove any air pockets. Divide the dough in two and, working with one piece at a time, shape into a rectangle.
- Roll up the rectangle, starting on the short end, into a very tight cylinder. Pinch to seal the seams and the ends, tuck the ends of the roll until the bread, and place into greased loaf tin
- Cover the loaves loosely and leave until doubled in size, 30 to 45 minutes.
- Position an oven rack on the lowest setting and preheat the oven to 400 degrees F.
- Brush the loaves with some of the melted butter.
- Bake the loaves for 30 to 35 minutes, rotating halfway through, until golden brown.
- Remove from the oven and immediately brush with more of the melted butter.
- Allow to cool for 10 minutes, then remove from the pans and cool completely before slicing.

Croissant

Ingredients

- 500gm flour
- 50gm sugar
- 1 tsp salt
- 500ml milk
- 2 eggs
- 10gm yeast



- 200gm margarine

Method

- a. Make the dough with all the ingredients except the margarine
- b. Roll out the dough to a rectangle about 5mm thick.
- c. Cover half of the dough with margarine.
- d. Cover the margarine with the other half of the dough. And roll out to give a first turn.
- e. Proceed to give two more single turns. Allow to rest between each turn.
- f. Roll out the dough to 2mm thickness and cut into two strips each about 18cm wide.
- g. Cut into triangles having a base of 11cm.
- h. Starting from the base, roll the triangles tightly, forming a crescent shape.
- i. Place on a greased tray.
- j. Brush with egg wash.
- k. Prove in a warm place.
- l. Bake in a hot oven.

DOUGHNUT

Ingredients

- 500gm flour
- 1 level tsp salt
- 40gm sugar
- 15gm yeast
- 300ml warm liquid (water or milk)
- 30 gm margarine



Method

- Dissolve the yeast and sugar in milk.
- Mix lightly and let it set for 15 minutes.
- Add the remaining ingredients and knead together to a tough dough.
- Cover the dough with a cloth wrung from warm water and set aside to rest.
- Knock the dough back and cut in to pieces of about 30-40gm.
- Round up the pieces as rolls. Allow to prove.
- Deep fry in oil at between 170-180 C.
- After cooking turn in cinnamon and /or dust with icing sugar.

6.14 BASIC FOOD SERVICE SKILLS

FOOD AND BEVERAGE SERVICE EQUIPMENT

Several factors are considered when selecting service equipment;

- Standard of the restaurant
- Type of service being offered
- Type of customers
- Durability of the equipment
- Ease of maintenance
- Stack ability
- Storage space
- Funds available
- Availability in future in case of replacement

Food and beverage service equipment are divided into;

1. Glassware

2. Chinaware
3. Tableware; comprises of;
 - Flatware
 - Cutlery
 - Hollowware

GLASSWARE

There are various sizes of glassware are available used to serve different drinks. They are either tumblers, flat-bottomed glasses with no handle, foot, or stem; footed glasses, which have a bowl above a flat base, but no stem; or stemware, which have a bowl on a stem above a flat base.

Handling of Glassware

1. Glassware is highly fragile and most delicate and expensive: hence utmost care has to be taken while handling glass equipment.
2. Glasses should be placed upside down in single rows on paper-lined shelves, to prevent dust settling in them.
3. Tumblers should not be stacked inside one another as this may result in heavy breakages and accidents.
4. The glass should be sparkling clean and attractive in shape and style.
5. When glassware is machine or hand washed, each individual item must be polished and dried with a glass cloth made of linen, as water leaves stains on the glasses.
6. Glasses whether clean or dirty have to be handled by the base or stem, since the finger prints left on the glass necessitates polishing.

TABLEWARE

Tableware is term that embraces all flatware, cutlery and hollow ware.

- **Flatware;** represents all forms of spoons and forks. They are usually made of stainless steel. Examples soup spoon, teaspoon, dessert/sweet spoon, service spoon, sweet fork, joint forks. etc.
- **Cutlery;** refers to knives and other cutting

implements. Examples joint knife, butter knife, fish knife etc.

- **Hollow ware;** refers to any item made from silver, apart from flatware and cutlery. Examples teapots, milk jugs, sugar basins, coffeepots, oval flats, soup tureens etc.

Storage

- Cutlery and flatware should be stored in boxes or drawers lined with baize to prevent items sliding about and becoming scratched and marked.
- Hollow ware should be stored on labelled shelves, showing where different items are to be placed.
- Hollow ware should be stored at convenient height for placing and removing from the shelves.
- Flatware, cutlery and hollow ware can be stored in a room or cupboard which can be locked.
- Cutlery and flatware may also be stored in cutlery trolleys.

CHINA WARE

China is a term used for crockery whether;

- Bone china (expensive and fine)
- Earthen ware (opaque and cheaper)
- Vitrified (metalized)
-

Handling of Chinaware

Whatever quality of china or crockery is used, the most important thing to ensure is that it is washed, rinsed and dried correctly to ensure that no dirt, stains or streaks appear.

1. Chinaware has a high breakage rate and, therefore, needs careful handling.
2. They should be stored on shelves in piles or stakes of approximately two dozen each. Any higher may result in their toppling down.
3. They should be stored at a convenient height for placing on, and removing from the shelves to avoid accidents.
4. Chinaware should be kept covered to prevent dust and germs settling on it.

5. Chipped and cracked items harbor germs and should, therefore, not be used and disposed off carefully.

EQUIPMENT BREAKAGES

Breakages are usually caused by the following factors:

1. Mechanical Impact; results from object-to-object collision. This is induced by stacking of glassware and chinaware, picking of glasses in bouquet, overloading of trays, putting cutleries inside glasses etc.
2. Thermal Shock; result of sudden change of temperature. This happens when hot water is placed inside a chilled or cold glass and vice versa.
3. Improper Handling and Misuse of Equipment; using the equipment for a purpose it was not intended for example using knives for opening cans, etc.
4. Inattentiveness or Absent-mindedness; accidents often occur when service personnel are absent-minded or are inattentive in executing services especially when they are carrying breakable equipment.
5. Environmental Factors; greasy / wet floor, slippery floor, broken tiles, blind doors.

Measures to Avoid Breakages

- Use trays when serving.
- Proper system should be followed in stacking and storing equipment.
- Use appropriate door for entry and exit. A separate door for entering and exiting should be installed to prevent collision.
- Use appropriate glass racks. Make sure that the glasses are conveniently, but not tightly inserted in each rack.
- Clear glasses separately from chinaware.
- Avoid overloading trays.

Sanitation Standards in Handling Service Equipment

- a. During service, use clean and sanitized glasses, flatware, chinaware and other equipment.
- b. Use clean dry cloths to wipe service equipment to

avoid watermarks. The cloths used for this purpose must be segregated from other wiping cloths.

- c. Use under liners to underline bowls. Avoid touching rims of bowls.
- d. When serving additional flatware and cutlery, use a service plate to avoid direct contact with hand.
- e. When setting up glasses, avoid leaving finger marks; carry them on lined silver salvers.
- f. Never serve food using cutleries that have fallen on the floor.
- g. To avoid contamination, food must be covered when it is not served immediately.

6.15 RESTAURANT FURNITURE

Tables; The size and shape of tables depends on the available space and the kind of service envisaged. There are three types of tables are used in food service areas; round, rectangular and square.

Chairs

Chair come in various shapes, colors and sizes to suit all occasions. Chairs come in varied height and width because of the wide ranges of style available. The dimension of chairs should be relative to table dimensions.

Side station / dummy waiter/side board

The side station is also called the dummy waiter or service console. It is a very important piece of furniture in a restaurant. It is used by the service staff for keeping all the service equipment at one place. The style and design of the side board varies from establishment to establishment. It depends upon:

- The style of service and menu offered.
- The number of waiters working from one side-board
- The number of tables to be served from one sideboard
- The amount of equipment it is expected to hold.

6.16 RESTAURANT LINEN

The main items of linen normally found in a restaurant are: tablecloths; slip cloths; buffet cloths; trolley and sideboard cloths; and waiter's cloths or service cloths.

Table Cloths

Table linens made from cotton or linen are not only more absorbent but also last longer. White is the most popular color for table linens because it's considered formal. Table linens in off white or ivory are also acceptable.

Slip Cloths or Naperones

Slip cloths are designed to be laid over the tablecloth to protect it from spillage and give it a longer life. Using a slip cloth reduces the number of tablecloths used and thus reduces the cost of inventory and laundry.

Napkins or Serviettes

A napkin or serviette is a cloth used at the table for wiping the mouth while eating. Napkins may be of the same color as tablecloths, or in a color that blends with the decor of the restaurant. Napkins should be spotlessly clean and well-pressed.

Buffet Cloths

For a buffet table, the minimum size of the tablecloth required is 2 m x 4 m.

Trolley Cloths and Sideboard Cloths

These are made from worn out table cloths which are not suitable for use on tables. They are mended by the housekeeping department and folded to fit a sideboard or trolley.

Waiter's Cloths or Service Cloths

A service cloth is a very important part of service equipment as well as being part of the food server's uniform. It must be kept clean, ironed at all times, and only used as a service cloth for certain activities such as:

- a. Carrying hot plates
- b. Final polishing of plates

- c. Wiping small spills
- d. Brushing crumbs onto a service plate
- e. Wiping the undersides of the plates before placing plates on the table.
- f. Every waiter as protection against heat and to keep uniforms clean uses Service cloths.

6.17 SECTORS OF THE FOOD AND BEVERAGE SERVICE INDUSTRY

Food and beverage operations can be classified into;

- Operations primarily concerned with provision for food and drink e.g. restaurants, hotels etc.
- Operations where provision of food and drink is part of another business (secondary operations)

e.g. welfare catering and industrial catering. Some sectors also provide food and drink for profit whereas others work within a given budget e.g. welfare and industrial catering. Some sectors provide services to the general public whereas others provide food and drink for restricted groups of people. Hence, the sector can be classified as:

- General market(hotels, restaurants, take away, fast foods, retail store, motorway service stations)
- Restricted market (transport catering, clubs, industrial catering)

SECTOR	PURPOSE OF THE SECTOR
Hotels	Provision of food and drink together with accommodation
Restaurants	Provision of food and drink at high prices with high level of service
Popular catering e.g. coffee shops, grills etc.	Provision of food and drink at low or medium price with limited levels of service.
Fast foods	Provision of food and drink in highly specialized environment characterized by high investment, high labour costs and vast customers' thought.
Take away	Provision of food and drink quickly
Retail stores	Provision of food and drink as adjunct to provision of retailing.
Banqueting/conferences/exhibitions	Provision of food and drink on large scale usually pre-booked.
Leisure attractions e.g. theme parks, theatres, airline terminals etc.	Provision of food and drink for people in another leisure pursuit.
Motorway service stations	Provision of food and drink together with retail and petrol services for motorway travelers.
Industrial catering	Provision to food and drink to people at work place
Welfare catering e.g. in schools, hospitals, colleges, universities, forces, prisons, etc.	Provision of food and drink through social need determined by an authority.
Licensed trade e.g. members clubs, wine bars etc.	Provision of food and drink in an environment dominated by licensing requirement.
Transport including railways, airline and marine.	Provision of food and drink to people on the move.
Outdoor catering/off premise catering	Provision of food and drink away from home for special functions.

MEAL/DRINK EXPERIENCE

This is defined as a series of events both tangible and intangible that a customer experiences when eating out.

Reasons for eating out

The main aim of food and beverage operations is to meet customers' needs and hence customer satisfaction. The needs that customers seek to satisfy include;

- Physiological needs; the need to satisfy one's appetite or quench thirst or the need for special foods (vegetarian, diabetic).
- Economic needs: the need for good value; rapid, fast service; a convenient location.
- Social need: when desiring enjoyable company; going out with friends or business friends; attending functions to meet others.
- Psychological needs: the need for enhancement of self-esteem; fulfilling life style needs; need for variety; this can be as a result of advertising and promotion.
- Convenience needs; need that as a result of being unable to get home because you are out shopping or working or even attending to other events (cinema, theatre; the desire for someone else to the work; the physical impossibility of catering at home (weddings and special functions)).
- Variety; desire to try new foods or drinks in different restaurants.
- Labour; the desire to have someone prepare, cook and serve and wash up after a meal.
- Impulse; many people at times do not have a particular reason for eating out but they do so on the 'spur of moment'. Caterers make their outlets attractive to attract impulse passersby.
- Culture/tradition. Eating out is part of African culture e.g. when celebrating special events e.g. weddings and birthdays.

From the food and beverage operators' point of view, it is important to recognize that customers' needs vary and the operators should be aware of the factors which

affects the customer's meal experience.

COMPONENTS OF MEAL/DRINK EXPERIENCE

Meal experience factors include;

- Food and drink; range/type of food and drink on offer; quality and quantity of product offered; availability of special items; temperature of food served; presentation of the food or drink.
- Level of service; method of service; speed and efficiency of service; acceptance of credit facilities; availability of credit facilities; booking facility.
- Level of cleanliness and hygiene; cleanliness and hygiene of equipment, premises and staff.
- Value for money/price; perception in customer's mind of the value of the product in relation to price they are paying.
- Atmosphere; aspects of décor, lighting, heating, furnishing, other customers, acoustic/ sound quality and attitude of staff.
- Location and accessibility;
- Staff; attitude toward customers, age and sex, appearance, and ratio of staff to customers.

FOOD AND BEVERAGE SERVICE PERSONNEL

The staff requirements in various establishments differ for various reasons.

Medium class hotel may have;

- Hotel manager
- Assistant manager
- Head waiter
- Waiters
- Wine waiter
- Cashier
- Cafeteria/staff canteen
- Catering manager
- Supervisor
- Counter service hands
- Clearers and Cashier

Food and beverage manager

Food and beverage manager are the head of food and beverage service department.

Managers are responsible for;

- Preparing the department budget and ensuring the required profit margins are achieved for each food and beverage service area in each financial period.
- Updating and compiling new wine lists according to the availability of stock, current trends and customer needs.
- Compiling in liaison with the kitchen, menus for various food service areas and for special functions.
- Purchasing of all materials, both food and drink
- Ensuring quality in relation to the price paid is maintained.
- Determining portion size in relation to selling price.
- Departmental training, promotions, and maintenance of highest professional standards.
- Employing and dismissing staff.
- Holding regular meetings with section heads to ensure all areas are working effectively, efficiently and are well coordinated.

Restaurant manager/supervisor

Restaurant manager is responsible for directing and supervising all activities in a particular outlet. The restaurant manager reports directly to the food and beverage manager.

- Responsible for the organization and administration of particular service areas (lounges, floors, grills, restaurants and private banqueting suites).
- Setting and monitoring the standards for service in the outlets.
- Staff training carried out on or off the job.
- Makes out duty rosters, holiday lists, hours on and off duty so that all service areas run efficiently and smoothly.
- Meeting guests in the outlet and attending to guest complains, if any.
- Formulating the sales and expenditure budget for the outlet.

Reception head waiter

- Responsible for accepting any bookings and keeping the booking diary up to date.
- Reserves tables and allocates the reservations to particular stations.
- Greets guests on arrival and takes them to the table and seats them.

Head waiter/maître d'hôtel/supervisor/senior captain

- Responsible for seeing that all duties necessary for preparation for service are efficiently carried out and nothing is forgotten.
- Helps reception head waiter during service
- Take some orders if station waiter is busy.
- Oversees the mis-en-place, cleaning and setting up of the outlet.
- Helps with compilation of duty rosters and holiday lists
- Relieves the restaurant manager or reception head waiter on their off days.

Station head waiter /section supervisor

- Responsible for team of staff serving a set number of tables (four to eight from one side board). Set of tables under the station headwaiter's control is called a station. A restaurant may be divided into stations consisting of 4 to 5 tables or 20 to 24 covers.
- Must have good knowledge of food and wine and its correct service and be able to instruct other members of the staff.
- Takes order from the host
- Carry out service at the table with the help of station waiter.

Station waiter/chef de rang/captain

- Must be able to carry out same work as station head waiter.
- Relieves station head waiter on their day off.

Assistant station waiter/demi-chef de rang

Assists station waiter where necessary.

Waiter/server/commis de rang

Acts on instruction from the station waiter.

- Serves food and beverage ordered by the guest.
- Should be knowledgeable in food and drink to be able to discuss the menu with the guests.
- Should be able to take an order from guest, execute the order and serve the correct dish with appropriate garnish and accompaniment.
- Mainly fetches and carries and may do little service of either vegetables or sauces.
- Offers rolls
- Places plates on the table.
- Helps to clear tables after each course.
- Cleaning and preparatory tasks before service.

Trainee commis/debarrasseur/apprentice

This is a learner who works closely with the waiters.

- Stocking sideboard. Keeps sideboard well filled with equipment during service.
- Help fetch and carry items from the kitchen and bar.
- Serve water and assist the waiter.
- Carries out cleaning tasks during previous preparation e.g. mis-en-place
- May be given responsibility of looking after and serving hors-d'oeuvre, cold sweets or assorted cheeses from appropriate trolleys.

Carver/trancheur

Responsible for

- Carving trolley.
- Carving of joints at the table.
- Plates up each portion with appropriate accompaniment.

Floor service staff/chef d'etage/floor waiter

Floor service staff work from a floor pantry or from a central kitchen with all food and drink reaching appro-

priate floor and the required room by lift and in a heated trolley.

Responsible for a complete floor in an establishment or a number of rooms.

Service of all meals and beverages throughout the day in first class establishments.

Early morning teas and breakfasts with provision of in room mini bars and coffee facilities in smaller establishment.

In full floor service, staff consists of head floor waiter and appropriate number of floor waiters. They are responsible for service of all meals and beverages. In rooms. A thorough knowledge of food and drink and their correct service is therefore essential.

Lounge staff/chef de sale

Deals with lounge service as specific duty in first class establishments

In small establishments members of food service staff take over these duties on a rota basis.

Responsible for service of morning coffee, afternoon teas etc.

Setting up the lounge in the morning.

Maintaining lounge cleanliness and presentation throughout the day.

Wine butler/wine waiter/sommelier

Takes orders for service of wine and alcoholic drinks.

Responsible for service of all alcoholic during the service meals.

Wine butler must be a sales person.

Wine butler should have thorough knowledge of all drinks to be served, wines to go with certain foods and licensing laws in respect of particular establishment and area.

Cocktail bar staff

Must be responsible, well versed in skills of shaking and stirring cocktails.

Should have knowledge of all alcoholic and non-alcoholic drinks.

Knowledge of ingredients for making cocktails and of

the licensing laws.

Buffet assistant/buffet chef/chef de buffet

In charge of the buffet in the room, its presentation, the carving and portioning of food and its service. The staff is usually a member of the kitchen team.

Cashier

Responsible for takings of the food and beverage operation which include; making up bills from food and drinks checks or in case of cafeteria charging customers for their selection of items.

Counter assistants

Found where in cafeterias where;

- They stock counters
- Serve or portion food for customers.
- Some cooking of call order items.

Table clearers

Found in self service areas. They are responsible for clearing tables and trolleys specially designed for good stacking of crockery, glassware and cutlery.

Function catering/banqueting staff

Banqueting staff include; banqueting manager, one or two assistant banqueting managers, one or two banqueting head waiters, dispense person and secretary to banqueting manager. All other banqueting staff are normally engaged on a casual basis. Banqueting manager;

- Supervises the banquet operations.
- Sets up standards for service.
- Coordinates the banquet service in conjunction with other departments involved/
- In charge of banquet and conference operations from the time of booking till the guest settles the bill.
- Projects the budgets for banquets and works closely with the chef in preparing menus.

- Responsible for making inventory of all banquet equipment and maintaining balance between revenue and expenditure.

ATTRIBUTES/CHARACTERISTICS/QUALITIES OF A WAITER/WAITRESS

The quality of service staff in any establishment reflects the quality of the establishment. No matter how good the food and ambience/atmosphere are, poorly trained, untidy or rude staff can annoy customers. On the other hand, if the staffs are well trained and efficient, they can make up for other shortcomings in the services provided.

Personal hygiene and appearance

How one looks and first impression creates a reflection of hygiene standard of the establishment.

- A shower should be taken daily.
- Sufficient sleep, an adequate and healthy intake of food and regular exercise to allow you cope with pressure and stress at work.
- Nails should be well trimmed, short and kept clean. Avoid nail varnish.
- Males should be clean shaven with moustache neatly trimmed.
- Minimum jewellery should be worn as per the policy of the establishment. A wrist watch, wedding ring and studs for ladies.
- Uniform should be clean and well pressed. All buttons must be present.
- Shoes must be comfortable, properly polished and well fitting. Avoid high heels. Men should wear black socks.
- Hair must be clean and well groomed. Staff with long hair must have it tied up or back.
- Teeth should brush before coming on duty.
- Cuts and burns should be covered with correct dressing.
- Any colds or other possible infections should be reported immediately.
- Avoid mannerisms e.g. running fingers through

your hair, chewing gum, picking your nose, or scratching your face.

- Hands should be washed immediately after using the wash room or dealing with refuse.

Knowledge of food and drink

Staff must have sufficient knowledge of all items on the menu and wine list in order to advise and offer suggestions to customers. They must know how to serve correctly each dish on the menu, its accompaniment, correct cover and how to serve various types of drink, correct glass and right temperature.

Punctuality

If staff is continually late for duty, it shows lack of interest in their work and lack of respect for the management and customers.

Local knowledge

In the interest of customers, the staff should have certain knowledge of the area in which they work so that they are able to advise the guests on various forms of entertainment offered, best means of transport to places of interest etc.

Personality

Staff must be tactful, courteous, good humored and of an even temper. They must converse with the customer in a pleasing and well-spoken manner and the ability to smile at the right time.

Attitude to customers

The staff should be able anticipate the customer's needs and wishes. A careful watch should be kept on customers at all times during service without staring. Care should be taken when dealing with difficult customers. Staff should never argue with customers as this will only magnify the situation. All complains should be referred to someone in authority in the food service area.

Memory

Good memory helps to improve performance. It also helps the service personnel to attend to small but important details such as remembering guests name or their likes or dislikes regarding food and beverage.

Honesty

This is important when staff is dealing with both customer and the management. When there is trust and respect in the triangle of staff, customer and management relationships then there will be pleasant work atmosphere, which encourages efficiency and a good team spirit among the food and beverage operators.

Loyalty

The staff's obligation and loyalty are first to the establishment in which they are employed and its management.

Conduct; The staffs conduct should be faultless at all times, especially in front of customers. The rules and regulations of an establishment must be followed and respect shown to all senior members of staff.

Sales ability/salesmanship

Food and beverage staff are technical salespersons; hence, they should have thorough knowledge of proper presentation and service of all food and beverages served in the establishment. Waiters should be kept informed by the superiors of any deletions or additions to the menu.

Sense urgency

Staff must develop sense of urgency to enable the establishment to get maximum amount of business over the service period.

Customer satisfaction

The staff must see that the guests have all they require and are completely satisfied. It is of great importance

to anticipate a customer's needs. If they are comfortable in the surroundings, then it is because of warm and friendly atmosphere in the food service area and team spirit among the waiting staff.

Complaints

The staff should have pleasant manner, showing courtesy and tact, an even temper and good humor. They should never argue with customer, calm the guest and put right any fault. Remember loss of time dealing with complaints only makes the situation worse.

Observation

A keen sense of observation and an eye for details will help staff to be more efficient at their job. A sense of anticipation in service is an invaluable quality. The ability to anticipate what a guest needs even before it is asked for creates a very good impression.

Ability to assume responsibility

Staff should be able to cope with demands of the job and possess ability to assume responsibility. They should not consider any job as menial/unskilled or lowly, and should be willing to perform all kinds of jobs efficiently. This helps the staff to grow in their career and at the same time enhance the image of the establishment in the eyes of the guests.

ETIQUETTE/MANNERS FOR FOOD SERVICE STAFF

The etiquette that a waiter exhibits in the restaurant should include;

- Attend to guests as soon as they enter the restaurant.
- Wish the guests the time of the day and welcome them to the restaurant.
- Assists guests with their umbrellas or heavy coats during rainy season and give them back when they are leaving.
- Preferably address guests by their names, especially frequent customers.

- Be polite to guests.
- Help seat ladies.
- Provide extra cushions or special chairs for children.
- When speaking to a guest, do not interrupt him/her if they are talking to another guest.
- Do not overhear guest conversation.
- Avoid mannerism such as touching hair or picking your nose.
- Stand erect at all times. A gentle bow at the time of service is permissible.
- Remember a guest's special dish. Ascertain whether they would like to order the same.
- Be attentive to guest calls.
- Talk softly.

6.18 FOOD AND BEVERAGE SERVICE AREAS/ ANCILLARY DEPARTMENTS

These are other operational departments behind the scenes which act as a link between kitchen and the restaurant. These service areas behind the scene can also be termed as 'back of house'. In large hotels, five main service areas include;

1. Still room
2. Silver or plate room
3. Wash up
4. Hotplate
5. Spare linen room

STILL ROOM

The main function of still room is to prepare and provide food items and equipment which are not catered for in any other department such as kitchen, larder or pastry. The daily work carried out in the still room varies from one establishment to another according to type of meals offered and the size of the establishment.

Still room staff: still room supervisor is in charge in the still room. He/she is responsible for staffing, ordering of supplies from the main store and effective control of these items when issued to various departments. The still room staff are also responsible for washing up all their equipment. Still room remains

open for long hours. Staff therefore work on straight rotating shifts doing an early shift one week and late shift the next.

Still room equipment: a wide range of food items are offered from a still room and therefore to ensure correct storage, preparation and presentation, a considerable amount of equipment is used. The most essential equipment found include,

- **Refrigerator;** for storage of milk, cream, butter, fruit juices etc.
- **Butter machine;** for portion control purposes.
- Coffee brewing machine
- **Large double sink and draining board;** for washing purposes and washing up machine to ensure efficient turnover of equipment.
- **Tea dispenser;** for portion control.
- **Salamander;** for preparing breakfast or Melba toast.
- Bread slicing machine
- **Hot cupboard;** for plates, tea cups etc.
- Work table and cutting board
- **Storage space;** for small equipment such as china, glassware, silverware that are in everyday use.
- **Storage cupboard;** for all dry goods held in stock and miscellaneous items such as dollies, paper napkins etc.
- **Coffee grinding machine;** to ensure the correct grind of coffee for brewing method used.

Provisions obtainable from the still room: the following are food items normally dispensed from the still room;

- **Beverages;** coffee, tea, chocolate, tisane, Ovaltine, Horlicks and other food drinks.
- **Fruit juices;** orange, tomato, apple, pineapple and grape fruit.
- Milk and cream
- **Sugar;** pre-wrapped, brown crystals and demerara.

- **Preserves;** jam, marmalade, cherry, plum, strawberry, apricot and honey. For control purpose and to avoid wastage, many establishments offer pre-portioned preserves.
- **Butter;** either passed through butter pat machine, curled or pre-wrapped portions. Once wrapped they are placed in in iced water.
- Pastries, cakes and sandwiches
- Rolls and croissants
- Toast; breakfast and Melba toast. Melba toast is prepared by toasting a slice of bread on both sides. The sides are then trimmed and slice cut horizontally. Melba toast is served cold. Breakfast toast is thick sliced bread toasted on both sides with the crust removed, cut into two triangles and placed in a roast rack.
- Dry cracker, digestive and water biscuits; for service with early morning teas and afternoon teas.
- Porridge and boiled eggs; provided in small establishments
- Breakfast cereals; cornflakes, Weetabix, shredded wheat, rice crispies etc. These are also pre-packed in many establishments for control purposes and to prevent deterioration which occurs when cereals is left in open air.
- Toasted scones and tea cakes; prepared to order and generally served with afternoon teas.

Control: a very careful check must be kept of everything issued from the stillroom. Ways of checking for good issued are;

- Issuing items on bulk on receipt of a requisition received from service area. The requisition must be signed by someone in authority. This could be for items such as butter, preserves, sugar etc.
- Issuing tea, coffee and any other beverage required in necessary portions on receipt of a waiters check. Pastries, cakes, sandwiches, bread and butter and preserves are issued on receipt of a waiters check.

SILVER ROOM OR PLATE ROOM

The silver room holds the stock of silver required for service of meals, together with a slight surplus stock in case of emergency. The various types of silver are kept on labelled shelves with silver of one size stacked together. The stacking of silver ensures that heavier items go on lower shelves and the smaller and lighter items on shelves higher up. This prevents accidents. All cutlery and flatware, with small items such as cruets, butter dishes, special equipment, table numbers etc. are best stored in drawers lined with green baize. This helps reduce noise, stops the cutlery slipping/sliding about the drawer when it is opened and closed and becoming scratched and marked. In some establishments the silver/plate room is part of the wash up.

WASH UP

The wash up area is a very important area and must be sited correctly so that the brigade can work speedily and efficiently when passing from the restaurant to the kitchen. The waiter stacks dirt correctly at the side board, with all plates together and table ware on one of the plates with blades of knives under the arches of forks. All glassware should be on a separate tray.

The wash up area should be the first section the waiter enters from the restaurant. Here is where the dirties are deposited. Dirty plates are stacked together, and tableware placed in a basket or container in readiness for washing. The debris are placed into bin provided. All used serviette papers are placed in separate bins. There are two methods of washing china ware;

Dish washing methods:

- **Manual;** soiled ware washed by hand or brush machine
- **Semi-automatic;** soiled ware loaded manually into dish washing machine by operators.
- **Automatic conveyor;** soiled ware loaded in baskets mounted on a conveyor by operators for automatic transportation through dish washing

machine.

- **Flight conveyor;** soiled ware loaded with pegs mounted on a conveyor by operators for automatic transportation through a dish washing machine.
- Deferred wash; soiled ware collected together, stripped, sorted and stacked by operators for transportation through a dish washing machine at a later stage.

HOT PLATE

The hot plate is the meeting point between the food service staff and the food preparation staff. It is essential that there is cooperation and effective communication between the staff of these two areas. This ensures that customers receive efficient and quick service of meal from a polite and courteous service staff who has not been roused because of bad service at the hotplate.

Hot cupboards are used for food or plates. The hot cupboard has sliding doors, topped by heated serving surface. The top may also contain heated Bain Marie. Dry heat keeps food hot by electric elements or gas flame. The hot plate is stocked with crockery needed for service e.g. soup plates, consommé cups, platters etc.

The aboyeur or barker is in charge and controls the hotplate over a service period. As an aid to food service staff, the aboyeur controls the 'off board' which tells waiting staff immediately any dish is 'off'. The board should be sited in a prominent position for all to see. The aboyeur receives food checks from the waiting staff. All orders written by waiting staff must be legible to the aboyeur so that there is no delay in calling up a particular dish. There should be order at the hotplate to avoid confusion of whose order came first.

It is important that if a dish is required has been prepared and cooked to order, the aboyeur ensures it is ready before the waiter comes to the hot plate to collect. When the food check is finished with, it is placed in a control box. The box is locked and can

only be opened by a member of staff from control department. It is at the controls department where marrying up of the food check from the kitchen with the copy from the cashier is done.

SPARE LINEN STORE

This is where linen is stored. The spare linen is stock is held near the food service area in case of emergency. The linen is changed when necessary on a basis of 'one clean for one dirty'. This is normally the responsibility of a senior member of food service staff and is kept locked for control purpose.

THE MENU

Menu; represents the range/list of food items offered/served/available in the restaurant.

Menu card: menu represented on a card.

The functions of a menu; informs

- Catering staff what is to be prepared
- The consumer/customer of what is available

Compiling of menus

When compiling menus, it is important to consider the following;

- a. Type; it is important to consider
 - Type of meal required
 - Type of kitchen and staff available in relation to equipment and skills
 - Type of food service area and capacity in relation to china and glassware available and skills of staff.
 - Number of courses to be served.
- b. Supplies; availability of supplies and seasonal supplies must be considered.
- c. Balance; vary in terms of;
 - Sequence of preparation
 - Seasoning, flavoring and presentation
 - Garnishes should be in harmony with the main dish
- d. Food value; use commodities and methods of cooking which preserve nutritive properties of

the raw materials.

- e. Color; avoid repetition of the same colors.
- f. Language; the menu should be written in a language that is easily understood by the customer. Ensure proper spelling, correct terms and correct sequence within the courses.

TYPES OF MENU

In a restaurant there are two main/basic types of menus which differentiated by the manner in which they are served and priced. A menu may be a la carte or table d'hote.

Table d'hote

- The menu has fixed number of courses.
- There is a choice in each course.
- Selling price of the menu is fixed.
- The dishes or food is available at a set time.

Ala carte

- Gives a full list of all dishes that may be prepared by the establishment.
- Each dish is priced separately.
- A certain waiting time has to be allowed for each dish.
- Each dish is cooked to order

Fixed price menu (prix fixe)

Is a menu which offers a set of items, usually one in each course pre-arranged by the host. They are normally used for functions e.g. weddings.

Carte du jour; means the card of the day. It offers choices available for a particular day only. It allows the chef to offer in addition to a preprinted a la carte or it can be used as table d'hote menu prepared for use on the same day only.

Cyclical menu; are menus compiled to cover a given period of time e.g. one month, three months etc. They consist of a number of set menus for a particular establishment e.g. cafeteria, canteen, hospital

etc. The menu can be used again at the end of each period thus overcoming the need to keep compiling new ones. The length of the cycle is determined by the management policy, time of the year and availability of different foods.

6.19 FOODS AND THEIR ACCOMPANIMENTS

Accompaniments are highly flavored seasonings of various kinds offered with certain dishes. The objective of accompaniments includes;

- To improve the flavor of the food.
- To counteract the richness in food e.g. apple sauce offered with roast pork.

Many dishes have separate accompaniments which are not normally mentioned on the menu. Waiting staff should have knowledge of standard accompaniments for certain dishes so that they are able to serve a particular dish and offer the correct accompaniment.

DISH	COVER	ACCOMPANIMENT
SOUPS		
Minestrone	Soup spoon, soup plate and under plate	Grated parmesan cheese and grilled flutes
Onion soup	Soup spoon, soup plate and under plate	Grated parmesan cheese and grilled flutes
Cream of tomato soup	Soup spoon, soup plate and under plate	croutons
Consommé	Dessert spoon, consommé cup/ saucer and fish plate	Depends on the garnish
EGG DISHES		
Omelettes	Joint fork and hot fish plate	
FARINACEOUS DISHES		
Spaghetti	Joint fork on the right-hand side, dessert spoon on the left, hot soup plate on an under plate	Grated parmesan cheese
Others	Dessert spoon and fork, hot fish plate	Grated parmesan cheese
FISH DISHES		
Fish fried in butter	Fish knife and fork, hot fish plate	Tomato sauce
Fried fish	Fish knife and fork, hot fish plate	Segments of lemon or slices of lemon with skin removed, sauces; tartare.
Grilled fish	Fish knife and fork, hot fish plate	Segments of lemon or slices of lemon with skin removed, cold sauces as above OR hot sauces.
Poached fish	Fish knife and fork, hot fish plate	Segments of lemon or slices of lemon with skin removed, sauces; hollandaise, mousseline and melted butter

MEAT		
Curry	Joint knife and fork, dessert spoon, hot soup plate on an under plate (fish plate) or joint plate	Popadums; crisp highly seasoned pancakes. Bombay duck; dried fillet of fish from Indian Ocean. Mango chutney; placed on a doily on an under plate. A joint fork on the inverted lid of mango chutney jar to keep the under plate clean. Curry tray; items which are hot or sweet in flavor e.g. chopped apples, sultanas, sliced bananas, desiccated coconuts etc.
Roast beef	Joint knife and fork, hot joint plate	French and English mustard, horseradish sauce, Yorkshire pudding and roast gravy.
Roast lamb	Joint knife and fork, hot joint plate	Mint sauce
Roast mutton	Joint knife and fork, hot joint plate	Red currant jelly (saddle or leg) onion sauce (shoulder)
Roast pork	Joint knife and fork, hot joint plate	Sage and onion stuffing, apple sauce and roast gravy.
Boiled mutton	Joint knife and fork, hot joint plate	Caper sauce
Boiled fresh beef	Joint knife and fork, hot joint plate	Turned root vegetables, natural cooking liquor, rock salts and gherkins
Calf's head	Joint knife and fork, hot joint plate	Boiled bacon and parsley sauce, brain sauce or vinaigrette sauce.
Irish stew	Soup plate on an under plate, joint knife and fork, dessert spoon.	Worcestershire sauce and pickled red cabbage.
POULTRY		
Chicken	Joint knife and fork, hot joint plate	Bread sauce, roast gravy, parsley and thyme stuffing, bacon rolls, game chips and watercress.
Duck	Joint knife and fork, hot joint plate	Sage and onion stuffing, apple sauce, roast gravy and watercress.
Goose	Joint knife and fork, hot joint plate	Sage and onion stuffing, apple sauce and roast gravy
Turkey	Joint knife and fork, hot joint plate	Cranberry sauce, bread sauce, chestnut stuffing, chipolatas, game chips, watercress and roast gravy.
LEGUMES		
Baked jacket potatoes	Hot side plate and dessert fork	Cayenne pepper, peppermill and butter.

6.20 FOOD SERVICE METHODS/STYLES

Meal service method is term used to describe the manner and method in which food is served to guests in food service operations. The factors influencing the choice of food service method include:

- Type of establishment
- Type of customer to be served; customers whose main requirement is sophistication will choose elaborate styles of service. Customers who have limited time will prefer quicker and most convenient styles e.g. plate service.
- Time available for the meal
- The turnover of customers expected; where there is a very high turnover of guests either over lunch or dinner time, very simple, quick and convenient method of service will be chosen e.g. cafeteria.
- The type of menu presented; different menus call for different styles of service. Where a menu has a wide choice of dishes and customers spend a lot of time trying to make choices, buffet style of service which displays all the items may be appropriate.
- The cost of the meal; the price tagged on any meal is dependent upon several things e.g. the cost of ingredients, profit required, service offered etc. The higher the price, the more elaborate the method of service.

Categories/types of service methods;

1. Table service
 - a. Silver/English service
 - b. Plate/American service
 - c. Russian service
 - d. French/Butler service
 - e. Family service
 - f. Gueridon service
2. Self service
 - a. Counter/cafeteria
 - b. Free flow

- c. Echelon
 - d. supermarket
3. Assisted service
 - a. Buffet
 - b. carvery
4. Single point service
 - a. Take away
 - b. Vending
 - c. Kiosks
 - d. Food courts and bars
5. 5) Specialized (in situ)
 - a. Trolley service
 - b. Tray service
 - c. Home delivery
 - d. Room service
 - e. Drive in

TABLE SERVICE; this is service to customers at a laid cover.

- a. **Silver/English service;** presentation and service of food to customers by waiting staff from food flats and served onto guest's plate using service spoon and fork.

Advantages

- Many portions of food can be carried and served by one waiter.
- Portions can be controlled by the waiter serving.
- The service is flexible and can be used alongside other methods of service.
- It is highly personalized and customers feel they are getting special service.
- It is a quick form of service if given by well trained and organized staff.
- Waiter skills are shown.

Disadvantage

- Silver service takes too much time; therefore,

food is likely to get cold before it is eaten.

- Requires a lot of equipment that may require more labour at the wash up.
- Many waiters are required as opposed to other styles of service.
- Customers get impatient if they are in a hurry.
- It is not suitable for serving fragile foods.
- Requires skills and training in manipulating the service fork and spoon.
- Destroys the display created in the kitchen.
- Risk of spillage on table cloth or guests clothing

b. Plate/American service; service of pre-plated food to customers.

Advantages

- It is fast and demands less equipment
- Chef's concept of the dish is presented directly.
- Aids in portion control.
- Fewer waiting staff is required (one waiter serves 12-16 guests).

Disadvantages

- Does not require any skills.
- Less showmanship
- Reduced personalized attention to customers.

c. Russian service; table laid with food for customers to help themselves. The principle involves whole joints, poultry, game and fish elaborately dressed up, garnished and presented to guests.

d. French/Butler service; presentation of food individually to customers by waiting staff for customers to serve themselves.

e. Family service; common in clubs. The main dish is either plated or silver served by the waiting staff. All the accompanying items e.g. starch, vegetables and sauces are placed on the table for guests to serve themselves.

Advantages

- Requires no special equipment.

- It is inexpensive.

- It is fast

Disadvantages

- Waiter skills not exploited.
- Poor food presentation probably in bowls.
- Portion control may not be exercised.
- The table can be overcrowded.
- Food can get cold since there is no warming facility.

f. Gueridon service; food is served by the waiting staff from a trolley or side table from which food is carved, flambéed or prepared and served.

Advantages

- Waiter display skills
- Customers get individual attention.
- Service helps to promote sales as a result of tantalizing aromas.
- Food is served very hot and is hygienically handled.

SELF SERVICE

- a. Counter/cafeteria; customers queue in a line past a service counter choosing/selecting their menu requirements in stages, loading on a tray and paying or presenting a voucher at the end of the counter.
- b. Free flow; selection of food is similar as in the counter but in the case of free flow, customers move at free will to random service points and then exit via a till point.
- c. Echelon; series of counters at angles to customers within free flow area, thus saving space.
- d. Supermarket; island service points within free flow area.

ASSISTED SERVICE.

This is a combination of table service and self-service.

a. Buffet; customers help themselves to from dishes displayed on a counter in warmers or chaffing dishes. Waiting staff may stand behind the counter/

service table to assist in service.

- b. Carvery;** mixture of waiter and self-service. Some parts of the meal are served to seated guests, others are collected by the customers. The first course, sweet course and coffee are served by the waiter while the main course is served from a central “carvery” in the room.

Principles of setting up a buffet/carvery

- Buffet should be set up in a prominent position or place.
- Ample space for display and presentation without overcrowding.
- Easy access of still room and wash up for easy clearing and replenishing.
- Ample space for customer circulation
- Provision of sufficient occasional tables and chairs.
- The buffet should enhance the total presentation of the room.
- Buffet should be covered with suitable cloth ensuring the drop within 1.25cm of the ground all the way around and sides of the table.
- Where more than one cloth is used, the overlap should face away from the entrance.
- Pins used to fasten must not be fixed visibly.

SINGLE POINT SERVICE; service of customers at a single point. The food is consumed on the premises or taken away.

- a. Take away;** customers’ orders and is served from single point at a counter or hatch. Customers consume food off the premises although some take away establishments provide seating space.
- b. Vending;** provision of food by means of automatic retailing.
- c. Kiosks;** out stations that provide food service for peak demand or in specific locations.
- d. Food courts;** series of autonomous counters where customers may either order and eat or buy from a number of counters and eat in separate

eating area or take away.

- e. Food bar;** term used to describe selling point and consumption area in licensed premises.

SPECIALIZED (IN SITU)

- a. Trolley service;** service of food from trolley, away from dining area e.g. for office workers, in aircraft or in a train.

Points to bear in mind when serving from a trolley

- Trolleys should be attractively laid from customer’s point of view. Trolleys are meant to induce impulse buying.
 - Staff should always explain food items to customers either from behind the trolley to the side or standing by the table but not in front.
 - Items of food should be portioned and transferred neatly to the guest’s plate.
 - Dirty service equipment should always be at the back of the trolley to ensure the trolley is pleasant to look at all times.
- b. Tray service;** method of service of whole or part of meal on a tray to customers in situ e.g. in hospitals wards.

Tray service in hospitals

- The menu, on which there is a choice is given to the patient the day before.
- Patients mark their requirements for lunch, dinner and breakfast for the following day by putting an X in the appropriate box. The patient may also mark on the card if she/he requires larger or smaller portions.
- Menus are then collected and sent to the catering manager.
- All order cards are then collected and a production schedule is drawn up.
- Individual patient trays are then made on a conveyor system according to the patients pre

ordered requirements.

- Different methods are used to keep food hot or cold (chilled pellet method to specially insulated trays).
- Once completed trays are transported to wards in cabinets.
- Beverages are added at ward sites before presentation to the patients.
- Patients may ask for extra portions, therefore at service time, extra portions are made available in case they are required.

c. Home delivery; food delivered to customer's home or place of work.

d. Room service; service of food and beverage in guest apartments or meeting rooms.

e. Drive in; customers park motor vehicles and are served at the vehicles.

FOOD SERVICE OPERATIONAL SEQUENCE

1. Preparation for service
2. Taking orders
3. Service of food and beverages
4. Clearing
5. Billing
6. Dish washing
7. Clearing following service

6.21 HOUSEKEEPING PROCEDURES

Control of Substances Hazardous to Health (COSHH)

The Control of Substances Hazardous to Health Regulations 1999 (COSHH) state that an employer shall not carry on any work which is liable to expose any employees to any substance hazardous to health unless he has made a suitable and sufficient assessment of the risks created by work to the health of these employees.

What does COSHH require?

- The basic principles of occupational hygiene underlie the COSHH Regulations.
- Assess the risk to health arising from work and what precautions are needed.
- Introduce appropriate measures to prevent or

control the risk.

- Ensure that control measures are used and that equipment is properly maintained and procedures observed.
- Where necessary, monitor the exposure of the workers and carry out an appropriate form of surveillance of their health.
- Inform, instruct and train employees about the risks and the precautions to be taken

Responsibilities of the employer

The employer's responsibilities are to:

- Provide and maintain premises and equipment that are safe and without risk to health
- Provide supervision, information and training
- Issue a written statement of 'safety policy' to employees, to include general policy with respect to the health and safety at work of employees, the role of the organization in ensuring the policy is carried out, how the policy will be made effective.
- Consult with employees' safety representative and establish a Safety Committee.

Employees' Duties

- Employees have a duty to use correctly all work items provided by the employer in accordance with the training and instructions they have received to enable them use the items safely.
- Employees must immediately inform their employer, or person responsible for health and safety, of any work situation that might present a serious and imminent danger.
- Employees should report any shortcomings in the health and safety protection arrangements in the company

SAFETY

Safety involves avoiding causes of injury and damage. Employees within accommodation facilities are confronted with many risks including;

- a. Back problems due to bending and reaching.
- b. Defective equipment
- c. Stress due to workload
- d. Faulty appliances
- e. Unmaintained surfaces
- f. Broken glass
- g. Frequent lighting and moving of heavy objects
- h. Slippery floors
- i. Allergic reactions to chemicals
- j. Hazardous chemicals

Prevention of accidents:

- a. Use of correct working methods
- b. Storing things in the right places

- c. Wearing suitable shoes
- d. Need for warning signs on wet floors
- e. Report surfaces that need repair or replacement
- f. Need for hazard spotting.

Hazard

Means anything that can cause harm e.g. Chemicals, electricity, working from ladders. It is essential that staff working in the kitchen are capable of using tools and equipment in a manner which will neither harm them or those they are working with. The staff should know the causes of accidents and how to deal with them, should they happen.

Accidents and their prevention

Type and Cause	Prevention
Falls	
Objects and equipment or rubbish left in corridors or on stairs	<ul style="list-style-type: none"> • Remove all potential hazards • Use warning signs if unavoidable
Furniture out of place	<ul style="list-style-type: none"> • Return to usual place
Electric flexes left in passage way	<ul style="list-style-type: none"> • Position in least dangerous place Use cable tidily • Place flex over shoulder • Run flex over door handles • Remove flex immediately after use Avoid excess lengths of flex
Spillages creating wet or greasy floors	<ul style="list-style-type: none"> • Wipe up immediately and train staff to always observe this point • Use warning signs
Poor floor maintenance procedures	<ul style="list-style-type: none"> • Use warning signs • Cordon area involved • Arrange work to be carried out when traffic is minimal • Always try to leave a safe, dry area for traffic • Do not leave floor wet • Avoid excessive use and build-up of polish
Loose carpet treads, carpets, bannisters, worn floors	<ul style="list-style-type: none"> • Report and ensure repairs are carried out • Use warning signs until repair has been completed • Use cordons if necessary
Climbing on unsafe ladders	<ul style="list-style-type: none"> • Secure ladders correctly • Ensure that ladder is the correct height for the job Use warning signs • Use cordons • Check and maintain ladders regularly • Use in accordance with locally negotiated agreements

Climbing on furniture, ledges, etc.	<ul style="list-style-type: none"> • Never permit staff to do this
Poor footwear	<ul style="list-style-type: none"> • Shoes should provide adequate support and protection to feet • Rubber soled shoes will help to eliminate risk of falls
Poor lighting	<ul style="list-style-type: none"> • Lighting must be adequate, illuminating the whole area and leaving no dark areas
Rushing	<ul style="list-style-type: none"> • Do not rush • Use handrails where provided • On stairs, travel one step at a time • Do not read, etc., on stairs
Back Strain	
Incorrect carrying, lifting, pushing	<ul style="list-style-type: none"> • Train staff in correct methods of lifting, carrying, pushing • Use specialized equipment whenever available • Check and maintain trolleys and equipment regularly
Overloading of trolleys	<ul style="list-style-type: none"> • Never overload trolleys
Lifting too heavy a weight	<ul style="list-style-type: none"> • Never attempt to lift too heavy a weight
Cuts and Bumps	
Opening doors	<ul style="list-style-type: none"> • Approach all doors carefully • Open all doors carefully • Beware swing doors • Always use doors marked IN and OUT correctly • Glass doors should be marked or have warning signs
Overloading of trolleys	<ul style="list-style-type: none"> • Never overload trolleys
Knives, Tools	<ul style="list-style-type: none"> • Use with care • Follow correct procedure for washing or cleaning
Handling of waste e.g. glass	<ul style="list-style-type: none"> • Wear gloves • Ensure no sharp edges • Follow specialist advice for disposal of items such as syringes
Burns, Scalds, Inhalation	
Hot Liquids	<ul style="list-style-type: none"> • Handle with care • Never store above waist height
Handling Chemicals	<ul style="list-style-type: none"> • Ventilate in confined areas • Wear protective clothing, e.g. gloves, masks, overalls • Do not mix chemicals • Label correctly • Store correctly

Shock	
Bad Practice	<ul style="list-style-type: none"> • Always turn off appliance before disconnecting • Always disconnect from mains after use or when maintaining appliance • Do not pull on flexes • Use correct fuses • Do not overload power outlets • Ensure that hands are dry and that there is no water around • Ensure that flexes are of suitable length
Faulty Appliances	<ul style="list-style-type: none"> • Regular checking and maintenance of appliances
Falling Objects	
Equipment falling from ladders, ledges etc.	<ul style="list-style-type: none"> • Secure all equipment • Use warning signs • Cordon off area • Store all equipment correctly

Need for Signage

The employer has a duty to:

- Provide and maintain any safety sign
- Give employees clear information on unfamiliar signs
- Give employees instructions and training in the meaning of the signs and what to do in connection with them.

There are two main types of signage:

- **Permanent** – used for prohibitions, warnings and mandatory requirements, identifying emergency escape routes, first-aid facilities and firefighting equipment
- **Occasional** – including acoustic signals like fire alarms and illuminated signs (such as fire escape signs) that operate with emergency lighting systems.

Prohibition signs: such signs prohibit behaviour that is likely to increase or cause danger. Examples include 'No Entry' and 'No Exit' sign

Safety signs: The display and use of safety signs and other means - such as hand and acoustic signals and marking of pipework- for communicating general and specific warnings about hazards and dangers, reminders and prohibitions

Mandatory signs; these give warnings of hazard or danger, and describe a behaviour. Examples include:

- for all fire doors, 'Fire Door — Keep Closed'
- for chemical dosing areas, 'Wear Gloves', 'Eye Protection Must Be Worn'
- For dangerous machinery, 'Guards Must Be in Position Before Starting'.

Emergency escape/first-aid signs; these are of a rectangular or square shape, with a white pictogram on a green background.

Mandatory signs

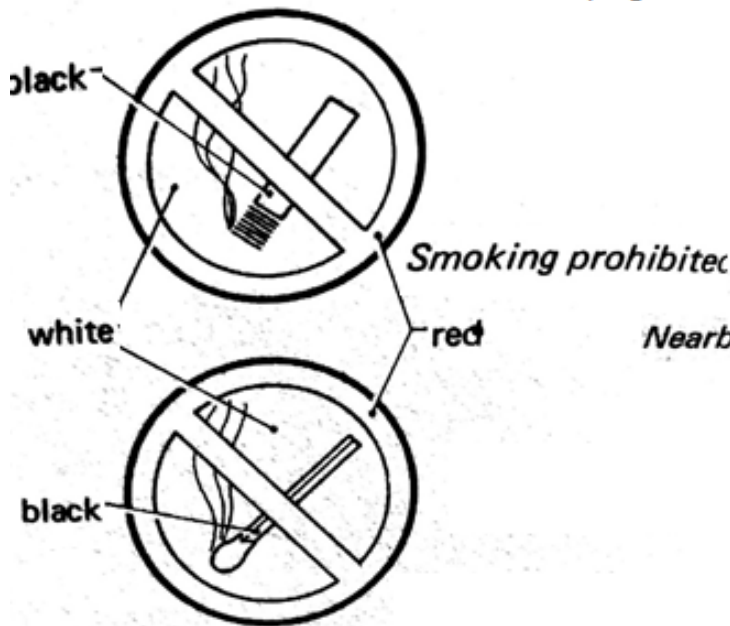


Figure 1 *Fire, open lights and smoking prohibited*

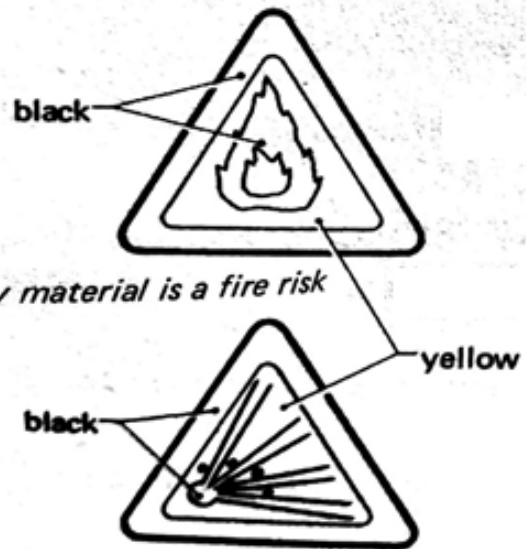


Figure 2 *Nearby material is liable to explode*



Figure 3

FIRE

It is essential that all staff should be made aware of the causes of fires and their prevention and are trained in their firm's emergency fire drill and the correct use of fire extinguishers and appliances.

ELEMENTS OF THE FIRE TRIANGLE

For a fire to start, three things are needed;

- A source of ignition (heat); such as hot surfaces, electrical equipment, naked flame or smoke
- Fuel; flammable gases, liquids or solids.
- Oxygen; which is always present in the air.

If any one of the three is missing, then fire will not start.

TYPES OF FIRE

Fires are classified into;

- Class A; fire involving solid materials such as wood, papers etc.
- Class B; fires involving liquids or liquefiable solids such as paints, oils or fats.

- Class C; fires involving gases.
- Class D; fires involving metals

Causes of Fire

Every precaution should be taken against any outbreak of fire in the premises. The staff should be made aware of the following causes of fire;

- Guests smoking in bed.
- Gas leaks
- Naked flames
- Flammable substances
- Faulty electrical equipment, sockets etc.

The house keeper should make provisions for:

- Sufficient and suitable ash trays
- Suitable waste paper baskets
- Proper storage of flammable substances
- Reporting of all faulty appliances

Procedure in the event of a fire must be:

1. Activate alarm.
2. Inform switchboard/call fire brigade.
3. Vacate building using appropriate route. Close

all doors and windows on leaving. Do not panic. Do not use lifts (if in one, get out at next floor and switch off).

4. Tackle fire if no personal risk involved.
5. Assemble outside building and carry out roll call if appropriate

Accident reporting

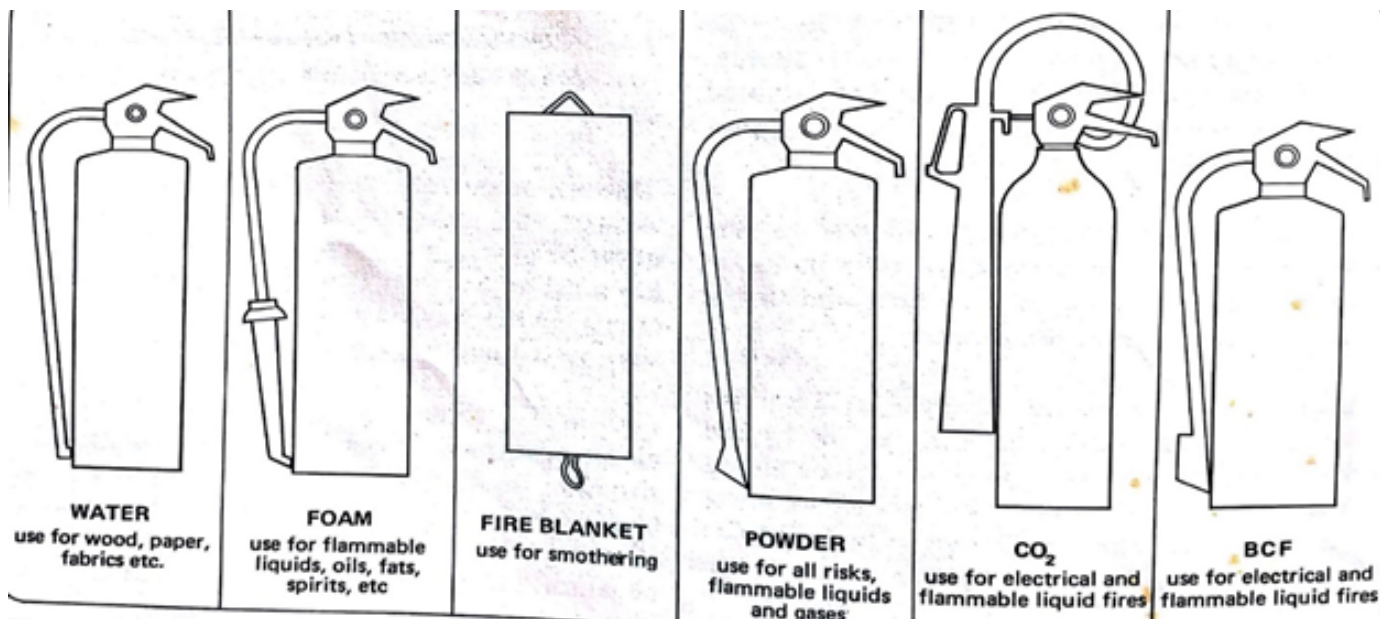
If, despite training and vigilance, accidents occur it is a legal requirement that fatalities and major injuries must be reported immediately to the relevant enforcing authority. The accident report subsequently made in writing should provide the following information:

- Personal particulars of persons injured.
- Date and time of accident.
- Where and how the accident happened.
- Nature and extent of injuries occurring.
- Particulars of any witnesses.
- Description of any treatment given and by whom.

In any organization or company an accident book must be kept on the premises. If it is not the employer's premises or his principal premises then records should also be kept at head office. The accident book must show for any accident:

Firefighting equipment

1. Bucket of water
2. Bucket of sand
3. Hose reels
4. Fire blankets
5. Fire extinguishers
 - Red; used for wood, paper, fabrics l etc.
 - Blue; used for flammable liquids and gases.
 - Cream; used for flammable liquids, oils, fats etc.
 - Green and black; used for electrical and flammable liquids.



FIRST AID

First aid is skilled application of accepted principles of treatment when injury or sudden illness occurs. Illness, accidents and other emergencies to guests and staff occur from time to time in any establishment and it is important that they receive immediate attention. The arrangements for providing first aid in the work place are set out in Health and Safety Regulations.

First Aid box

First aid boxes are required to be available to all members of staff in the establishment under First Aid Regulations. The box must be checked regularly to ensure they contain the following;

- a. Waterproof adhesive dressings
- b. Rolled bandages
- c. Triangular bandages
- d. Sterilized cotton wool
- e. Sterilized dressing
- f. Pair of tweezers
- g. Scissors
- h. Safety pins
- i. Antiseptic
- j. Pain killers
- k. Plastic gloves
- l. Report book to report all injuries

First aid treatment

In addition to complying with these legal requirements, it is advantageous for all staff employed in the supervisory grades to be trained in simple first-aid techniques appropriate to accommodation services and cleaning. The methods of first aid used in the event of various types of accident include the following.

Bleeding

- Press edges of wound together for a few minutes
- Place a pad over the wound
- Bandage
- If necessary, place on more pads and bandage again – DO NOT remove earlier pads or bandages
- Place limb in raised position
- Do not use a tourniquet.
- Do not remove foreign objects unless just on the surface of injury.

Nose bleed

- Sit subject upright with head held slightly forward.
- Pinch lower part of /nose.

Scalds and burns

- Smother flames if burning
- Cool area with cold water
- Wrap in clean sheet, etc., and take subject to hospital
- Do not use ointments
- Do not try to remove clothing adhering to the burns

Shock

- Keep subject warm
- Provide small, cool drinks.
- Do not give hot drinks.

Electric shock:

- Switch off supply and disconnect appliance. If this is impossible stand on dry insulating material.
- Remove subject.
- Apply artificial respiration and heart massage as required (see below).
- Now treat as for shock.
- Seek medical aid.

Broken or dislocated bones

- Do not move subject unless unavoidable.
- Immobilize injured part with splints, bandages or slings as appropriate.
- Do not try to correct deformity.

Poison or drugs

If non-corrosive cause subject to vomit by:

- Tickling back of the throat; or
- Making subject drink salt water.

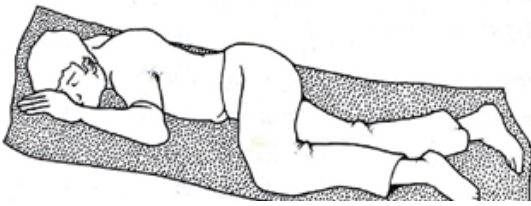
If corrosive:

- Give water to dilute poison.
- Seek urgent help.
- Do not make subject vomit.

Unconscious

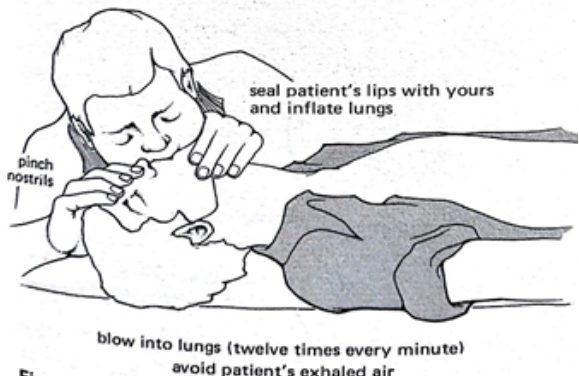
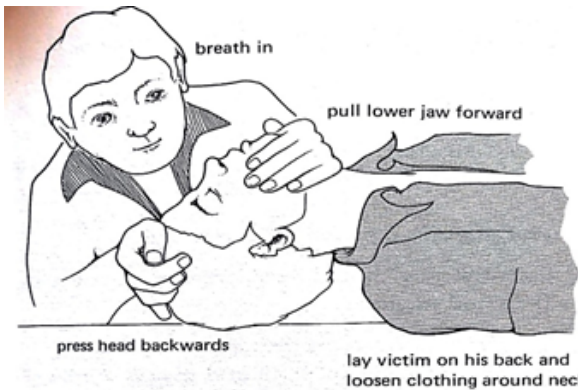
- Place subject in the coma position
- Give artificial respiration if necessary.

Coma position



Artificial respiration

- Place subject on back
- Remove clothing from around neck.
- Check mouth and throat for objects



- Tilt head back to open air passages.
- Take deep breath.
- Place mouth over subject's mouth. Pinch subject's nose. Blow out gently. Note that chest rises.
- Remove mouth and allow chest to fall naturally.
- Repeat steps 5, 6 and 7 every 4-5 seconds until natural breathing starts.

Choking

- Remove object from throat or mouth taking great care.

- Grasp subject from behind with one arm across subject's chest, below rib cage.
- Grasp first hand with other and jerk to expel air and hence the object.
- If this fails take the subject to hospital as quickly as possible.

Concussion

- Place in coma position - avoids danger of choking if subject vomits.
- Keep warm.
- Seek medical aid.

Drowning

- Turn subject upside down to drain lungs.
- Give artificial respiration and heart massage as necessary.
- Get medical aid.

Suffocation

- Remove cause of suffocation.
- Treat as for drowning.

It must be emphasized that training and updating of first-aid procedures is essential if the administration of first aid is to be effective at all times.

WASTE DISPOSAL

The disposal of waste products is essential as lack of it or absence of an efficient system would be a health hazard. Bacteria growth is fast in such a medium and if not attended would result to fatal diseases.

Types of waste

- Solid; composed of refuse, garbage and rubbish.
- Liquid/sewage; this is liquid waste from sinks, baths, lavatory basins and WC pans.
- Gaseous; carbon dioxide from burning coal, oil or natural gases.

Methods of waste disposal

- Burying/landfilling; this is large scale planned burial

of solid waste; broken glass, bottles, cups, plates and items that are no longer useful can be buried.

- Burning; papers, pieces of cloth etc. can be burned
- Recycle/salvage industry; in most businesses there will be significant amount of waste that can be recycled. Separation of different items is then necessary. The sorted-out papers, glass or scrape metals can be recycled.
- Re-use/animal feeding; food waste can be used as animal feed.

6.22 PESTS AND PEST CONTROL

Pests

Pest is an organism which has characteristics that are regarded by human beings as injuries or unwanted. Pests can be serious sources of contamination and disease. Pests carry food poisoning bacteria into food premises on their fur or feathers, feet or paws, saliva, urine and droppings.

Common pests, signs of pest infestation, and their management and control

Rats and mice (rodents)

Rats and mice are more likely to be found in kitchens and dining areas than in bedrooms. Signs to look for;

- Droppings
- Smear
- Holes
- Runways
- Gnawing marks
- Grease marks
- Claw marks
- Damage to stock
- Rat odor

Ways of controlling rats include:

- Use of snap traps; the traps can be used again and again. There is a bait tied securely to the trigger.
- Use of chemicals e.g. Zinc phosphide to kill rats.
- Baits and traps inside and outside.
- Block entries where they could use to get in.

Flies

Flies land on animal excreta, refuse and decaying matter and contaminate their legs, wings and bodies with harmful bacteria which are then deposited on food. They also contaminate food with excreta and saliva.

Signs to look for:

- Sighting of the flies
- Hearing them
- Dead insects
- Maggots

Ways of controlling:

- Aerosol sprays (insecticides)
- Electronic fly killers
- Window netting to prevent entry
- No buildup of waste in the kitchen
- Make sure refuse bins have close fitting lids
- Sealed containers, no open food left out.

Cockroaches

Cockroaches like warm, dark places. They leave their droppings and liquid that give of unpleasant smell.

Signs that they are present:

- Sighting dead or alive cockroaches
- Nymphs, eggs, larvae, pupa, egg cases
- Unpleasant smell

Ways of controlling:

- Hygienic storage and disposal of food and waste
- Cleanliness of all areas where food is handled.
- Aerosol sprays (insecticides)

Mosquitoes

Mosquitoes are known for spreading malaria which is common disease in the tropics. The female mosquito which feeds on human blood transmits the disease to a healthy person. Control measure include;

- No stagnant water should be left to prevent their breeding grounds.
- Sleeping under mosquito nets
- Mosquito sprays

Ants and termites

Most hotel infesting ants are found in the kitchen where there is food and water.

Ants and termites will be sighted in premises. The control of ants includes:

- Proper sanitation to prevent infestation.
- Clean up food and beverage spillages immediately from floors and counter tops.
- Use of insecticides.

Other insects that need to be controlled in the hospitality establishments include:

- **Silverfish;** small silver colored insects that feed on starchy foods. They are found in moist areas. They thrive in badly ventilated areas, hence improving ventilation will help control them.
- **Beetles;** are found in warm places and can also carry harmful bacteria from place to place.
- **Fleas;** these are insect pests found in unhygienic conditions. Fleas bite their hosts, causing annoyance and in human, large red, itching spots appear on the skin. Fleas cover considerable distances because of their jumping powers. They like darkness and warmth and are capable of laying large number of eggs in cracks of floors. Spray with insecticides to eradicate them.
- **Bed bugs;** feed by sucking human blood and deposit their eggs in cracks and crevices of woodwork, behind wall papers etc. They give out unpleasant smell. Their bites cause irritation and may result in large red patches on people. Bed bugs can be eliminated by heat treatment and by fumigation

Pest control

- Reporting any damage in buildings and fittings and

organizing for prompt repair.

- Windows and other openings to the outside environment should be fitted with insect proof screens.
- Keeping entrance to buildings clean and clear.
- Keeping food areas clean and not leaving out traces of food or liquids overnight.
- Make sure refuse areas are regularly checked and cleaned.
- Refuse containers should be regularly emptied and should have tight fitting lids.
- Effective stock control and regular cleaning of storage areas.
- Dry commodities stored in sealed containers above the ground.

FUEL USED IN THE KITCHEN

Fuels are energy providers in the kitchen. Before deciding on the fuel to use, consider the following factors:

- a) Safety.
- b) Cost.
- c) Efficiency: - the speed at which heat becomes available.
- d) Storage space and requirements
- e) Constancy of supply
- f) Cleanliness and ventilation.
- g) Cost of equipment, installation and maintenance.

Fuel types:

- a) Electricity,
- b) Charcoal
- c) Firewood
- d) Gas, and
- e) Oil (kerosene).

Electricity

Advantages

- a) Clean to use and maintain.
- b) Easily controlled and labor saving.
- c) Little heat is lost.
- d) No Fuel storage is required.

- e) It is efficient.
- f) Very clean.

Disadvantages

- a) High initial cost of equipment and maintenance.
- b) Special utensils are required.
- c) It cannot be stored.
- d) It is not portable.
- e) Cost is generally high.

Fire wood and charcoal

Advantages

- Low maintenance costs

Disadvantages

- a) Require storage space.
- b) Unclean because of dust and dirt formed during combustion.
- c) Heat produced cannot be controlled.
- d) Supply may be disrupted by lack of transport.

Paraffin

Advantages

- a) Convenient.
- b) Easier to move/transport.
- c) Uniform heating.
- d) Easier to maintain/Repair.
- e) Efficient.

Disadvantages

- a) Need for storage tanks.
- b) Sources of supply may be affected by external circumstances.
- c) Produces soot.

Gas

Advantages

- a) Convenient
- b) Free from smoke and dirt hence clean
- c) Easily controlled with immediate full head and the flames are visible.
- d) Colorless

- e) Burn with little or no soot.
- f) Gas heating equipment requires minimum maintenance once it is properly installed.
- g) Burn with high degree of efficiency

Disadvantages

- a) Hazardous in case of leakage
- b) Regular cleaning is necessary for efficiency.
- c) Can get finished without notice

In case of gas leakage:

- a) Open all doors and windows.
- b) Check whether a gas tap is left on, or if a pilot light has gone out. If so, turn off the appliance.
- c) If in doubt, turn off the gas supply at the meter and phone for emergency service.

Energy conservation

The basic principles of energy conservation are: -

- a) Obtaining the best tariff available.
- b) Purchasing the most suitable energy efficient equipment.
- c) Reducing heat loss to a minimum.
- d) Matching heat and cooling loads on environmental systems whenever possible to the demands.
- e) Maintaining all equipment to optimum efficiency.
- f) Ensuring that the operating periods of systems and equipment are set correctly.
- g) Using heat recovery systems.
- h) Monitoring energy consumption.
- i) Training staff to be energy efficient.

6.23 HOUSE-KEEPING

House-keeping department in any establishment is concerned with cleaning and maintaining guest rooms and public areas (corridors, meeting rooms, lobbies etc.). Good house-keeping is the foundation of infection prevention. The general cleanliness and hygiene of an establishment is vital for health and safety of guests and staff.

Functions of house-keeping include:

- **Cleaning rooms and public areas;** the staff are concerned with cleaning of rooms, toilets and wash hand basins in the room. They are also responsible for cleaning elevators/lifts, corridors, service lobbies, staircases, offices etc.
- **Bed making;** bed making is a skill that requires to be developed by housekeeping staff. A well-made bed provides comfort and adds to the ambience of a room.
- **Pest control;** no matter how clean one keeps the surrounding, one cannot avoid pests. Cockroaches and rats can be embarrassing when sighted, therefore pest control is one of the primary responsibilities of housekeeping department.
- **Interior decoration/flower arrangement;** interior decoration is the art of creating a pleasant atmosphere in a room. Flowers and indoor plants add color and beauty to rooms.
- **Safety and security;** house-keeping staff protect guest around them from accidents and theft of their property. All house-keeping staff have to have knowledge in first aid since they could be the first to give immediate attention to a guest or a colleague in trouble.

House-keeping staff and their responsibilities

Executive house-keeper:

- Supervises and responsible for cleanliness of guest rooms and public areas.
- Schedules, recruits, trains, recommend hiring and discipline all housekeeping employees.
- Develops recommended standards procedures for tasks.
- Prepare the annual house-keeping budget.

Public area supervisor:

- Checks all public areas.
- Maintain schedule program for cleaning public areas.
- Inspect staff turnout.

- Train new recruits.
- Initiate and follow up maintenance orders for public areas.
- Check and control equipment.

Floor supervisor:

- Assign duties to room attendants.
- Inspect each room completed by a room attendant according to a checklist.
- Ensure timely delivery of soiled linen to the laundry and acquisition for fresh linen from linen room.
- Check on guest supplies and cleaning agents on floors.
- Liaise with the security on security matters on guest floors.
- Prepare housekeeping occupancy lists for front office.
- Ensure that maids' carts are well stocked with linen and supplies.
- Follow up on maintenance orders.

Room attendant:

- Clean guest room and replenish supplies.
- Report missing or broken property to the floor supervisor.
- Replenish maids' cart with guest supplies, cleaning agents and linen.
- Count soiled linen handed over to floor linen room.
- Hand over lost and found articles to the supervisor.
- Check that all bulbs and switches are working.
- Prepare room checklist.
- Returns keys before going off duty.

Gardener:

- Maintains landscaped area and prepares for fresh planting.
- Waters all the gardened area.
- Prepares flowers and potted plants.

- Maintains indoor plants.
- Sprays insecticides and fungicides to control pests.

SOIL

Any substance that is out of place thereby reducing the standards of appearance and hygiene required.

Soil in a building/room may arise from following sources:

1. Carried in to the room by air.
2. Carried in on feet and people's clothes.
3. Carried in on equipment.
4. Caused by activities or operations carried out in a building or by persons within it.
5. Pets

Classification of dirt:

- **Dust:** Loose dry particles from the air that settles on a surface.
- **Dirt:** Accumulation of dust and other foreign matter held together by moisture or grease and/or embedded into a porous or rough surface.

CLEANING

Clean: To free from dirt.

Cleaning: Removal of dirt from a surface.

Hygiene: conditions and practices that promote or preserve health.

Sanitation: Arrangements carried out to protect health.

Reasons for cleaning:

- **Prevention of the spread of infection and diseases:** Through cleaning you are able to achieve a clean environment and prevent disease causing bacteria. Effective cleaning removes bacteria present on the surfaces hence prevent spread of diseases. A high standard of hygiene is required in all areas of the hotel.
- **Dust control:** Nobody wants to come to a dusty place. Dusty rooms can cause sickness and disease. Food prepared in a dusty place is

unhygienic.

- **Prevention of the fabric, fixtures, fittings and furnishings:** Accumulation of soil leads to progressive deterioration of a building. When cleaning is neglected, deterioration accelerates and when eventually carried out may require drastic method which cause further damage.
- **Provision of socially acceptable environment:** A clean and attractive environment is pleasant to live and work in. Guests are unlikely to return to poorly maintained and cleaned hotel. People using a building are more likely to respect one that is clean and well maintained.
- **Promote safety:** Standards of cleaning and maintenance must be sufficient to meet the requirements of Health and Safety at Work requirements.
- **Reduce labor and material costs:** Accumulated dust requires more energy and expensive cleaning material and equipment.

ROLE OF CLEANING

- Effective cleaning (soil removal and means of transmission of bacteria) is one way of reducing the level of bacteria present on a surface by removing contaminants and so helping to break the infection cycle.
- Infrequent cleaning, use of unhygienic methods, contaminated equipment and cleaning solutions and contaminated staff, can contribute to the infection risk by increasing bacteria levels or becoming the source or link in the infection cycle e.g. a room steward who cleans the toilet, then washes the water glass or tea cup and wipes then with a used dirty dish cloth.

Infection can spread through cleaning process in the following ways:

- Use of dirty or contaminated mops, dusters, buckets, scrubbing brushes etc.
- Dirty and contaminated water

- Inefficient filters on suction cleaners blowing contaminated air into the atmosphere
- Dry cleaning methods which scatter dust e.g. sweeping or dusting
- Transferring equipment from one area to another
- Poor waste disposal methods
- Dirty and contaminated dish cloths

House-keeping personnel may also spread infection through:

- Lack of personal hygiene e.g. not washing hands after using the toilet
- Not washing hands after completing a dirty task
- On personal clothing
- On uniform and protective clothing
- If suffering from colds, infection, skin lesions
- Smoking, scratching and other bad habits

FREQUENCY OF CLEANING

The frequencies with which various surfaces are cleaned depend on the standard required and the degree of soiling. The higher the standards required and the greater the soil, the greater will be the frequency with which cleaning is carried out.

Cleaning routines

Cleaning tasks can be carried out;

- **Daily:** Tasks carried out at least once per day. Where high standards of hygiene are required, some tasks will be carried out routinely several times a day.
- **Check clean:** Tasks carried out several times a day but only as necessary e.g. mop sweeping of floors to control dust.
- **Weekly:** Tasks carried out at least once per week. It may include tasks carried 2 or 3 times a week.
- **Special:** Tasks carried out only when necessary e.g. removal of spillages, thorough cleaning of vacated rooms before re-letting or cleaning of

an occupied room when a guest has stayed for some days.

- **Periodic/Spring/Annual:** Tasks carried out at predetermined frequencies, depending on the policies of the establishment. Frequency of cleaning ranges from once every two weeks to once a year. It can also be monthly. Annual cleaning in a seasonal establishment is carried out during low seasons. Spring cleaning may involve redecoration of the establishment.

PRINCIPLES OF ORDER OF CLEANING

- Clean areas should be cleaned first and the dirtiest last.
- Cleaning should be carried out working from top to bottom.
- Walking on cleaned surfaces during the cleaning of others should be avoided.
- Avoiding unnecessary walking or movement.

General

- Sweeping with a broom is done before dusting and dusting before vacuum cleaning.
- Dusting is done from high to low.
- Bending of knees should be avoided
- Where there are alternative methods of cleaning, least harmful method should be used.

METHODS OF CLEANING

Methods of cleaning are divided into;

- Dry methods
- Wet methods

Dry cleaning methods

Dusting: Method used to remove dust not adhering to a hard or semi-hard surface.

- Low dusting; Dusting to a height within the arm-length of the cleaner. Yellow dusters are commonly used because when folded into a pad;
 1. It gives several surfaces to use
 2. Helps the cleaner to apply friction to the

surface

3. Loose ends are avoided which can catch and break ornaments.
- High dusting; Removal of dust from walls, ceilings, etc. which are normally beyond reach from floor level.
 - Dry dusting; Dusting done with an ordinary duster. Dry dusting is normally not permitted as it will not hold dust, it disturbs dust, disperses into the air to settle again on the surface. Sweeping: Sweeping removes loose soil such as grit, litter and dust on hard floors. It can form the principle means of cleaning or may precede other cleaning tasks. Use of dust control mops and vacuum cleaners has replaced sweeping. Suction/vacuum cleaning: This is the removal of loose soil from floors, walls, ceilings, wall hangings etc. using suction cleaner. Buffing: Use of polisher and pad, brush or soft cloth on floors, fixtures, fittings etc. Dry mopping: This is light polishing of a floor using a dry polishing mop.

Wet cleaning methods

Damp dusting/wiping: This is the removal of light soil and marks from a surface e.g. walls, furniture, doors etc. Equipment used is a well wrung-out cloth with little detergent. The surface is then dried or buffed up with a soft dry cloth.

Damp mopping: This is the removal of light soil from hard floors using a wet mop, detergent and water.

Scrubbing: This is the removal of embedded dirt or grease from hard floors, e.g. concrete and terrazzo. Equipment used is detergent, water, a scrubbing machine or a manual one.

Washing: This is the use of hand spray, wall washing machine or high-pressure water on windows, doors, walls etc.

House-keeping equipment and cleaning agents

To keep the hotel clean and hygienic, various equip-

ment and materials are used. It is important that the housekeeper makes a careful selection of equipment based on necessity and suitability for use in the establishment.

Selection factors to be considered;

- Safety factors
- Ease of operation and cleaning
- Work performance (finished results)
- Storage space
- Durability
- Appropriate design, size and weight
- Versatility
- Level of noise
- Maintenance and servicing arrangements
- Initial and operating costs
- Reputation of the manufacturing company
- Saving on time and labour

Cleaning equipment are classified into

- Manual cleaning equipment
- Mechanical cleaning equipment

Manual cleaning equipment

1. **Brushes and brooms;** these are cleaning devices with bristles, wire or other filaments e.g. nylon used for cleaning. Brushes are used for cleaning smaller areas or for removing fixed dirt e.g. a scrubbing brush. Brooms are for sweeping large areas e.g. floors. Brooms consist of fibers attached to cylindrical handle, the broomstick. There are three types of brushes:



Hard brush; these have stiff well-spaced bristles.

Examples; upholstery brush and carpet brush.

Soft brush; These have bristles that are flexible and set close together. Examples: shoe brush



Scrubbing brush; Used to remove heavy soiling. Example toilet brush, deck brush/scrubber, cobweb brush etc

Examples of brooms; Sweeping broom, yard broom



and hand broom that is used with a dust pan to collect dirt after sweeping.

Care and storage;

Wash often in warm soapy water. Shake off excess water. To stop bristles bending under weight of the handle, store upside down or hang.

2. Mops; Mops are made from soft twisted cotton yarns or synthetic fibres attached to a long handle. Synthetic fibers are electrostatic and attract dust. A mop is used for cleaning floors.

Types of mops:

Dry mops: A dry or dust mop is designed to pick up dust. Dry mops have shorter yarns than other types of mops. The dry mop is used to replace a broom and has ability to hold a limited amount of dust or sand within itself. Ideally, a dry mop should be machine washed when it becomes saturated



with dust. Otherwise, use mild detergent to wash; rinse and air dry after use.

Wet mops/Sponge mops: These are used as a second step in the cleaning of a surface. Wet mops are used in conjunction with a bucket, warm water and detergent. They consist of longer coarse cotton yarns. After use, wash mop heads thoroughly to get rid of smells and then dry before storing.

Hot mops: this works like a steam iron. After adding water, it is heated to make the water exude on top of the floor

3. **Squeegees;** A squeegee is cleaning tool with a



flat smooth rubber blade used to remove excess water from the floor and smaller ones are used in window cleaning.

4. **Dustpans;** These are made of metal or plastic.



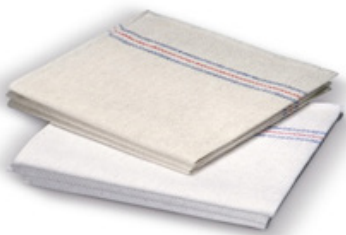
They are used to collect dirt from the floor after sweeping. Avoid metallic dust pans for wet areas as they may rust.

- 5. **Buckets e.g. mop buckets;** These are made of metal or plastic. Plastics are preferable because they are easy to carry, and less likely to scratch floors. They are also easier to clean. To mop the floor, it's advisable to have two mop buckets, one

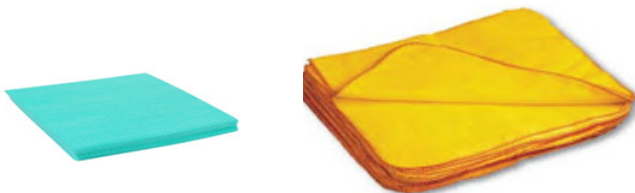


with warm soapy water and the other with water for rinsing. After use they should be thoroughly cleaned and dried before storing.

6. . **Cleaning cloths**



- Floor cloths; these are made from loosely spun yarn. They are used for removal of spillages



from the floor

- **Dusters and mitts;** these are made of soft cotton. They are used for dusting hard surfaces.



- **Wipes and swabs (wet cloths);** these are used for wet cleaning surfaces. They are made of absorbent materials
- **Scrim;** this is a loosely woven linen cloth which



is absorbent and does not leave lint. They are used for cleaning glazed surfaces, windows and mirrors.

- **Rags/disposable cloths;** these are old dis-



carded linen obtained from the laundry. They are used for general cleaning. They can also be used to apply polish on surfaces.



- **Dust sheets;** these are cotton sheets used to cover furniture during special cleaning. They are also old discarded linen from the linen room.



- **Chamois leather.** This is made from skin of chamois goat. They are used for cleaning windows and mirrors.



- **Druggets;** Druggets are made of wool. They are used as rugs to protect the floor during bad weather.

Cleaning cloths should be cleaned and dried after use

- 7. Gloves;** These are made of latex and rubber.



They protect the hands from chemicals, germs and wear and tear that come with cleaning. They should be cleaned and dried after use.

- 8. Spray bottles;** A spray bottle is a bottle that



can spray fluids. It is commonly used to dispense cleaners and chemicals through a fine nozzle when cleaning.

- 9. Room attendant trolley;** Room stewards are able to service guest rooms with convenience, ease and speed using the trolley. Guest room necessities are stored on the trolley, preventing the room attendant running constantly back and forth. There are separate receptacles for dirty linen and garbage. This enables absolute separa-

tion of dirty from clean. The top shelf contains supplies like note pads, pen, other stationary, water glasses, guest soap, shampoo sachets, toilet paper etc. The first shelf has all bath linen like bath towels, hand towels, face towels and bathmats. The second shelf contain all bed linen like bed sheets, and pillow cases/slips etc. There is an area for holding cleaning materials and equipment. When servicing a room, one parks the trolley outside the room. At the end of



ones shift one must clean the trolley, remove all garbage and dirty linen, and reset the trolley for the next shift.

MECHANICAL CLEANING EQUIPMENT

- 1. Carpet/box sweepers;** Carpet sweeper is a mechanical device for cleaning the carpet in place. They were popular before the introduction of vacuum cleaners. Some restaurants still use them because they are light weight, quiet and enable waiting staff to quickly clean crumbs from the floor without disturbing other diners.
- 2. Vacuum cleaners/suction cleaners;** They are referred to as suction cleaners because of the principle involved in its operation. Suction effect and vacuum are created by a fan driven motor. Dust is collected into a container enclosed within the machine or on the outside in form of a bag

Types of vacuum cleaners

- **Upright vacuum cleaners;** these take the form of a cleaning head, onto which a handle and a bag are attached. They have rotating brushes which remove dirt through a combination of



sweeping and vibration. Upright vacuum cleaners are known to be more effective, lighter and have more maneuverable heads.

- **Cylindrical vacuum cleaners;** this type of design has the motor and bag in separate units connected to the vacuum head by a flexible hose.

3. **Scrubbing/polishing machines;** Scrubbing/polishing machines consist of one large or several brushes which revolve and scrub the floor while water and detergent are released from a tank attached to the machine. The machines can be used for scrubbing floors, shampooing carpets;



polishing, buffing etc. The machines have different pads for different tasks e.g. beige pads for buffing, green for scrubbing and black for stripping.

CARE AND STORAGE OF EQUIPMENT

1. Housekeeper should ensure that staff;
 - Use equipment properly
 - Store equipment correctly
 - Clean equipment after use
 - Report faults promptly
2. Regular servicing for all electrical equipment is important. Flex and plug defects, unusual noise

etc. should be reported.

3. Equipment should be coded / labeled or distinguished by different colors for use in different areas.
4. The store should be dry and well ventilated as dampness causes rust of metal parts or mildew leading to deterioration of equipment.
5. Expensive equipment like vacuum cleaners should be covered when not in use.

CLEANING AGENTS

Any substance that will assist in either physically or chemically removing dirt from a surface.

Purpose of using cleaning agents;

Health, beauty, elimination of offensive odor, avoids spreading of dirt to oneself and others. Some kill bacteria and other microbes and clean at the same time.

Classification of cleaning agents

- Water
- Detergents
- Cleansers
- Abrasives
- Polishes
- Disinfectants
- Floor seals

Various types of cleaning agents are used for cleaning the guest rooms, bathrooms, toilets and other public areas.

WATER

Water is the simplest cleaning agent. Some forms of dirt will be dissolved by it. Unless used with some other agent e.g. detergent it is not an effective cleanser.

Limitation of using water as a cleaning agent

Hardness in water

When water does not readily produce lather with soap it is referred to as hard. Hardness is caused by presence of certain salts in water. Permanent hardness

caused by dissolved calcium and magnesium in form of sulphates and chlorides. Temporary hardness caused by presence of magnesium or calcium bicarbonates. Disadvantages of hardness in water: Forms scum with soap so large quantities of soap have to be used; Forms fur or scale in water pipes, boilers and other appliances. Causes premature aging of fabrics because of friction produced by deposits from hard water.

Wetting properties

An effective cleaning agent should be able to dissolve soil adhering to the surface. When water is applied to a surface it forms globules which do not penetrate the soil or surface. Globules are formed as a result of high surface tension.

Soil suspension

When soil is removed from a surface it must be held in the cleaning water and not allowed to re-soil the surface. Water has very little ability to hold soil in suspension.

Emulsification of grease

Water has little ability to emulsify (break up) grease or oils. Despite the limitations above; Cleaning solutions are formed by combining water with another cleaning agent. In high pressure cleaning, soiled surfaces are subjected to water under pressure. Soil is dislodged and removed from the surface.

DETERGENTS

Detergents are cleaning agents which when used in conjunction with water can loosen and remove dirt, then hold it in suspension so that the dirt is not redeposited on a clean surface.

Essential properties of a good detergent

A good detergent will possess many or all of the following properties

1. Good wetting properties. Should reduce the surface tension of water so that the cleaning solution

can penetrate the soil.

2. Good emulsifying powers. Should be able to emulsify soil and lift it from the surface
3. Suspend soil in the cleaning solution
4. Be soluble in cold water
5. Be effective in cold water
6. Be harmless to the user and surface to be cleaned
7. Rinse easily and leave no streak or scum
8. Be economical in use

Detergents are classified into

- Soap
- Soap less detergents (synthetics)

Detergents contain surface active agents (surfactants) which lower the surface tension of water, emulsify grease and suspend soil.

Substances added to detergents

- **Builders:** These influence effectiveness of the detergent e.g. sodium sulphate.
- **Foaming agent (Lather stabilizers):** Increase or stabilize the foam formed by detergents.
- **Suspending agents:** Increase amount of soil that can be held in suspension in the cleaning solution.
- **Builders:** Added in some products to help improve color.
- **Germicides, perfumes and dyestuffs:** Perfumes added to increase consumer acceptability.
- **Enzymes:** Substances that break down organic substances e.g. blood stains, gravy, grass etc.

Types of detergents:

- Toilet soaps
- Soap powders
- Soap flakes
- Liquid detergents
- Bar soap

CLEANSERS

Acid cleansers:

An acid is substance containing hydrogen which when in contact with a metal forms a salt. Acids have the power to remove tarnish and other stains by dissolving them. Acid cleansers are used for removal of metal stains e.g. water stains in baths, hardwater deposits round taps and WC pans, tarnish on silver, copper and brass articles.

Vinegar and lemon are used to remove tarnish from copper and brass and mild water stains on baths.

Alkaline cleansers (Degreasing agents)

These consist of strong alkalis which dissolve proteins and emulsify grease making it easy for complete removal from the surface. Examples include caustic soda, sodium hydroxide and ammonia. They are extremely corrosive; damaging most surfaces. Any contact with human body must be prevented. Sodium carbonate is used for clearing blocked drains.

Solvent cleansers (Organic cleansers)

These are chemicals that will dissolve fats, oils, grease and wax. Each solvent is capable of dissolving a particular range of substances.

Example;

- **Benzene;** Petroleum product used for removing paint, tar and other greasy substances. Should be stored away from flames. It is poisonous, hence should not be inhaled.
- **Petrol;** Petroleum product used in commercial preparations for dry cleaning. Is effective grease solvent and should be stored away from flame.
- **Paraffin;** Petroleum product used for dissolving grease. Effective for removal of fresh stains caused by gum like substances e.g. bananas. Useful for stripping polish off wooden floors. Should be stored away from flames.
- **Turpentine;** Softens and dissolve paint and tar stains. Effective in cleaning paint brushes.
- **Carbon tetrachloride;** Is a grease solvent

for oil, fats, wax, tar and lipstick stains on floor coverings.

- **Methylated spirit;** Is effective in dissolving grease. It is useful for cleaning mirrors and window glass.

Acetone; Solvent for oils and nail varnish.

ABRASIVES

These are scouring powders (vim and Ajax) and pastes (axion) used to remove stains from surfaces. Abrasives remove dirt by scratching or rubbing. Cleaning action depends on the presence of fine particles which when rubbed over a soiled hard surface, dislodge the dirt and remove tarnish form metals. Pastes are milder than scouring powders. Hence used on baths, hand basins, toilet surfaces etc. Abrasives should be applied sparingly on a surface using pieces of cloth.

POLISHES

Polishes do not necessarily clean but produce a shine by providing a smooth surface. Polishes are used only after dirt and dust have been removed from surfaces.

Polishes fall into three categories;

Spirit based; Used primarily for mirrors and window panes.

Oil based; Used on wood, synthetic flooring, leather, tiles etc.

Water based; Used on rubber and thermoplastic floors.

Polishes come in for of liquid, paste or cream. They should be used in small quantities and correct polish used for the correct method of polishing.

DISINFECTANTS, ANTISEPTICS AND DEODORANTS

Disinfectants, antiseptics and deodorants are not cleaning agents but are used during cleaning operations. Disinfectants kill bacteria, antiseptics prevent bacterial growth and deodorants mask unpleasant smell. They are obtained as aerosol sprays.

FLOOR SEALS

Seals and polishes are finishes applied to a surface to protect it from effects of abrasion and from soil, grease, oils and other chemicals. They do this by forming a thin layer or film over the surface. Seals are semi-permanent materials which when applied remains on the surface for several years. Polishes are applied to and removed from a surface at more frequent intervals. Seals are more durable, more resistant to soil, chemicals and stains, and more resistant to abrasion than polishes.

Requirements for seals;

- Prevent entry of dirt and soil into the floor
- Protect floor from water and chemicals
- Easy to apply
- Easy to repair, recoat and remove
- Durable
- Good appearance
- Quick drying
- Realistic cost
- Mild solvent odor

Cleaning the bathroom

1. Open the windows for fresh air. This area becomes rather stuffy after using warm water in an enclosed space.
2. Remove soiled linen and empty Sani bin.
3. Clean the bath according to type. Baths are mostly made of porcelain or vitreous enamel.
4. Put a little warm or hot water in the bath and wet all sides. Using soap or soap less detergent with a soft cloth or sponge clean away all the greasy marks systematically.
5. Rinse out the dirty soapy water. Stubborn greasy marks can be removed by rubbing gently with a mild abrasive. Let out the dirty water.
6. Replace the stopper and put in clean warm water. Rinse the whole bath thoroughly paying special attention to all the sides.
7. Wipe away any dirt marks or streaks of water in the surrounding area including the section of the wall close to the bath.

8. Rub the bath with a tightly wrung out cloth which does not leave bits of thread or fluff behind. This removes as much water as possible leaving the bath looking dry and shiny.
9. Clean the floor finally by mopping with a floor cleaning mop. If there are bits left on the floor after mopping, they can be swept away after the floor has dried. While the floor of the bathroom is damp or wet sweeping should be avoided as this smears the dirt on the floor and spoils the effectiveness of the broom.
10. Replace soap rack, stand or dish with soap properly placed to ensure quick draining of water as damp soggy soap is very wasteful and also rather unpleasant to look at.
11. Arrange the sponges for personal use neatly and in a position that will facilitate drainage to avoid accumulation of water which may gradually cause unpleasant smells. If there is no rack to hold them, they can be stood against the wall at one end of the bath.
12. Face flannels or towels should be hung on hooks placed on the wall surrounding the bath at a convenient point. Easy-to-fix hooks are available in many hardware and household equipment shops and these make the hanging of towels convenient and neater. Place bath mat on the stool or at the edge of the bath tub to dry.

Note;

Treat the wash basin in the same manner as the bath leaving it clean and dry. Remember to wipe the underneath part of the wash basin as continuous accumulation of soapy streaks make it very unsightly. Rub the taps with a clean cluster to give them a shiny finish. Use a plain duster to rub the mirror in order to remove any marks present. Dust other smooth areas.

Cleaning the toilet

1. Flush by pushing down the lever or pulling down

the chain placed at the side of the water cistern to wash away any waste that may be present.

2. Brush the toilet bowl if necessary, using the toilet brush specially provided.
3. If the pan is stained, use a toilet cleanser and give time for it to work.
4. Brush and flush again.
5. Rinse the brush well and hang to dry.
6. Wipe any marks from the seat and sides of the bowl using a soft cloth kept for that purpose only. After use rinse the cloth thoroughly and place it neatly at the back of the lavatory or the washbasin.
7. Clean the floor using a floor cleaning mop and water with a little disinfectant if necessary, paying special attention to the hidden corners at the bottom of the bowl, which may harbor some of the waste that should have been disposed of. If such waste is left behind to dry it smells very strongly.
8. Ensure that there is enough supply of toilet paper. Place the hand towel provided for use after washing hands neatly on the rail or hang at a convenient place.

Cleaning of staircase

- Stairs should be cleaned according to the floor type.
- If it is a hard floor and has to be cleaned while people are using, then half should be cleaned at a time to enable people to walk up and down on the dry part.
- All banisters and handrails should be dusted before sweeping. Then washed or polished according to the material.
- Take care of the adjacent wall according to the material.
- Where the side of the staircase is open, sweep towards the wall on each stair so that dust and dirt does not fall.
- Wash and scrub according to the material.
- Rinse and then dry.

Note:

to clean the corridor, clean according to the floor and half should be cleaned at a time. This will allow people to walk on one dry side.

6.23 MAKING THE BED

The way the bed and the bedroom are presented tells a great deal about the personality of the user or owner. A neat and attractive bed can be produced by adopting a systematic method of making it. Learning the proper procedure for making a bed helps to ensure guests comfort.

Requirements:

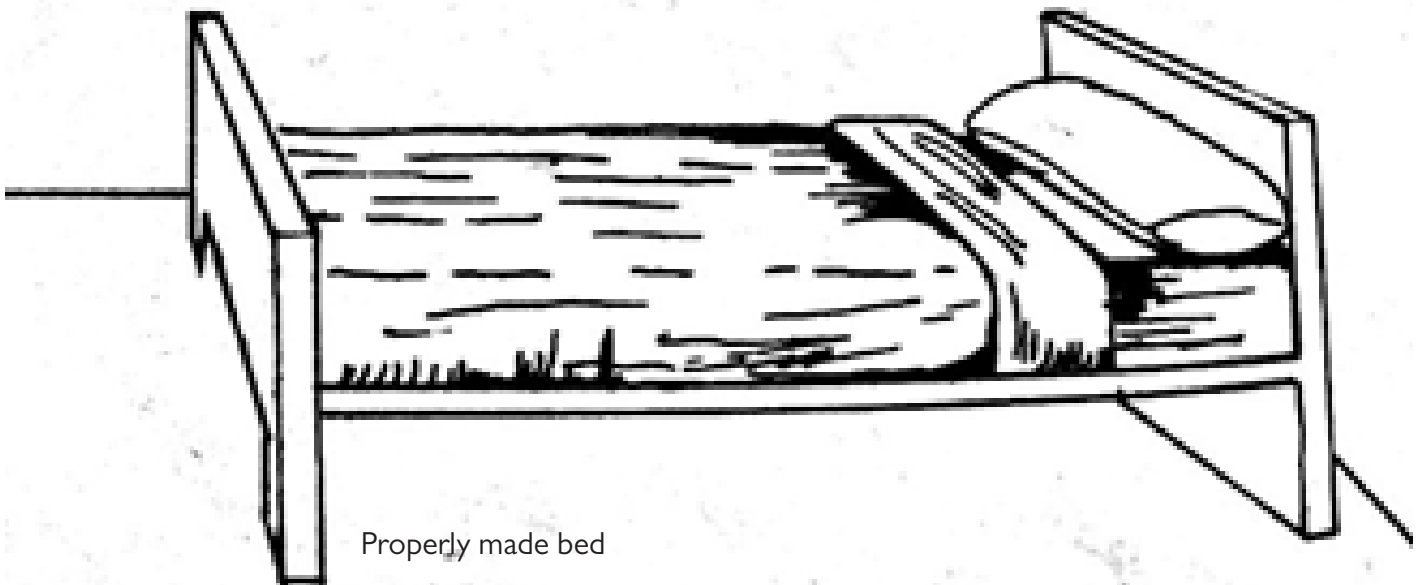
- Bed, mattress and pillow
- 2-3 blankets
- 1 under blanket and 2 sheets
- 1-2 pillowcase
- bedcover

Method

1. Strip/remove and air the bedding (sheets and pillow case).
2. Turn the mattress on succeeding days.
3. Straighten out and thoroughly air the mattress and pillow.
4. Place the under blanket on the mattress and smoothen out neatly. This protects the mattress from constant wear and body perspiration.
5. Place the bottom sheet on the bed with the right side up and the wider hem at the head side of the bed. The fold in the middle of the sheet should lie at the centre of the bed with ends of sheet hanging equally on both sides.
6. Turn in the bottom and top ends. Make a clean mitred corner at each end of the four corners of the bed by first picking up the corner of the sheet at the bottom of the bed and placing it in line with the edge of the bed. The remaining corner of the sheet will then hang down to a point. Repeat this process at all the four corners. Tuck in the sides

of the sheets under the mattress firmly leaving the top smooth.

7. With the wrong side up, place the top sheet with the wider hem lying in line with the edge or head board and the rest hanging down at the bottom and the sides. Tuck in the bottom of the sheet firmly. Make a mitred corner at each of the two bottom corners. Tuck in the sheet for a very short distance at the bottom to clear way for other bedding and to create a smooth corner when mitring of all other bedding is completed.
8. Place the first blanket taking care that it is in the middle of the bed and neatly smoothed out. The top edge of blanket should be in line with the bottom of the top hem of the top sheet. This will allow flatness when the top of the bedding is folded back. Tuck in the bottom, mitre the bottom corners and tuck in a little distance.
9. When placing the second blanket the top hem should lie just below the hem of the first blanket to avoid a bulky finish. Treat as for the first blanket. In areas where the weather is rather chilly more blankets may be required and if so, all blankets used should be placed on the bed in the same manner.
10. Fold back all the bedding from the top sheet down to the width of the pillow to be used. All the edges of the bedding used should be lying flat and the hem of the top sheet covering all.
11. Put pillow in pillowcase and place at the space created for it with the open end of the pillow away from the door. A double bed will require at least two pillows
12. Carefully tuck in all the top bedding ensuring that corners and sides are flat which should be placed with open ends facing one another at centre of bed and neat.
13. Place the bedcover neatly with enough hanging equally on either side. The cover should adequately cover the pillow with a smooth curve to the rest of the bed. Tuck in at the bottom if the bed has a bottom board or raised frame. If divan type edge leaves the bedcover hanging freely but not touching the floor. If tucked in make a shallow mitred corner at the bottom to neaten.



Properly made bed

LAUNDRY

Soiled or dirty linen from coming from different operations in an establishment are cleaned in on premise laundry or off premise laundry. On site or on-premise laundering refers to laundering activities carried on within the establishment by staff employed by the organization. While off premise laundry refers to laundry activities performed outside the establishment on a contract basis. A continuous supply of well laundered linen is essential for smooth and efficient running of operations. People involved in handling linen should have knowledge of processes involved. The life of linen depends on the care of linen in use and the treatment it gets at the laundry.

A good laundry facility ensures:

- Careful handling of articles while laundering.
- Correct methods and suitable laundry agent.
- Proper counting and records to avoid shortages.
- Speedy operations to meet with operational requirements.
- Sound policies regarding damages or losses.

HYGIENE AND SAFETY

Hygiene; refers to set of practices associated with preservation of health and health living. Hygiene is associated with cleanliness and preventive measures.

General hygiene practices

- Staff should wear gloves when in contact with any used or worn laundry items/articles whether obvious contamination is visible or not.
- Gowns or aprons should be worn whenever it is likely that staffs personal clothing could come in contact with laundry.

Safety measures in the laundry

Dryer

- Whether electric or gas, dryers collect lint, which is highly combustible. Lint buildup--on the inside of the exhaust pipe, where the pipe connects at

the back of the dryer and outside at the vent--also reduces air flow and the drying efficiency of the appliance.

- A simple check out and cleaning of your dryer can often make it safe to use. The first area to clean is the lint trap. It should be cleaned after every load. Peel lint from the screen and wipe the edges and the trap drawer with a damp cloth.
- Next, unplug the dryer. Check the back, where the exhaust pipe connects to the appliance. The pipe is held in place by a clip or a steel clamp that can be loosened by pliers or a screwdriver. After removing the pipe, reach inside the dryer opening to remove as much lint as possible. Again, use a damp cloth to wipe away lint.
- Clean the inside of the exhaust pipe, too. Reach in to wipe away any buildup. Replace the exhaust pipe if it is made of vinyl or foil. Building codes usually prohibit vinyl and foil exhaust pipes, which can ignite and cause fires. Instead, use flexible metal pipe, which includes snap-lock fittings, and comes in a variety of lengths.
- Flexible metal is more durable, too, so it won't puncture or rip. Don't allow dryer exhaust to vent inside your home or attic; dryer exhaust contains too much humid air and can cause problems with mold and mildew.
- Also, don't store flammable materials--paints, solvents, household cleaners and paper--near your dryer. Some liquids can emit vapors that can ignite.
- Further, clean the exterior vent which might entail using a step ladder because some dryers vent upward from ground-level floors. The cleaning process is similar to the interior, except you might need a screwdriver or scraper blade to hold the vent flap open. Wipe away as much lint buildup as possible. A shop vacuum can be used to suck out any excess lint.
- And, remove lint and visually inspect the exhaust pipe at least once a year, more often if you use your dryer twice weekly.

Washing Machine

- Check the supply hoses to the washing machine. Look for cracked or frayed material on rubber supply hoses, which can burst. These rubber hoses should be replaced by hoses of braided steel.
- Braided steel supply hoses come in lengths of 4, 5 and 6 feet. Valves that are hard to turn can be closed with pliers--work carefully--and use a bucket to collect excess water. Hand-tighten the new braided steel hoses turn the water back on and check for leaks.
- In addition to braided steel hoses, automatic flood stopping units are available. The units, which contain two solenoid valves that connect between the shutoff valves and the hoses. The valves are connected to a sensor, mounted beneath the hoses. When the sensor detects a leak, it engages the solenoid valves, which stop water flow at the control valve. Installation is simple: a screwdriver and pliers are about the only necessary tools.

General Laundry Safety

- Wherever you install your washer and dryer - whether it's in the basement or another room - make sure you install a smoke alarm as well. Like all major appliances, your washer and dryer should be properly grounded. Ensure you have the proper sized fuse or breaker switch installed. Washing means water, of course, and if not already in place, you should install an outlet with a ground fault circuit interrupter.
- If your laundry room shares the basement with the furnace, avoid hanging clothes, or storing laundry products, such as bleach near the furnace where they can create fire. Water, electrical appliances, tight spaces are all present dangers to children, so make the laundry room off limits as a play area. Also, the iron should also be kept out of reach of children - young tots can pull on the cord and pull

a heavy iron down on themselves causing injury. When finished ironing, unplug the iron, and never leave a hot iron unattended.

- And, watch your step while carrying laundry, especially if you have to take the stairs. It's better to take two small loads so you can see where you're going over the top of the laundry basket and avoid tripping. It's also not a good idea to locate the laundry hamper or basket on the stairs.

LAUNDRY TOOLS AND EQUIPMENT

Laundry tools and equipment are selected according to laundering process. Major processes include:

- Washing; sub-processes include; steeping or soaking, washing, rinsing and removal of moisture.
- Drying; ensures removal of moisture by sun or other form of heat or warmth.
- Finishing; involves; ironing, pressing, folding and airing.
- Some fabrics need stain removal, starching, boiling and dry cleaning or home valeting.

WASHING

Washing which is the major process in laundry work requires water, detergent and action. The type of washing equipment required depends on the amount of washing to be undertaken.

Container/receptacles/basket for clothes; required to hold articles before washing is done and for dry clothes waiting finishing and storage.



Basins and buckets; made of iron, enamel or plastic. Plastics have replaced all the others because they are light in weight, come in a variety of colors hence attractive, do not rust/non-corroding and fairly priced/cheap.

Factors to consider when selecting basins and buckets for laundry work;

- Amount of washing to be done
- Should be light in weight particularly if the source of water is far.
- Storage space; space available for storage.
- Good quality material/durability
- Well designed for easy care and storage.



Clothes line; clothes lines can be made of strong wire, sisal, plastic or thin nylon rope. In case a strong wire is in use; it is important to ensure it does not rust and it is all smooth otherwise it can easily damage clothes. Sisal when used deteriorates much faster than wire. The latest and commonly used is plastic or nylon. The plastic breaks easily and does not long/not durable but it is smooth and clean to use. Nylon is strong, clean, smooth, resists all weather conditions and is also cheap. Wipe the clothes line with a damp cloth before use.

Clothes pegs; clothes pegs are either wooden or plastic and are used to hold clothes firmly to the line to avoid being blown away by wind.

They should be smooth and well made to open and close with ease without breaking. When not in use they should be stored in a clean bag or container and should not be left on the line as this makes them dirt.



Simple boiler/container for heating/boiling water; this can be a sufuria/debe with a lid useful for boiling clothes that require special treatment. This can be used for heating water for laundry work.

Tongs or strong smooth stick; used for handling clothes while in the boiler.

Sinks; washing sinks should be of such a height that the worker can stand with the back straight when working. They should not be too deep as this necessitates waste of water. A wooden rack can be used to correct the height of the sink for shorter people.



Laundry bench; this is a stool that can be used by short people to hold basins and bowls during washing process.

Laundry brush; this is soft bristled rubber or nylon.



Washing machines/washer; The term is used machines that use water as a primary cleaning solution. A washing machine is labour and time saving. Washing machines are classified into;

- Top or front loading
- Method of washing/washing action; agitator type, pulsator and tumbler/ automatic washing machine
- Method of water extraction



Factors to consider in choice of washing machines:

- Initial outlay cost and running costs
- Space available for normal use and storage determines the design and size of the machine to be selected.
- Consider the design and general appearance of the machine.
- Reputation of the manufacturer/dealer. This is important regarding reliability, services they offer to customers, regular service and repair facilities.
- The material used for exterior and interior finishing should be rustless.
- Availability of water, gas or electricity.
- Amount of washing to be done and frequency.

Care of washing machines

- Rinse out.
- Leave clean and dry.
- If the machine has a central paddle, take it out and damp wipe the last remains of water.
- Remove any fluff from the filter.

Automatic machines

Remove the hoses from the taps or if the machine is plumbed in, see that the taps are turned off.

DRYING

Drying is the removal of water from cleaned clothes.

Drying can be;

- Outdoor drying; the outdoor drying/drying in the sun is the best way of keeping the clothes to have a good color. Light and moisture help to re-freshen them. Wipe the line. Peg articles by the thick parts. Use coat hangers for dresses.
- Indoor drying; Indoor drying tends to discolor clothes gradually.

CLOTHES DRYERS

Spin dryer; this is an appliance that facilitates the drying process by removal of as much moisture as possible. Whereas hand wringing removes about 50% of moisture in a garment, a spin dryer is known to extract 80%. After use dry the container. If there is excess detergent, rinse with clean water and spin to clear out and then dry.



Tumble dryer; these are machines that dry laundry by tumbling it slowly in a perforated drum exposed to hot air. The clothes are dried in a current of warm air which reaches the clothes through the perforations. The clothes may dry partially or completely. Remove fluff regularly to avoid accumulation. The dryer should be serviced as necessary and wiped if starched garments are dried.



Drying cabinet; this looks like a cupboard with a front opening door and shelves inside. The heating elements are at the bottom so that when heat is produced it is radiated into the entire cabinet. The damp clothes are spread on bars to dry. A drying cabinet dries and airs clothes at the same time.

IRONING AND FINISHING

- **Ironing;** continuous movement of the iron backwards and forwards.
- **Pressing;** apply iron to the article, lift up and place again.

Ironing surfaces; a suitable surface on which ironing



will take place is needed. This may be an ordinary table or an ironing board. In order to use the surface, an old blanket and sheet should be used to cover the surface to ensure a smooth surface on which to work and also to protect the surface of the table. When not in use, fold the blanket and sheet and store in a drawer, shelf or clean box.

Ironing boards and sleeve boards; ironing boards are designed to make ironing of most items easy and comfortable. It is made of wood and comfortable height. Sometimes ironing boards are attached to the wall to save space but are fixed at one height

only. Ironing board is padded. A loose cover/calico is used to protect the original cover. The loose cover is



washed regularly to provide a clean surface for ironing. Some ironing boards have sleeve attachments which are shaped to make ironing of sleeves easier. When buying an ironing board, check that it stands steadily on its own. An unsteady board can cause accidents. Ensure that there is a heat mat at one end. If possible, chooses on whose height can be adjusted. It should fold easily and without undue noise.

Types of irons;

there are different types irons used for the finishing process in laundry.

- Charcoal/iron box;** are made of cast iron and therefore quite heavy. The sole is smooth and the walls have walls for ventilation. This allows air to enter to facilitate burning of charcoal. The handle is made of wood. When buying ensure that all the



screws are firmly fixed, availability of a metal stand for holding the iron, the handle should be well insulated for comfort, sole plate should be rustless and iron fairly heavy to give enough pressure. The iron should be emptied after use and left to cool. Dust the surface and store in a dry cool place. Never dip in water to reduce to reduce temperature as this cause sudden contraction of the metal which may cause breakage.

- Pressure/oil irons;** this is suitable in areas with-

out electricity. It has a reservoir and a pump. Paraffin is used under pressure to produce gas which in turn heats the sole plate. It is lit the same way as pressure lamps. Switch off after use and release all the pressure. Leave the iron to cool and then damp dust. To remove any oil or soot on the surface.

- c. **Gas irons;** gas iron is suitable where gas is already in use for cooking as the iron can use the same cylinder. Regulate the heat by regulating the flow of gas. After use switch off the gas, disconnect the iron
- d. **Electric irons;** heat, moisture and a certain amount of pressure are needed for ironing.
 - Thermostat-controlled iron; temperatures controlled by use of a thermostat which is marked according to the type of fabric being ironed. Once the temperature is reached the current



is automatically cut off until the temperature lowers and then it switches itself on again. The indicator light is usually on when heating and when the desired temperature is reached the indicator goes off. Due to the thermostat control, this type of iron saves energy/power and is economical to use.

- **Steam irons;** these can be adjusted for steam or dry ironing by moving the control on the handle. This opens or shuts a valve inside the iron and either allows or prevents the water from the tank. When open, the water drips slowly and is converted into steam which comes out of the holes at the bottom of the iron. Some of the newest steam irons work by spray device. A very fine spray of cold water is forced out

and damps the material in advance of the iron.

To use steam iron



- Fill the tank with water(distilled)
- Turn the control to steam
- Always stand steam iron on its heels.
- Empty immediately after use

Important points in the use of electric irons

- The flex/cord must be in good condition. It should not be too short or too long.
- Avoid using the cord while twisted. See that there are no knots in the flex when the iron is in use.
- Must be wired to three pins correctly to prevent serious accidents.
- Always use outlets and never use an iron from a lighting circuit.
- Put away on iron stand or stand on its heel rest.
- Avoid dropping of the iron as this damage the elements and if not repaired immediately can be dangerous.
- Avoid using wet hands or ironing wet clothes with an electric iron as this could cause an electric shock.
- Empty immediately after use, while still hot.
- Never use sharp objects to scrape of substances that have stuck on the sole plate.
- To clean; when cold wipe with a damp cloth. If starch has stuck to the surface rub gently with fine steel wool. An alternative method is to sprinkle fine salt on a clean piece of paper and iron over it to remove stains.

Flatwork ironer/roller iron/calendar; is used flat articles e.g. sheets, pillow cases, table clothes, table napkins etc. The articles are passed through heated rollers for ironing. It is heavily padded but it is motor

driven which is worked by a foot switch. As the padded part rolls, the parts of the article in contact are ironed.

Electric Presser; used for pressing of flat linen. They



can be operated by electricity or steam. It is padded base and top. Items are pressed between the two parts which are first heated to the required temperature.

LAUNDRY AGENTS

1. Water; water by itself is ineffective as a cleaning agent due to surface tension. Although it may remove water soluble dirt, it has little effect on oils and grease. Addition of detergent allows the water to penetrate, wetting the fabric/article so that the soil is more accessible and easier to remove. Rain water contains no dissolved mineral matter and therefore it is most suitable for laundry work.
2. Detergents; a detergent is a substance that aids the removal of dirt. When used in conjunction with water, can loosen and remove dirt and then hold it in suspension so that the dirt is not deposited on the clean surface. Properties of a good detergent;
 - Good wetting power to loosen the surface tension of the water and enable the surface of the article to be thoroughly wetted.
 - Good emulsifying power to break the grease and enable the soiling to be loosened.
 - Good suspension power to prevent redistribution of the soil.
 - Be readily soluble in water. Harmless to the article and the skin.
 - Be easily rinsed away.
 - Be bio-degradable.
 - Be readily soluble in water.

- Economical in use.

Types of detergents;

1. Soap; soap is a product of the reaction of animal or vegetable fat/oil with an alkaline substance (sodium hydroxide or caustic soda and potassium hydroxide or caustic potash). The process is known as saponification.

Types of soaps:

- Bar soap
 - Soap flakes
 - Soap powder
 - Disinfectant or antiseptic soaps
2. Synthetic (soap less) detergents; these are made from petroleum by products. Synthetic detergents are categorized into:
 - High foaming detergents produce lather readily with water at any temperature which remains floating on the surface of water during the washing process.
 - Low foaming detergents; produce only a little lather. These are popular for washing machines as presence of too much foam interferes with the washing process and the operation of the machine.

Other laundering agents/reagents:

Other substances besides water and detergent play an important in laundry work.

Stiffening agent (starch); starch is a stiffening agent; reasons for starching:

- It restores the body and feel of the fabric by filling the gaps between the fibres.
- Improves appearance
- Gives the items a glossy surface which helps creases to disappear easily.
- Fabric surface resists dirt thus keeping the article clean longer.

Forms of starch:

- a. Powder starch; can be made from maize, rice, wheat, potatoes and cassava. Whereas maize starch is popular for boiling water starch, rice is suitable for cold water starching. Powder starch are usually mixed with borax which improves the gloss on starched fabrics.
- b. Liquid starch/plastic starch; this is basically made from plastic rather than cereals. It is obtained in liquid form and usually diluted for use. This starch keeps the garment stiff even after several washes.
- c. Spray starch; the starch is packed in aerosols containers and is sprayed on the areas requiring stiffening. It is commonly used on collars and cuffs.

Boiling water starch; this made from powder starch. Maize is the most common.

Requirements:

- a. 1 heaped tablespoonful starch.
- b. 2 tablespoonful cold water
- c. ½ liter boiling water.

Method/procedure:

1. Measure the starch in a bowl.
2. Add the cold water to the starch and mix with a wooden spoon to a smooth paste.
3. Add boiling water while stirring all the time to prevent lumps forming. Stir until color change takes place. The color change is an indication that starch grains are cooked and the solution thickens in the process. This process is called gelatinization of starch.
4. The solution obtained after the addition of boiling water is referred to as full strength starch. This is too strong and not suitable for stiffening any article. It requires some degree of dilution to obtain suitable strength.
5. Add the same amount of warm water as the starch solution to dilute. This is referred to as 1:1 strength (an equal part of starch to an equal part of water).

If starch is not to be used immediately, leave it covered in 1:1 strength but never in full strength as it tends to set.

Guide to the use of boiling water starch:

- a. 1:1 strength -too strong for use
- b. 1:2 strength -thin fabrics required very stiff
- c. 1:3 strength -articles required stiff e.g. table mats, overalls etc.
- d. 1:4-5 strength -table linen (napkins, tray cloths etc.)
- e. 1:6-7 strength -curtains
- f. 1:8 strength -articles required slightly stiff (bed linen, personal garments e.g. cotton blouses.

Cold water starch; also referred to as instant starch and is used for articles required very stiff e.g. belts and caps.

Requirements:

- a. 2 tablespoonful starch
- b. ½ teaspoonful borax
- c. 1 tablespoonful boiling water
- d. ½ cold water

Method:

- a. Measure the starch and put in the bowl.
- b. Dissolve the borax in the boiling water.
- c. Add cold water to the dissolved borax; pour this on to the starch.
- d. Mix to a smooth paste. Cover and leave for 30 minutes before use. This enables the starch grains to soften.
- e. Stir well before use and immerse the article and squeeze starch into the mesh of the fabric.
- f. Remove and squeeze out the starch. Rub lightly with a cloth to remove starch grains from the surface of the fabric.
- g. Iron immediately with hot iron. The heat bursts

the already swollen starch grains and immediately sets it into the fabric.

Laundry blues; blue may be used in the last rinse for bleached cotton and linen fabric. But with careful washing and out drying little blueing is necessary. Bleached fabrics lose whiteness through use, wear and yellowing action of soap and alkali in cleaning process. Blue is the complimentary color to yellow to produce whiteness. A blue agent absorbs some yellow light so that less yellow is reflected and the fabric looks whiter.

Bleaches; these are substances that are used to improve colors on articles especially those made of cotton and linen. Bleach is particularly valuable for the removal of some stubborn stains from fabrics. Bleaches are used in diluted form as full strength affects fibres, soaking in bleach solution for a long period of time weakens the fibres. Bleaches also tend to affect the skin and therefore use of gloves is recommended. There are two types of bleaches;

- a. Oxidizing bleaches; these act by releasing oxygen which combines with the coloring matter rendering it colorless. This reaction is known as reduction. Examples are chlorine bleaches (sodium hypochlorite and potassium hypochlorite). These are household bleaches. Other oxidizing bleaches include hydrogen peroxide and sodium perborate, milder bleaches used on wool and silk.
- b. Reducing bleaches; are those agents that either remove oxygen from the colored substance or add hydrogen to it. Bleaching by the use of reducing agents do not have a lasting result as once the oxygen is taken up again the discoloration is regained by the surface. A good example is the sodium hyposulphite.

Fabric softeners/conditioners: this is added to rinsing water. These are ammonium salts which have a lubricating effect on fabrics making them soft and enhancing their drape. They are useful for woolens, towels, baby's napkins and for garments made from

manmade fibres. They keep the garments soft. Man-made fibres tend to attract dirt but fabric softeners help to counteract this. They also prevent garments from clinging to the body. This occurs due to static electricity.

Alkali

The alkalis have no direct washing ability in themselves, except for the fact that they are able to emulsify fatty acids and mineral oils. But they will saponify the fatty acids. You are in this way able, to a certain extent, to "make" soap by washing greasy products, e.g. lab coats from the butcher's production processes, with alkali. An alkali is characterized by a pH-value of between 8 and 14.

The alkali is used in the wash:

- For sustaining a pH-value, which can give the soap the best possible washing performance,
- To affect certain types of soap, e.g. fatty acid and proteins, so that they are easier to remove from the clothes,
- To soften the water, if there are any residual lime or magnesium compounds in the water, and
- To remove residual fatty acids from the clothes.

Types of alkali

Throughout the times different types of alkali have been produced, e.g.:

- sodium hydroxide (caustic soda – soda lye in dissolved form)
- potassium hydroxide (caustic potash solution, in dissolved form)
- ammonia water (ammonium hydroxide), and
- borax

The Acids

The acids are characterized by an acidic reaction (pH-value between 0 and 6) when dissolved in water. The acids are not normally used in the washing but only for the lime soap treatment, for bleaching, or

for neutralization of the alkali. There have been a number of acids in use in the laundries. Some of the liquid acids are:














- Hydrochloric acid,
- Sulphuric acid,
- Nitric acid,
- Carbonic acid,
- Acetic acid, and

In the washing processes today, only acetic acid and oxalic acid are used, the acetic acid for acidification in the last batch of rinse water (for neutralization of

residual alkali from the main wash) and the oxalic acid for removal of rust stains from the clothes.

CARE SYMBOLS

Care Symbol	Written Care Instructions
	Machine Wash, Normal Garment may be laundered through the use of hot water and detergent.
	Machine Wash, Cold Washing water temperature should not exceed 30C.
	Hand Wash Garment may be laundered through the use of water, detergent and gentle hand manipulation
	Do Not Wash Garment may not to be laundered by any process. Normally accompanied by Dry Clean instructions
	Bleach When Needed Any commercially available bleach product may be used in the laundering process
	Do Not Bleach No bleach product may be used
	Tumble Dry, Normal. A machine dryer may be used
	Do Not Tumble Dry A machine dryer may not be used.
	Do Not Dry A machine dryer may not be used
	Line Dry Hang damp garment from line in or out doors.
	Drip Dry Hang dripping wet garment from line in or out doors, without wringing

	Dry Flat Lay down horizontally for to dry
	Dry in Shade Dry away from direct sunlight.
	Do Not Wring Do Not Wring
	Iron, Any Temperature, Steam or Dry Ironing may be or not needed at any temperature with or without steam.
	Iron at low temps Steam or dry iron at Low setting (110C, 230F) only.
	Iron at Medium temps steam or dry iron at Medium setting (150C, 300F)
	Iron at high temps Steam or dry iron at High setting (200C, 290F).
	Do Not Iron
	Dry clean
	Dry clean, Dry Clean using any solvent.
	Dry clean Dry Clean using only petroleum solvent.
	Dry clean, Any Solvent Except Trichloroethylene
	Do Not Dry clean Garment may not be commercially dry-cleaned

STAIN REMOVAL

Most dirt can be removed from fabrics by usual cleansing methods. Stain is a discoloration on an article or garment brought about by contact with a foreign substance which is difficult to remove through normal washing procedures. If the cause of the stain is known and type of material on which it occurred is known, then it can be removed successfully without damaging the article.

Points to take into consideration when removing stains include:

- Identify the stain
- Deal with the stain as quickly as possible.
- Test the stain removal agent on an inconspicuous part of article or garment.
- Use simple methods of cleaning before resorting to use chemicals.
- Use milder methods first before stronger ones.
- Rinse thoroughly after treatment.

Stain	Fabric	Treatment
Tea, coffee and cocoa a) Fresh b) dry	White cotton and linen All other fabrics White cotton and linen Other fabrics	<ul style="list-style-type: none"> • Pour boiling water at once. • Wash and boil <p>Steep in warm water and wash.</p> <ul style="list-style-type: none"> • Steep in glycerine overnight. • Spread borax on the stain and pour boiling water through. • Bleach with household bleach. • Steep in warm solution of borax. • Steep in warm hydrogen peroxide or sodium perborate solution.
Fruit and wine stain a) Fresh b) dry	White cotton and linen All other fabrics White cotton and linen All other fabrics	<ul style="list-style-type: none"> • Cover the stain with salt. • pour boiling water through Steep in warm water. • Spread borax on the stain and pour boiling water through. • Treat with liquid household bleach. • Steep in warm hydrogen peroxide solution. • Steep in warm sodium perborate solution.
Grass stain	All fabrics	<ul style="list-style-type: none"> • Steep in glycerine • Steep in surgical methylated spirit to remove the coloring matter
Mildew	White cotton and linen All other fabrics	<ul style="list-style-type: none"> • Bleach by sunlight. • Treat with liquid household bleach. <p>Bleach with hydrogen peroxide</p>

Blood and all protein stains	All washable fabrics Unwashable fabrics	<ul style="list-style-type: none"> Steep in enzyme stain remover. Steep in cold water and salt. Cover stain with paste of starch and cold water.
Perspiration	White cotton and linen All other fabrics	<ul style="list-style-type: none"> Steep in enzyme stain remover. Bleach by sunlight. Treat with liquid household bleach. Steep in enzyme stain remover. Wash Bleach according to fabric
Black Ink a) Fresh b) Dry	White cotton and linen All other fabrics All fabrics	<ul style="list-style-type: none"> Wash out as much as possible. Spread salts of lemon over the stain, pour boiling water through. Wash. Treat with borax if washing is not done immediately. Treat with commercial ink remover followed by borax solution Wash out as much as possible. Spread tomato juice over stain and leave for one hour. Rinse and wash. Cover the stain with salt and steep for one hour in lemon juice. Treat with alternate solutions of lemon juice and borax. Treat with commercial ink remover.
Paint	All fabrics	<ul style="list-style-type: none"> Paints made with linseed oil. Should be steeped in turpentine. Cellulose paints should be steeped in a grease solvent Varnish lacquer paints will dissolve in methylated spirit. Some paints have special paint removers.
Chewing gum		<ul style="list-style-type: none"> Treat with turpentine
Grease stains a) Solid b) liquid	All fabrics Cotton and linen Other fabrics Unwashable fabrics	<ul style="list-style-type: none"> Scrape off as much as possible. Place the stain over absorbent paper. Place a moderate hot iron on the top. Work from outside of stain to centre. Continue until paper has absorbed the stain. <p>Wash with hot water and detergent. When hot water cannot be used the stain should be treated with a grease solvent before washing.</p> <ul style="list-style-type: none"> Cover the stain with French chalk, leave for some time to absorb grease. Treat with a safe grease solvent.
Lip stick, grease paint	All fabrics	<ul style="list-style-type: none"> Treat with grease solvent. Remove remaining dye stain with bleach suitable for the fabric.
Nail varnish	Cotton and linen And all fabrics	<ul style="list-style-type: none"> Remove with nail varnish remover. Acetone injures acetates so must not be used on them.

TEXTILE FIBRES

Textile; Basically anything, which can be made into clothing.

Classification of fibres

1. Natural fibres
 - Animal (silk and wool)
 - Vegetable (cotton and, linen)
2. Man-made fibres
- c. Regenerated fibres(rayon)
- d. Synthetic fibres

COTTON

It is the most frequently used natural fibre. It is obtained from seed pod or boll of the cotton plant.

Advantages of cotton

- a. Good conductor of heat therefore cool and comfortable to wear in hot climates.
- b. Readily absorbs moisture.
- c. Stronger when wet than when dry and therefore stands frequent washing.
- d. Not affected by high temperatures and thus cotton articles can be boiled.
- e. Fairly light in weight compared with some other natural fibres.
- f. Cotton is relatively cheap and available in a wide range of finishes.
- g. Cotton can be dyed and printed easily thus offering a wide variety for choice.

Disadvantages of cotton

- Cotton creases readily unless treated to be crease resistant.
- Inflammable
- Cotton is liable to mildew attacks if left damp for a considerable length of time.
- Cotton is weakened by household bleach especially if not rinsed thoroughly.

Washing cottons

White cottons need to be washed slightly differently from colored cottons. These include table linen, bed linen, handkerchiefs and towels.

Method:

- Carry out all necessary mending before washing.
- Remove stains if any.
- Soak in cold water to loosen dirt. Handkerchiefs should be soaked in cold salty water.
- Wash in warm soapy water.
- Use friction to wash starting with double parts and very dirty parts both on the wrong and right sides.
- Wring out the washing water. Rinse in warm water to remove dirty soapy water. Give a final rinse in cold water to freshen the fabric.
- Boil if necessary. Cottons can be boiled to; improve color, remove any stubborn stain and kill germs especially articles used by a sick person or baby napkins.
- Put out to dry on cleaned clothes line. Hang clothes with the strongest part of garment on the line e.g. shoulders, hem or waist. Never hang garments along the collar as this damage the collar points and stiffening especially men's shirts.

General method for ironing cottons

- Use warm water in a small container to damp the garment evenly. Dip fingers in the water/ use a perforated bottle and sprinkle water on the fabric. Roll the garment and leave for 10-15 minutes to allow moisture to spread evenly throughout the garment.
- Prepare the ironing surface i.e. with a blanket and sheet.
- Prepare the iron. Set the heat dial to cotton. Ensure that the sole of the iron is clean before use.
- Unfold the garment or article and iron first the

double parts on the wrong side, then double parts on the right side e.g. hems, seams, cuffs and yokes.

- Collars on garments should be the last to be ironed as they handled quite a bit in the course of ironing the rest of the garment.
- Air the article thoroughly and then fold neatly to store flat or hang with a coat hanger. Airing removes any remaining moisture and smells that may be present.

Items to bring for laundry

- 2 White cotton blouse/shirt
- 2 Table napkins
- 2 handkerchiefs

LINEN

Linen is a stem fibre produced from a flax plant.

Advantages

- Linen is firmer, stronger and more lustrous than cotton. When wet it is even stronger than when dry.
- It is smooth to touch, cool to wear and therefore comfortable to wear in hot climates.
- It absorbs moisture well and is therefore suitable for underwear, dish cloths etc.
- It withstands high temperatures and therefore can be boiled and ironed with a hot iron.
- It is not affected by alkalis and therefore can be washed in water containing soda.

Disadvantages

- Linen creases badly unless treated to be crease resistant.
- Linen is inflammable. Linen burns readily unless treated to make it flame-proof.
- Linen is expensive
- It will develop mildew if stored in an airless place while damp.

Laundering linen;

Linen fabrics are given the same treatment as cotton fabrics. But linen will require higher temperatures for ironing than cotton to straighten the fibres.

TREATMENT OF COTTON AND LINEN FABRICS

Bleached cotton and linen fabrics:

Sorting: Articles of these fabrics are sorted and placed together. Then they are divided according to texture and use in the following way:

- Table-linen
- Bed- linen
- Personal garments
- Handkerchiefs

All articles of one group are kept together throughout the washing process.

Mending. Table-linen is always mended before washing. Thin places in sheets and towels can be mended, because holes in large and heavy articles generally increase in size during washing.

Stain removal. See Stain Removal Chart.

Steeping. Steep for 24 hours in cold water. Never steep longer in the same water, as bacterial action takes place, the water sours, and fabric may be damaged.

The action steeping:

- It wets the fabric.
- Soluble stains and protein stains are brought into solution.
- Non-fixed dirt is removed from the fabric.
- Starch from previous laundering is softened

Cleansing: Wring from the steeping water.

The most suitable method of cleansing will be governed:

- The type of fabric.
- The type of article.
- The amount and kind of dirt present.
- The number of articles to be cleansed.

Rinsing: Rinse in warm water to remove all soiled washing water.

Boiling. All bleached cotton and linen are boiled to help to keep it a white color, especially when outdoor drying is not possible. When outdoor drying is possible, clothes need not be boiled every wash, and when drying in sunshine is possible, boiling is seldom necessary.

Rinsing. Remove from the boiler by using a boiler stick or tongs. Rinse in hot water to remove the soiled water from boiling. Rinse in cold waters. This cold rinsing is a most important factor in retaining the whiteness of bleached fabrics.

Blueing. Squeeze the blue bag in cold water until a pale-blue color result. Blue water should be used when freshly made; if it has been allowed to stand it should be stirred, as the blue particles settle out on to the sides of the bowl, causing a blue stain on any fabric that touches them.

Starching. The starching of cottons and linens is governed by the type of fabric concerned. Many fabrics are not starched. Articles must be wrung before being starched, or the moisture they hold will dilute the starch solution. Squeeze the fabric well in the starch solution, so that the stiffening will be even. Wring out as much moisture as possible. Hang up and dry completely.

For recipes for starch making and information about other stiffening agents.

Wringing. Fold articles, and pass through wringer or spin dry to remove as much moisture as possible. This quickens the drying process.

Drying. Outdoor drying should be practiced when possible as this helps to retain the whiteness of bleached articles, and gives a certain freshness to clothes. Sunshine is an advantage in the drying of bleached cotton and linens because of the bleaching that it will affect. It is a disadvantage for all other fabrics and for colored articles. Too much wind will cause undue movement, and possible tearing of clothes.

Points regarding the hanging of clothes for drying are:

- Hang by the thickest part.

- Hang with the strongest threads of the material downwards. These are the warp threads, and usually run lengthways; hanging in this way helps to keep garments a good shape. Take a firm grip of the material with the peg.
- All articles must be sufficiently well pegged to the line to keep them secure.

Discoloration. The chief discolorations on these fabrics are:

- Yellowness due to use, wear, excess use of alkali in cleansing processes.
- Greyness due to calcium soaps penetrating the fabric, or to the excessive use of blue.
- Inefficient cleansing.

These can be avoided by:

- Careful choice of detergent for cleansing processes to avoid yellowness.
- Use of properly softened water or b which there is no scum of calcium soap to avoid greyness.
- Thorough rinsing after boiling.
- Correct use of blue.
- Outside drying.

IRONING TABLE LINEN

Ironing Small Table Napkins

1. Iron these flat.
2. Roll to fold

White Table slip cloths

- Place on the table with selvedge at the top.
- Fold in a screen fold of three. See that the hems and selvedges are straight.
 - Iron on the right side
 - After ironing first side, fold the top layer away from the worker.
 - Iron the next two sections.
 - Iron until dry. Make sure the layers are not sticking together with starch. Final fold.

Tablecloths

- Place on the table right side up, selvedge at the top and hems at side.
- Place on the table with the selvedge away from the worker.
- Pull into a good shape. See that the hems and the selvedges are straight. Set the iron according to the fabric.
- Iron the top section first then fold this part away from the worker.
- Iron the section nearest the worker.
- Put the cloth back exactly as it was at the beginning.
- Turn it from side to side. Make sure that the selvedge is still at the top.
- Repeat the process exactly. Iron the top layer as before. Open the cloth out and then iron the last side.
- Make sure that the layers are not sticking together with starch.
- See that the cloth is dry.
- Fold in a screen fold of four

NB. If table linen is made of seersucker material, it should not be ironed. Pull it into shape and fold when dry.

Ironing a blouse

- The material must be evenly damp.
- Set the iron according to the heat required for the particular fabric.
- If made of cotton, you generally iron on the right side. If made of other fabrics, iron on the wrong side.
- Iron the double parts first, except if made of a thin material when they should be ironed last.
- Iron the sleeves. Avoid putting a crease at the fold of the sleeves.
- Place the blouse on the table and begin to iron at the far side. If you are left handed put the neck of the blouse to the right side instead of

the left side. Iron the collar.

- Air the blouse.
- Put away on a coat hanger.

Ironing a shirt

- Cotton shirts need thorough ironing with a hot iron. Drip dry and minimum iron shirts can be touched up lightly with a warm iron.
- Iron the collar and the neckband on both sides.
- Fold the back a little below the yoke. Place the yoke on the edge of the board. See that the material is smooth. Iron the yoke.
- Iron the cuffs on both sides until they are dry.
- Smooth the sleeves carefully and iron both sides.
- Iron the body part of the shirt as for the blouse.

Folding a shirt

Cotton shirts should be folded carefully as follows;

- Fasten the buttons.
- Place front downwards on the table or ironing board, see that it is smooth.
- Fold in each side about two inches.
- Fold the sleeves so that they are in the middle of the shirt, one on top of the other. If the shirt is cotton, press in the side folds to make the shirt as flat as possible.
- Fold in each side to the centre. Then fold in half and tuck in the ends.
- Finished results. Touch up the front with an iron.

NB. Minimum iron shirts are not usually folded. Put away on a coat hanger.

ANIMAL FIBRES

WOOL; wool is a protein fibre from fleece of sheep.

Advantages of wool

- Wool is warm and comfortable to wear. The warmth is as a result of air that is retained in the scales.
- Wool is non-inflammable. It smoulders or melts when subjected to open flame. This makes it a

safe material for children's wear.

- Wool is readily absorbent and it is known to absorb up to 30% of its own weight.
- Wool absorbs dyes easily therefore making it possible to produce a wide range of color.
- The elasticity and resilience of fibres make the finished fabric naturally crease resistant.

Disadvantages of wool

- Wool when wet becomes soft and so will stretch if not handled well during laundry.
- If incorrectly laundered wool becomes felted and matted. This causes the fabric to shrink.
- Wool is sensitive to alkaline substances and therefore detergents used should be selected with care.
- Household bleaches will cause yellowing of woolen fabrics and strong solutions will dissolve or destroy the fabric.
- High temperatures affect wool.

Laundering of woolen fabrics

- Repair any worn out part
- Shake to remove dust
- Measure the size of the article before wetting. This is done by outlining the shape of garment on a paper.
- Make lather in warm water using mild detergent e.g. soap flakes or any other suitable detergent.
- Wash by kneading and squeezing keeping the garment in the water. Friction or rubbing makes the fibres to matt together.
- When clean, squeeze the water out by holding the garment in a ball in the palms of the hands to avoid stretching.
- Rinse thoroughly in warm water. Rinse severally until all traces of detergent is removed.
- Squeeze as much water out as possible.
- Do not wring. Roll in a towel to remove surplus moisture.
- Dry flat on towel or newspaper under a shade.

Stretch the garment on the outline drawn during the preparation.

- When dry, woolens are finished by pressing.
- Use a warm iron. Hot iron will scorch wool easily.
- Air thoroughly to remove smells and any remaining moisture.

MAN MADE FIBRES

Most of these fibres are made from natural occurring materials which are treated chemically or they are produced purely from chemical substances. Manmade fibres is classified into;

- Regenerated fibres; those fibres obtained from naturally occurring materials e.g. cotton and are treated with chemicals to give the required fibre e.g. rayon.
- Synthetic fibres; these are fibres made entirely from chemicals e.g. nylon, terylene, Orlon, courtelle etc.

LAUNDRY PROCESSES

Collection and transportation

Collection of linen may be done in the linen room, if the laundry is off-site. Linen items are collected separately such as guest laundry, bed linen, tablecloths; staff uniforms etc. The linen is packaged in canvas bags lined with polyvinyl or elasticized net bags for transportation.

Trolleys and collapsible wire carts can be used to transport soiled linen as well as clean linen.

Arrival

On arrival in the laundry, there must be a separate section for guest laundry. Marking; marking may be temporary for guest laundry or permanent (monogramming) for hotel linen. For guest laundry initials of guest as well as the room number helps to provide a clear identification and helps correct billing.

Sorting: separation of clothes into groups according to the kind of treatment required during washing. Sorting is done according to the type of fabric and item, color

and type of soiling. Sorting is done to separate articles that need dry cleaning from those that go through normal washing. Sorting is done into different piles, each of which is washed separately; White clothes, Light clothes, Dark clothes, Towels, Underwear; delicate etc. Different articles take different wash processes in terms of water temperature, laundry agent etc. Those that need mending or stain removal must also be separated so that they can be dealt with accordingly. In hospitals, the infection risk necessitates the need for using gloves when sorting out linen.

Mending: In case of any torn part, mending is done to prevent the torn area from enlarging.

Weighing: Weighing is carried out to conform to the capacity of washing machine and to avoid overloading. Repeated overloading can cause machine breakdown. Under loading leads to wastage of detergent and water.

Steeping/soaking: heavily soiled fast colored cotton and linen may be soaked in cold water overnight. Handkerchiefs should be steeped in salt water and laundered separately.

Washing: Washing process is designed to perform two functions;

- Removal of soil/dirt
- Suspension of soil

The dirt on fabrics can either be loose resting on fibers or fixed on fibers by grease. Methods used for washing include;

- **Friction washing:** this method is suitable for very dirty articles made of cotton and linen. Hand friction; suitable for small articles that are lightly soiled. Friction by use of laundry brush; this method is suitable articles that are heavily soiled and made of strong fabric.
- **Kneading and squeezing washing:** This

method is used on fabrics that are damaged by friction e.g. wool, silk, rayon, colored fabrics and synthetic fibers.

- Machine washing.

Unloading: this involves transferring washed linen to the dryer. This can be done manually or by an automated system where a conveyor belt transports the linen to the next set of operations.

Drying: this process involves exposing the article to circulating air outdoors or in a tumble dryer.

Finishing involves:

- Ironing,
- Pressing
- Airing; airing ensures that any moisture that is likely to cause mildew will be got rid off.
- Folding; correct folding is important to the appearance of the article and makes it convenient to store.

Storage; Storage area must be isolated from the soiled linen and kept clean. As a general rule, at any given time, approximately 50% of the total linen stock should be on the shelves, 25 % in use and 25 % in processing.

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