# SECTOR: HEALTHCARE

## NSQF Level 4 (CLASS XII)

# Student Workbook

**PSS Central Institute of Vocational Education, Bhopal**

**(a constituent unit of NCERT, under Ministry of Human Resource Development, Government of India)**

# Sector: Healthcare

## Vocational Subject: Healthcare Services – PCA

## NSQF Level 4; Class XII

# Student Workbook

**Sector: Healthcare**

**Job Role: General Duty Assistant/Patient Care Assistant**

**Qualification Pack Reference ID: HSS/Q 5101**

**Module Code: HSS 401 to 406-NQ2016**



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# Student Details

**Student Name:**_____

**Student Roll Number:**_____

**Batch Start Date:**_____

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# Preface

The student workbook is a part of the training package developed for the vocational subject under the National Vocational Education Qualification Framework (NVEQF)/National Skill Qualification Framework (NSQF), an initiative of Ministry of Human Resource Development (MHRD), Government of India. The NSQF sets common principles and guidelines for a nationally recognized qualification system covering Schools, Vocational Education and Training Institutions, Technical Education Institutions, Colleges and Universities. It is envisaged that the NSQF will promote transparency of qualifications, cross-sectoral learning, student-centred learning and facilitate learner's mobility between different qualifications, thus encouraging lifelong learning. The National Curriculum Framework, 2005 recommends that children's life at school must be linked to their life outside the school. This principle makes a departure from the legacy of bookish learning which continues to shape our system and causes a gap between the school, home, community and the workplace.

The Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), a constituent of National Council of Educational Research and Training (NCERT) has developed modular curricula and learning materials for the vocational subjects offered from Classes IX to XII (NSQF Levels 1-4). This student workbook, which has been developed keeping in view the National Occupation Standards (NOSs) set by the Healthcare Sector Skill Council (HSSC) for the Job Role of Patient Care Assistant/General Duty Assistant is meant for students who have passed Class XI or equivalent examination. The National Occupation Standards are a set of competency standards used for recognizing and assessing skills and knowledge needed to perform effectively in the workplace.

The success of vocationalisation of education in schools depends on the steps that Principals and Teachers will take to encourage children to reflect their own learning and to pursue imaginative and on-the-job training activities. Participation of learners in skill development exercises and inculcation of values and creativity is possible if we involve children as participants in learning and not as receivers of information. Flexibility in the daily time-table would be a necessity to maintain the rigour in implementing the activities and the required number of teaching days will have to be increased for teaching vocational subjects.

The student workbook has been developed and reviewed by a group of experts and their contributions are admirably acknowledged. The utility of the workbook will be adjudged by the qualitative improvement that it brings about in teaching-learning. The likelihood of text errors, including typographical errors cannot be ruled out. The feedback and suggestions on the content by the teachers and other stakeholders will be of immense value to us in bringing about necessary improvement in the student workbook.

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# Acknowledgements

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# About Your Workbook

The student workbook contains sessions which will help you to acquire relevant knowledge and skills (generic and domain-specific skills) related to the job role. Each session is small enough to be easily tackled and digested by you before you move on to the next session. Animated pictures and photographs have been included to bring about visual appeal and to make the text lively and interactive for you. You can also try to create your own illustrations using your imagination or taking the help of your teacher.

Let us now see what the sections in the sessions have for you.

**Section1: Introduction**

This section introduces you to the topic of the Unit. It also tells you what you will learn through the various sessions covered in the Unit.

**Section 2: Relevant Knowledge**

This section provides you with the relevant information on the topic(s) covered in the session. The knowledge developed through this section will enable you to perform certain activities. You should read through the information to develop an understanding on the various aspects of the topic before you complete the exercise(s).

**Section 3: Exercise**

Each session has exercises, which you should complete on time. You will perform the activities in the classroom, at home or at the workplace. The activities included in this section will help you to develop necessary knowledge, skills and attitude that you need for becoming competent in performing the tasks at workplace. The activities should be done under the supervision of your teacher or trainer who will guide you in completing the tasks and also provide feedback to you for improving your performance.

**Section 4: Assessment**

The review questions included in this section will help you to check your progress. You must be able to answer all the questions before you proceed to the next session.

# SECTOR: HEALTHCARE

## NSQF Level 4 (CLASS XII)

# HSS401-NQ2014: MEDICAL RECORD/DOCUMENTATION

## Student Workbook

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# Session 1: Preparing Medical Record

In this session, you will learn about the purpose and importance of documentation. You will also study the significance of documentation in analyzing the needs of the patient.

## Relevant Knowledge

### Purpose of Documentation

Effective communication among health professionals is essential for the coordination and continuity of care. Effective communication enables personnel to support and complement one another's services and to avoid duplications and omissions in care. Client's records serve many purposes, such as communication with other health care professionals, recording of diagnostic and therapeutic orders, care planning, quality of care reviewing, research, decision analysis, education, legal documentation, reimbursement and historical documentation. Documentation is the written, legal record of all pertinent interactions with the client – assessing, diagnosing, planning, implementing and evaluating. Documentation is recording of information relevant to assessment, planning, implementation and evaluation. It is a legal record that is permanent and retrievable for future purposes.

**(i)** The first purpose of documentation of client's care is to promote continuity of care throughout 24 hours of care. Team members who interact with the client at different times and different ways get a clear picture of what took place in their absence. It is essential that all personnel provide written documentation of anything they have observed or done with a client to ensure coordination of activities and continuity of care. Proper documentation informs appropriate personnel about a client's condition and response to illness and the care that has been given as the result of the illness.

**(ii)** The second purpose of documentation is to provide substantiation of quality of care. Audit of client's records serves two purpose, quality assurance and reimbursement. As part of quality assurance programme, healthcare agencies periodically conduct chart audits to determine whether or not the care provided meets the established standards of client care. Results of the audit can lead to changes in the manner in which care is provided. If deficiencies are found, training can be used to remedy the problem and improve the quality of care.

**(iii)** The third purpose of documentation is to promote records for reimbursement. Reimbursement for client care by insurance companies and other agencies are done after a review of client's record.

**(iv)** The client's record serves are as a legal document of the client's health status and the care received. It may be used as evidence in the Court proceedings and therefore, play an important role in implication or absolving health practitioners charged with improper care.

**(v)** Nursing and health care research is often carried out by studying client records. Researchers

might study client records, hoping to learn how best to recognize or treat identified health problems. Research results in new approaches to client care and it increases professional knowledge.

**(vi)** The General Duty Assistant is responsible for ensuring diagnostic and therapeutic orders that are entered in the client's record and implemented. Most often it is the policy of the healthcare agency that the diagnostic and therapeutic orders are written and is signed by the medical officer before it is being executed by the GDA.

**(vii)** The healthcare professionals make initial assessment by comparing the data with additional subjective and objective information that has been obtained about current health status and progress towards goals.

**(viii)** Client record, registers and reports furnish the vital statistics and give information needed to evaluate the services rendered by the agency to the community.

**(ix)** Client records provide a baseline for local, state, national and international health service planning.

## Exercise

1. Visit a nearby hospital and observe various medical records. Fill the name of record in the table given below:

| Purpose of Medical Record | Name of Medical Record |
|---|---|
| Assessment | |
| History | |
| Diagnostic | |
| Therapeutic | |
| Education | |

## Assessment

**A. Short Answer Questions:**

1. What is Documentation?

_____

_____

_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Diagnostic and therapeutic document

**Part B**

Discussed in class the following:

1. Purpose of documentation in hospital
2. Legal aspects of patient's records

**Part C**

**Performance Standards**
The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of various medical records | | |

## Session 2: Principles of Documentation

In this session, you will learn about the basic principles of documentation.

### Relevant Knowledge

The client's medical record is the permanent legal record. Accepted terminology should be commonly understood by the healthcare team and should communicate clearly and concisely. Only standard medical and nursing terminology and community recognized abbreviation and symbols should be used to facilitate communication. Consistency in their use saves time and space, without interrupting communication.

(i) The document should contain the date and time of each recording.

(ii) Correct spelling of words should be used. Check the dictionary and use the correct spelling.

(iii) Record only that information which pertains to the client's health problem and care.

(iv) Accurate and complete documentation give legal protection to the GDA and other healthcare professionals of the institution.

(v) Client's name and identification data must be written on each page of the clinical record. Entries must be accurate. An observation made by another health professional must be identified as such.

(vi) Document all information necessary to explain the events in a shift. Anyone reading the document should have a clear picture of what took place or is being described. Complete, pertinent assessment data, such as vital signs, wound drainage, client's complaints, who notified GDA on subsequent shift, etc. can make objective evaluation and would help in revising the plan as needed.

(vii) Good charting is concise and brief. Use partial sentences and phrases. Use only accepted abbreviations.

(viii) Writing must be clear and easily readable by others. Legibility is all the more important while recording numbers and medical terms.

(ix) Recording of information on the client's record must follow a chronological order. Charting statements must be logically organized according to time and content. Use of organized sequence will help to prevent omitting information about the client. Documentation on data collection should be organized and logical in sequence. The statement is more easily read when written in a logical pattern.

(x) Documentation in a timely manner can help avoid errors. Record all medications at the time they are given. Procedures, treatments and assessments should be recorded as soon as possible after their completion. Timelines help to avoid forgetting important information.

(xi) While writing, if an error occurs, do not erase it. Common policies followed in such cases include, drawing a single line and writing the word void or error in the space above the incorrect entry, followed by the initials of the writer. A single line instead of multiple line is required to keep the incorrect entry legible.

(xi) Blank spaces should not be left on the chart. Avoid writing outside the lines of the charting format. A horizontal line is drawn thought any empty space to the right margin to prevent later entries being made in front of a signature.

(xii) A signature must follow every entry into a client's record. The correct way to sign a notation is using the first initial and full last name followed by the abbreviation of the healthcare workers position/ title.

(xiii) All client's records are confidential files that require written permission of the client to be copied. Information within the chart is often of a personal matter as well as legal evidence of the care provided and should be available to the insurance companies or third party without the written permission of the client. Those who are in need of client's information from records need to go through the proper channel which varies with the policies of the hospital.

## Exercise

1. Visit a nearby hospital and observe the various medical records. Fill the name of records

| Name of Record | Designation of Healthcare Professional maintaining the Record |
|---|---|
| | |
| | |
| | |
| | |
| | |

2. Visit a nearby hospital and examine a sample of patient case file and prepare the list of the content. Identify general types of information kept, such as referral letters, clinical notes, pharmacy or drug information and so on. Identify how the records are filled in chronological order.

## Assessment

**A. Short Answer Questions:**

1. Why confidentiality is important in maintaining medical record of the patient?

_____

_____

_____

_____

2. Describe the procedure of making corrections and omissions in healthcare documents

_____
_____
_____
_____

3. Explain how to maintain the confidentiality of patient's records/documents?

_____
_____
_____
_____
_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Accuracy and completeness of patient's medical record

**Part B**

Discussed in class the following:

1. Principles of documentation
2. How to maintain confidentiality of patient's records?
3. Importance of recording date and time in medical records
4. Role of GDA in maintaining and filing medical records

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of maintaining medical records | | |

# Session 3 Content of Medical Documentation

In this session, you will learn about the types of entries and notes to be prepared while maintaining the medical record of the patient. Description of observations, symptoms, complaints and medical treatments will also be studied in this session.

## Relevant Knowledge

### Content of Documentation

Healthcare agencies/hospitals vary in their specific requirement about what need to be included in the chart. All significant client care should be documented either in narrative notes or on flow sheets (forms use to document data that can be more easily followed in graphic or tabular form).

On admission to a facility, a complete health history is obtained and documented. This is followed by the current need assessment. These may be combined or maintained on separate forms.

### Types of Entries

Various types of entries may be made in a chart. They are described as followed:

### (i) Admission Note

An admission note is part of medical record that documents the patient's status, reasons why the patient is admitted for inpatient care to a hospital and the initial instructions for the patient's care. It is the note acknowledges the arrival of a new client. Following the admission note, a narrative entry is made. This is followed by a description of the client's current status at appropriate intervals. On arrival, client's orientation to the hospital facility should be made.

The admission note usually include – time of arrival, age, sex, how the client arrived, where the client came from, medical diagnosis, chief complaint, general appearance, treatment in progress, allergies, vital signs and notifications of physician. An ideal admission note would include the following:

**(i) Patient Identifying Information**

- Name
- ID number
- Chart number
- Room number
- Date of birth
- Attending physician
- Sex
- Admission date
- Date
- Time

- Service

**(ii) Chief Complaint (CC)**

- Age
- Race
- Sex
- Present complaint

**(iii) History of Present Illness (HPI)**

- Statement of health status
- Detailed description of chief complaint
- Positive and negative symptoms related to the chief complaint based on the differential diagnosis the health care provider has developed.
- Emergency actions taken and patient responses if relevant

**(iv) Allergies**

- First antigen and response
- Second antigen and response

**(v) Past Medical History**

List of the patient's on-going medical problems. Chronic problems should be addressed as to whether or not they are well controlled or uncontrolled. Include dates of pertinent items.

**(vi) Past Surgical History**

List of surgeries in the past with dates of pertinent items.

**(vii) Family history**

Health or cause of death for:

- Parents
- Siblings
- Children
- Spouse

**(viii) Social History**

In medicine, a social history is a portion of the admission note addressing familial, occupational, and recreational aspects of the patient's personal life that have the potential to be clinically significant.

**(ix) Medications**

- For each: generic name - amount - rate
- Medications on arrival (aspirin, Goody's medicated powder, herbal remedies, prescriptions, etc.)
- Medications on transfer

**(x) Review of Systems**

- General
- Head
- Eyes
- Ears
- Nose and sinuses
- Throat, mouth, and neck
- Breasts
- Cardiovascular system
- Respiratory system
- Gastrointestinal system
- Urinary system
- Genital system
- Vascular system
- Musculoskeletal system
- Nervous system
- Psychiatric
- Hematologic system
- Endocrine system

**(xi) Physical exam**

Physical examination or clinical examination is the process by which a health care provider investigates the body of a patient for signs of disease.

**(xii) Labs**

e.g.: electrolytes, arterial blood gases, liver function tests, etc.

**(xiii) Diagnostics**

e.g.: EKG, CXR, CT, MRI

**(xiv) Assessment and Plan**

Assessment includes a discussion of the differential diagnosis and supporting history and exam findings.

### (ii) Change of Shift Report

During each shift, documentation of the client's assessment made is done. The "Change of Shift Report" is the communication between the nursing staff during shift changeover periods regarding patient care. At the end of each shift nurses report information about their assigned clients to nurses working on the next shift. A handover report is usually given orally in person or during rounds at the bedside. Reports given in person or during rounds in hospital permit nurses to obtain immediate feedback when questions are raised about a patient's/client's care.

### (iii) Assessment Notes

Documentation of the complete assessment of client is done. Assessment of the patient's overall physical, emotional and behavioural state. Consideration for all patients include: looks well or unwell, pale or flushed, lethargic or active, agitated or calm, complaint or combative, posture and movement.

### (iv) Transfer and Discharge Notes

When a client is transferred to another facility either temporarily or permanently, a transfer note is written. This note may include the following:

- Reason for transfer
- Method of transportation
- Person giving and receiving the report
- Notification of the client, including vital signs and treatments in progress.

A similar note is made when a client is sent for a test within the same facility. When the client returns to unit a similar note may be made.

### (v) Client Teaching Notes

Instructions given to a client need careful study. All teaching that occurs must be noted including reinforcement of the information already taught. It also must state the client's response to teaching.

### (vi) Symptoms and Complaints

Any symptoms or complaints by client should be documented in detail. This can include subjective or objective data and must be specific in terms of location, duration, intensity, amount, size and frequency. While documenting, the complaints of the client, care given and response of the client is also noted.

### (vii) Dressing Tubes or Attached Devices

Observation of the tubes must be documented in the initial entry of each shift and at least every 2 hours thereafter. Documentation of dressing should include location of dressing, amount as well as description of any drainage observed. It the dressing is changed, condition of the skin wound also must be described. If I/V fluids are administered, correct placement of the tube, observation of infusion site for any redness, tenderness edema or warmth, also must be documented.

### (viii) Medications and Treatments

Usually there will be a medication administration record. When all the medicines are administered, charting is done. If any medication is not given, the reason for that should be documented and it is better to inform the physician concerned. Time, route and dosage of medicine and the reason for administration and the response of the client are also documented.

### (ix) Observation of Psychosocial Status

The client's sensorium in relation to level of consciousness and orientation to time, place and person are also documented. Client's leaving against medical advice (LAMA) must be documented clearly with the reason for the LAMA.

## Exercise

1. Visit a nearby hospital and list the contents of given records maintained in a hospital:

| Records | Contents |
|---|---|
| Pharmacy and Drug Records | |
| Administrative Records | |
| Nursing Records or Ward Records | |
| Legal Records | |

## Assessment

**A. Short Answer Questions**

1. What is the full form of LAMA?

   _____
   _____
   _____

2. List the content of Admission Note

   _____
   _____
   _____

3. Describe the purpose of transfer and discharge note

   _____
   _____
   _____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Assessment note and treatment note
2. Symptom note and medication note

**Part B**

Discussed in class the following:

1. Types of notes/reports maintained for a patient/client
2. What is the role of a GDA/PCA in preparation and maintenance of physical assessment report?

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of content of medical documentation | | |
| Arrange records | | |
| Demonstrate the knowledge of types of entries in medical documentation | | |

# Session 4: Maintaining Record

Documentation is a set of documents provided on paper or on digital media. The procedure of documentation include drafting, formatting, submitting, reviewing, approving, distributing, reporting, tracking, etc. the purpose of complete and accurate documentation is to foster quality and continuity of care. In this session, you will learn about different methods of documentation and their formats. You will also study different types of records.

## Relevant Knowledge

The different methods of documentation system are evolved to achieve specific aims. Familiarity with the different systems will enable you to adapt the appropriate system in a particular health care setting.

### Source Oriented Medical Record

Source Oriented Medical Record is a type of medical record kept according to health discipline e.g., medicine, nursing, laboratory, X-ray etc. These records include information about care given, the client's response to care, and other events documented chronologically and sequentially in a specific location in the record designed for the particular health team member making the entry.

The advantage is that the filing and retrieving of data is easy. It organizes the information according to patient care department that provided the care, or who provided the care. The main advantage of this format is that the filing of reports is easy. Professionals would just have to look at where the report came from and date, and file in that section. The main disadvantage is that it would be difficult to follow a certain course of treatment for the patient, since they would have to search through everything, making it time consuming. Also if a facility has many different departments, there will be even more sections in the record to search through.

### Problem Oriented Medical Records

There is an index list that defines each problem. Everything is itemized and specific problems are organized into four parts. The main advantage is that it makes it easier to follow a course of treatment under a specific problem. However, this type would be time consuming as well, especially to file a new problem in it. The POMR consists of four components, the database, the problem list, initial plan for each problem and progress note for each problem.

### Documentation Format

There are a variety of documentation format utilized by the health care provider. They include:

(i) **Narrative charting:** It is a free style method of documentation. It is a method of charting that provides information in the form of statements that describe event surrounding client care. It is often relatively unstructured and so provides flexibility in determining how information is recorded or the format may be structured and problem focused.

(ii) **Problem focused charting**: This includes the following:

A - Assessment
P - Problem identification
I - Intervention
E - Evaluation

The process begins with an admission assessment that is usually completed on a separate form and the initiation of a problem list that is based on the initial assessment. Documentation of client care is focused on intervention and evaluation related to problems listed. Each entry in the progress note is preceded by the date, time, and problems listed.

## Maintenance of Records

1. The records are kept under the safe custody of the GDA in each ward or department.
2. No individual sheet is separated from the complete record.
3. Records are kept in a place, not accessible to the clients and visitors.
4. No stranger is ever permitted to read the records.
5. Records are not handed over to the legal advisors without the written permission of the administration.
6. All hospital personnel are legally and ethically obligated to keep in confidence all the information's provided in the records.
7. All records are to be handled carefully. Careless handling can destroy the records.
8. All records are filed according to the hospital custom so that they can be traced easily.
9. All records are identified with the bio-data of the clients such as name, age, ward, bed no. , diagnosis etc.
10. Records are never sent out of the hospital without the doctor's permission. Reference is made by writing separate sheets and sending to the agency who requests for them.

## Types of Records

1. **Outpatient and Inpatient Records** – in most of the hospitals, the inpatient recorded will be continuation of the outpatient record. Outpatient record is continuation of the outpatient department. This will contain the filled up in the outpatient department. This will contain the biodata of the client, diagnosis, family history, history of the past and present illness, signs and symptoms, findings of medical examination, investigations, treatments, medications progress notes and summary made at the discharge of the client.
2. **Doctor's Order Sheet** – The doctor's orders regarding the medication investigations, diet etc. may be written on separate sheets.
3. **Graphic charts of T.P.R.** – In this type of record, the temperature, pulse and respiration are written in a graphic form so that a slight deviation from the normal can be noted at a glance.
4. **Reports of Laboratory Examination**
5. **Diet Sheets**
6. **Consent form for Operation and Anesthesia**
7. **Intake and Output Chart -** Client's on intravenous fluids or on the fluid diet, critically ill client post – operative clients, client with oedema, clients having vomiting and diarrhea, clients getting diuretics etc.

8. **Reports of Anesthesia, Physiotherapy, Occupational Therapy and other Special Treatment**
9. **Registers** - To maintain the statistics, every hospital maintains certain register, such as resisters for the births and deaths, registers for operations and deliveries, census register, register for the admission and discharge, register for the OPD attendants, etc.

## Documentation of Medico-legal cases

The important documents to be maintained by the hospital in Medico-legal cases are as follows:

(i) **Police intimation**: This has to be given to the nearest police station by the hospital.
(ii) **Wound certificate:** These are given on request by the police. It must be duly signed by the medical officer, who has attended the client.
(iii) **Discharge certificate** – this is given on demand from the police for MLC cases
(iv) **Accident cum wound register**: this is usually maintained by the casualty medical officer. In case the client demands, medical certificate may have to be issued by the hospital.

## Medication Record

This is a record which keeps track of medicines taken by the patient. It includes date, time, route of drug, frequency and signature of GDA.

## Nursing Discharge / Referral Summaries

This is made on discharge of a client or at the time of transfer of a client to another health care institution.

## Role of GDA in Maintaining the Records

The major role of GDA is to compile, process and maintain medical records, which include information about the patient's care on the following aspects:

- Baths
- Showers
- Oral care
- Denture care
- Foot care
- Hair and nail care
- Urinary catheter care
- Back care
- Turning and positioning
- Meal intake
- Fluid intake
- Activities, like walking
- Range of motion exercises if done
- Warm soaks
- Height

- Weight
- Urinary drainage bag output
- Temperature
- Pulse
- Respiration rate
- Blood pressure
- Blood glucose readings

## Exercise

1. Visit a nearby hospital and observe the records maintained in different department and fill the following table:

| Department | Type of Record |
|---|---|
| | |
| | |
| | |
| | |
| | |

## Assessment

**A. Short Answer Questions:**

1. Enlist any two methods of documentation

_____
_____
_____
_____
_____

2. Enlist the different type of medical records kept in a hospital

_____
_____
_____

3. What are the documents maintained by the hospital for Medico-legal cases?

_____
_____
_____

4. What is Problem Oriented Medical records (POMR)?

_____
_____
_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Source oriented and problem oriented medical record
2. Outpatient and inpatient record

**Part B**

Discussed in the class following:

1. Role of GDA in documentation

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of types and methods of medical records | | |

# Notes

# SECTOR: HEALTHCARE

## NSQF Level 4 (CLASS XII)

# HSS 402-NQ2014: ROLE OF GENERAL DUTY ASSISTANT IN ELDERLY AND CHILDCARE

## Student Workbook

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# Session1: Introduction to Care of Elderly

In this session, you will learn about ageing and some myths and facts about ageing. You will also learn about basics of care of elderly.

## Relevant Knowledge

**Elderly care**, or simply **eldercare** (also known as **aged care**), is the fulfillment of the special needs and requirements that are unique to aged people. This broad term encompasses services, such as assisted living, adult day care, long term care, nursing homes (often referred to as residential care), hospice care, and home care.

Elderly care emphasizes the social and personal requirements of senior citizens who need some assistance with daily activities and health care, but who desire to age with dignity. Traditionally, elderly care has been the responsibility of family members and was provided within the extended family home. Increasingly in modern societies, elderly care is now being provided by state or charitable institutions.

Ageing is an inevitable process of life. Sudden spurt in the population of elderly in a country is bound to pose multiple challenges before the human society. Ageing has gone beyond the realm of welfare concern and needs to be viewed as a developmental challenge. Many elderly people gradually lose functioning ability and require either additional assistance in the home or a move to an eldercare facility. Assisted living is one option for the elderly who need assistance with everyday tasks.

In India, parents are typically cared for by their children into old age. Indian values demand honour and respect for older people. Currently there is an estimated 6.9% in the age group of 55-64 years and 5.7% for 65 and above elderly in India (Census of India, 2011).

A distinction is generally made between medical and non-medical care, care provided by people who are not medical professionals. It is important for caregivers to ensure that measures are put into place to preserve and promote function rather than contribute to a decline in status in an older adult that has physical limitations.

Caregivers need to be conscious of actions and behaviors that cause older adults to become dependent on them and need to allow older patients to maintain as much independence as possible. Providing information to the older patient on why it is important to perform self-care may allow them to see the benefit in performing self-care independently. If the older adult is able to complete self-care activities on their own, or even if they need supervision, the caregivers should encourage them in their efforts as maintaining independence. It can provide them with a sense of accomplishment and the ability to maintain independence longer.

### Think about Elderly

All of us know “old” people. It may be a parent. It may be a grandparent. It may be a neighbour. It may also be the person that you take care of. Think for a minute about these “old” people. Are they all the same? Or, are they different? Think about how they all are in a physical way. Are they all in poor health? Think about how they are in a mental way. Are they all confused? Think about how they are in a social way. Do they go out or do they all stay alone in their home? Think about how they are in terms of

money. Do all "old" people have the same spiritual needs? Are they different or, are they all the same?

Use these words for these ages:

| Age Groups | Age Span |
|---|---|
| Infant | Birth to 1 year |
| Toddler | 1 to 3 years |
| Preschool child | 3 to 5 years |
| School age child | 5 to 12 years |
| Adolescent | 12 to 18 years |
| Young Adult | 18 to 45 years |
| Middle Age Adult | 45 to 65 years |
| Old Adult | Over 65 |

## Biological Aging

Some people say that people age because the cells of the body change or "age" over time. The person may have their own "biological clock". This clock keeps ticking as the cells of the body and the body itself changes. For example, a woman reaches menopause; hair turns gray; and the skin changes.

## Psycho-Social Aging

Some believe that people age for a number of things NOT having to do with the human body. These people believe that people age because they:

- separate themselves from the people around them;
- no longer keep their body active (active people tend to be happier with life); and
- separate themselves from the people around them AND they no longer keep their body active.

There are many things said about older people that are just not true. Some of these false myths are below:


- All old people are the same
- Old people cannot learn
- Old people are forgetful
- All old people will get confused and senile
- Old people are sick and frail
- Old people become sicker and sicker as they age
- Old people cannot exercise
- Old people depend on others
- Old people are usually lonely, alone and withdrawn

All old people are NOT the same. Often the age of the person is not the best way to know about the person and his/her strengths and weaknesses. Some 90-year-old people exercise daily; some take college courses; some are very active in their area of work or belief.

Ageing does not affect our personality. It remains about the same. Old people keep these personality differences as they age.

Old people can still learn and they are not always "forgetful". Aging does not mean that the person cannot learn. Some have short-term memory problems but they cope with this and can learn. Confusion is NOT a normal sign of aging.

Many old people are NOT sick and frail. Some are very healthy and without any disability. Older people can, and should, exercise on a daily basis. Healthy aging involves many things, including a good diet and exercise. Although some older people may need some assistance because they have some disability, many more are NOT dependent on others.

Old people do NOT have to lose their teeth. Good dental care is needed for keeping teeth healthy and strong.

Socially, NOT all old people are lonely, alone and withdrawn. They remain active.

Many old people remain active and involved with family, friends and other friends. Some may enter a senior group home or an assisted living place with lots of activities. However, all old people need care and greater attention by their family members, friends and colleagues.

## Exercise

1. Observe the old people in your surrounding and tabulate the myths and facts related to ageing:

| Myths | Facts |
|---|---|
| | |
| | |
| | |
| | |
| | |

## Assessment

**A. Short Answer Questions**

1. What is ageing?

_____

_____

_____

2. What is psycho-social ageing?

_____

_____

_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Biological and psychosocial cause of ageing

**Part B**

Discussed in class the following:

1. Care needed by an elderly

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of myths and facts about biological and psychosocial reasons of ageing | | |

# Session2: Age Related Changes in People

In this session, you will learn about the age related changes that occur in people. You will also study about the physical and psychological changes in aged people..

## Relevant Knowledge

Most age-related biological functions reach peak at the age of 30 and thereafter decline linearly. The physical changes that take place with age are as follows:

### *Skin, Hair and Nails*

- Skin becomes more fragile
- Rashes are more common
- Skin may become paler
- “Age spots” or “liver spots” may appear
- Skin tags may appear, mostly on the neck
- Skin may become thinner. Wrinkles appear
- Dry skin may occur
- Hairs gets gray and faded
- Hair thins on the head and under the arms
- Nose and ear hair becomes thicker and more visible
- Facial hair may appear
- Finger nails and toe nails get thick
- The sweat glands in the skin slow down
- Red, purple or brown spots may begin on the arms and legs

### Muscles and Bones

- Bones lose calcium.
- Bones get weaker and thinner.
- Disks of spine get smaller so some will have a curve in the spine
- Joints get less flexible and less mobile.
- Muscle tone gets less.
- Muscle mass gets lower and fat builds up.

### Respiratory System

- Nose gets drier.
- Vocal cords lose their elastic so the voice of the person may change.
- Lung capacity may decrease.
- Breath sounds decrease.

## Cardiovascular System

- Loss of heart muscle tone.
- Increased size of the heart muscle.
- A larger left side of the heart.
- Less elasticity of the heart and blood vessels.
- Lower output from the heart.
- Greater deposits in the blood vessels.
- Lower pulse.
- The blood gets thicker.
- A small drop in the red blood cells and white blood cells.
- The Thymocytes cells (T cells) get less effective.

## Gastrointestinal System

- Gums pull back from the teeth so the teeth may get loose.
- Increase in the number of cavities.
- Less feeling of thirst.
- Less muscle tone at the end of the oesophagus to the stomach.
- Less saliva.
- Less digestion.
- Slower movement of the gastro intestinal tract.
- Smaller liver size.
- Lower stomach mucus production.

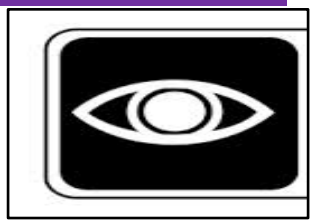
## Urinary System

- Kidneys get smaller.
- Kidneys lose some of their function.
- Lower blood flow to the kidneys.
- Concentration of the urine decreases.
- Bladder gets smaller.
- Holding power of the bladder.
- Loss of bladder muscle tone.
- Loss of bladder elasticity.
- Slower and/or lower feeling of the need to void.
- More urine at night.
- Prostate in men gets larger.

## Nervous System

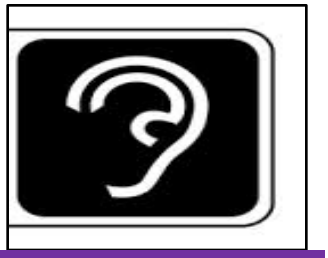
- Brain gets smaller.
- Brain weighs less.
- Blood flow to the brain gets lower.
- Reflexes get slower.
- A decrease in the number of nerves in the brain and the entire body.

## Eyes



- Less able to focus.
- The eyelids sag.
- Eyelashes get thin, short and less.
- A gray area around the edges of the cornea.
- People get far sighted. They cannot see things that are close to them.
- Lower eye muscle tone.
- Less tears.
- Decrease in eye muscle elasticity, so things may be blurry to the person.

## *Ear*



- Thinner ear membrane.
- Less able to hear higher tones as well as they did in the past.
- Less ear wax in the outer ear.
- The parts of the inner ear shrink.

## *Taste and Smell*

- Less taste buds.
- Less nose scent cells.

## Endocrine System

- Less growth hormone (less muscle mass).
- Lower thyroid function.
- Less insulin.
- Less parathyroid function.

## Reproductive System

**In women**

- Lower estrogen and lower moisture.
- Low elasticity.
- Less pubic hair.
- Increase in alkaline fluid in the area.

**In men**

- Lower testosterone.
- Lower circulation to the penis.

## Health-related Changes

- Slowing down of mind and thinking ability
- Slowing down of the body's physical function
- A slowing down of the person's coping
- Less social support
- Losses of loved ones (friends, husband, wife)
- Lower quality of life

## Thinking and Emotional Changes and Needs

Not all old people have a mental problem or confusion. These things are NOT a normal change. Most are fine in terms of their thinking, learning and communication, but some have a disease or problem that affects these things. Some of these problems are things like Alzheimer's and some drugs. It is also known that the personality of the person does not change, as the person gets old.

## Social Changes and Needs

There are many social changes and needs for old people. Many of these are related to the fact that loved ones, both friends and spouses, may have died. Others miss working after they retire. Others may have a physical problem that does not let them to be with others as they used to do. For example, some old people lose their sight so they are not able to drive their car; some may have muscle weakness so they cannot take long walks as they used to.

## Legal Needs

The elderly also have their own legal needs. Some of these special needs are:

- Maintaining rights and dignity
- Power of attorney/ other financial issues
- Prevention from being abuse
- Prevention from violence

Old adults do not have the same appetite that they had when they were younger. Their need for large amounts of food and calories is lowered. They may also not want to eat. If the sense of taste and smell are gone, they may not enjoy food as much as they did when they were younger.

As the human body ages, it slows down and it does not work as well as it did in the past. For example, digestion slows down. Foods that are eaten take longer to digest. It also takes longer to burn the calories that we eat.

Vision and hearing may also get poor as a person gets older. Many old patients and residents use eyeglasses, hearing aids and devices as they get older.

The old adult may also have weak muscles, unstable joints and poor balance. These things can make an old person fall or slip. Falls and slips can break bones and even lead to death.

Many elderly people also have long-term diseases that affect how we care for them. Many older people have diabetes, arthritis, Alzheimer's disease, heart, lung and kidney disease. They are also not able to fight off infections as well as they did when they were young.

Old patients are at great risk of getting an infection, like pneumonia or a urinary tract infection, because their immune system has slowed down.

The aging process also affects the skin of old people. The skin gets dry and easily irritated; it breaks down and tears very easily for many patients and residents. Also, the body temperature is not controlled as well as it was in the past. Old patients feel extremes of hot and cold more than younger people.

Mental ability also changes as one gets older. Mentally, many old residents and patients are confused. They forget things quickly. They are not able to remember recent events. They may not know the time of day, the day of the week or even the current year. Some do not know, or cannot remember, where they are and who they are. They are disoriented. They are not oriented to person, place and time.
They may also be agitated and use poor judgment. Others may have delirium, dementia and depression.

All of these normal aging changes affect the kind of care we must provide to our aging patients.

## Exercise

1. Understand the following needs with different age groups and fill the table given below:

| Needs | Elderly | Young Adult |
|---|---|---|
| Social needs | | |
| Thinking needs | | |
| Emotional needs | | |
| Special needs | | |

## Assessment

**A. Short Answer Questions:**

1. Enlist the common health problems that older people may have

_____
_____
_____

2. Why elderly people require special care?

_____
_____
_____

3. State any five changes that occurs in the body during old age

_____
_____
_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Social and psychological needs of old people
2. Emotional and healthcare needs of old people

**Part B**

Discussed in class the following:

1. Why old people need more care than young ones?
2. What changes take place when we grow old?

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Identify the normal changes that occur in old age | | |

# Session 3: Basic Needs of Elderly

In this session, you will learn about the safety, security, food and fluid needs of the elderly people.

## Relevant Knowledge

The General Duty Assistant (GDA) and other healthcare workers care for old patients and residents all over the world. In the India today there are more aged people than people of any other age group.

### Some Tasks for the Elderly

Erik Erikson, a psychologist, listed 8 major developmental tasks that every person must accomplish during life. The General Duty Assistant and other healthcare providers must know about these major tasks. For example, to take care of adolescents one must know that adolescents have to cope with identity formation- "Who am I?". A hospital staff can affect an adolescent's sense of self, it can also help to keep in touch with their friends or peer group; a group that is much more important to them than their own family. Their peer group helps them to define who they are.


According to Erikson, older adults want to share their wisdom, maintain their sense of self, maintain integrity and be happy with what they have done. Old adults who can NOT do these tasks may be sad, depressed and unhappy. They may view their life as worthless and without meaning. They may think that they are useless. Some may feel that they are a burden to their family, friends and healthcare workers. Old adults also have to deal with losses. They may lose their husband or wife, their friends and other people who they loved. They may feel lonely and not loved. They can also be very sad and depressed. As they get older and lose their own mental and physical health, they may NOT be able to care for themselves any more. This may make the patient or resident sad or angry. All of these losses make the old person feel that they are no more needed in this world or they too will die one day. They give their own things and prized possessions to their family and loved ones. Some older adults may think silently about these losses and their own death. They may also review their own life and what they have done in silence. Other old adults may speak about their losses to nurses, General Duty Assistant, social workers, family and others. As a healthcare provider, we should listen to the older patient when they talk about their losses and their thoughts about death.

### Thinking and Learning Abilities

The thinking and learning abilities of the older adults affect how we communicate, instruct and teach them and their family members. Older adults need special care during communication and instruction for doing exercise, etc. They often have a physical and mental problem that can interfere with learning and thinking. Older adults may have:

- A short attention span: Old adults may not be able to understand long and detailed information. They may do better with short instructions.
- Less learning ability: Old people may not be able to learn new things as well as they did in the past.

- Less ability to understand: Many older adults are confused and not able to understand.
- An inability to communicate: Older adults may not be able to speak and ask questions. After a stroke, many patients have aphasia; a lack of ability to speak.
- Poor hearing and sight: Vision and hearing gets poor as humans age. GDA and others must give a patient their eyeglasses and/or their hearing aid so they can communicate easily.

When a GDA are communicating with an elderly patient, he/she should:

- Give the person their eyeglasses and hearing aid, if they have one
- Speak slowly and clearly while facing the person
- Keep information simple
- Use words that the person can understand
- Use pictures and large print material
- Provide enough light if the patient wants to read
- Keep sessions short
- Repeat communication as often as needed so that the patient can understand it and remember it
- Allow enough time for the patient. Some patients need more time than others
- Make sure that the area or room is quiet
- Allow the person to talk and ask questions
- Include the loved ones in the communication and instruction process.

## Safety and Security Needs

The need for safety and security is one of our most basic human needs. Safety is very important for all age groups but safety needs are the greatest for young children and the elderly. For example, infants put small objects in their mouths. These small things can be dangerous. They can eat pills, poisons and even choke on something small.

Similarly, the old adults who have a mental, sensory (eyes, ears) or physical loss are at greater risk and prone to accidents. An old patient that has poor vision and hearing is generally confused and has poor judgment. He is prone to slip, fall, cut, bruises, etc.

Physical problems, confusion, loss of hearing and vision, poor judgment and the inability to see danger when it exists are some of the reasons why healthcare providers must maintain a safe environment for the elderly. Safety of the client's is everyone's responsibility. Safety needs must ALWAYS be a priority. All patients and patient care areas must be safe and free of all dangers.

## Food and Fluid Needs

Food and nutritional needs also change as a person gets older and older. The need for calories decreases when a person gets older. These needs are highest when the person was an infant or a teen.

Old patients and residents need the least calories of all age groups. They do not burn calories and food as quickly as they did when they were younger and more active. This does not mean, however, that the elderly do not need a good diet. Older patients do need a good diet just like the other age groups.

The appetite and the digestive process slows down as the human body ages. Old adults do not feel as hungry as they did when they were young. Also, when they eat meals they feel full and they may not want to eat another meal for a long time. They may even skip a meal. Old adults often do better with small snacks during the day rather than large meals three times a day.

In terms of fluid needs (hydration), an elderly patient may not be able to swallow fluids. They may not even feel thirsty when they should under normal conditions. We must, therefore, offer fluids very often to elderly. The GDA should use apron and proper utensils for feeding the elderly patients.

## Exercise

1. Visit a nearby hospital and observe the old age patients and write the safety related requirement and care rendered by GDA in the table given below:

| Safety related needs of Patient | Care rendered by GDA |
|---|---|
| | |
| | |
| | |
| | |
| | |

## Assessment

**A. Short Answer Questions**

1. Explain the security and safety needs of an elderly

_____
_____
_____
_____
_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Thinking and learning abilities
2. Security and safety of patients

**Part B**

Discussed in the class following:

1. Physical and mental care of the elderly

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of tasks performed by elderly people | | |
| Describe the procedure of feeding old age patients | | |

# Session 4: Taking Care of Common Problems of Elderly

In this session, you will learn about the common problems that elderly face and the procedures to be adopted for taking care of these problems.

## Relevant Knowledge

### Taking Care of Skin and Nails

The skin becomes thinner, dry, pale, fragile, rough, less elastic, with less sweat glands and fat. The older person may get these problems as a result of these changes.

- *Skin tears* (thin and fragile skin)
- *Skin breakdown and pressure ulcers*: The skin is thin, dry, fragile and has less cushion as the person ages.
- *Skin cancer and sun burns*. The pale and fragile skin makes the person prone to sunburns and skin cancer.
- *Rashes and infections* like contact allergies with some soaps and shingles.
- *Less able to cope with heat and cold*: The person may get too cold because they have less fat tissue. The person may also get too hot because they have less "cooling off" sweat glands.
- *Pressure Ulcer*: Pressure ulcers occur when people are not up and walking. Patients and residents with a poor diet are at risk for pressure ulcers. Residents and patients who are wet are at risk for pressure ulcers. People that do not have a normal sense of pain and the physical ability to turn will remain in one position for a very long time unless someone else turns them. If a patient stays in one position for a long time, they will get a pressure ulcer. Friction occurs when a patient or resident is pulled up in bed or in the chair. Uneven pressure is created when sheets are wrinkled. This leads to pressure ulcers.

A General Duty Assistant should render the following care as par the needs of the patient:

- ***Dry skin care***: Skin lotions and mild soaps should be used. Also, the person does not always need a daily bath or shower.

- ***Skin tears and other skin breakdown:*** The older person must not be gripped during a transfer. This can lead to a skin tear. Pressure ulcers are very painful and costly. People on bed rest are most at risk.

- ***Provide good skin care:*** Use mild soap and gentle strokes with a soft washcloth when giving a bath to a resident or patient. Rinse the skin well and then pat it dry with a soft towel. Use a bland lotion to help dry skin. Lotion helps to keep the skin healthy and soft. Do NOT use alcohol or alcohol base lotions on skin. Alcohol dries the skin.

- ***Keep the skin clean and dry***: Immediately remove all wet or dirty linens, briefs and clothing. Do not let the patient remain wet or dirty with urine, feces or other fluids, including water or tea. Wash, rinse and dry all wet and dirty skin.

- Patients and residents who stay in bed, the chair or wheelchair must be moved and re-positioned at least every 2 hours.

- Encourage patients to walk around. Walking and moving about increases blood flow.

- Anticipate the patient's need to use the commode or bathroom. Follow the patient's bowel and bladder training programme if it is ordered.

- Encourage the person to eat good foods and lots of fluids.

- Use pressure reducing cushions, mattresses, beds, booties, elbow pads, etc. These items lower pressure when patients stay in bed or chair for long period of time.

- Do NOT elevate the head of the bed more than 30 degrees, unless ordered.

- Do NOT allow a patient to remain on a bedpan for a long period of time.

- Do NOT drag a person's body along bed sheets. Lifting devices and lifting sheets lower friction and shear. They also prevent patient and staff injury.

- The feet and toes should be washed and dried during every bath and kept clean. Leaving the area between the toes wet can lead to soft skin that could break down. It is also important to use a good skin lotion on the feet but NOT between the toes. This will soften the area and make it more prone to sores.

- Nails should be clean, short and smooth. Dirty fingernails spread infection. Jagged fingernails can cause injury. Nail care is done best when the person is sitting in a chair. If the person is not able to sit in a chair, it can be done in the bed.

## Taking Care of Bones

As the body ages, the bones lose calcium, get weak, thin, brittle and weak. Spine get smaller. Joints become less flexible and less mobile. Many people get broken bones and fractures because of these changes. Falls can lead to injury and even death.

The most common problems of the bones are:

- Osteoporosis
- Osteoarthritis
- Rheumatoid arthritis
- Gout
- Bursitis

In order to provide necessary care to the bones, the GDA can help their patients in the following ways:

- Provide patient with a good healthy diet.
- Make sure that they get enough calcium and vitamin D.
- Encourage them to perform daily exercise. Active exercise and range of motion, Passive range of motion
- Encourage the person to walk and get out of bed
- Prevent falls
- Nurses and other people that work in homes, hospitals and nursing homes, like the doctor and the physical therapist, must assess a resident or patient for falls. They have to find out if the patient or resident is at risk for falls. Move the patient's bed and/or room closer to the nursing station.
- Regular rest and sleep.

## Taking Care of Muscle Problems

Regular exercise is very important in order to maintain and improve muscle function. The GDA should help the patient to do range of motion exercise so that they can move their muscles and joints completely. GDA and other members of the team often help and/or remind the patient or resident to perform these exercises. When a person is not able to do these transfers they must depend on others for help and GDA can do it in better way.

Teach the patient to practice how to walk up and down stairs using a handrail. When a person walks up the stairs they should put their good leg up on the stair and then bring up the weak one.

## Taking Care of Respiratory System

The GDA should take all precautions to prevent lung infection and help patients to keep respiratory system normal. The following points should be kept in mind by the GDA while helping a patient in keeping his/her respiratory system fit.

- COPD is treated with a number of medicines, including those that dilate the lungs and keep the respiratory secretions thin so that they can be coughed up. Also advice good diet, plenty of fluids, oxygen, and deep breathing exercises.
- Lung cancer is treated with surgery, radiation and drugs. Pain, a poor appetite, nausea and vomiting may be issues with cancer patients. The GDA can provide the person with a good diet and fluids; make the person as comfortable as possible; and observe the person’s coughing, chest pain and blood in the sputum. Report anything that is NOT normal.
- When the person has the flu, the GDA should observe the person’s coughing, chest pain and blood in the sputum. Report anything that is NOT normal; and give the person as much comfort as possible.
- The treatment of pneumonia includes drugs to kill the germs supportively by rest, fluids, a good diet, pulmonary hygiene and oxygen. The GDA must observe all of their patients about their breathing, especially older people. They must immediately report anything that is not normal.

## Taking Care of Heart Problems

The GDA should encourage patients to do mild exercises regularly.

- Exercise and a healthy weight also important in keeping the blood pressure at a good level.
- Heart attacks are treated with rest, oxygen, a number of different medications, including aspirin, which thins the blood, and pain medications to help the pain and to ease the amount of work that the heart has to do as a result of the pain. The GDA can help the person to prevent a heart attack by giving healthy diet, encouraging them to exercise and reminding them to take their heart medicines.
- The GDA can care for the person *Peripheral Vessel Problems* by encouraging the person to walk and then to rest if pain begins, checking the feet and toes regularly for any signs of a sore, giving the person good foot care, encouraging the person to stop smoking if they do so, giving the person a good diet with lots of fruit, vegetables and whole grains rather than fats and salt.

## Taking Care of Digestion Problems

The GDA can help patients in taking care of their digestion related problems by performing the following activities:

- Advising smaller meals spread out during the day, sit up after a meal, rather than lying down, provide a good diet with low fat and caffeine in case of hernia.
- Encouraging NOT to drink wine or smoke and helping the person to cope with stress.
- Reporting any pain or bleeding in stool to the doctor.
- When the GDA cares for a person with incontinence, the area must be washed with a no rinse skin cleanser or alcohol free wipes. The area should be air dried. A special cream should also be used on clean dry skin to prevent skin breakdown and to keep all stool away from the skin. Cornstarch can also be used.
- The GDA should advice at least 20 to 40 grams of fiber/day, fruit, vegetables, beans, bran and whole grains, plenty of fluids such as water and juice and exercise on a daily basis.

## Urine System

- Good hygiene, hand washing and encouraging the person to have water in their diet helps in preventing urine infections.
- Bladder training along with medicine and surgery is done, in some cases of *Incontinence*.
- Smaller meals, control of the diabetes, heart disease and high blood pressure, treatment of urine infections, low salt and protein in the diet advised to the patient with kidney failure.

## Nervous System

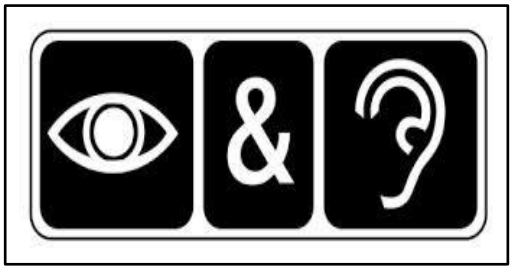
- The GDA must maintain safety and ensure good nutrition to support patients who are suffering from lack of ability to do simple things like eating and wearing clothes.
- If a patient in the early stage of the nervous disease is able to dress and bath without help, he/she should help them to remain as active and as independent as possible. If the patient is at

risk for falls, we must make sure that their room and the nursing unit is safe, secure, neat and uncluttered.

Keep the patient care area bright. Keep stimulation and noise to a minimum. Use large clocks, calendars and other things to orient the patient. Take away all clutter and dangerous chemicals, like medicines and cleaning liquids in order to ensure safety.

## Taking Care of Eyes

The older persons, who have vision problems, need assistance with many activities of daily living (ADL), including dressing, walking and eating. The need for safety, freedom from falls, and other injuries (cooking fires) are of utmost importance. Encourage older patients to have regular, annual eye examination and use their eye drugs. The GDA should also observe and report any changes in the person's vision.



Special low vision programme help patients on use of special things that help the person to read, write and do other things. For example, they may get special lighting, magnifiers, large print reading materials, computers that talk, clocks and watches that talk and/or have larger numbers.

## Taking Care of Ears

The GDA should advice patients to use all the time hearing aid in case of hearing loss. Speak slowly and clearly while facing the person, keep information simple, use words that the person can understand, use pictures and large print material. Provide enough light if the patient is reading. Repeat communication as often as needed so that the patient can understand it and remember it.

## Exercise

1. Visit a nearby hospital and observe the care or treatment being given to elderly people. Fill the information in the table given below:

| Human Body Part | Problem Identified | Care or Treatment given |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Assessment

**A. Short Answer Questions**

1. Enlist the common problems of skin and nails in elderly

_____

_____

2. Enumerate the common problems related to sensory organs in old age

_____
_____
_____

3. Describe the activities to be performed by GDA in providing care to elderly for the following:

(i) Long nails:

_____
_____
_____

(ii) Dry skin

_____
_____
_____

(iii) Wax in ears

_____
_____
_____

(iv) Pressure ulcer

_____
_____
_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Care required for problems of muscular system and nervous system
2. Care of incontinence and constipation

**Part B**

Discussed in class the following:

1. How to take care of skin problems in elderly?
2. How to assist elderly with problems of eye-hand coordinated
3. How to assist elderly with low vision?
4. How to assist and take care of patients with pressure ulcer?

**Part C**

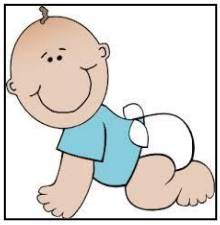
**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of the role of GDA in providing care according to Patient's need | | |

# Session 5: Caring for Infants and Children

## Relevant Knowledge



The General Duty Assistant and other healthcare workers must know how to take care for babies and children. This care must meet the special needs of these age groups. GDA, nurses and many others get a lot of joy as they care for children but there are also a lot of challenges.

### The Age Groups

Infants and children have many age related needs. These patients belong to one of these are groups:

- INFANTS- Birth to 1 year
- TODDLER- 1 to 3 years
- PRE-SCHOOL CHILD- 3 to 5 years
- SCHOOL CHILD- 5 to 12 years
- ADOLESCENT (TEENAGER)- 12 to 18 years

A new baby is an infant from the minute they are born until they have their 1st birthday. They are a toddler after their 1st birthday and until they are 3 years of age. These young children begin to walk and toddle around the house.

From the age of 3 until 5, a child is in the *pre-school* age group. The young child has not yet started the first grade of school. From 5 to 12 years of age, the child is considered a *school age* child.

The last stage of childhood is adolescence. A boy or girl is a teenager, or adolescent, from 12 to 18 years of age. After the age of 18, the child is considered a young adult and able to make legal decisions of their own.

### Growth and Development of Children

The General Duty Assistant (GDA) and other healthcare providers must know about the major tasks for each of the age groups.

A teenager's sense of self must be encouraged when they are in the hospital for a long period of time. When this age group is in the hospital they are not with their friends. Their group of friends helps them define who they are. Friends have become much more important to the teenager than their own family. Things that each age group must do are listed below for the infant, toddler, pre-school child, school age child and adolescent.

- **Infants**- learn how to trust others. They are not yet able to do anything for themselves. They depend on others to feed them and to keep them safe. They need to be loved. They need others to keep them clean and dry. They must feel that their needs will be met as soon as they begin to cry.

- **Toddlers**- begin to take care of themselves and do things on their own. They learn to control themselves and what they do. They learn how to walk around, feed themselves, use the toilet and control their own behavior. This age group does not like to be frustrated. They also want to be with their parents. They do not like people that they do not know.

- **Pre-School Children**- start to act with a purpose and a goal. They begin to feel happy about what they can do. This age group is afraid of being punished and rejected.

- **School Age Children**- want to be confident. They want to do well in school. They try very hard to please their teachers and their parents. School age children want to feel that they are competent and able to do things on their own.

- **Adolescents or Teenagers**- want to be a part of a group. They need to have a sense of self and know who they are. They form their own identity when they belong to a group. Also, they often rebel against their parents.

## Keeping Children Safe


Safety is one of the most basic human needs. Children have the greatest safety needs. For example, infants will put almost anything in their mouth, including poison and small things that they can choke on. We must, therefore, prevent poisoning and choking by keeping dangerous things away from infants and small children.

In addition to putting strange things in their mouth, infants and young children also do NOT know the difference between things that are safe and those that are not. They are very curious and they will try just about anything. They have little or no fear about getting hurt. It is our job to watch them very closely so they do not injure themselves while we are taking care of them in the home or in the hospital.

## Taking Care of Nutrition of Infants and Children

Nutritional and hydration needs also change as a person ages. Infants need extra iron and the fats from whole milk, formula or breast milk. Infants get baby foods at about 4 to 6 months of age starting with cereal. New foods should be added slowly and ONE at a time so that new foods that cause problems can be identified right away.

Toddlers like to eat foods that they can pick up with their hands and eat. They start to use cups instead of bottles. They may even begin to use a spoon to feed themselves. Pre-school children start to decide what foods they like and dislike. They use a fork, knife and spoon to eat.

Teenagers need extra calories, protein, calcium, iron, iodine and B complex vitamins for their growth. They often do not get a good diet. They eat a lot of snacks and "fast food". They also do not stick to regular meal times. Many teenagers develop eating disorders that can lead to poor health.

Infants need frequent small feedings. They have to be kept warm with a blanket and proper clothing because their body is not yet able to control its own temperature. Infants can also become dehydrated very quickly, especially if they have diarrhea or vomiting. They have to be kept safe and away from infections because their body is not able to fight off infections as older children and adults can.

The vital signs of the infant, child and pre-teen/teen are different. The usual vital signs are as follows:

| Normal ranges for vital signs | | | |
|---|---|---|---|
| **Vital Sign** | **Infant** | **Child** | **Pre-Teen/Teen** |
| | **0 to 12 months** | **1 to 11 years** | **12 and up** |
| **Heart Rate** | 100 to 160 beats per minute (bpm) | 70 to 120 bpm | 60 to 100 bpm |
| **Respiration (breaths)** | **0 to 6 months**<br>30 to 60 breaths per minute (bpm)<br>**6 to 12 months**<br>24 to 30 bpm | **1 to 5 years**<br>20 to 30 (bpm)<br>**6 to 11 years**<br>12 to 20 bpm | 12 to 18 bpm[1] |
| **Blood Pressure (systolic/diastolic)[1]** | **0 to 6 months**<br>65 to 90/45 to 65 millimeters of mercury (mm Hg)<br>**6 to 12 months**<br>80 to 100/55 to 65 mm Hg | 90 to 110/55 to 75 mm Hg | 110 to 135/65 to 85 mm Hg |
| **Temperature** | **All ages**<br>98.6 F<br>(normal range is 97.4 F to 99.6 F) | **All ages**<br>98.6 F<br>(normal range is 97.4 F to 99.6 F) | **All ages**<br>98.6 F<br>(normal range is 97.4 F to 99.6 F) |

Infants must be held, cuddled and touched. The mother, father, sisters and brothers are the most important people to them. They do NOT want to be separated from them. They often cry when the parents are not seen. We should encourage the family members to stay with the infant and young children, whenever this is possible. We should also help the family to care for the sick infant or child.

Infants must NEVER be left alone unless they are in a safe crib with the side rails up. They should be placed on their back and WITHOUT any pillows when they sleep. Medications, small objects and other items that are not safe MUST be kept out of their reach. When the infant or young child leaves the hospital, a safe and approved car seat must be used.

## Taking Care of Teens

The GDA should deal very cautiously and carefully with the teenagers. Some specific conditions that the GDA may have to deal with include the following:

Common disorders in adolescence

- Abdominal pain
- Acne
- Anemia
- Anxiety
- Attention deficit hyperactivity disorder (ADHD)
- Breast discharge
- Breast masses
- Contraception
- Delayed/early onset of menses
- Depression
- Eating disorders, including anorexia nervosa and bulimia nervosa
- Endometriosis
- Excessive hair growth
- Fertility concerns
- Gynecomastia
- Headaches
- Hormonal problems
- Mental health counseling
- Menstrual problems
- Muscle strains and sprains
- Nutritional counseling
- Obesity
- Ovarian cysts

- Pelvic masses
- Pelvic pain
- Polycystic ovary syndrome
- Postural orthostatic hypotension
- Puberty questions
- Routine pelvic exams
- School problems (absences and performance)
- Sexual risk behaviors
- Sexually transmitted diseases
- Skin rashes
- Sleep problems
- Sore throats
- Sports injuries
- Transgender hormone therapy
- Urinary tract infections
- Upper respiratory infections
- Vaginal discharge
- Weight loss

Some examples of typical adolescent patients include:

- Teens that are unable to focus at school.
- Adolescents who are not gaining weight or may have an eating disorder
- Teens with stomach pain who have seen other experts and are not getting better
- Teens with fatigue and dizziness who have missed over two weeks of school
- Adolescents who have some symptoms of depression or are withdrawing socially
- Young adults who are experiencing increasing anxiety

Teens (adolescents) like to be their own person. Adolescence is a time of physical maturity and the teens develops powerful emotions and rapid changes in ways of thinking. Physical and emotional changes take place at this stage. They also face pressures at school and home, which complicate their health problems. They often rebel against their parents and other people in their life, like their school teachers. They often show anger. Sometimes, they break rules and laws.

Their friends are the most important group to them. They are not happy when they are not with their friends. This age group wants to look and dress nicely. They want to be liked by their group of friends. This gives them a sense of self. Healthcare providers must give them privacy and time with their friends.

## Exercise

1. Write the special needs of child in the following age groups

| Age Group | Special Needs |
|---|---|
| Infant | |
| Toddlers | |
| Pre school children | |
| School age children | |
| Teen | |

## Assessment

Fill in the blanks:

(i) Infants – birth to ___ year

(ii) Toddler – 1 to ____ years

(iii) Pre-school child – 3 to _____ years

(iv) School child – 5 to _____ years

(v) Adolescents --- 5 to _____ years

Fill in the blanks:

(i) Heart rate of infants ranges from 100 to _____ beats per minute

(ii) Heart rate of child ranges from 70 to _____ beats per minute

(iii) Respiration of infant ranges from 30 to _____ breaths per minute

(iv) Respiration of pre-teen/teen ranges from 12 to _____ breaths per minute

(v) Blood pressure (systolic/diastolic) of teens ranges from _____ to 135/65 to 85 mm Hg

(vi) Normal temperature range for all age groups in human beings is 97.4$^{o}$ F to _____$^{o}$F

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Special needs of infant and toddler
2. Toddler and adolescent age group

**Part B**

Discussed in class the following:

1. Development and growth of children
2. Special care for infants and children

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of growth and development of children | | |
| Demonstrate the knowledge of taking care of infants, toddlers and children | | |

Notes

# SECTOR: HEALTHCARE

## NSQF Level 4 (CLASS XII)

# HSS 403-NQ2014: BIO-WASTE MANAGEMENT

## Student Workbook

# Table of Contents

# Session 1: Introduction to Bio-medical Waste Management

In this session, you will learn about the concept of Bio-medical waste management. You will study about the risks involved with poor waste management, classification of hospital waste and disposal of biomedical waste.

## Relevant Knowledge


In healthcare industry, the materials are not utilized fully or after utilization, something remains as left over, which is discarded, and treated as waste. Modern hospitals consume lot of materials for rendering health services to the people. Wastes are generated as a result of diagnostic, therapeutic, immunization or research activities in the hospitals. These waste materials have the potential of transmitting serious diseases to the healthcare workers, visitors of the hospital including patients. Various terms are used in relation to the hospital waste like "medical waste", regulated medical waste" or "hospital waste". In hospital waste management, the popular term is bio-medical waste. "Bio-medical waste is defined as waste that is generated during the diagnosis, treatment or immunization of human beings and are contaminated with patients' body fluids, such as syringes, needles, ampoules, organs and body parts, placenta, dressings, disposables plastics and microbiological wastes". India generates around 3m tones of medical wastes every year. This medical waste need to be disposed off effectively.

### Definitions

Before we study the classification and disposal of hospital waste, let us first try to understand the meaning of some of the terminologies used in hospital waste management.

(a) **Bio-Medical Waste:** It is "any solid, fluid or liquid waste, including its container and any intermediate product, which is generated during the diagnosis, treatment or immunization of human beings or animals".

(b) **Medical Waste:** It is all waste materials generated at healthcare facilities, such as hospitals, clinics, physicians office, dental practices, blood banks and veterinary hospital/clinics as well as medical research facilities.


(c) **Clinical Waste:** Is defined as "any waste coming out of medical care provided in hospitals or other medical care establishments, but does not include waste generated at home."

(d) **Hospital Waste:** It refers to all waste, biological or non-biological that is generated from a hospital, and is not intended for further use.

(e) **Pathological Waste:** It is defined as "waste removed during surgery/autopsy or other medical procedures including human tissues, organ, body parts, body fluids and specimens along with their containers."

(f) **Infectious Waste:** It refers to that portion of bio-medical waste which may transmit viral, bacterial or parasitic diseases, if concentration and virulence of pathogenic organisms is sufficiently high.

(g) **Hazardous Waste:** It refers to that portion of Bio-Medical Waste which has a potential to cause hazards to health and life of human beings.

(h) **Radioactive Waste:** It includes waste contaminated with radionuclides, it may be solid, liquid or gaseous waste. These are generated from in-vitro analysis of body fluids and tissues, in-vitro imaging and other therapeutic procedures.


(i) **Pressurized Waste:** It include compressed gas cylinders, aerosol cans and disposable compressed gas containers.

(j) **General Waste:** It includes general domestic type waste from offices, public areas, stores, catering areas, comprising of newspapers, letters, documents, cardboard containers, metal cans, floor sweepings and also includes kitchen waste.

(k) **Recyclable Waste:** It includes glass after cleaning and disinfection, paper, corrugated cardboard, aluminium, X-ray film, reclaimed silver from X-ray developing solution, Plastics after disinfection and shredding

## Classification of Hospital Waste

The World Health Organization (WHO) has classified the hospital waste in to the following categories:

1. **General Waste**: The waste generated from office, administrative offices, kitchen, laundry and stores.
2. **Sharps:** Hypodermic needles, needles attached to tubing, scalpel blades, razor, nails, broken glass pieces, etc.
3. **Infected waste**: Equipment and instruments used for diagnostic and therapeutic procedures, waste from surgery like tissues and organs removed and autopsy.
4. **Chemical waste**: Formaldehyde used for preserving tissues and organs, fixer and developers used in radiology department. Solvents like xylene, acetone, ethanol and methanol used in laboratories.
5. **Radioactive waste**: Various radioactive wastes generated through the activities of the department like research activity, clinical laboratory and nuclear medicine department
6. **Cytotoxic drugs**: Various anti-cancer drugs.

## Categories of Biomedical Waste

The Ministry of Environment and Forests has drafted certain rules in exercise of powers conferred by section 6,8 and 25 of the Environmental Protection Act 1986.

The categories of bio-medical wastes, as per the Biomedical Waste (Management and Handling) Rules 1988 are as follows:

| Waste Category | Waste class and description |
|---|---|
| Category No.1 | **Human anatomical wastes** |
| Category No.2 | Animal wastes (animal tissues, organs, body parts, carcasses, bleeding parts, fluid blood and experimental animals used in research, waste generated by veterinary hospitals, colleges, discharge from hospitals, animal houses). |
| Category No.3 | **Microbiology and biotechnology wastes**<br>(Wastes from laboratory culture, stocks or specimens of microorganisms, live or attenuated vaccines, human and animal cell cultures used in research and infections agents from research and industrial laboratories, wastes from production of biological toxins, dishes and devices used for transfer of cultures). |
| Category No.4 | **Waste sharp**<br>Needles, syringes, scalpels, blades, glass, etc. That is capable of causing puncture and cuts. This includes both used and unused sharps. |
| Category No.5 | **Discarded medicines and cytotoxic drugs**<br>Wastes comprising of outdated, contaminated and discarded medicines. |
| Category No.6 | Solid Waste Items contained with blood, and body fluids including cotton, dressing, soiled plaster casts, linen, beddings, and other materials contaminated with blood. |
| Category No.7 | **Solid waste**<br>Wastes generated from disposable items other than the waste sharps, such as tubings, catheters, intravenous sets. |
| Category No.8 | **Liquid Waste**<br>Wastes generated from laboratory and washing, cleaning house keeping and disinfection activities |
| Category No.9 | **Incineration ash**<br>Ash from incineration of any biomedical waste. |
| Category No.10 | **Chemical waste**<br>Chemicals used in the production of biological, chemicals used in disinfections, as insecticides. |

## Importance of Hospital Waste

The hospital waste is important from the following point of view:

The staff working in the hospitals is directly exposed to the risks of the hospital wastes. The implications of the hospital waste in relation to the hospital staff can be emphasized on the basis of following points:

(i) The hospital staff is responsible for generating, segregating, collecting, storing, treating of the hospital waste.


(ii) The healthcare worker by virtue of their profession has to work with sharps like needle, blades, etc. and they are at risk of contracting that infection. There is risk of transmission of HIV/AIDS, and Hepatitis B and C.

(iii) The hospital authorities must organize teaching and training programmes for the healthcare workers and the hospital authorities must provide the adequate quantity of gloves, masks, foot wears, goggles, gum boots, gowns, head gear.

The hospital is visited by the patients for treatment and the patients are accompanied by close associates, may be friends or relatives, who prefer to stay with patients for their company and to take care of their non-medical needs. In addition to the attendants of the patients, a large number of visitors also visit the hospital.


A large number of people are involved in collection of the hospital waste like the rag pickers, who are interested in the polythene bags, plastic wares, used disposable syringes and needles. In all these cases the rag pickers are exposed to risk of transmission of diseases which are of very serious nature like HIV/ AIDS, HBV / HCV infections. It is the responsibility of the hospital administration to safe guard the interest of the general public.

Some hospitals throw hospital waste, removed tissues and organs, amputated waste and removed fetuses into the general waste. This issue invites the attention of the public health authorities.

The internal environment of the hospital has got direct communication with the outside environment. The gases and heat generated inside the hospitals are exhausted into the external environment. The internal environment of the hospital is contaminated with bacteria, viruses and parasites, which can pose a threat of spreading infection to the outside environment. The foul gases from mortuary or foul smelling discharges from the labour room, pathology department, anatomy department are discharged directly to the outside environment, which are responsible for the environmental pollution. All such activities have invited attention of the environmentalists and the Government has enacted laws to protect the health of the people and also to safeguard the environment.

**Nosocomial infections**: Nosocomial infections are infections that have been caught in a hospital and are potentially caused by organisms that are resistant to antibiotics. It is the infection that was not present or incubating prior to the patient's being admitted to the hospital, but occurs within 72 hours after admittance to the hospital. The sources of hospital acquired infection are as follows:

a) Patients own flora
b) Flora of another patients
c) Fomites-any object or substance capable of carrying infectious organisms.
d) Environmental sources
e) Contamination by patients, attendants, visitors and hospital staff.

The routes of transmission of infection can be:

a) Aerial route for example, through inhalation of hospital dust.
b) Direct contact for example, through abrasions on skin, or through mucous membrane.
c) Faeco – oral route for example, through ingestion of food, water with contaminated hands
d) Parenteral route during the process of injections and infusions.
e) Through equipment and materials.

## Exercise

1. Visit a nearby hospital. Wear personal protection equipment and identify the different wastes. Classify them according to the category number and fill the table given below:

| Waste Category | Waste |
|---|---|
| Category No.1 | |
| Category No.2 | |
| Category No.3 | |
| Category No.4 | |
| Category No.5 | |
| Category No.6 | |
| Category No.7 | |
| Category No.8 | |
| Category No.9 | |
| Category No.10 | |

## Assessment

**A. Short Answer Questions**

1. Enlist the risks involved in poor waste management in hospital

_____

_____

_____

2. What is Bio-medical waste?

_____

_____

_____

3. How bio-medical waste management helps in environment protection?

_____
_____
_____

4. Describe the importance of bio-medical waste management

_____
_____
_____

5. What is nosocomial infection?

_____
_____
_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Medical waste and clinical waste
2. Infectious waste and hazardous waste
3. Pathological waste and general waste
4. Aerial route and oral route of transmission of infection

**Part B**

Discussed in class the following:

1. Classification of bio-medical waste
2. Waste management system in hospitals

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Identify the wastes according to their category | | |
| Demonstrate the knowledge of bio-medical waste management | | |

# Session 2: Sources and Disposal of Bio-medical Waste

In this session, you will learn about the sources and disposal methods of bio-medical wastes.

## Relevant Knowledge

### Sources of biomedical waste

Biomedical waste is generated from biological and medical sources and activities in hospitals, clinics, healthcare organizations, veterinary hospitals, etc. let us now try to identify the various generators of biomedical wastes. The sources can be classified as major and minor source, depending upon the amount of waste generated.

1. **Hospital**
   a) Hospitals of all category like general, specialist hospitals, private as well as public sector hospitals generate biomedical wastes.
   b) Departments like Surgery, Gynaecology and Obstratrics, Paediatrics, Oncology, orthopaedics, Ophthalmology, ENT, Physical Medicine and Rehabilitation, Emergency Services, Operation Theatres, ICU, Critical Care Medicine, Burns and trauma, Neurosurgery etc. generate specific type of biomedical wastes.

2. **Clinics**
   a) Physicians, Dentisits, Maternity clinics, Immunization Clinics, Dialysis centres and endoscopists.
   b) Dispensaries of state or central governments

3. **Healthcare organizations**
   a) Polyclinics
   b) Nursing homes
   c) Geriatric homes
   d) Home for mentally retarded
   e) Mental asylums

4. **Support Services**
   a) Blood banks, pharmacy, mortuary, laundry, Laboratories

5. **Veterinary Hospitals**

### Disposal of Wastes

Biomedical waste should not be mixed with other wastes for disposal. It should be treated and disposed of in accordance with schedule I, and in compliance with the standards prescribed in schedule V of the notification of Bio Medical Waste (BMW) rule (1998) of Ministry of Environment & Forest, Govt. of India. Once the wastes have been treated by one or the other method it is to be finally disposed of in the following manner:

1. **Disposal of general / non-hazardous waste**: It is done in the following methods:
   a. For small quantity

i. Landfill: it is done by
    1. Trench method
    2. Ramp method
    3. Area method
ii. Use of pits
iii. Composting

b. For large quantity
    i. NADEP composting
    ii. Pelletisation technology
    iii. Biopress and manure
    iv. Pyrolysis

2. **Disposal of waste water and liquid waste**: The liquid waste is disposed of by any of the following manner
    (i). Discharge into the sewers
    (ii). Soak pits
    (iii). Waste stabilizing ponds.

3. **Disposal of human anatomical, blood and body fluids**: the preferred method is by incineration.

4. Disposal of sharps: the needles should be destroyed by the needle destroyers and other sharps as well as the needles should be bleach. The used syringes can be disposed of by melting and sterilization at over $250^{o}$ C.

5. **Disposal of microbiological and bio-technological wastes**: This is done by autoclaving hydroclaving, microwave or incineration.

6. **Disposal of pharmaceutical wastes**: The preferred method is by incineration and the ash can be disposed of by land filling.

7. **Disposal of infectious solid waste**: it is first treated and converted to non – hazardous waste which is then disposed of as general waste.

8. **Disposal of chemical waste**: Non-hazardous waste is disposed of as general waste and the hazardous waste is first converted into non – hazardous waste and then disposed of as general waste.

9. **Disposal of radioactive wastes**: This is done in accordance with the guidelines issued by the Bhaba Atomic Research Centre (BARC).

10. **Disposal of pressurized containers**: This is disposed of with general waste in special landfills.

All records should be subjected to inspection and verification by the prescribed authority at any time. The authorized person shall maintain records related to generation collection, reception, storage, transportation, treatment disposal and/or any form of handling of bio-medical waste. No untreated bio-medical waste should be kept beyond a period of 48 hours.

## Exercise

1. Visit a nearby hospital and identify the various types and sources of bio-medical wastes.

| Name of waste | Department generating such waste |
|---|---|
| Needle | |
| Human Organs/tissues | |
| Plastic materials | |
| Infectious dressing pad | |

2. Visit a nearby hospital and study the methods/techniques of disposing the bio-medical waste: Fill in the method(s) used for disposal of wastes.

| Waste | Methods/techniques adopted |
|---|---|
| General / non-hazardous waste | |
| Waste water and liquid waste | |
| Human anatomical, blood and body fluids | |
| Sharps | |
| Microbiological and bio-technological wastes | |
| Pharmaceutical wastes | |
| Infectious solid waste | |
| Chemical waste | |
| Radioactive wastes | |
| Pressurized containers | |

## Assessment

**A. Short Answer Questions**

1. Enlist the sources of bio-medical waste

_____
_____
_____

2. Describe the method of disposing of microbiological wastes in hospitals

_____
_____
_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Sources of solid and liquid wastes in hospitals
2. Biological and bio technological waste
3. Chemical and radioactive waste

**Part B**

Discussed in the class following:

1. Sources of generation of bio-medical wastes
2. Disposal techniques of wastes

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of various sources of bio-medical wastes in hospitals | | |
| Demonstrate the knowledge of disposal techniques of different types of bio-medical wastes | | |

## Session 3: Segregation and Transportation of Bio-medical Waste

In this session, you will learn about segregation, packaging, transportation and storage of bio-medical waste. You will study the colour coding criteria recommended by WHO for storing and disposing different class of bio-medical wastes.

### Relevant Knowledge

The following points should be remembered while segregating, packaging, transportation and storage of biomedical wastes:


1. Biomedical waste shall not be mixed with other wastes.
2. Biomedical waste shall be segregated into containers / bags at the point of generation in accordance with Schedule II of BMW Management rules (1998) prior to its storage, transportation, treatment and disposal. The containers shall be labeled according to schedule III of the rules.
3. If a container is transported from the premises where biomedical waste is generated to any waste treatment facility outside the premises, the container shall, apart from the label prescribed in Schedule III, also carry information prescribed in Schedule IV.
4. Not withstanding anything contained in the Motor Vehicles Act, 1988, or rules there under, untreated biomedical waste shall be transported only in such vehicle as may be authorized for the purpose by the competent authority as specified by the government.
5. No untreated biomedical waste shall be kept stored beyond a period of 48 hours. Provided that if for any reason it becomes inevitable to store beyond 48 hours,the authorized person must take permission of the prescribed authority and take measures to ensure that the waste does not adversely affect human health and environment.

**Colour Coding and Type of Containers for Bio-medical Wastes**

Colour coding as recommended for developing countries by WHO.

| S.No. | Category of Waste | Recommended colour code |
|---|---|---|
| 01 | General non-hazardous waste | Black bag |
| 02 | Sharps (whether infected or not) | Yellow bag |
| 03 | Infected waste (Not containing sharps) | Yellow bag |
| 04 | Chemical and pharmaceuticals (other than Cytotoxic drugs, radioactive waste, high pressure containers) | Red bag |
| 05 | Clinical waste that requires autoclaving | Blue bag |

**Types and Colour of Conatiners for disposal of biomedical waste (as per Ministry of Environment and Forest Guidelines)**

| Waste Category | Waste Class | Type of container | Colour code |
|---|---|---|---|
| Category No.1 | Human anatomical waste | Plastic Bag | Yellow |
| Category No.2 | Animal waste | Plastic Bag | Yellow |
| Category No.3 | Microbiological and biotechnological waste | Plastic Bag / disinfected container | Yellow / Red |

| | | | |
|---|---|---|---|
| Category No.4 | Sharp | Plastic Bag | Blue / White translucent |
| Category No.5 | Discarded medicines and cytotoxic drugs | Plastic Bag | Black |
| Category No.6 | Solid waste | Disinfected container / plastic bag | Yellow / Red |
| Category No.7 | Solid Waste | Disinfected containers / plastic bag / puncture proof containers | Red / blue / White |
| Category No.8 | Liquid waste | Not Applicable | Not Applicable |
| Category No.9 | Incineration Ash | Plastic Bag | Black |
| Category No.10 | Chemical Waste | Plastic Bag for solid | Black |



## Transportation of Biomedical Wastes

Transportation of bio-medical wastes can be divided into intramural (internal) and extra mural (external) transportation.

### 1. Intramural (internal) transport


The sanitation staff from the centralized gang shall be responsible for transporting the different coloured polythene bags in garbage bins from the sluice room, nursing station and treatment room of each ward. Push carts and garbage trollies designed for the purpose should only be used. From all the floors and wings, the waste shall be taken through main ramp in covered trollies to the ground floor and from there to the area near the incinerator/mortuary. The general waste (in black polythene bags) should be deposited at the municipal dumps, opposite the mortuary, adjacent to the incinerator site. Any spillage or leakage should be reported to Sanitation Inspector Incharge, and it is his/her responsibility to get the respective trolleys/carts cleaned and disinfected.

2. **Extramural (external) transport**

Only general waste collected in the black coloured plastic bags shall be transported in the vehicle by the Municipality authorities. The request shall be made by the hospital authorities to the Municipal authorities to send the vehicle once in day without any failure.

## Treatment and Disposal of Hospital Waste

1. **Civic Authorities:** Most of the waste (about 80%-90%) generated in the hospital is general waste, which is similar to the waste generated in house and offices. This waste is non-toxic and non-infectious, and comprises of paper, leftover food articles, peels of fruits, disposable and paper containers for tea/coffee etc., card boards boxes, outer cover or wrapping of disposable items, etc. These general wastes should be put into black coloured polythene bags and are deposited at the municipal dump opposite to the mortuary. It is subsequently collected by the local municipal authorities for disposal every day. The Sanitation Officer is responsible for proper co-ordination between municipal authorities. However, it is the responsibility of the hospital security (Police/contractor) to ensure that rag pickers are not allowed entry into the dumps.

2. **Incineration:** The waste collected in yellow coloured bags is transported to the site of incineration, adjacent to the generator room. The incinerator is maintained on contract basis by the Engineering services department and is manned by a supervisor and workers. After the waste (in yellow coloured bags) is deposited in the custody of the supervisor, the sanitation staff should obtain a proper receipt, and the entire process should be documented. It is the responsibility of the supervisor to ensure that rag pickers and other unwanted elements do not rummage through the waste for re-using of disposables and plastics. The functioning of the incinerator and the number of cycles operated per day should be documented in a logbook. Regular monitoring of the process should be carried out by the engineers as per Pollution Control Board norms and feedback provided to officer incharge. The ash produced by incineration should be sent for secure land filling.

3. **Autoclaving and Shredding:** Once the autoclave facility is installed in the hospital, the waste collected in blue bags shall be transported to the site of autoclaving and shredding for treatment. The process of deposition of the waste for autoclaving and shredding shall also be documented and a register shall be maintained for the same. The supervisor shall ensure that rag pickers and other unwanted persons do not gain access to the waste stored there, prior to autoclaving and shredding. The functioning of the autoclave and shredder including the number of cycles per day shall be maintained in a log table and periodically monitored by engineers as per norms.

4. **Radioactive Waste:** Radioactive wastes are generated during the process of body organ imaging, tumour localization and therapeutic processes in Radiotherapy Department. These applications of radioactive materials generate some solid radioactive waste i.e. vials, syringes, absorbent paper, protective clothing, etc. Concentration and storage under strict supervision in a large drum/container till it has decayed is principally used. The radioactive material in liquid form (including patient's urine) are generally diluted and dispersed in the sewers. Gaseous radioactive waste can be diluted through dispersal in the outside atmosphere. Under normal circumstances, urine and faeces can be handled as non-radioactive waste so long as the room is routinely monitored for radioactive contamination.

5. **Liquid and Chemical Wastes :** These wastes should be disinfected by chemical treatment using at least 1% sodium hypochlorite solution and then discharged into drains/sewers where it is taken care of by the principle of dilution and dispersal. The responsibility for proper disposal of liquid wastes lies with the sanitation supervisor in case of weekly "gang" cleaning of indoor patient care areas; and with the nursing staff in case of routine cleaning. Responsibility of chemical waste should be with the persons/staff using the chemicals and generating the waste.

## Exercise

1. Visit a nearby hospital and observe the segregation process of bio-medical waste. Do not forget to wear personal protective equipment. Identify the type of bio-medical waste and fill the table given below:

| Type of bio-medical waste | Class of Waste | Type of Container | Waste Category No. | Colour Code |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## Assessment

**A. Short Answer Questions**

1. How bio-medical waste is treated in a hospital?

_____
_____
_____

2. How general waste is disposed of by hospital?

_____
_____
_____

3. Describe the colour code for the following types of waste:

(vi) General non hazardous waste:
(vii) Sharps:
(viii) Infected waste:
(ix) Chemicals:
(x) Human anatomical waste:

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Types of biomedical wastes
2. Extramural and intramural transport of bio- medical waste
3. Incinerator and autoclaving technique of waste treatment

**Part B**

Discussed in the class following:

1. Importance of color coding in bio-medical waste management
2. Transportation of bio-medical waste
3. Disposal of hospital waste

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Identify the colour coding for various types of bio-medical waste | | |
| Demonstrate the knowledge of different methods of treatment of bio-medical wastes | | |

# Session 4: Role of Hospital Staff in Bio-medical Waste Management

In this session, you will learn about the roles and functions of authorities or personnel involved in bio-medical waste management in a hospital. You will also study the importance of providing training to the staff of the hospital.

## Relevant Knowledge

### (A) Role of Medical Superintendent

The overall responsibility of Medical Superintendent is to implement the guidelines for hospital waste management and ensure that waste is handled without any adverse effect to human health and environment. He/she is responsible for submitting an annual report on biomedical waste management. He is answerable to the higher authorities regarding implementation of biomedical waste management policy.

### (B) Functions of Hospital Waste Management Committee

1. To ensure the circulation of copies of Bio-medical Waste Rules and guidelines in Departments.
2. To conduct awareness programmes regarding bio-medical waste management
3. To conduct training programmes for Medical Professionals, Nursing Professionals, General Duty Assistant and other staff on biomedical waste management.
4. To hold meeting of the Hospital Waste Management Committee and formulate a detailed plan of action in regard to segregation, collection, storage and transport of waste. To procure the items required in this regard and make them available.

Each Clinical Department (Unit), Lab Services, Blood Bank, Microbiology, Pathology shall make one Faculty Member responsible for supervision of segregation of biomedical waste in their area of activities. Floor wise nurses / GDA are responsible for supervision of segregation in the wards of each floor. In each and every OT one Incharge is responsible for segregation of waste.

### (C) Role of Officer Incharge of Waste Management

The Officer Incharge of Bio-medical Waste Management liaise with the Heads of Departments, Infection Control Officer and Matron. He is the member of the Hospital Waste Management Committee. He is responsible for monitoring the programme from time to time at various levels i.e. generation, segregation, collection, storage, transportation and treatment (including disposal). He is responsible for circulation of all policy decisions and the hospital waste management manual. He is responsible for accident reporting in Form III to the prescribed authority.

## (D) Role of Heads/Incharge of Labs/Units/Departments

They are responsible for the formulation and implementation of waste management procedures for their departments which should be done in conformity with the general guidelines issued by the administration. They shall also be responsible for getting all staff, doctors, nurses, paramedics and group-D staff trained in hospital waste management, and shall liaise with the Officer Incharge of bio-medical waste management for administrative support. With regard to the departments which generate radioactive waste, one of the consultants should be designated as Radiation Protection Officer and he/she shall be responsible for implementation of necessary guidelines.

## (E) Role of Matron / Nursing Superintendent

The Matron shall designate one of the senior administrative level deputies as Sister In-charge of Hospital Waste Management, who shall be responsible for close monitoring of the activity. She shall conduct surprise rounds and shall review and evaluate the various aspects of scientific hospital waste management at all levels from generation and segregation to final disposal. She shall also attend the meetings of Hospital Waste Management Committee on behalf of the Matron and co-ordinate the training of nurses on Hospital Waste Management with administration.

## (F) Role of I/c Sanitation Inspector

The In-charge Sanitation Inspector is responsible for the implementation, monitoring and evaluation of hospital waste management from collection and storage of hospital waste to its final disposal. He/she attend the Hospital Waste Management Committee meetings and ensure the training of the staff. Regular in-service training and evaluation of the sanitation attendants carried out by him/her. He/she shall also provide feedback information to Officer In-charge Waste Management in case of accidents and spills.

## Training on Hospital Waste Management

In order to be able to comprehend and implement the Bio-Medical Waste Management, it is mandatory to provide training to all categories of staff i.e. resident doctors, nurses, paramedical staff, GDA, attendants, canteen staff, etc. Before the training is carried out, the training needs are to be identified and the content of the training programme should be contextualis. It should be interactive and should include awareness sessions, demonstrations and behavioural science inputs. It should include the following:

(i) Awareness of different categories of waste and potential hazard
(ii) Waste minimization, reduction in use of disposables
(iii) Segregation policy
(iv) Proper and safe handling of sharps
(v) Use of protective gear
(vi) Colour coding of containers
(vii) Appropriate treatment of waste
(viii) Management of spills and accidents
(ix) Occupational health and safety

## Exercise

1. Visit a nearby hospital and observe the duties performed by health personnel in bio- medical waste management.

## Assessment

**A. Short Answer Questions**

1. State any two functions of hospital waste management committee

_____
_____
_____

2. State any two duties of medical superintendent regarding bio medical waste management

_____
_____
_____

3. Describe the role of GDA in hospital waste management

_____
_____
_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Role of officer in-charge and sanitation in-charge in bio-medical waste management
2. Role of sister in-charge and sanitation inspector in-charge in biomedical waste management

**Part B**

Discussed in the class following:

1. Role of GDA in bio-medical waste management
2. Significance of training of staff on hospital waste management
3. Role and functions of authorities of hospital in bio-medical waste management

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Identify the role of hospital staff in bio-medical waste management | | |
| Demonstrate the knowledge of the role of GDA in bio-medical waste management | | |

Notes

# SECTOR: HEALTHCARE

## NSQF Level 4 (CLASS XII)

# HSS 404-NQ2014: OPERATION THEATRE

## Student Workbook

# Table of Contents

# Session 1: Zones and Areas in Operation Theatre Complex

In this session, you will learn about the aims of planning of operation theatre and the zones and areas in Operation Theatre complex.

## Relevant Knowledge

An operating theater, operating room or surgery suite is a room within a hospital, within which surgical operations are carried out in a sterile environment. The Operation Theatre complexes are designed and built to carry out investigative, diagnostic, therapeutic and palliative procedures. These set ups are customized to the requirements based on size of hospital and patient turnover and may also be designed to suit the specialty needs. The need for safety, convenience and economy guide the planning of a modern operation theatre complex, whatever the size, number or the specialty. Efforts are directed to maintain vital functions, prevent infections/ promote healing with safety, comfort and economy.

### Aims of Planning

(i) To promote high degree of asepsis.
(ii) Ensure maximum safety to patients and staff working in OT.
(iii) Ensure maximum utilization of the OT.
(v) Ensure maximum comfort to the surgical team, considering long hours of work in difficult posture.
(v) To provide complete environmental control.
(vi) Flexibility of uses of operating suites.

### Location

The best location for the OT is the one which permits a convenient and uncomplicated flow of patients and staff. It should be close to surgical wards and ICU. OT receives patients from the floor through non-public corridor, elevators and ramps. In most cases patients are returned through the same route. Convenient access to elevators is, therefore, essential.

### Size

The size of OT will depend upon the surgical facilities:

(i) General Operating Room – 40 sq. meters.
(ii) CVTS, Neurology, Orthopedics – 60 Sq. meter additional adjoining room is required for Heart lung machine.
(iii) Endoscopy suite will require procedure room of 20 sq. meter.
(iv) For OT of 200 – 300 bed district hospital the optimum size is 18’ x 18’ to 18’ x 20’ but not more than 400 sq. feet.

## Zones in OT Complex

1. **Protective Zone**: This is at the entrance of operating theater. It includes change rooms for all medical and paramedical staff with conveniences, transfer bay for patient, material and equipment. It also includes rooms for administrative staff, stores and records. The pre and post-operative rooms, I.C.U., P.A.C.U. and sterile stores are part of this zone. The main facilities which lie in this area are:

    (a) Patient's waiting area and reception
    (b) Trolley bay
    (c) Lifts
    (d) Stairs
    (e) Switch room
    (f) Pre anesthesia room
    (g) Changing room
    (h) Store room.

2. **Clean zone:** It connects protective zone to aseptic zone and has other areas also like stores and cleaning room, equipment store room, maintenance workshop, pantry, and firefighting device room It provides the following:
    (a) Pre-operating room
    (b) Recovery room
    (c) Theater work room
    (d) X-ray room
    (e) Plaster room
    (f) Sister's room/ staff nurse / GDA room
    (g) Store room.

3. **Sterile/Aseptic zone**: It includes operation rooms which are kept sterile. This zone include:
    (a) Operating suite in particular
    (b) Scrub room
    (c) Anesthesia room
    (d) Instruments trolley area.

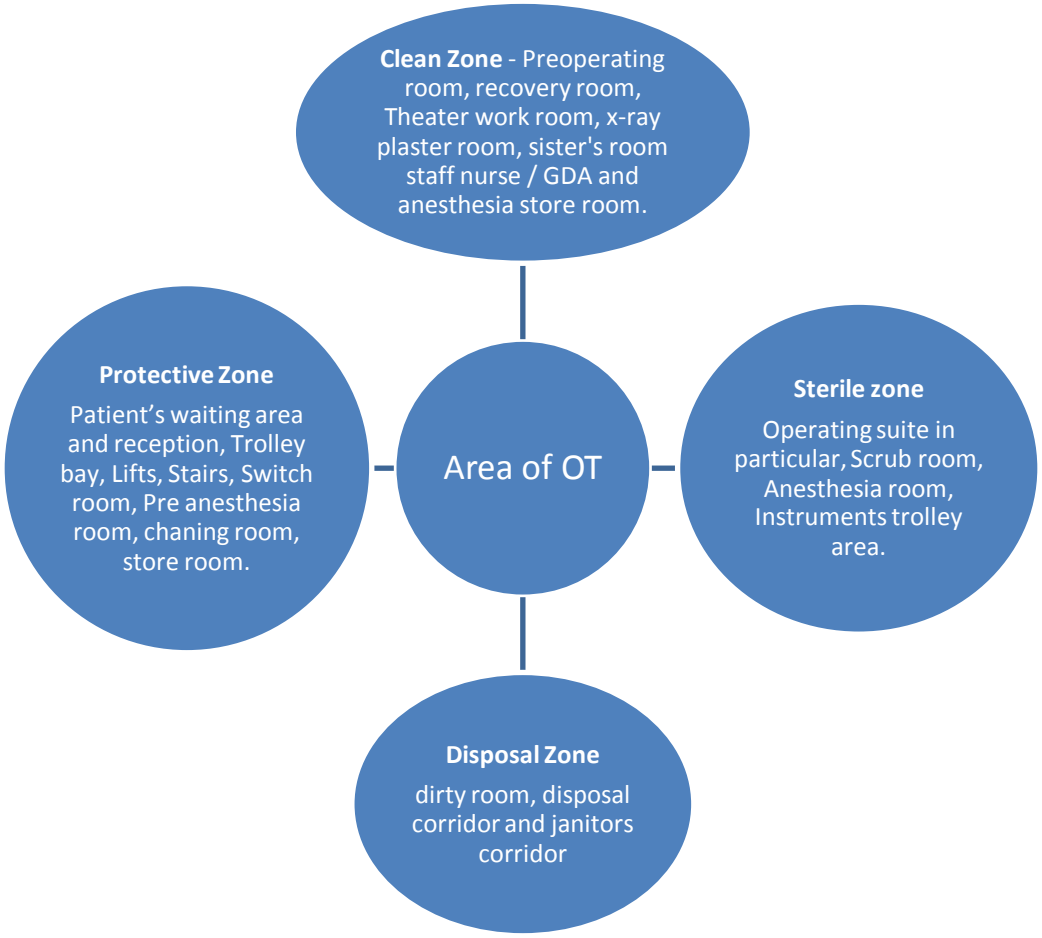
4. **Disposal Zone**: Areas in this zone include dirty utility and disposal corridor.

## Sub Areas (excluding OT place)

(1) Pre-operative check in area (reception)- It is used to maintain privacy, for changing clothes and wearing gown and to provide lockers and lavatories for staff.
(2) Holding area- This area is planned for IV line insertion, preparation, catheter / gastric tube insertion, connection of monitors, etc.
(3) Induction room – (anaesthetic room)- It provides space for anaesthetic trolleys and equipment.
(4) Post anaesthetic care units (PACU) – It contains a medication station, hand washing station, nurse station, storages pace for stretchers, supplies and monitors/ equipment and gas, suction outlets and ventilator.
(5) Staff room – Men and women change dress from street cloth to OT attire.
(6) Sanitary facility for staff- One wash basin and one western closet is usually provided.

(7) The anaesthesia gas / cylinder manifold room / storage area - It should be in a cool, clean room that is constructed of fire resistant materials.
(8) Laboratory – Small laboratory with refrigerator for pathologist is provided.
(9) Theatre sterile supply unit (TSSU)- In this area temperature between 18 to 22°C,humidity of 40 to 50% is maintained. Sterile drapes, sponges, gloves, gowns and other items ready to use are stored in this unit. Proper inventory of the items required are maintained in this unit.

Adequate water supply, electricity back up and cleanliness is maintained in the OT complex



Following physical facilities must be provided in operating theatre complex:

a. Reception and office
b. Transfer area
c. Entrance
d. Cloak room
e. Pre-operative room
f. Staff changing room
g. Notice Board
h. Holding bay
i. Anesthesia room
j. Scrub room
k. Operating room

## Exercise

1. Visit a nearby hospital and study the layout of the Operation Theatre.
2. Identify the following zone of OT and fill the table given below with name of different facilities and equipment in the particular zone:

| Zone | Facilities and Equipment |
|---|---|
| Protective | |
| Clean | |
| Sterile | |
| Disposal | |

## Assessment

**A. Short Answer Questions**

1. Briefly explain the purpose of operation theatre

_____
_____
_____
_____
_____
_____

2. List the different zones of Operation theatre

_____
_____
_____
_____
_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Protective and sterile zone of OT
2. Clean and disposal zone of OT
3. Pre-operating room and recovery room

**Part B**

Discussed in class the following:

1. Ideal location of OT
2. Purpose of OT
3. Zones of operation theatre

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of the surgical facilities in operation theatre | | |
| Demonstrate the knowledge of operation theatre various zones | | |

## Session 2: Staffing and Equipment of Operation Theatre

In this session, you will learn about range of equipments of OT. You will also study about the staff associated with operation theatre.

### Relevant Knowledge

Operating theaters are under the department of surgical facilities. The work cannot be assigned to a single entity as it is a team work. The operating theaters are the perfect place to demonstrate the team work. The team work takes place under the leadership of the Head of the Department of Surgery and a devoted Sister OT, GDA and Technicians responsible for the functioning of the theatre. The following medical professionals and staff are generally present in the operation theatre:

1. **Surgeons**: Specialized in the particular branch of surgery
2. **Assistant Surgeons**: Specialized but practicing with the senior surgeons
3. **House Surgeons**: If it is a medical college hospital
4. **Medical student**: if any student is undergoing training
5. **Theatre sister**
6. Other theatre nurses: specialized to work in special operating rooms
7. Head nurses of each OT
8. Staff nurses
9. Medical and nursing students
10. Operation room technicians
11. Other staff such as attendants, cleaners, etc.
12. **General Duty Assistant**: His/her presence depends upon the policy of the hospital.

### Equipment in Operation Theatre

The modern Operation Theatre is highly equipped. The range of equipment of OT will depend upon the OT of a particular specialty, however some of the equipment used in modern OT are as follows:

1. OT table(s)
2. Anesthesia machine(s)
3. Anesthesia ventilator(s)
4. Defibrillator(s)
5. Neonatal multi-parameter monitor
6. Cautery machine
7. Central suction
8. C-arms
9. Phako emulsification machine
10. AO drilling system
11. Arthroscope
12. Endoscopic surgery system
13. Lithoclast and Lithotripter
14. The equipment kept in Cardiac Surgery OT are as follows:
    (a) Heart lung machine
    (b) Octopus
    (c) Defibrillator

(d) Fibrillator
(e) Multiparameter
(f) Hemotherm
(g) ACT machine

The OT management is an example of perfect team management, where a variety of personnel, ranging from highly skilled surgeons to semi-skilled attendants work for long duration in an uncomfortable posture, without much verbal communication. It requires discipline, commitment, self-motivation and stamina to provide quality assured service. There should be perfect planning of the OT scheduling, timely preparation, complete PAC, preoperative treatment and shifting of patient to theater.

## Training of Staff

All staff member should be trained in the maintenance of asepsis and universal precaution. Nobody is watching the OT staff, the patient is unconscious, the relatives are waiting outside, and patient's life is in the hands of the OT team. Nobody is required to observing the OT team. It is the team, who knows what to do. The team has to be well trained in **"NO TOUCH TECHNIQUE"**.

Training of staff is done on 'technical skills' and 'non-technical skills'. The former include the psychomotor dexterity and coordination that are required to carry out complex psychomotor tasks (e.g. to successfully place an epidural catheter). In case of latter, a healthcare provider is trained to work effectively as a member of a team and should possess skills like communication skill, leadership skills, interpersonal skills, coping with stress, etc.

Patient safety is of utmost importance. Open communication, and effective interdisciplinary teamwork helps in successfully achieving the target of providing safety to the patients. Teamwork can be defined as a set of interrelated behaviours, actions, cognitions and attitudes that facilitate the required task work that must be completed. Team-members must possess specific knowledge, skills and attitudes to achieve the goals. Faculty and trainers are required to undertake extensive training so that the staff demonstrates proficiency and commitment to achieve the goals. The quality and effectiveness of team communication depends on team coordination and efficiency. Good performance of the staff depends on the 'Systems Approach' to patient safety and efforts have to be directed to minimize errors.

## Exercise

1. Visit a nearby hospital and prepare the list of staff working in the OT.

| Staff | Roles and Functions |
|---|---|
| | |
| | |
| | |
| | |
| | |

## Assessment

**A. Short Answer Questions**

1. List any five professional and staff generally present in OT

_____
_____
_____
_____
_____
_____

2. What kind of training is required for OT staff?

_____
_____
_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Equipment of general OT and cardiac OT
2. Staff of OT and ICU

**Part B**

Discussed in class the following:

1. Safety policies adopted for OT
2. Training of staff of OT
3. Equipment in OT

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| Performance standards | Yes | No |
|---|---|---|
| Identify the equipment in operation theatre | | |
| Demonstrate the knowledge of the safety measures followed in OT | | |

## Session 3: Preparation of Patient for Operation

In this session, you will learn about the role of GDA in preoperative preparation of the patient.

## Relevant Knowledge

The General Duty Assistant or the Patient Care Assistant assist the team in OT. The various activities or tasks in which the GDA/PCA is involved is listed below:

### (I) Pre-operative Preparations

1. The drugs that the patient is receiving are noted.
2. Patient's general condition is noted.
3. Adequate diet is given and its proper digestion is confirmed.
4. Adequate proteins and vitamin C are given in the diet.
5. Adequate liquids and water are given to the patient. If the patient is not to take anything orally, intravenous fluids are given to maintain fluid and electrolyte balance.
6. The patient is prepared mentally for various investigations he/she has to undergo.
7. Preoperative investigations are done, so as to ensure fitness for anesthesia and surgery.
8. If the patient's hemoglobin is low, it is build up by administration of appropriate therapy including blood transfusions.
9. Any medical disorders present are treated appropriately, so that they are under control at the time of the surgery.
10. A written informed consent is obtained from the patient and his relatives for the operation to be performed.
11. A sedative is administered on the night before surgery to reduce anxiety and ensure adequate rest.
12. A simple enema is given on the morning of the operation so as to empty the rectum and lower colon. A purgative is avoided because it may cause strong purgation, which may cause dehydration and electrolyte imbalance.
13. The stomach is decompressed using a nasogastric tube is case of an intestinal obstruction.
14. Vital parameters are checked and recorded twice a day.

### (II) Local Preparation for Surgery

1. The hairs on part to be operated on are shaved, except the face in case of women and children.
    (a) Hair is removed from skin folds.
    (b) Cutting the skin is avoided, because bacterial infection may develop at the site of the cuts.
2. The shaved part is cleaned carefully with cetavlon. It removes dirt and oiliness from the skin.
3. The patient is asked to take a bath
4. The patient is given clean clothes to wear.

## (III) Preparation before sending the Patient to Operating Theatre

1. The patient is given long gown to wear, which opens on the back.
2. The patient is given long socks to wear so that he/she does not feel embarrassed.
3. Lipstick and nailpolish are removed. This is important because the anesthetist has to note pallor and syanosis, which will not be seen in the presence of the colour.
4. The head is covered with a triangular bandage or a cap so that all hairs are covered.
5. Dentures are removed.
6. Spectacles or contact lenses are removed.
7. All ornaments including wrist watch, bangles, etc. are removed.
8. A label is tied around the wrist of the patient, giving the following information.
    a. Name
    b. Indoor number
    c. Doctor's name
    d. Ward
    e. Diagnosis
    f. Operation to be done
9. The patient is asked to pass urine. This avoids the risk of development of urinary tract infection during catheterization.
10. The drugs prescribed to be given pre-operatively are given. Appropriate records are maintained of the drug administration.
11. The patient is taken to the operation theater on a trolley, along with his case papers and reports of his investigations.

## Exercise

1. Visit a nearby hospital and observe how patient is prepared for OT. Fill the table given below:

| Name of Surgery | Preoperative Care given |
|---|---|
| | |
| | |
| | |
| | |
| | |

## Assessment

**A. Short Answer Questions**

1. Describe the general duties of GDA in pre-operative preparation of the patient

_____

_____

_____

2. What information is written on patient's wrist band?

_____

_____

3. Enlist the major parameters assessed through physical examination in preoperative care of patient

_____

_____

_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Medical asepsis and surgical asepsis
2. Preoperative and post operative care

**Part B**

Discussed in class the following:

1. Role of GDA in providing pre-surgery care
2. Preparation of a patient for surgery
3. Importance of triangular bandage

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of vital parameters to be assessed before sending the patient in OT | | |
| Prepare the patient for surgery | | |

## Session 4: Post-operative Care

In this session, you will learn about the care rendered by General Duty Assistant in the post operative phase.

### Relevant Knowledge

The GDA is responsible for the following tasks or activities in the post operative phase:

1. The patient's bed is prepared before he comes back from the operation theater. Other preparations include the following:
   (a) The bed is made warm with the use of hot water bottles and bags.
   (b) Extra blankets are used to keep the bed warm.
   (c) The following articles are kept ready near the bed.
      (i) Oxygen cylinder
      (ii) Saline stand
      (iii) Bed blocks
      (iv) Postanesthetic tray
      (v) Injection tray
      (vi) Intravenous infusion tray

2. It is preferable to have a recovery room in which the patient is kept before he/she can be shifted to the ward. The proportion of specialist doctors, Nurses and GDA is higher in the recovery room, so that the patient receives better care than he would in the ward. The following equipment are kept ready in the recovery room:
   (a) Suction machine
   (b) Oxygen
   (c) Sphygmomanometer
   (d) Equipment for intravenous infusion.
   (e) Blood transfusion equipment
   (f) Bed blocks
   (g) Respirator.
   (h) Railing cots
   (i) Cardioscope
   (j) Cardiopulmonary resuscitation equipment

3. Before bringing the patient from the recovery room the following observations are made:
   (a) Patency of airway
   (b) Respiration : normal or abnormal
   (c) Temperature
   (d) Pulse
   (e) Blood pressure
   (f) Syanosis
   (g) Recovery from anesthesia
   (h) Nature of the operative wound.
   (i) Drainage sites and tubes

(j) Patency of the intravenous line
(k) Presence of catheters and tubes
    (i) Urinary catheter
    (ii) Nasogastric tube
(l) Completeness of indoor papers and postoperative orders.
(m) Special instruction, if any

4. When the patient is brought to the ward, the hot water bottles and bags are removed and he is placed on the bed. The tubes and catheters are connected appropriately. The intravenous infusion bag or bottle is hanged from the saline stand.

5. The patient is given semiprone position, which maintains his airway by preventing the following
    (a) Tongue falling back.
    (b) Aspiration of secretions
    (c) Aspiration or regurgitated stomach contents.

6. Moist oxygen is given by face mask or nasal catheter if the patient has undergone major surgery and the expansion power of his lungs is reduced so that he is hypoxic.

7. The patient's temperature, pulse, and respiration are noted as soon as the patient is brought to the ward, because these parameters can change while the patient is being shifted out of the ward. If there is any change, it should reach the normal level in a short period. If it does not, something could be seriously wrong with the patient. These parameters are examined every half hour to see if pulse change. In case the patient bleeds internally or externally, the pulse becomes rapid, and after severe bleeding, the respiration becomes rapid due to hypoxia.

8. The patient is kept warm. However overheating is to be avoided. Since it can lead to perspiration, dehydration, and electrolyte imbalance. It can also cause vasodilatation and increase the risk of hemorrhage from the operated area.

9. Fluids like normal saline and Ringer's lactate are given intravenously to make up for the loss during surgery and restore the fluid and electrolyte balance. Five per cent dextrose is given to supply calories. Over infusion of fluids is to be avoided because that can lead to pulmonary edema.

10. If intravenous fluids are to be infused over prolonged periods. Serum electrolyte levels are checked periodically so as to maintain electrolyte balance.

11. The patient is allowed to sleep in a comfortable position when he is fully conscious. He is permitted to move in bed and from the second day get out of the bed, unless he has a serious problem. Early mobilization reduces the risk of the following complications.
    (a) Deep vein thrombosis.
    (b) Pulmonary embolism
    (c) Hypostatic pneumonia.

12. Fowler's position is given when the patient has undergone major surgery. It achieves the following:
    (a) It permits deep breathing.
    (b) It relieves flatulence.
    (c) It permits gravity drainage of discharge

13. Some patients vomit during and after recovery from anesthesia. They are given sip of water and deep breathing exercises. If that does not relieve vomiting antiemetic drugs are used.

14. Flatulence is seen often after abdominal surgery. Flatulence causes severe abdominal pain. The patient becomes uncomfortable. Its incidence is reduced with early ambulation. Such patients are given antiflatulent drugs or a flatus tube is passed per rectum to remove the gas in the colon and rectum.

15. Pain is experienced during the first 1 to 2 days after the surgery. It does not permit the patient to sleep well at night.

16. Diet
    (a) After the patient has fully recovered from anesthesia and is found not to be vomiting and when his/her peristaltic sounds are normal, he/she is initially given water to drink. When he/she is found to tolerate that well, he is given liquids orally e.g. tea, coffee, coconut water, fruit juices, etc.
    (b) The next day he/she is given soft diet.
    (c) The following day he is given normal diet. Adequate quantities of vitamin C are ensured in the diet so that the operative wound heals well.

17. By the third day morning the patient will have received adequate diet orally and will pass stools. If he does not, he is given a simple enema. If the surgery has been done on the gastrointestinal tract, an enema only when asked for by the doctor treating the patient.

18. There is a risk of retention of urine postoperatively. It may be due to any of the following reasons, as shown in the following table.

| **Cause** | **Measure for correction** |
|---|---|
| Pain | Analgesic drugs |
| Lying down position | Make the patient sit up with support for passing urine. |
| Lack of privacy | Put screens around the patient's bed. |
| Spasm of bladder neck | Application of hot water bag to the lower abdomen.<br>Sound of running water. |
| Atony of bladder | Carbachol 1 ml IM. |

19. If all measures fail at relieving the retention of urine, the bladder is catheterized. Repeated episodes of retention of urine are managed by the use of a self retaining urinary catheter.
20. Deep breathing exercises are given to patients who have undergone abdominal surgery.
21. If the patient is unable to breathe on his own, he may require endotracheal intubation or tracheostomy and ventilation using a mechanical ventilator.

22. The dressing on the wound is not changed unnecessarily so as to reduce the risk of wound infection. It is changed if it gets soaked by blood or discharge. In case of wound infection, the dressing is changed as frequently as required.

23. The sutures are removed after 7 days. If the wound has healed well. It is left open.

## Exercise

1. Visit a nearby hospital and observe the post surgery care given to patient. Fill the table given below accordingly:

| Name of surgery | Post operative care given |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

## Assessment

**A. Short Answer Questions:**

1. What is the importance of the fowler's position in post operative care?

_____

_____

_____

2. Explain the methods of caring the patient required for surgical incision

_____

_____

_____

3. Explain different measures for corrections and their causes in case of risk of retention of urine post operative

_____

_____

_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Observation to be done prior recovery room and in the recovery room.
2. Post operative care and pre operative care
3. Recovery room and general room in hospital

**Part B**

Discussed in the class following:

1. The role of GDA in providing post operative care

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of care to be rendered by GDA in the post operative phase | | |

Notes

# SECTOR:HEALTHCARE

## NSQF Level 4 (CLASS XII)

# HSS 405-NQ2014: ROLE OF GENERAL DUTY ASSISTANT IN DISASTER MANAGEMENT AND EMERGENCY RESPONSE

## Student Workbook

# Table of Contents

# Session 1: Disaster Management and Emergency Response

In this session, you will learn about goals, cycle and phases of disaster management. As a healthcare worker you should develop the ability to identify the critical events in disaster and take necessary steps to notify the concerned authority or prevent the spread. You should also be able to understand the response to be made to personal, environmental and public safety as per the regulations and norms.

## Relevant Knowledge

When hazards are met by vulnerabilities or pressures which are seen as rooted in socio-economic and political processes, a **disaster** occurs. A disaster results from the combination of hazard, vulnerability and insufficient capacity or measures to reduce the potential chances of risk.

A disaster happens when a hazard impacts on a vulnerable population and causes damage, casualties and disruption. Any natural hazard such as flood, earthquake or cyclone which is a triggering event along with greater vulnerability would lead to disaster causing greater loss to life and property. Vulnerability includes inadequate access to resources, sick and old people, lack of awareness, lack of training, etc.

Vulnerability and risk to disaster will depend on certain conditions, for example, an earthquake in an uninhabited desert cannot be considered a disaster, no matter how strong it is. The hilly regions, on the other hand, are vulnerable to various kinds of disasters such as avalanches, landslides, hailstorms or cloudbursts.

Disaster Management covers a broad range of interventions before, during and after a disaster to prevent, minimize the loss of life and property and to accelerate recovery. The manner in which human beings deal with disasters improved as technology developed and our approach to risk assessment and mitigation measures became more and more scientific. Earlier, disaster management was reactionary and we could not prevent or mitigate the damage. But now we have developed pre-disaster mitigation measures to avoid or reduce the impact of disasters. Pre-disaster measures to prevent or mitigate disasters are called **Risk Management**.

### Goals of Disaster Management

The goals of disaster management are to:

1. Reduce, or avoid, losses from hazards;
2. Assure prompt assistance to victims; and
3. Achieve rapid and effective recovery.

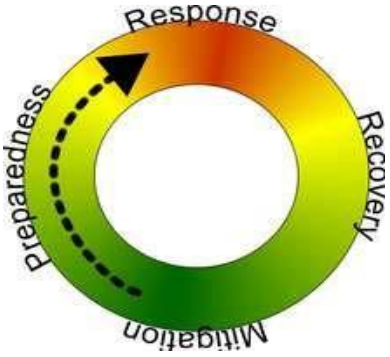



Figure 1: Disaster Management Cycle

The disaster management cycle illustrates the ongoing process by which governments, businesses, and civil society plan for and reduce the impact of disasters, react during and immediately following a disaster, and take steps to recover after a disaster has occurred. Appropriate actions at all points in the cycle lead to greater preparedness, better warnings, reduced vulnerability or the prevention of disasters during the next iteration of the

The complete disaster management cycle includes the shaping of public policies and plans that either modify the causes of disasters or mitigate their effects on people, property and infrastructure. The mitigation and preparedness phases occur as disaster management improvements are made in anticipation of a disaster event. As disaster occurs, key personnel in disaster management, especially humanitarian organisations, become involved in the immediate response and long-term recovery phases.

## Phases in Disaster Management

The four disaster management phases are as follows:

1. **Mitigation** – It includes steps taken to minimise the effects of disaster. Examples include building codes, vulnerability analysis, zoning and land use management, preventive healthcare and public education. Let us look at some of these mitigation measures in detail.

**(a) Building codes**: A building code or building control are a set of rules that specify the minimum acceptable level of safety for constructed objects such as buildings and non- building structures. The main purpose of building codes are to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures. Unless a building is being renovated, the building code usually does not apply to existing buildings. The building code becomes law of a particular jurisdiction when formally enacted by the appropriate **authority**. An example of a building code is an ancient building code that has come down from Biblical times, which specifies that a **parapet** must be made for the roof to prevent someone falling from it.

## Building Codes generally include

- Rules regarding parking and traffic impact.
- Fire code rules to ensure safe evacuation in the event of a fire.
- Requirements for earthquake, hurricane, tornado, flood, and tsunami resistance, especially in disaster prone areas or for very large buildings where a failure in following the norms would be catastrophic.
- Requirements for specific building uses (for example, storage of flammable substances, or housing a large number of people).
- Energy provisions and consumption.
- Specifications on components like size, windows, ventilations, basements, etc.
- Allowable installation methodologies.
- Minimum and maximum room and exit sizes and location.
- Ensuring exterior restrictions, such as setbacks.
- Qualification of individuals or corporations doing the work.
- Anti-collision markers for high structures for the benefit of aircraft.

**(b) Vulnerability Analysis:** Assessing vulnerabilities of a megacity are fundamental to enabling counteractive measures before an expected earthquake disaster as well as preparing for the post-earthquake response. An example of vulnerability analysis is of a remote sensing system set up to assess the vulnerability of a megacity and to assess the risk of a hazard turning into a disaster in that megacity. The data from the remote sensing provide information on population growth, housing in hazardous areas, etc. Substantial and up-to-date, area-wide data are the basis for effective crisis management.

(c) **Zoning and Land use Management**: Zoning is a method of land use planning done by local governments. The word is derived from the practice of designating permitted uses of land based on mapped zones which separate one set of land uses from another. Zoning regulates land use, such as for residential, commercial, green belts, ecological protection areas, etc., or it may regulate building height, parking lot coverage, etc. The primary purpose of zoning is to segregate uses.

To understand zoning think of how space is organized in a home. The different rooms of the house are situated in a way that it is both convenient and safe for people of the house. Water faucets, drains, electrical fittings are placed in the bathrooms in such a way that they can be hygienically and safely used.

Space in the rooms are demarcated for sitting, sleeping, watching TV, etc. keeping in mind the movement as well as convenience and safety. Zonal regulations means zoning of land use and regulations prepared under the Town and Country Planning Act, prescribing the uses permissible in different land use zones, the open spaces around buildings, plot coverage, floor area ratio, height of the building, building lines, parking, etc.

Mitigation will depend on the incorporation of appropriate measures in national and regional development planning. Its effectiveness will also depend on the availability of information on hazards, emergency risks, and the countermeasures to be taken. The mitigation phase, and indeed the whole disaster management cycle, includes the shaping of public policies and plans that either modify the causes of disasters or mitigate their effects on people, property, and infrastructure.

2. **Preparedness:** It involves planning to respond to disaster. It includes preparedness plans, emergency exercises or training, and warning systems.

The goal of emergency preparedness programmes is to achieve a satisfactory level of readiness to respond to any emergency situation through programmes that strengthen the technical and managerial capacity of governments, organizations, and communities. These measures can be described as logistical readiness to deal with disasters and can be enhanced by having response mechanisms and procedures, rehearsals, developing long-term and short-term strategies, public education and building early warning systems.

Preparedness can also take the form of ensuring that strategic reserves of food, equipment, water, medicines and other essentials are maintained in cases of national or local catastrophes. During the preparedness phase, governments, organizations, and individuals develop plans to save lives, minimize disaster damage, and enhance disaster response operations.

Preparedness measures include, (i) preparedness plans; (ii) emergency exercises/ training; (iii) warning systems; (iv) emergency communication systems; (v) evacuation plans and training; (vi) resource inventories; (vii) emergency personnel/contact lists; (viii) mutual aid agreements; and (ix) public information and education. As with mitigation efforts, preparedness actions depend on the incorporation of appropriate measures in national and regional development plans. In addition, their effectiveness depends on the availability of information on hazards, emergency risks and the counter measures to be taken, and on the degree to which government agencies, non-governmental organizations and the general public are able to use the information.

3. **Response:** Response includes efforts to minimize the hazards created by a disaster. It includes search and rescue, and emergency relief. The aim of emergency response is to provide immediate assistance to maintain life, improve health and support the morale of the affected population. Such assistance may range from providing specific but limited aid, such as assisting refugees with transport, temporary shelter, and food to establishing semi- permanent settlement in camps and other locations. It may also involve initial repairs to damaged infrastructure. The focus in the response phase is on meeting the basic needs of the people until more permanent sustainable solutions can be found.

4. **Recovery:** Recovery includes measures taken to generate resource for returning the community to normal. These measures may include temporary housing, grants, and medical care. As the situation after a disaster is brought under control, steps are undertaken to enable the affected population of undertaking a number of activities aimed at restoring the infrastructure and other resources. There is no distinct point at which immediate relief changes translate into recovery and then into long-term sustainable development. It depends on the pace of recovery and recurrence of the disaster. There will be many opportunities during the recovery period to enhance prevention and increase preparedness, thus reducing vulnerability.

   Recovery measures, both short and long-term include returning vital life-support systems to minimum operating standards, temporary housing, public information, health and safety education, reconstruction, counseling programmes, and economic impact studies. Information resources and services include data collection related to rebuilding, and documentation of lessons learned. Recovery activities continue until all systems return to normal or better.

   One of the major considerations of a disaster management plan is to reduce the vulnerability of a population to a risk or a hazard. This leads to plans for sustainable development. Measures of sustainable development include the promotion of sustainable livelihood and their protection and recovery during disasters and emergencies. Where this goal is achieved, people have a greater capacity to
   deal with disasters and their recovery is more rapid and long lasting.

## National Disaster Management Act, 2005

The Disaster Management Act 2005 defines disaster as "a catastrophe, mishap, calamity or grave occurrence affecting any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature magnitude as beyond the coping capacity of the community of the affected area". It defines disaster management as a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary or expedient for (1) prevention of danger or threat of any disaster (2) mitigation or reduction of risk of any disaster or its severity or consequences (3) capacity building (4) preparedness to deal with any disaster (5) prompt response to any threatening disaster situation or disaster (6) accessing severity or magnitude of effects of any disaster (7) evacuation rescue and relief and (8) rehabilitation and reconstruction.

The Disaster Management Act passed in 2005 provides for a detailed action plan right from the central government to the district and local levels to draw, implement and execute disaster management plans. The Act comprising 79 sections and 11 chapters is capable of effectively managing the disaster and

matters related to it. According to the Act, "Disaster Management" is defined as a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary or expedient to prevent danger or threat of any disaster, mitigation or reduce the risk or severity or consequences of any disaster, capacity-building and preparedness to deal with any disaster, prompt response to any threatening disaster situation or disaster, assessing the severity or magnitude of effects of any disaster, evacuation, rescue and relief, rehabilitation and reconstruction. The Act empowers the Central Government to appoint the National Disaster Management Authority with the Prime Minister of India as the Chairperson and such number of other members, not exceeding nine. The other provisions in the Act include the establishment of National, State and District level disaster management Authorities, Institutes and Committees.

## Exercise

1. Visit the local Bureau of Indian Standards (BIS) to study the building codes. Record your observations and submit them as part of your portfolio.
2. Visit the local office of the Town and Country Planning to study the zoning laws and regulations of your town/city especially from the point of view of disaster mitigation and preparedness. Discuss the meaning of the following terms and note your observations in your diary.
   (a) Municipality
   (b) Land use
   (c) Master plan
   (d) Layout
   (e) Residential
   (f) Commercial (retail and wholesale)
   (g) Industrial (light, medium, heavy and service) (h) Public and semi-public
   (i) Public utilities
   (j) Open spaces, parks, playgrounds
   (k) Transport and Communication
   (l) Agriculture use
3. From local newspaper archives in the school library/local public library find the disasters that have occurred as a result of violation of zoning laws or building regulations. Prepare a write up and include in your portfolio.
4. Visit the local Fire Station and Disaster Management Institute/ Agency and discuss with the concerned officers about the mitigation and preparedness measures.
   Record your observations and submit them as part of your portfolio.
5. Using the key words such as disaster, disaster management cycle and disaster management browse through the websites and note the meaning of these terms and the website address.

## Assessment

**A. Short Answer Questions**

1. Define disaster

_____
_____
_____
_____
_____

2. List the phases of disaster management

_____
_____
_____
_____

3. State two preparedness measures that should be taken to avoid an earthquake disaster in a multi-storey residential building.

_____
_____
_____

4. Write the full form of the following abbreviations:

(i) DMT:_____
(ii) DMC:_____

5. Write short note (about 200 words) on the following:

- Natural and man-made disasters
- Myths about disasters and rumours to be destroyed
- Gender issues in disaster management

**B. Fill in the blanks**

1. The two types of disasters are manmade and n_____
2. Disaster results from a combination of h_____ conditions of v_____ and insufficient capacity or measures to reduce potential negative consequences of risk.
3. _____include measures taken to generate resource for returning the community to normal.
4. _____ includes efforts to minimize the hazards created by a disaster.
5. Emergency exercise or training for disaster management is part of the p_____.

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity

**Part A**

Differentiated between the following:

1. Hazard and disaster
2. Manmade and natural disasters
3. Mitigation and preparedness
4. Response and recovery

**Part B**

Discussed in class the following:

1. Importance of disaster management
2. Goals of disaster management
3. Disaster management cycle

**Part C**

**Performance standards**

The performance standards may include, but not limited to:

| Performance standards | Yes | No |
|---|---|---|
| Identify hazards and risks in a given situation | | |
| Identify the phases in disaster management | | |
| Read terms and signages for disaster management | | |

## Session 2: Role and Responsibilities of Emergency Response Team

In this session, you will learn about the structure, roles and responsibilities of Emergency Response Team (ERT). It will help you to understand the equipment and procedures that are applied for rescue and search operations and the benefits of drills. It will also expose you to the understanding of the various safety threats and appropriate actions. Such understanding will keep you to function effectively in a team in case of mass casualty incidents.

### Relevant Knowledge

Emergency Response Team (ERT) or Emergency Response Unit (ERU) is established to provide relief from suffering and distress to persons affected by hazards, emergencies and disasters. It is a team of trained technical specialists ready to be deployed at short notice. They use pre-packed sets of standardized equipment and materials to deal with the emergency.

#### Structure, Roles and Responsibilities of an ERT

The structure of an ERT is a functional team. In the United States of America (USA), the standard is a ten-person team comprising of the following:

1. **ERT Team Leader:** Generally, the first ERT team member arriving on the scene becomes team leader, and is the designated Incident Commander (IC) until the arrival of someone more competent. He/she makes the initial assessment of the scene and determines the appropriate course of action for team members; assumes role of Safety Officer until assigned to another team member; assigns team member roles if not already assigned; designates triage area, treatment area, morgue, and vehicle traffic routes; coordinates and directs team operations; determines logistical needs (water, food, medical supplies, transportation, equipment, and so on) and determines ways to meet those needs through team members or citizen volunteers on the scene; collects and writes reports on the operation and victims; and communicate and coordinates with the incident commander, local authorities, and other ERT team leaders.

2. **Safety Officer:** The Safety Officer checks team members prior to deployment to ensure that they are safe and equipped for the operation. He/she determines whether the working environment is safe or unsafe and ensures team accountability. He/she supervises operations (when possible) where team members and victims are at direct physical risk, and alerts team members when unsafe conditions arise.

3. **Fire Suppression Team (2 people):** The team suppress small fires in designated work areas and assist the search and rescue team or triage team.

4. **Search and Rescue Team (2 people):** The team search and provide for rescue of victims, as is prudent under the conditions and assist the Fire Suppression Team.

5. **Medical Triage Team (2 people):** They provide Simple Triage and Rapid Treatment (START) triage for victims found at the scene; marking victims with category of injury as per the standard operating procedures and assist the Fire Suppression Team or Rescue Team, if needed. The START system was developed to allow first responders to triage multiple victims in 30 seconds or less based on three primary observations: Respiration, Perfusion and Mental Status.

6. **Medical Treatment Team (2 people):** The team provides medical treatment to victims within the scope of their training. This task is normally accomplished in the Treatment Area; however, it may take place in the affected area as well. They may also assist the Fire Suppression Team and the Medical Triage Team as needed.

The team members have to work under the supervision of the ERT team leader, and communicate with him/her. Because every ERT member in a community receives the same core instructions, all team members have the training necessary to assume any of these roles. Hasty teams may be formed by whichever members are responding at the time. Members may need to adjust team roles due to stress, fatigue, injury, or other circumstances.

## Equipment used by ERT

The equipment used by an ERT could be sophisticated or simple, depending on the nature of the emergency and its magnitude. The list of some of the equipment used by the ERT is as follows:

- Personal Protective Equipment (PPE include hard hats, protective apparel, masks, eye protection glasses, gloves, etc.).
- HAZMAT (Hazardous Material Response Trucks).
- Frac tanks (A frac tank is used to hold water, or a proppant, when a well is being fractured)
- Vacuum trailers
- Excavators
- Bulldozers
- Tri-axle Dump Trucks
- Roll-Off Container Trucks
- Air Cushion Recovery Tools
- Mobile Incident Command Center with Satellite Communication Equipment
- Utility Vehicle
- Evacuation Megaphones
- Emergency Rescue Mat
- Emergency Eyewash and shower equipment
- Fire Extinguishers
- Medical Equipment
- Flotation Devices
- Safety Ropes

## Search and Rescue Operations

Search and Rescue Operations (SAR) are a set of technical activities rendered by individual or a group of specially trained personnel who rescue and attend

to the casualties under adverse conditions, where life is at threat. It is important for the rescuers to collect information on the extent of damage, approach to the damage and understand if any further damage is likely to occur.

Search and Rescue Operations comprises the search for, and provision of aid to persons or structures which are feared to be in distress or imminent danger. It uses available personnel and facilities. It

provides for their initial medical or other needs, and delivers them to a place of safety. Rescue is a team effort that needs planning and coordination amongst the members for an optimum response. The four types of search and rescue operations are as follows:

**(i) Mountain rescue** refers to search and rescue activities that occur in a mountainous environment. The terrain in which mountain rescue often occurs has resulted in the development of a number of specific pieces of equipment and techniques. The equipment includes mountain bike, motorcycle, protective clothing, helmet, knives, tools, compass, and sleeping bags. Helicopters are often used to quickly extract casualties, and search dogs may be used to locate casualties or survivors.

**(ii) Ground search and rescue** is the search for persons who are lost or in distress on land or inland waterways. Traditionally associated with wilderness zones, ground search and rescue services are increasingly required in urban and suburban areas to locate persons with Alzheimer's disease, autism, dementia, or other conditions that lead to wandering behaviour.

**(iii) Urban search and rescue** also referred to as Heavy Urban Search and Rescue (HUSAR), is the location and rescue of persons from collapsed buildings or other urban and industrial entrapment. Urban SAR (USAR) in many jurisdictions refers to the location and extraction of people from collapsed buildings or other entrapments. Some ground search teams also employ search and rescue dogs. Due to the specialized nature of the work, most teams are multi- disciplinary and include personnel from police, fire and emergency medical services.

Unlike traditional ground search and rescue workers, most USAR responders also have basic training in structural collapse and the dangers associated with live electrical wires, broken natural gas lines and other hazards. While earthquakes have traditionally been the cause of USAR operations, terrorist attacks and extreme weather such as tornadoes and hurricanes have also resulted in the deployment of these resources.

**(iv) Combat search and rescue** is search and rescue operations that are carried out during war, that are within or near combat zones. The armed forces of the country plays a vital role during disaster emergencies, providing prompt relief to the victims even in the most inaccessible and remote areas of the country. With their skills in technical and human resource management they organize effective relief measures for emergency situations.

**(v) Air-sea rescue** refers to the combined use of aircraft (such as flying boats, floatplanes, amphibious helicopters and non-amphibious helicopters equipped with hoists) and surface vessels to search for and recover survivors of aircraft downed at sea as well as sailors and passengers of sea vessels in distress. The rescue team should follow the following three key principles, while performing rescue operations:

(a) **Look** physically for survivors and casualties trapped under the debris.
(b) **Listen** to the source of information using acoustic devices.
(c) **Feel** the gravity of danger and then respond to the situation.

## Rescue and Evacuation Drills

A rescue and evacuation drill is a method or procedure of practicing the rescue or evacuation for an emergency. During any disaster, it is generally the security personnel or the police that first reaches the spot till the arrival of other emergency service personnel. The police extend all possible help and

cooperation to the local authority in the rescue and evacuation operations. The security personnel should, therefore, be trained in rescue and search operations. In India, the Central Industrial Security Force (CISF) has been designated as one of the agencies to respond in the case of a disaster striking any part of the country. The Government of India has also declared the National Industrial Security Academy (NISA) as a National level institution for imparting training to the rapid response units.

In an evacuation generally the emergency system, usually an alarm is activated and the building is evacuated as though a real emergency has occurred. Usually the time it takes to evacuate is measured to ensure that it occurs within a reasonable length of time, and problems with the emergency system or evacuation procedures are identified to be remedied.

At the village level, Disaster Management Committee (DMC) and Disaster Management Teams (DMTs) are set up. The DMC consists of elected representatives, local authorities, officials from Government departments, doctors, paramedics, representatives from primary health centres, school teachers, etc. The DMT consists of the members of voluntary organizations/NGOs and trained volunteers from the village. The members of the team are imparted training in basic functions of rescue, evacuation, first aid, etc.

Drills are usually conducted in schools, offices, factories and other such facilities. The kinds of drills usually depend on the possible emergencies that could occur in those areas. The common types of drill that are usually conducted are:

1. Fire drills.
2. Drills on use of rescue equipment like ropes and knots, stretchers, fire extinguishers, and first aid kits.
3. Drills on use of flotation devices.
4. Drills on use of Personal Protection Equipment.

### Benefits of Drills

- Drills help develop teamwork.
- Drills help develop self confidence.
- Drills help to prepare crew for responding rapidly and effectively in an emergency situation.
- Drills can help prepare the crew to make decisions under pressure.
- Drills can help to identify how procedures might be improved.
- Drills help the crew to become familiar with the equipment and procedures and whether they are working properly.

## Exercise

1. Visit the local fire-station and note down the list of equipment and procedures that they use for conducting fire drill.
2. Write down the equipments need for the following rescue operation

| Rescue Operation | Equipment needed |
|---|---|
| Mountain rescue | |
| Ground search and rescue | |
| Urban search and rescue | |
| Combat search and rescue | |
| Air-Sea rescue | |

## Assessment

**A. Short Answer Questions**

1. What is an ERT?

2. Who are the members of an ERT?

3. Enlist the equipments used by an ERT.

4. Explain method of rescue and evacuation drill

5. What are the benefits of drills?

_____
_____
_____
_____
_____

**B. Write short note on the following:**

(a) Role of Panchayat or local authority in disaster management

_____
_____
_____
_____
_____

(b) Role of Non-government organizations in disaster Management

_____
_____
_____
_____
_____

(c) Role of educational institutions in disaster management

_____
_____
_____
_____
_____

**B. Fill in the blanks**

1. ERT stands for _____ Response_____.
2. An ERT is established to provide relief from suffering and distress to persons affected by hazards and d_____.
3. _____rescue refers to search and rescue activities that occur in a mountainous environment.
4. _____search and rescue operations are carried out during war.
5. The rescue team should l _____for survivors, listen to the source of information and f _____the gravity of danger, before responding to the situation.

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity.

**Part A**

Differentiated between the following:

1. Medical triage team and Medical treatment team.
2. Mountain rescue and ground search and rescue.

**Part B**

Discussed in class the following:

1. Roles and responsibilities of people involved in emergency response team or emergency response units
2. Different types of search and rescue operations

**Part C**

**Performance standards**

The performance standards may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Identify personal protective equipment used by emergency response team or disaster management team | | |
| Identify the role of various teams in responding to an emergency in a given situation or accident | | |

## Session 3: Fighting Fire

In this session, you will learn about the classification and causes of fire. You will also study the procedure of dealing with fire emergencies, methods and techniques of extinguishing fire, fire fighting equipment and installation, fire prevention and protection and role of people in fire detection and control. The knowledge and skills acquired through this module will help you to assist in fire emergencies in hospital or other medical care units.

### Relevant Knowledge

Everything in nature is made up of five basic elements: (i) earth, (ii) water, (iii) fire, (iv) air, and (v) space. Each of the five elements has a certain relationship with the other elements. These relationships form the laws of nature. An element could support or act as an enemy to the other element. For example, air (contains oxygen) support fire, but water can block the spread of fire. Therefore, in order to co-exist fire and water need to be separated. In this session, we will try to understand how to respond to fire emergencies. But before we do that, let us first understand what we mean by fire.

**Fire** is the rapid oxidation of a material in the chemical process of combustion, releasing heat, light and various reaction products. The **flame** is the visible portion of the fire and consists of glowing hot gases. Fire has the potential to cause physical damage through burning.

For a fire, three things are necessary - heat, oxygen and fuel. Fuel (in a non-gaseous state) does not burn directly. When you apply heat to fuel, it produces a gas. When the oxygen in the air combines with this gas, it burns. Remove one of those things (e.g., add water to eliminate heat or cover with dirt or sand to eliminate oxygen) and the fire will go out. Therefore the three elements that are necessary for a fire to ignite are:

- Heat
- Oxygen
- Fuel
- Fires start when a flammable and/or a combustible material, in combination with a sufficient quantity of oxygen gas is exposed to a source of heat that reaches above the flash point for the fuel and is able to sustain a rate of rapid oxidation that produces a chain reaction. This is commonly called the "*fire tetrahedron*" (See Figure 1).

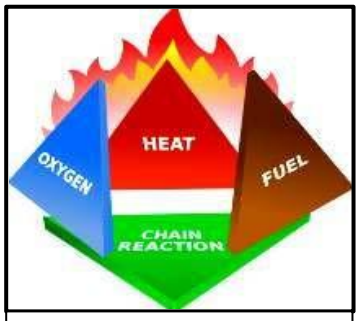



**Fig.1: Fire Tetrahedron**

### Classification of Fires

Most fires that occur will fall into one or more of the following classes:

**Class A**: It comprise of fires involving ordinary combustible materials, such as paper, wood, and textile fibers. Cooling, blanketing, or wetting extinguishing agents are used for extinguishing such fires.
**Class B**: It comprise of fires involving flammable liquids such as gasoline, thinners, oil-based paints and greases. Extinguishers for this type of fire include carbon dioxide, dry chemical and halogenated agent types.
**Class C**: It comprise of fires involving energized electrical equipment. The most common type of extinguisher for this class is carbon dioxide extinguisher.

**Class D**: It comprise of fires involving combustible metals such as magnesium, sodium, potassium, titanium, and aluminum. Special dry powder extinguishing agents are required for this class of fire, and must be tailored to the specific hazardous material.

**Class K:** It comprises fires involving commercial cooking appliances with vegetable oils, animal oils, or fats at high temperatures belong to the category of class K. Wet potassium acetate, which is a low pH-based extinguishing agent, is used for extinguishing this class of fire.

## Common Causes of Fire

Common causes of fire can be related to the following:

### (i) Open Flames

- Negligence in conducting hot work, such as welding, cutting or grinding.
- Improper use of candles.
- Improper handling of flammable or combustible liquids or flammable gases in or near-to-potential ignition sources.
- Matches and cigarettes that are improperly
- Disposed off or left unattended near combustibles.

### (ii) Electrical

- Damaged electrical conductors, plug wires or extension cords.
- Use of faulty, modified or unapproved electrical equipment.
- Insufficient space or clearance between electrical heating equipment and combustibles.
- Short or overloaded circuits.
- Loose electrical connections.
- Lighting.

### (iii) Cooking

- Deep frying in pots or pans on stove tops.
- Unattended cooking appliances.
- Combustibles located dangerously close to cooking equipment.

### (iv) Spontaneous Ignition

- Improper disposal of materials susceptible to spontaneous combustion, such as oily rags from wood finishing or polishing.
- Accumulation of organic materials, such as green hay, grain or woodchips.
- Accumulation of waste combustible materials near potential sources of ignition.

## Dealing with Fire Emergencies

In order to deal with fine emergencies remember the short form "RACE" i.e., Rescue, Alarm, Confine and Evacuate. Let us now learn about each of these aspects in detail.

**R - Rescue/Remove:** Search and rescue is a team effort that needs planning, trained people and coordination amongst the members. When you discover a small fire you can rescue people in immediate danger, but this you should do without endangering your life. In case of big fires, evacuation should be done and people should calmly exit via safe **Fire Exit**.

**A - Alarm/Alert:** Sound the alarm by pulling a fire box and call from a safe distance. Dial the fire emergency number 101.

**C - Confine/Contain:** Close all doors, windows and other openings.

**E - Evacuate/Extinguish:** Evacuate the building. In case it is necessary to enter the building, for example, to save people, take necessary precautions while entering the building.

## Methods and Techniques of Extinguishing Fire

Small fires can be extinguished only if you are trained to use a fire extinguisher under the supervision of a trained fire fighting personnel. To stop a fire, one of the sides of the fire tetrahedron ought to be cut off. The various methods adopted for extinguishing a fire include the following:

- COOLING: Lowering the temperature of the combustible material so that it falls below the ignition temperature.
- SMOTHERING: Cutting off supply of air/oxygen to the combustible material.
- STARVING: Removing of combustible material or removing air for achieving conditions below the "Limit of flammability".

| Class of Fire | Description | Method of Extinguishing | Extinguishing Medium | Extinguisher to be Used |
|---|---|---|---|---|
| A | Fire involving ordinary combustible material such as textiles, wood, paper, jute, etc. | Cooling | Water | Soda-Acid Type, Water, $CO_2$. |
| B | Fire involving flammable liquids such as petrol, oils, lubricants, solvents, paints, varnishes etc | Smothering or Blanketing effect | Foam $CO_2$ Dry Chemical Powder (DCP) | Foam $CO_2$, Dry Chemical Powder or Halon type. |
| C | Fire involving electrical installations due to overheating or short circuiting. This may finally lead to class A, B or C fire | Switch off electrical supply | Vapourising liquids, dry powders and $CO_2$ | $CO_2$, DCP or Halon, to be dry sand. |
| D | Fire involving metals such as radioactive metals Aluminum, Magnesium, Potassium, Sodium and Zinc | Smothering | Suitable dry powder | Special DCP extinguisher, dry earth, dry sand, powdered graphite, talc and asbestos, soda |
| K | Fire involving cooking oils and fats | Smothering | Powder BE | Foam, wet chemical extinguisher, Powder BE |

**Note:**

- Do not use water jet for class B, D and E Fires.
- Do not use foam extinguishers for class A, C, D and E Fires.
- For class "E" Fire, extinguishing medium must be non-conductor of electricity and also non-damaging to equipment.

## Fire Fighting Equipment and Installations

**1. Personal protective equipment (PPE)** designed to withstand water and high temperatures and hand tools used by fire fighters are as follows:

(a) Bunker gear, including turnout jacket and pants
(b) Self-contained breathing apparatus.
(c) Helmet, facemask and/or visor.
(d) Safety boots, gloves
(e) Alert safety system device.
(f) Handheld radio or other communication devices.
(g) Thermal Imaging Camera.
(h) Gas Meter.
(i) Flat and pick-head axe.
(j) Halogen bar
(k) Chain saws.

**2. Fire Water Tanks:** For dealing with large fires, the entire building is installed with a system with a network of pipeline, hydrant valves, sprinkler heads, etc. The system is always kept under desired pressure with the help of respective Jockey pumps operating automatically within a range of water pressure in the pipe line. In case some hydrant is opened or sprinkler system gets activated, the respective main hydrantump or sprinkler pump will start automatically at a pre-set pressure for supplying water in large quantity. For supplying water to the system, the following water tanks are generally placed:

(a) 1 Tank at the terrace: 100 KL (Kilo Litre)
(b) 2 Underground tanks: 285 KL each
(c) 2 Raw water tanks: 170 KL each
(d) 2 Domestic water tanks: 155 KL each
(e) Soft water tanks: 305 KL

**3. Pumps**:

a) Main Fire Pumps for hydrants: Capacity 4500 LPM (Litre Per Minute).
b) Pump for Sprinkler System: Capacity 4500 LPM.
c) Diesel Pump as stand by: Capacity 4500 LPM for hydrant and sprinkler system.
d) 2 Jockey Pumps with the capacity of 180 LPM and
e) 450 LPM each to maintain pressure in low, medium and high pressure system.

**4. Fire Hydrants:** Fire hydrants are provided inside the building covering all the areas as per fire safety rules and regulations. Each hydrant box is equipped with a hose reel, two outlet valves for standard size hoses and a branch pipe.

**5. Yard Hydrants:** These are provided around the building for attacking the fire from outside, with the help of single outlet valve and standard size Reinforce Rubber Lined (RRL) hoses. Rubber hoses are provided with instantaneous release type couplings at each end i.e. male coupling at one end and female coupling at the other end.

***(a) Use of Hose Reels in Hydrants (*Rubber Hose Reel of length 35 metres):** Open the fire hydrant cabinet door, tilt the hose reel outwards and start unrolling the rubber hose after opening 1 inch size hydrant valve. Open quick shut off valve on the nozzle of direct water jet at the base of fire. One person can operate the hose reel comfortably. For handling canvas hoses, 2-3 persons are sufficient.

***(b) Use of RRL (Reinforced Rubber Lined) Hose (Length 15 mtr -02 in each hydrant box)***: Open the hydrant cabinet door, unroll the canvas hose, connect its male coupling end to hydrant valve and if required, connect additional hoses depending upon the distance between the seat of fire and hydrant box. Ensure that length of hose is not kinked. Connect water jet nozzle to female end of canvas hose and hold it firmly with both hands while keeping the hose pressed between the body and right arm. Throw of water can be adjusted by regulating the hydrant valve. Third person can assist in holding the pressurized hose or adjust length of hose or act as a messenger for regulating the hydrant valve. Drain hoses thoroughly before rolling and stowing. Do not open the hydrant valve abruptly as reactive force of water jet through nozzle may injure the person holding it.

**6. Automatic Sprinkler System:** A sprinkler system is an automatic fire detecting, alarm and extinguishing system that is constantly on guard to deal quickly and effectively with any outbreak of fire that may occur in relevant spaces. Water is fed to the sprinkler heads through a multi-stage composite pump applying water to low, medium and high pressure system of piping usually suspended from the ceiling with sprinklers facing upwards.

Sprinklers system also helps for gaining an easy access to seat of fire and improvement of visibility by lowering the smoke level in areas on fire.

In case of fire when temperature rises $68^{O}C$, the quartzoid bulb in the sprinkler head bursts and water under pressure starts spraying out from the sprinkler for extinguishing the fire by cooling effect.

Most of the area in the shopping mall building is well protected against risk of fire by means of automatic sprinkler system. Various areas connected to low, medium and high pressure sprinkler system are further divided zone-wise and a visual and audible alarm indication will be activated on alarm panel situated in the mall control room.

**7. Fire Detection Panel and Warning System:** This panel is installed in the electric control room. In case of a fire in a particular zone, we get an indication and audible alarm signal for dealing with the emergency situation. Control panel operates on $24^{O}C$ supply through a rectifier circuit connected to 230 V AC supply.

A stand by 24V battery backup is provided in case of failure of supply from the mains. Highly sensitive smoke and heat detectors are installed in various zones in public area, retail shops, service and machinery area on floors and corridors.

**Heat detectors:** These detectors have thin strips of metal that react to the presence of heat and activate an alarm when a specific temperature is reached. The thin strips of metal warp easily when heat from the air comes into contact with them. When the metal warps to a sufficient degree, contact is made with an electrical circuit activating the alarm.

**Smoke detectors:** When oxygen and the fuel source combine, the chemical reaction between the two products often produce other byproducts, including smoke and other toxic gases. A smoke detector works by monitoring the air for particles of smoke i.e., the minute particles produced by combustion. Smoke detectors do not detect flame, heat, or gases. There are two types of smoke detectors commonly in use: (i) Ionization Smoke Detectors, and (ii) Photoelectric Smoke Detectors

**Flame detector:** These systems monitor the production of certain spectrums of light produced by fire. Some of these systems monitor infrared light while others monitor ultraviolet light produced by the fire.

In case of fire, respective area fire detectors will activate an audible alarm signal along with visual indication showing the affected zone on a floor. A Light Emission Diode (LED) lamp glowing at the base of detector indicates that the detector has activated. The smoke detector is reset after the fire or after source of smoke is eliminated. Any fault indication also gets displayed on the panel.

Manual call boxes, installed at specific points in the corridors, service, machinery and public area, covering the entire mall building are use to activate fire alarm. Fire alarm can be activated in the main fire control panel by breaking the glass of pill box with a small hammer fixed on it. For resetting the system, pill box glass has to be refixed.

**8. Public Address System***:* The Public Address (PA) system panel is a part of main control panel. All areas are divided in zones for making necessary announcements or for giving FIRE ALERT alarm to various guest, service, machinery and public area. This system is supervised round the clock by an Assistant Security Officer (ASO).

**9. Automatic Sprinkler Alarm Panel:** This panel is installed adjoining main fire detection and warning panel. Zonal alarm signal and visual indication will get displayed on this panel in the event of water flow through the sprinklers, accidentally or due to outbreak of a fire.

**10. Emergency Exits:** Emergency exits on the road side outside the building are provided on every floor. Similarly, adequate arrangement is made for emergency exits from various public areas, basements, service areas and machinery areas.

**11. Signages:** Evacuation and safety instructions are displayed conspicuously at different prominent places. The following signages are generally displayed:

i. Photo luminescent signages reading **"IN CASE OF FIRE, USE STAIRS UNLESS INSTRUCTED OTHERWISE"** in red and white background in the entire building showing EXIT route.
ii. Photo luminescent signages are fixed in **"EXIT"** staircase indicating floor number.
iii. Each stairway and each elevator is given numbers as per evacuation plan e.g. S1, S2, etc. for stairways and L1, L2, etc. for elevators.

iv. "No Smoking" signages are provided in service areas. v. Kitchen safety signages are fixed in all kitchens.
vi. High Voltage/Danger signages are fixed on all electrical panels.

**12. Emergency Power Supply**: In case of power failure from the city source, generator sets each with a power output of 1500 KVA (or commensurate with requirements) come on load automatically within 5 to 10 seconds for meeting the normal supply load demand.

## Prevention and Procedures

The defense against fire is viewed in two parts i.e., Fire Prevention and Fire Protection.

**(i) Fire Prevention:** This is a major precaution, which embodies the control of the source of heat and elimination or isolation of obviously dangerous fuels. It is considered much more important than success in the fire fighting operations. Adhering to precaution saves not only consequential losses but also helps in maintaining continuity in operations. Some of the preventive measures which are to be followed strictly have been mentioned below:

- Do not compromise on implementing norms and standards.
- Develop No Smoking discipline.
- Do not leave liquid fuel unattended.
- Prevent unauthorized electrical connections and usage of unauthorized electrical apparatus.
- Store all fuels / flammable stores in safe place.
- Establish a fire preparedness plan which takes care of prevention, response, recovery and keep it updated periodically.
- Designate an emergency coordinator and a team and assign responsibilities to employees to initiate the plan.
- Keep your housekeeping up-to-date, preventing accumulation of garbage or waste materials.
- Upgrade the facility to meet the required fire codes mentioned in National Building Code (NBC) of India.
- Ensure a preventive maintenance programme for operational equipment and make sure that the equipment meets the specifications and standards.
- Develop a mutual programme with neighbouring establishments for such emergencies.

**(ii) Fire Protection**

- The First Aid firefighting equipment has been provided on all floors, including basements.
- Fire fighting extinguishers have been distributed all over the building not only as per norms but also depending upon the vulnerability of the place.
- The complete building and the lawn is equipped with manual as well as automatic fire alarm system. Location of all manual call boxes is within laid down limit of 22.5 meter. The call boxes while being visible from the exit ways do not obstruct fire exits. The call boxes are "Break Glass" Type.
- Fire exits and elevators are fitted with fire doors and shutters to provide fire protection to these areas.
- Fire extinguishers in the entire building, particularly in places identified as hazardous.
- Periodically test fire detection and suppression system as per national fire code.

- Ensure adequate water supply for hydrants and sprinklers.
- Evaluate volume, pressure and duration of water to last in an emergency.
- Provide an alert warning system for people in premises.
- Predetermine fire evacuation routes, mark them clearly and carry out periodical drills for all employees as well as guests.
- Inspect all evacuation routes daily.
- Maintain a checklist of maintenance.
- Smoke detectors and sensors have been fitted as per laid down norms.
- Adequate water storage facility.
- Gas pipe lines in kitchen areas of the food court have been checked for safety and fittings conform to Indian Standard Institution (ISI) norms.
- All exit ways are conspicuously marked by illuminated signs which remain visible even in the event of a power failure.
- To avoid the possibility of spread if toxic gases, smoke or fire due to central air conditioning, air ducts made of non-combustible and fire resistance material have been provided at appropriate places.
- Automatic dampeners have been provisioned at suitable locations inside the ducts.
- Emergency lights have been installed in the building.

## Role of People in Fire Detection and Control

### (i) Person Discovering Fire

The person who discovers the fire should:

- Contact telephone operator or fire station immediately.
- Give his/her name, exact location, size and type of fire.
- If phone is not working, then break the glass of nearby manual call box to activate fire alarm.
- Remove all possible combustible material from the vicinity of the fire.
- With the assistance of fellow colleagues try to control the fire in the manner he/she has been taught in the fire training or wait until the fire fighting team arrives on the scene.

### (ii) Telephone Operator

In case of a report of fire or an emergency the operator shall notify the following immediately:-

1. Chief Security Officer (CSO).
2. Deputy Chief Security Officer (Dy. CSO).
3. Security Officer (SO).
4. Fire Officers.
5. Manager Operations.
6. Electrical Room.
7. General Manager (GM), Corporate Security.
8. Chief Engineer.
9. Electrician.

## (iii) Fire Fighting Teams

The duty schedule of the fire fighting team is as follows:

| **Day** | **Night** |
|---|---|
| (9:00 AM - 6:00 PM) | (6: 00 PM to 9:00 PM) |
| 1. Chief Security Officer | Security Officer on Duty |
| 2. Chief Fire and Safety | Fire Officer |
| 3. Officer | |
| 4. Chief Engineer | Shift Engineer |
| 5. Manager Incharge | |

**Support team**

| **Day** | **Night** |
|---|---|
| Security Officer/ Assistant Security Officer of respective areas | Security Officer/ Assistant Security Officer on duty |
| SA as deputed by SO/ASO | Assistant Fire Officer |
| Person reporting fire | Fire Marshalls |
| Incharge House Keeping (Day) | • Shift Engineer<br>• Electrician<br>• Incharge Housekeeping (Night) |

## (iv) Duties of Leader of the Fire Fighting Team

- Acts as over all incharge.
- Assesses the intensity and magnitude of fire.
- Depute the fire fighting team to fire.
- Arrange to remove trapped persons from the scene of fire.
- Decide evacuation of guests after consulting
- General Manager, Corporate Security.
- Ensure sufficient water, power, fire extinguishers and necessary equipment to fight the fire are available.

## (v) Duties of Chief Fire and Safety Officer/Fire Officer on Duty

- Rush to the scene of the fire.
- Assist CSO/Dy. CSO / SO on duty to combat the fire.
- Guide fire fighting team to make optimum use of fire fighting first aids and installations.

- Take charge of fire fighting team in case CSO/ Dy.
- CSO/SO are not present due to some reasons.

### (vi) Duties of Engineering/Electrical Control Room Incharge

On receiving the information regarding the fire, he/she should immediately inform the shift engineer and on orders should instruct the following:

1. **Electrician**: To cut off the power to affected area.
2. **A/C Technician**: To cut off A/C and ventilation supply.
3. **Fire Technician**: To ensure activation of fire fighting installations.

### (vii) Duties of Chief Engineer/ Shift Engineer

- To ensure control room is manned all the fires during the period of emergency.
- Ensure engineering support team is deputed for respective jobs.
- Ensure that the electrician cut off power supply of the affected quadrant.
- Check status of fire pumps and instruct the operator and plumber to open all valves and check water levels.
- Carpenter to remain stand by with tools to break open door, if need arises.
- All emergency supply such as water, torches, emergency lights, etc. should be readily available to cater to the needs during the emergency.

### (viii) Duties of Chief Engineer/ Shift Engineer

- To take charge of the situation and monitor it from the Close Circuit Television (CCTV) rooms.
- To set up an emergency control room in CCTV room.
- To exercise command and control over the activities in and around the building.
- On receipt of instructions from fire fighting team about the magnitude of fire, pass on necessary orders of evacuation, calling ambulance, fire brigade, etc. in consultation with the CSO / Dy. CSO.
- Inform neighboring establishments about the fire.
- Ensure continuous flow of information to review the situation.

### (ix) Duties of SO/ASO of the Affected Area

- To bring all elevators to the lower basement by operating Fireman's switches.
- Keep concerned senior persons informed about the situation.
- Ensure that adequate numbers of charged walkie- talkies are available for the emergency.
- Fight the fire with available resources without panicking.
- Guide people while carrying out evacuation.
- Make available enough security guards and house- keeping personnel to help in evacuation of injured person.

### (x) Duties of Neighboring SOs/ ASOs

- Cordon off the affected area and access to persons not involved in fire fighting.
- Be ready to assist fire fighting team.
- Provide assistance to fire brigade in guiding to the scene of fire.

- Act as In-charge of Cordon and Salvage Party according to the requirement.
- Ensure that onlookers or bystanders are kept at bay for easy and unobstructed movement of the fire tenders.
- Ensure that guards at the exit route guide the people on the way to the assembly point.
- Provide First Aid to the injured.
- Remove inflammable items lying around the scene of fire.
- Carry or shift items of property to a designate safer place within the area cordoned.
- Help evacuate trapped guests or employees.
- Keep close watch on salvaged items.
- Provide help to procure additional firefighting equipment, if required.

### (xi) Duties of Help Desk Staff

- Help in evacuation of persons.
- Pass suitable instructions to control room for emergency announcements on Public address (PA) system.
- Restrict movement of persons not concerned with emergency to proceed towards the scene of fire.
- Guide persons in atriums to assembly points.

### (xii) Duties of Housekeeping Staff

- Ensure fire exits are not obstructed.
- Help customers to come out of the building and guide them to exit routes.
- Try and convince the guests to maintain composure while evacuation to avoid stampedes.
- Help security guards in cordoning off the fire affected area.
- Help in salvaging property from getting burnt.
- Help in evacuation of casualties.

In India municipalities are required by law to have a fire brigade and participate in a regional fire service. Each city has its own fire brigades. The main functions of firefighting services in India are provision of fire protection and of services during emergencies such as building collapses, drowning cases, gas leakage, oil spillage, road and rail accidents, bird and animal rescues, fallen trees, appropriate action during natural calamities, and so on. Industrial corporations also have their own firefighting service. Each airport and seaport has its own firefighting units.

Firefighters are trained to use communications equipment to receive alarms, give and receive commands, request assistance, and report on conditions.

## Exercise

**Assignment**

1. Visit the local fire station and enquire about the following:

    - What is the frequency of fire incidents in the jurisdiction area?

- What are the locations that usually report a fire?
- What are the usual causes of fires that were reported last year?
- Is the fire station providing training to institutions? If yes, then collect the names of the institutions.

2. Acquaint yourselves with the names and uses of the fire-fighting equipment housed in the fire- station. Take pictures, if possible, and make a report of your visit.

3. Visit a hotel/multiplex/shopping mall to observe and record your observations on the following:

   (i) Emergency exits
   (ii) Location of fire alarms
   (iii) Assembly points
   (iv) Nearest alternative telephone
   (v) Internal shelter areas
   (vi) First Aid equipment

## Assessment

**A. Short Answer Questions**

1. Describe the following terms with respect to dealing with fire emergencies:

   (a) Rescue:

   _____
   _____
   _____
   _____

   (b) Alarm:

   _____
   _____
   _____
   _____
   _____

   (c) Extinguish:

   _____
   _____
   _____
   _____

   (d) Evacuate:

   _____
   _____
   _____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity.

**Part A**

Differentiated between the following:

1. Fire prevention and fire protection
2. Different classes of fire
3. Different methods of extinguishing fire

**Part B**

Discussed in class the following:

1. Classification and causes of fire
2. Procedures of dealing with fire emergencies
3. Installing the fire fighting equipments
4. Implications of incorrect use of fire extinguishers on classes of fire

**Part C**

**Performance standards**

The performance standards may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Classify the various types of fires | | |
| Read and understand the signages for fire safety | | |
| Demonstrate use of personal protective equipment | | |
| Determine the fire type and select appropriate fire extinguishers | | |
| Perform the technique of extinguishing small fire using portable fire extinguishers | | |
| Identify different fire fighting installations for controlling large fires. | | |
| Demonstrate the correct use of fire hose reel | | |

Notes

# SECTOR: HEALTHCARE

## NSQF Level 4 (CLASS XII)

# HSS 406-NQ2014: SELF-MANAGEMENT AND CAREER SCOPE

## Student Workbook

# Table of Contents

# Session 1: Goal Setting Strategies

## Relevant Knowledge

In this session, you will learn about the steps of setting a goal and various learning approaches in higher education.

2. Write down your goal(s)
3. Determine why the goal is important
4. Set a Target date to achieve the goal
5. Take small steps to achieve the goal

Working smarter as well as harder is the key to academic success. Goals can be long-term or short-term: generally goals are short-term. Being able to set goals is an important part of planning where and what to study. Effective goals are SMART goals. SMART stands for:

- Simple
- Measurable
- Action-Based
- Realistic
- Time limited

Setting SMART goals is the key to becoming a smart student. A smart student makes the best use of the time spent studying. Use the following steps to set a goal:

1. **Simple:**

   A goal should be concrete and specific. Example: "I will do x number of math's problems this week", "I will read pages 1-4".

2. **Measurable:**

   Monitor and evaluate so that you know whether you are achieving your goal or not. If it is not going well, maybe you need to alter your goal or your action plan. When you achieve the goal, reward yourself by doing something you enjoy and congratulate yourself on a job well done.

3. **Action-based:**

   Use action verbs in your goal statement. "By Friday (date), I will complete the assignment".

4. **Realistic:**
   A goal should be realistic, which means manageable and achievable. Your motivation may drop if your goal is unrealistic and you set yourself up for failure.

5. **Time Limited**:

   A goal can be broken into smaller and more manageable steps. Then it becomes possible to give a timeframe for achieving the goal. If it is a larger goal, list the benefits if you accomplish your goal and list any obstacles to overcome. Come up with a specific action plan and timetable for each step in accomplishing your goal and for overcoming obstacles.

People perform better when they are committed to achieving certain goals. Goal Setting is a process of thinking about your ideal future and for motivating yourself to achieve your goals. By setting well-defined goals you can measure your achievements and take necessary steps to develop additional knowledge, skill and attitude to achieve what you want to achieve in life. Your goals could be related to your career, family, financial, education, attitude, physical abilities, pleasure, public service, social service, etc. Always state your goal as a positive statement and try your best to achieve it.

## Exercise

1. Identify five priority needs of your life and prepare the short term and long term goal to achieve them.
2. Write your SMART (Specific, Measurable, Attainable, Relevant and Time Bound) goals for the following:
   (i) Career
   (ii) Physical ability
   (iii) Family

## Assessment

**A. Short Answer Questions:**

1. Write the full form of "SMART"

   S=
   M=
   A=
   R=
   T=

2. Enlist the steps of goal setting

   _____
   _____
   _____
   _____
   _____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Short-term and long-term
2. Realistic and non-realistic goals

**Part B**

Discussed in class the following:

1. Importance of setting goal in life
2. Setting SMART goals

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Set the goals using SMART steps | | |

# Session 2: Self Management

## Relevant Knowledge

In this session, you will learn about self management. Self management begins with personal development, which include activities that improve awareness and identify, develop talents and skills, but above that contribute to realization of goals and aspirations.

Self-management is a key skill that will help you throughout your life. It involves setting goals and managing your time. Developing your motivation and concentration skills will help you to overcome the problems. Effective self-management will help you to avoid stress and provide you with more opportunities to get involved in activities. A key skill in self-management is self regulation. Self-regulation refers to individuals monitoring, controlling and directing aspects of their learning for themselves.

These are all real challenges that get in the way of your success at work. You can get your hands on necessary resources or work around a resource gap.

First, make sure the first person you manage every day is yourself. Take good care of yourself outside of work so that you bring your very best to work. And while you are at work, you should be all about the work your work, that is.

### Personal Development

Personal development may include the following activities:

- improving self-awareness
- defining and executing personal development plans
- improving self-knowledge
- improving skills or learning new ones
- developing strengths or talents
- improving wealth
- spiritual development
- enhancing lifestyle or the quality of life
- improving health
- fulfilling aspirations
- improving social abilities

### Self-management as an Employee

As an employee you need to improve your satisfaction, motivation and loyalty through work-life balance, time management, stress management, health and wellness activities and counseling.

Predictably, most are factors that are totally beyond the control of the individual, such as:

- Company policies, rules, regulations, culture and standard operating procedures.
- The way things have always been done in the organization.

- Too much work and not enough time.
- Too many low-priority activities taking away from more important tasks and responsibilities.
- Conflict between and among employees that creates a stressful, negative mood.
- Limited resources.
- No clear chain of command.
- Answering to too many people.
- Different standards of performance and conduct
- Understanding of the rules and policies

Focus on playing the role assigned to you before you ever try reaching beyond that role. And before you even attempt to manage, you first need to do the following:

1. Figure out where you fit in your organization or department.
2. Bring your best self to work every day.
3. Get lots of work done very well and very fast everyday.
4. Be a problem solver, not a complainer.
5. Anticipate and avoid problems.
6. Regularly assess your productivity, the quality of your work and your behaviour.
7. Stop making excuses – instead think in terms of challenges
8. Focus on effort not results
9. Exert Control over what you can, accept what you cannot change
10. Eat, sleep and exercise properly
11. Don't ignore emotions or thoughts
12. Manage your stress

## Exercise

**Role Play**

You are working on a job that is due by tomorrow at 4:00 pm. It is 10:00 am and you are sort of behind, but you decide to take a break and catch up with your friends on social website. The next thing you know it is 7:00 pm and you have not worked on the job, still due tomorrow. You think to yourself – this social networking is addictive and when I start, I cannot stop – I need to change this behavior… What is solution?

## Assessment

**A. Short Answer Questions:**

1. Describe any three factors which are not in control of human being at workplace

_____

_____

_____

_____

_____

2. List any five factors that influence self-management

_____

_____

_____

_____

_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Self management and attitude
2. Self management and self regulation

**Part B**

Discussed in class the following:

1. Self management strategies
2. Role of personal development in self-management

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of self management | | |

# Session 3: Time Management

## Relevant Knowledge


In this session, you will learn about the strategies and some tips of managing time effectively.

Time-management is a vital skill. The following are some time-management strategies that you may want to incorporate into your time-management routine. Test them out to see what works and what does not work for you. It might be a good idea to start by monitoring and reflecting on how you currently use your time.

## Changing Attitudes

Our attitudes to time are constantly changing. Many of these changes are due to the advent of new technology, which affects our work, travel, and communication. The internet browsing, e-mail and social messaging made the exchange of information almost instantaneous. Travel, especially over long distances, has become faster and more affordable. The increase in options available has made it possible for us to do more in a day, but has also increased the pressure on our time. This makes it all more important to
use time in the most efficient and productive way.

## Using Time Wisely

Everybody is increasingly aware of the cost of time. Individuals and departments are held accountable for their use of time. G oals are clearly defined and financial penalties are incurred for missed deadlines. School culture can have an important influence on how student use their time. In too many schools, working long hours is equated with working hard. If you leave on time, you may often decrease efficiency and productivity. The rewards will be the ability to control your workload, and more time to focus on the most important aspects of your activities.

## Basic Strategies

- **Priorities:** You probably have a lot of things to do, so assess how important and how urgent the tasks are; then make sure high priority tasks get done first and are not put off on a regular basis. Avoid time wasters!
- **Be specific:** Make the task as specific as possible.
- **Small bite-size pieces:** It is easy to do small tasks. Try breaking tasks down into smaller sub-tasks.
- **Use all available time:** This is a especially good strategy if you are pressed for time.
- **Structure the environment:** Find a place, preferably one you can use regularly and with limited distractions.
- **Establish a routine:** We are creatures of habit. Use time management and scheduling tools to establish a routine.

## Scheduling Tools and Tips

Divide your tasks into ABC, as follows:

A= Tasks that are perceived as being urgent and important
B= Tasks that are important but not urgent
C= Tasks that are unimportant (whether urgent or not)

- Create a master schedule that indicates on a term or year basis when holidays, exams, reports, essays etc. are due.
- Create a weekly schedule.
- Mark out commitments such as classes, labs, work, sport, meals, etc. Make a list of your study tasks - be specific and prioritize.
- Consider the purpose of the study task.
- Schedule tasks that may require maximum concentration during your "peak" or periods of maximum alertness.
- Allot times for relaxation, exercise, etc.
- Monitor and Evaluate: review what has been accomplished at the end of a day and decide if the schedule needs to be changed the next day.

## To Do List

- Plan your day taking into account your master schedule and the goals for the week.
- When you have finished a study task, cross it off your timetable or list.
- Avoid too much detail - a schedule has to remain flexible.

## Exercise

1. Prepare a time log book or a to do list and maintain it. Evaluate your log book at the end of week and fill the table below:

| Time | Work schedule | Status of work |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Assessment

**A. Short Answer Questions:**

1. How do you set priority of work for managing the time?

_____

_____

_____

2. What particulars should be included in TO DO list?

_____

_____

_____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Behaviour and attitude
2. Correct and incorrect behaviours
3. Positive and negative attitude

**Part B**

Discussed in class the following:

1. Time management strategies
2. How to prepare a TO DO list?
3. Scheduling tools and tips of time management

**Part C**

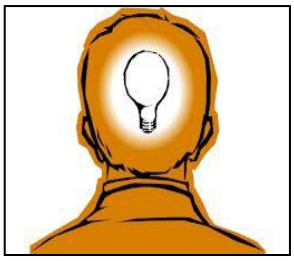
**Performance Standards**

The performance standard may include, but not limited to:

| **Performance Standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of maintaining time effectively | | |
| Prepare TO DO list | | |

# Session 4: Critical Thinking

## Relevant Knowledge



In this session, you will learn about the concept of critical thinking and it can help you in analyzing tasks and enhancing your analytical ability.

**Critical thinking** is the ability to think clearly and rationally about what to do or what to believe. It includes the ability to do independent thinking.

Critical thinking can be defined as the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing and/or evaluating information gathered from, or generalized by, observation, experience, reflection, reasoning or communication, as a guide to belief or action or argument.

Being critical involves making judgments and evaluations. Making judgments can involve distinguishing between fact and opinion or evaluating the validity of information sources or the validity of particular theories and/ or their application to particular situations. These judgments need to be well grounded in research, wide reading, and consideration of all possible viewpoints. Critical thinking in this sense is based on a synthesis of a number of factors, and is not just uninformed personal opinion.

Critical thinking means different things in different disciplines. If you are studying in an education discipline like GDA, for example, you will be thinking critically when you apply theory to a practical situation and then reflect on what happened as a result of the application of your knowledge in that situation.

In a discipline which has a less obviously practical application, for example some humanities areas of study, you will be thinking critically when you compare and contrast theories with each other, or when you try to work out gaps or flaws in those theories.

## Critical Thinking involves the following

Critical thinking involves the following:

- Interpretation: Having the ability to understand the information you are being presented with and being able to communicate the meaning of that information to others.
- Analysis: Having the ability to connect pieces of information together in order to determine what the intended meaning of the information was meant to represent.
- Inference: Having the ability to understand and recognize what elements you will need in order to determine an accurate conclusion or hypothesis from the information you have at your disposal.
- Evaluation: Being able to evaluate the credibility of statements or descriptions of a person's experience, judgment or opinion in order to measure the validity of the information being presented.

- Explanation: Having the ability to not only restate information, but add clarity and perspective to the information, so it can be fully understood by anyone you are sharing it with.
- Self-Regulation: Having the awareness of your own thinking abilities and the elements that you are using to find results.

  - Analyzing tasks
  - Identifying assumptions
  - Analyzing and classifying
  - Making comparisons
  - Problem solving
  - Questioning and challenging ideas
  - Observing facts and comparing them to hypotheses and assumptions
  - Judging the validity of the source and the worth of evidence
  - Forming opinions / arguments
  - Making connections between ideas, texts, theories, frameworks, disciplines
  - Evaluating and weighing up
  - Drawing inferences
  - Making generalizations

## Exercise

1. Recollect the problem you faced in your life in the past. Write the action that you took to solve the problem (s)

| Problem | Solution |
|---|---|
| | |
| | |
| | |
| | |
| | |

## Assessment

**A. Short Answer Questions:**

1. Write about any two situations in a hospital that require self-regulation.

   _____
   _____
   _____

2. Write about any one situation in a hospital that requires evaluation or judgement of opinion

   _____
   _____
   _____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Generalizations and comparisons
2. Normal thinking and critical thinking
3. Judgment and evaluation

**Part B**

Discussed in the class following:

1. Importance of critical thinking
2. Elements of critical thinking

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of elements of critical thinking | | |
| Demonstrate the application of critical thinking skills | | |

# Session 5: Stress Management

## Relevant Knowledge


Stress is a reaction to some change that upsets our balance. Stress is a reaction to physical or mental changes in our life. In this session, you will learn about stress and its effect on physical and mental abilities and performance.

Stress is natural part of everyday life. The life of a General Duty Assistant is a busy one, with little time left to take care of self. Use the stress management skills that you will learn in this class to perform effectively and efficiently.

### Stressors

Some physical things that cause a stress reaction are:

- a cut, scrape or burn on your finger
- any illness or disease

Things that upset our mental balance and cause the stress reaction are:

- driving in traffic when you are in a hurry to get to work
- having to finish care of patient in time
- a conflict with a family member or co-worker

Some stress is good for us and some stress is harmful to us. Good stress helps us in adjusting to changes within and outside of our body. The stress of rising carbon dioxide in our body makes us breathe. Breathing is automatic because of stress. Without good stress, human beings would not be able to breathe, learn or go to work.

Stress is a natural way for us to adjust to changes so we can keep in balance. It also helps us to avoid danger.

Stress helped us to escape when we were faced with these dangers. It made our:

- eyes more able to see the lions and tigers
- muscles tense and strong so we could run from the lions and tigers
- heart pump more oxygen so we could be stronger and able to run
- mind much more alert so we could plan a way to get back into our cave and not be killed by the lion or tiger

Our body does the same thing today when it is stressed. There are no longer lions and tigers running in our streets, but when we get stressed while we are stuck in traffic we react the same way. We react as if tigers and lions were running after us, even when they are not. This reaction is not good. Our minds and bodies will suffer if we are under a lot of stress for a long period of time.

We must manage stress. Stress will never go away but we can change how we RESPOND to it. We must learn how to manage it before it manages us and makes us sick and unhappy.

The key to coping with stress is to identify the causes of stress in your life and then learn healthy ways to deal with them. It's important to remember that stress comes from our responses to stressful events.

**Stress is a Killer**

Many people believe that stress causes more than half of all diseases. Stress leads to physical damage and illness. It also hurts our quality of life. It causes mental and social problems.

## Illness due to Stress

Stress may cause the following health problems:

- high blood pressure
- heart attacks
- ulcers
- headaches, neck pain and back aches
- colds
- allergies
- asthma
- weight gains or losses
- fatigue
- loss of sleep or sleeping too much
- anger
- low self esteem
- no energy
- sadness and depression
- moodiness
- lack of an ability to focus, or concentrate, on things

## Social problems due to Stress

If we do not manage stress, then we may

- get into conflict with others
- over-reacts to normal everyday things
- show lack of interest in one's usual activities
- suffer loss of relationship with family and friends
- lose a job due to bad performance

## Management of Stress

We can manage stress by identifying the reasons or sources and then bringing necessary changes in our life style, work style and behavior or attitude to deal with them.


1. Identify the source of the stress. You need to answer the question “Where is the stress coming from?”
2. Decide if you can get rid of the source of stress.
3. Get rid of all the stress you can.
4. Do NOT take on more stress by saying yes. Learn how to say no. Do NOT take on more than you can handle. Say no whenever you can.
5. Change how you think about something that stresses you.
6. Be good to yourself. Use stress management skills every day to deal with the stress that you cannot get rid of. Use stress management skills when your mind is not able to make the stress small!

## Stress Management Skills

1. Express your feelings. Talk to someone or yourself about how you feel. Do not hold feelings inside. Talk to a family member, friend, counselor or co-worker.
2. Focus on one thing at a time. Take a big project and break it up into small pieces or steps. Do NOT let yourself get overwhelmed.
3. Use time management skills. Set goals and deadlines that you can meet. Do not set unrealistic goals. Decide on what the priorities are. Focus on the priorities and budget your time.
4. Relax. Do the 2 Minute Relaxations during your lunch break, at home in your bed or in a quiet park? Close your eyes. Think only about yourself and your breathing. Take a few deep breaths and exhale slowly. Loosen up tense and tight areas of your body. Let go of all your tension. Rotate your head in a smooth, circular motion. Let all of your muscles completely relax. Relax and think pleasant happy thoughts while you are taking deep breaths.
5. Do guided imagery and meditation. Close your eyes. Relax. Think about a peaceful image like the beach with softly breaking waves on the seashore.
6. Eat a healthy diet.
7. Physical exercise is a great stress buster. Walk, swim, ride a bicycle, run or do Y oga. Exercise every day.
8. Keep a positive attitude. Believe in yourself. Accept the things you cannot change.
9. Talk to yourself. Tell yourself that you are great. Tell yourself, "I am relaxed at work"; "I am doing a good job"; "Peace fills my life"; "My life is so full of so many good things"; "I am successful".
10. Get enough rest and sleep.
11. Treat yourself to comfort food. Cook a meal that your mother used to make for you. Enjoy it.
12. Use humour. Keep a sense of humor even when things are very stressful. Humor is great medicine for the mind.

## Exercise

1. Think about your past and try to recollect the time and events when you had undergone stressful situations. Also try to recollect how you overcome the stress. Fill the table given below with the information.

| Source of Stress | How you overcome it? |
|---|---|
| | |
| | |
| | |
| | |
| | |

### Role Play

You are in a hospital, working as a General Duty Assistant and taking care of patients. Suddenly you find that many relatives and friends have come to see the patients and a chaotic situation has been created by them. Conduct a role play with your classmates and demonstrate how you will manage the situation.

## Assessment

**A. Short Answer Questions:**

1. What is stress?

   _____
   _____
   _____

2. List any three stress management skills

   _____
   _____
   _____

3. List any three health problems that one can face due to stress

   _____
   _____
   _____

## Checklist for Assessment Activity

Use the following checklist to see if you have met all the requirements for assessment activity:

**Part A**

Differentiated between the following:

1. Anxiety and stress

**Part B**

Discussed in class the following:

1. Stress management techniques
2. Stress management skills

**Part C**

**Performance Standards**

The performance standard may include, but not limited to:

| **Performance standards** | **Yes** | **No** |
|---|---|---|
| Demonstrate the knowledge of managing stress in different situations | | |

Notes