



School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1<sup>st</sup> Semester,

End-Sem. Examination

Course Code: SHP1101

Course Name: Anatomy Physiology & Professional Behaviour

Time: 2 Hours

Max. Marks: 50

**Instruction:**

1. SECTION-A: Answer all questions from section A. Each question carries 01 mark
2. SECTION-B: Answer all questions from section B. Each question carries 04 marks
3. SECTION-C: Answer all questions from section C. Each question carries 06 marks

4/1/20

2:00-4:00

**Section – A**

10X01 = 10 Marks

Q.1. Normal blood pH level is:

- a) 5.1 to 5.7
- c) 7.35 to 7.45

- b) 7 to 7.3
- d) 8.35 to 9.35

Q.2. Deoxygenated blood from the body via superior and inferior vena cava is received in:

- a) Right atrium
- c) Left atrium

- b) Right ventricle
- d) Left ventricle

Q.3. Which hormone secreted by posterior pituitary gland?

- a) Growth hormone
- c) ACTH

- b) Prolactin
- d) ADH

Q.4. Excretory unit of kidney is:

- a) Bowman's capsule
- c) Nephron

- b) Glomerulus
- d) Henle's loop

Q.5. Outermost layer of the skin:

- a) Epidermis
- c) Hypodermis

- b) Dermis
- d) None of above

Q.6. The temperature regulation Centre is located in the:

- a) Cerebrum
- c) Cerebellum

- b) Hypothalamus
- d) Hippocampus

Q.7. Right lung has how many lobes?

- a) One
- c) Three

- b) Two
- d) Four

Q.8. Food reservoir is known as:

- a) Oesophagus
- c) Small intestine

- b) Stomach
- d) Large intestine

Q.9. Longest bone of the human body is:

- a) Fibula
- c) Tibia

- b) Humours
- d) Femur



Q.10. Which organelle of cell called "Power House" of the cell?

- a) Nucleus
- c) Mitochondria

- b) Ribosome
- d) Lysosome

## Section – B

04X04 = 16 Marks

Q.1. Describe the composition of blood.

Q.2. Write the four function of kidneys.

Q.3. Difference between of vellus hair and terminal hairs.

Q.4 What do mean by the ciliary body?

## Section – C

04X06 = 24 Marks

Q.1. Define cell. Explain the cell organelles with the help of a diagram.

Q.2. Explain the blood circulation with the help of flow chart.

Q.3. Explain the three cranial nerve with function.

Q.4. Describe the internal female sex organs.

*V. Kocin*



(A)

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Section – B

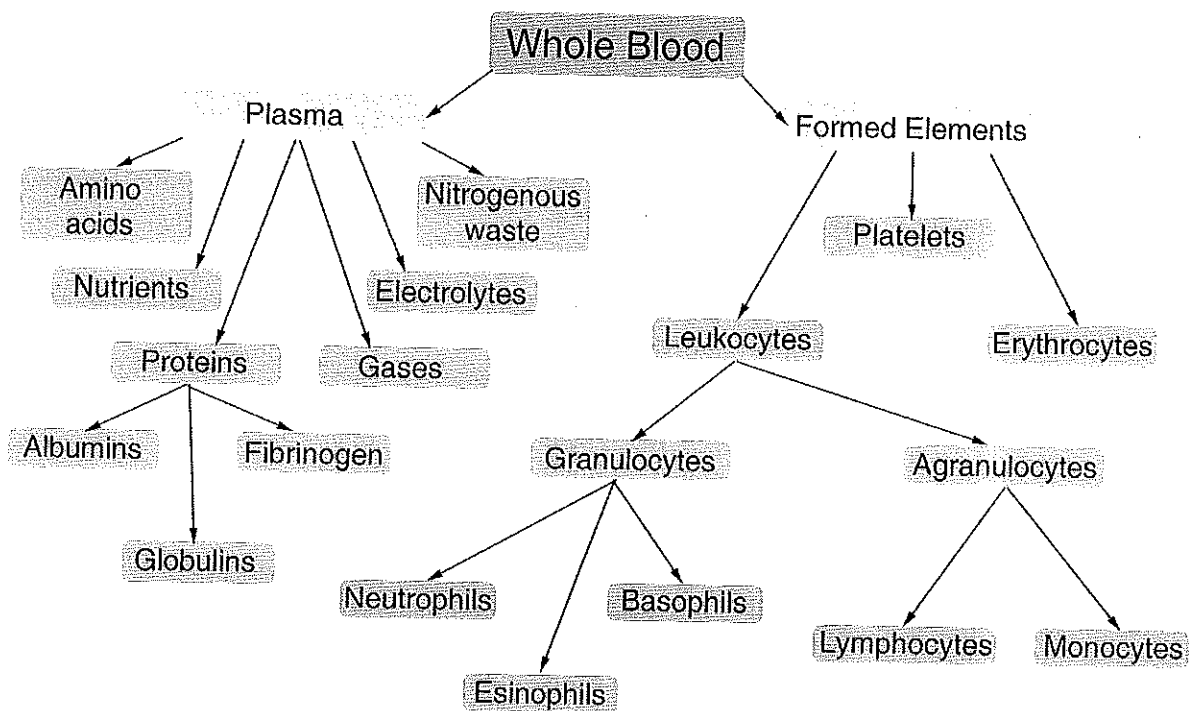
04X04 = 16 Marks

Q.1. Describe the composition of blood.

**The composition of blood: -**

The normal volume of blood in an adult is about 4.5-6 litres (approx. 7-8% of bodyweight). Blood is made up of two components blood cells and blood plasma.

<b>Erythrocytes (Red blood cells, Ec)</b>	Transport oxygen and carbon dioxide. Represent the largest volume percentage of blood cells.
<b>Leucocytes (White blood cells, Ls)</b>	Defend against pathogens and other foreign substances. This group is made up of these cell type: granulocytes, lymphocytes and monocytes
<b>Thrombocytes (Blood platelets, Tc)</b>	Involved in blood clotting



Q.2. Write the four function of kidneys.

**Functions of the kidneys**

- Excretion of metabolic products and toxins
- Keeping the water balance and osmotic pressure constant
- Keeping the salt balance constant
- Electrolyte balance
- Keeping the acid-alkali balance constant
- Hormone production:
  - Renin
  - Erythropoietin



Q.3. Difference between of vellus hair and terminal hairs.

### Hair types

<b>Vellus hair</b>	Vellus hair are found on children skin, as well as on adult's bodies. Vellus hairs are similar to foetal lanugo.
<b>Terminal hairs</b>	Terminal hairs are thick and pigmented (the hair found on the head or in the beard, thicker hairs on the body, armpit and pubic hair). The eye lashes, eyebrows, nasal hair and hair in the outer ear canal are also made up of special types of terminal hairs.

Q.4 What do mean by the ciliary body?

### Ciliary body

The ciliary body is the anterior continuation of the choroid consisting of *ciliary muscle* (smooth muscle fibres) and secretory epithelial cells. Contraction and relaxation of the ciliary muscle fibres, which are attached to these ligaments, control the shape of the lens. The epithelial cells secrete *aqueous fluid* into the anterior segment of the eye, i.e. the space between the lens and the cornea (anterior and posterior chambers).

## Section – C

04X06 = 24 Marks

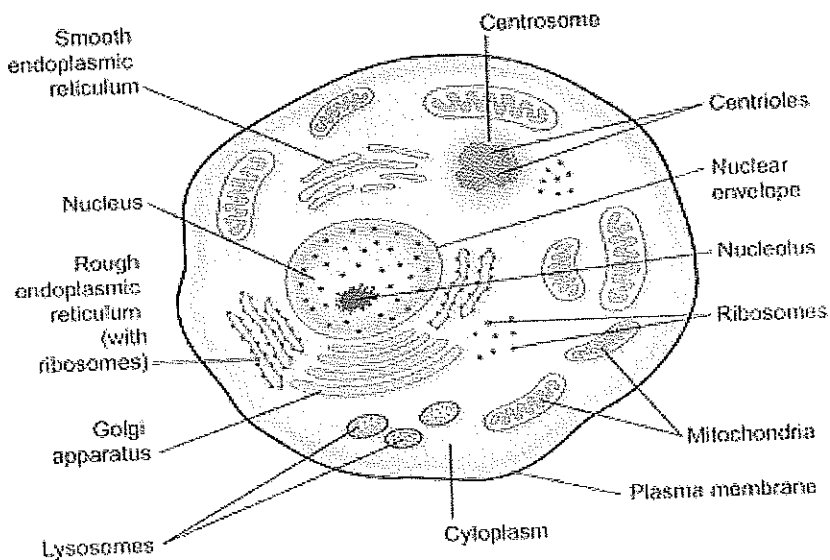
Q.1. Define cell. Explain the cell organelles with the help of a diagram.

### 1 The Cells, Tissue and Organisation of the Body

Cells are the smallest functional units of the body. They are grouped together to form tissues, each of which has a specialised function, e.g. blood, muscle, bone. And Organs are grouped together to form systems.

### The cell: structure and functions

Cell is structured and functional of the body is known as the cell. The human body develops from a single cell called the zygote, which results from the fusion of the ovum (female egg cell) and the spermatozoon (male sex cell). A cell consists of a plasma membrane inside which are a number of organelles suspended in a watery fluid called cytoplasm.





## Plasma membrane

The plasma membrane consists of two layers of *phospholipids* and sugar molecules embedded in them. In addition to phospholipids, the lipid *cholesterol* is also present in the plasma membrane.

The membrane proteins perform several functions:

- Branched carbohydrate molecules attached to the outside of some membrane protein molecules give the cell its immunological identity.
- They can act as specific receptors for hormones and other chemical messengers.
- Some are involved in transport across the membrane.

## Organelles

### Nucleus

Every cell in the body has a nucleus, with the exception of mature erythrocytes (red blood cells). Skeletal muscle and some other cells contain several nuclei. The nucleus is the largest organelle.

### Mitochondria

Mitochondria are membranous, sausage-shaped structures in the cytoplasm, sometimes described as the 'power house' of the cell. They are involved in aerobic respiration, the processes by which chemical energy is made available in the cell.

### Ribosomes

These are tiny granules composed of RNA and protein. They synthesise proteins from amino acids, using RNA as the template. Ribosomes are also found on the outer surface of the nuclear envelope and rough endoplasmic reticulum where they manufacture proteins for export from the cell.

### Endoplasmic reticulum (ER)

Endoplasmic reticulum is an extensive series of interconnecting membranous canals in the cytoplasm. There are two types:

- Smooth ER synthesises lipids and steroid hormones, and is also associated with the detoxification of some drugs. Some of the lipids are used to replace and repair the plasma membrane and membranes of organelles.
- Rough ER is studded with ribosomes. These are the site of synthesis of proteins.

### Golgi apparatus

The Golgi apparatus consists of stacks of closely folded flattened membranous sacs. It is present in all cells but is larger in those that synthesise and export proteins. The vesicles are stored and, when



needed, they move to the plasma membrane and fuse with it. The contents then leave the cell by exocytosis.

## Lysosomes

Lysosomes are one type of secretory vesicle with membranous walls, which are formed by the Golgi apparatus. They contain a variety of enzymes involved in breaking down fragments of organelles and large molecules (e.g. RNA, DNA, carbohydrates, proteins). Lysosomes in white blood cells contain enzymes that digest foreign material such as microbes.

Q.2. Explain the blood circulation with the help of flow chart.

### Blood circulation

Blood circulation comprises two parts:

#### **Pulmonary circulation**

- The left ventricle
- The aorta
- The arteries/arterioles
- The veins
- The inferior vena cava and superior vena cava
- The right atrium

#### **Systemic circulation**

- The right ventricle
- The pulmonary arteries
- The network of capillaries in the lung
- The pulmonary veins
- The left atrium

Q.3. Explain the three cranial nerve with function.

### Cranial nerve

There are 12 pairs of cranial nerves originating from nuclei in the inferior surface of the brain, some sensory, some motor and some mixed. Their names generally suggest their distribution or function and they are numbered using Roman numerals according to the order they connect to the brain, starting anteriorly. They are:

s.no.	Name of Nerves	Types of nerves	Function
I.	Olfactory	sensory	These are the nerve sense of smell
II	Optic	sensory	These are the nerve of the sense of light
III	Oculomotor	motor	These nerves arise from nuclei near the cerebral aqueduct. They supply: Four of the six extrinsic muscles, which move the eyeball



<b>IV</b>	Trochlear	motor	Eye movement
<b>V</b>	Trigeminal	mixed	These nerves contain motor and sensory fibres and are among the largest of the cranial nerves Receiving Impulses of pain and chewing
<b>VI</b>	Abducent	motor	the eyeballs causing abduction
<b>VII</b>	Facial	mixed	These nerves are composed of both motor and sensory nerve fibres Facial expression and taste
<b>VIII</b>	Vestibulocochlear (auditory)	sensory	Balance and hearing
<b>IX</b>	Glossopharyngeal	mixed	Both sensory and motor Secretion of the saliva, swallowing and taste
<b>X</b>	Vagus: mixed		Secretion of the gland and sensory fibres convey impulses from the membranes.
<b>XI</b>	Accessory: motor		Turning the hand lifting the shoulder
<b>XII</b>	Hypoglossal: motor.		Contribute to swallowing and speech

Q.4. Describe the internal female sex organs.

**Internal genitalia**

The internal organs of the female reproductive system lie in the pelvic cavity and consist of the vagina, uterus, two uterine tubes and two ovaries.

**Vagina**

The vagina is a fibromuscular tube lined with stratified squamous epithelium, connecting the external and internal organs of reproduction. It is about 10cm long, but it also has a high degree of elasticity and can therefore stretch. Its mucous membrane has a robust structure for protection against mechanical damage and it has a pH value OF 4-4.5.

**Uterus**

The uterus is pear shaped, 6-7 cm long and weight 50gm. It is situated between the bladder and the rectum and is anchored in the pelvis with strong ligament.

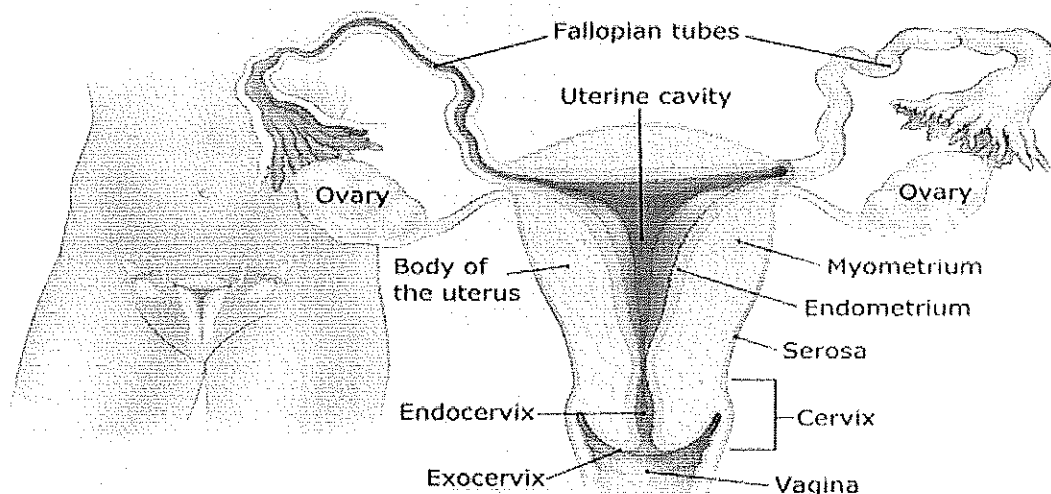


Figure 1: Uterus



## Fallopian tube

Each of the two fallopian tubes measure 10-17 cm in length, from the infundibulum at the ovary to the opening in to the uterus. The fallopian tube receive the ovum after ovulation and transport it to the uterus.

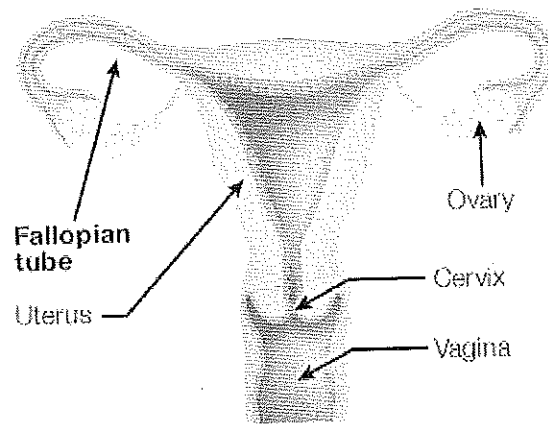


Figure 2:Fallopian tube

## Ovaries

The ovaries are the female gonads (glands producing sex hormones and the ova). They are 2.5 to 3.5 cm long, 2 cm wide and 1 cm thick. Each is attached to the upper part of the uterus by the ovarian ligament.

## Function

The ovaries function are the maturation of ova and the production of the female sex hormones Oestrogen and progesterone.





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End-Sem. Examination

Course Code: <sup>SHP</sup> 1102

Time: 2 Hours

Course Name: Hygiene and Safety & Support in Personal Hygiene

Max. Marks: 50

Instruction:

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2. SECTION-B: Answer all questions from section B. Each question carries 04 marks
3. SECTION-C: Answer all questions from section C. Each question carries 06 marks

## Section – A

10X01 = 10 Marks

Q.1. Choose one criteria which cannot be observed regarding the skin:

- |                          |                |
|--------------------------|----------------|
| a) Skin color            | b) Skin turgor |
| c) Condition of the skin | d) Smell       |

Q.2. Healthy skin generally has a smooth surface. However, infections, skin disease and other diseases may also cause changes in the skin such as:

- |            |          |
|------------|----------|
| a) Blister | b) Color |
| c) Smell   | d) Age   |

Q.3. Sources of infection (host). There are various places where pathogens live, multiply and spread:

- |                      |          |
|----------------------|----------|
| a) Dirty drink water | b) Paper |
| c) Plastic           | d) Pen   |

Q.4. Patients tend to express feelings of security or insecurity in different ways. As a care and community health professional, you must learn to watch for, pick up on and interpret these signs. The following lists contain a few signs of insecurity:

- |   |                                |
|---|--------------------------------|
| a) Patient rarely expresses insecurity directly | b) Patient feel well informed  |
| c) Speech is quit, uneven and indistinct        | d) Admission to an institution |

Q.5. Typical symptoms of an infectious disease are the following signs of inflammation:

- |                          |                         |
|--------------------------|-------------------------|
| a) Redness               | b) Feeling of patient   |
| c) Insecurity of patient | d) Insecurity of doctor |

Q.6. Antibiotics are used for:

- |   |                              |
|---|------------------------------|
| a) Are drugs used against bacterial infection | b) Are drug used lose weight |
| c) Are drugs used protect against bacteria    | d) Are drugs used stay young |

Q.7. Hand washing when?

- |                                       |                                    |
|---------------------------------------|------------------------------------|
| a) Before and after food break        | b) Before and after client contact |
| c) Before and after aseptic treatment | d) After contact with body fluid   |



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Q.8. Where would you put a needle after use?

- a) Blue waste bin
- c) Red waste bin

- b) White waste bin
- d) Yellow waste bin

Q.9. Bio medical waste means:

- a) Any solid and liquid waste
- c) Metal

- b) Plastic
- d) Wood

Q.10. Why is important to wash your hand before meal?

- a) Most food has germ in it
- b) You might touch your mouth while you eat
- c) The food may not have been prepared in a clean environment
- d) You may not have enough napkins

## Section – B

04X04 = 16 Marks

Q.1. Describe Skin turgor condition physiological and pathological.

Turgor	Physiological skin tension	Pathological skin tension
Increased	?	?
Reduced	?	?

Q.2. Describe Changes in the skin

Healthy skin generally has a smooth surface. However, infections, skin disease and other diseases may also cause changes in the skin such as:

Acne

?

Blister

?

Q.3. What does good contact require?

Q.4 Write down the four principle of personal hygiene.

## Section – C

04X06 = 24 Marks

Q.1. Define isolation and Patients are isolated. Describe 3 situations, when does patients need isolation.

Q.2. Describe the disinfection agents.

Q.3. Define infectious disease. Explain the four cause and symptom of infectious disease.

Q.4. What is aim of hand hygiene.

K. Kocur



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## Section – B

04X04 = 16 Marks

Q.1. Describe Skin turgor condition physiological and pathological.

**Skin turgor**

The skin has a constant basic tension known as skin turgor (tension of the skin). This tension depends on the fluid content of the skin and may be subject to physiological or pathological changes.

Turgor	Physiological skin tension	Pathological skin tension
Increased	<ul style="list-style-type: none"> <li>• During pregnancy or as a result of obesity</li> </ul>	<ul style="list-style-type: none"> <li>• As a result of swelling, haematoma, local skin tumours</li> <li>• As a result of oedema (generalised)</li> </ul>
Reduced	<ul style="list-style-type: none"> <li>• Skin folds associated with old age</li> </ul>	<ul style="list-style-type: none"> <li>• Desiccation as a result, for example, of fever, diarrhoea, malnutrition and vomiting</li> </ul>

Q.2. Describe Changes in the skin

Healthy skin generally has a smooth surface. However, infections, skin disease and other diseases may also cause changes in the skin such as:

Acne	Inflammation of the sebaceous glands, mostly starts during puberty because of hormonal changes
Blister	Accumulation of fluid within a circumscribed (clearly delineated area) of skin. Projects above the intact skin.

Q.3. What does good contact require?

**Good contact requires:**

a focused and considered approach, respectfulness, a lack of anxiety regarding contact, empathy, closeness, but the ability to maintain a certain distance.

Contact with other people's bodies requires a degree of mutual trust. To build this trust, the nurse must have the following aptitudes: empathy, sympathy, appreciation and the ability to observe limits.



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Q.4 Write down the four principle of personal hygiene.

- Inform the patient about each care measure involved, even if they cannot respond due to linguistic or medical reasons. Pay more attention to nonverbal signs.
- If possible, make sure the patient has their hearing aid or dental prosthesis before starting personal hygiene so they can hear you better and talk to you.
- Ask about their habits and needs, and read any documentation relating to their care.
- Anything the patient can do, they should be left to do themselves.
- Never perform washing together (for example, the patient washing their arms while you wash their legs to speed things up).
- Think about people's intimate sphere: only uncover/undress patients to the extent necessary and draw the curtain or provide a sight screen.
- Always ask before touching a person in intimate areas. You might say something like 'Do you mind if I see whether the skin under your breast is red?'
- Only use bath towels for drying after bathing/showering; when washing someone, only use them to cover the person up.
- Dispose of any strong-smelling material immediately in the waste bin, which should be emptied once personal hygiene is complete.
- Make sure you apply hygiene principles consistently.
- Try and minimize any strain on your back as you work

## Section – C

04X06 = 24 Marks

Q.1. Define isolation and Patients are isolated. Describe 3 situations, when does patients need isolation.

### Isolation

Patients are isolated

- if there is a risk they will infect other patients, personnel or visitors (with things such as noroviruses, tuberculosis) or
- if they themselves are at risk of becoming infected (e.g. patients with a very weak immune system).
- Isolation can break the chain of infection for patients with infectious diseases as early as the pathogenic stage.

The protective measures adopted to provide patients with a feeling of security, although feelings of insecurity can arise too. For example, contact with family, colleagues, friends or the work place can be problematic, hobbies are no longer possible, physical contact is reduced to a minimum and freedom of movement is severely restricted.

The following general measures should help to make the situation as pleasant as possible for the patient and give them a sense of security:

- good information for all concerned regarding the reason for Isolation
- taking account of the patient's habits in terms of things like mealtimes or clothes
- responding rapid to needs
- ensuring contact with the outside world via telephone, radio, TV, newspapers and visiting time



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where possible<sup>[1][1]</sup><sub>[SEP]</sub>

- remaining attentive, listening and showing you care<sup>[1][1]</sup><sub>[SEP]</sub>
- taking anxieties seriously and displaying empathy<sup>[1][1]</sup><sub>[SEP]</sub>
- respecting privacy during times like visits, conversations, telephone calls
- establishing contact with family members, involving them in the nursing experience and providing them with support<sup>[1][1]</sup><sub>[SEP]</sub>
- showing tact with regard to any feelings of shame and always respecting an individual's intimate space
- providing an ongoing explanation of the treatment process
- performing nursing measures in the correct manner, using aids safely<sup>[1][1]</sup><sub>[SEP]</sub>
- ensuring prophylactic measures are implemented regularly and correctly
- creating a safe, clean and (as far as possible) homely environment — the patient should play a part too with things like pictures and personal effects<sup>[1][1]</sup><sub>[SEP]</sub>
- relaying essential information in a way people can understand<sup>[1][1]</sup><sub>[SEP]</sub>
- discussing and planning the day-to-day routine with the patient.

## Forms of isolation (contact, droplet, aerogenic, protective)

The isolation measures required in a particular situation will depend on the following factors:

- on how infectious the pathogens are<sup>[1][1]</sup><sub>[SEP]</sub>
- on the respective transmission route for the pathogens
- on the risk to the patient<sup>[1][1]</sup><sub>[SEP]</sub>
- on the risk presented by the patient.

As such, the various types of Isolation can be broken down as follows:

**Contact isolation** is required for infectious diseases that can be transmitted via direct contact or via contact with infectious germs and secretions, such as when noroviruses (vomiting and diarrhoea) or resistant germs like MRSA (methicillin-resistant Staphylococcus aureus) are involved. \_

**Droplet isolation** is required for diseases transmitted via respiratory secretions in the form of droplets such as influenza.

**Aerogenic isolation** is required for infectious diseases transmitted through the air such as pulmonary tuberculosis and varicella.

**Protective isolation** is required for patients at particular risk of infection (e.g. following organ transplantation, chemotherapy for cancer). The aim here is to keep the patient away from any pathogens if at all possible.

With all forms of isolation, correct hand disinfection is performed before and after entering the room!

The table below contains some important principles which apply to the various forms of isolation:

	Personnel	Client	Visitors
Contact isolation	<ul style="list-style-type: none"> <li>• Wear an apron for any direct contact</li> <li>• Wear a mask in case of respiratory secretions</li> </ul>	<ul style="list-style-type: none"> <li>• Single room ideally, isolation area possible</li> </ul>	<ul style="list-style-type: none"> <li>• Must register with nursing personnel</li> </ul>

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	<ul style="list-style-type: none"> <li>Wear gloves in the event of direct contact or contact with contaminated materials</li> <li>Perform hand disinfection before leaving the room</li> <li>Dispose of material directly in the room and only transport is from the room in sealed containers / bags (double-bag-system)</li> <li>Dispose of or hang aprons up in the room / air lock.</li> </ul>	<ul style="list-style-type: none"> <li>Instructed in hand disinfection</li> <li>May not leave the room or only if told they can do so</li> <li>Door to remain closed</li> </ul>	<ul style="list-style-type: none"> <li>Instructed by nursing personnel in the necessary protective measures (informed sheet)</li> <li>Instructed in hand disinfection</li> </ul>
Droplet isolation	<ul style="list-style-type: none"> <li>Wear masks</li> <li>Wear gloves in the event of direct contact with contaminated materials</li> <li>Wear aprons in the event of direct contact</li> <li>Only remove used material from the room in sealed containers / bags.</li> </ul>	<ul style="list-style-type: none"> <li>Single room</li> <li>Instructed in hand disinfection</li> <li>May not leave the room</li> <li>Door to remain closed</li> </ul>	<ul style="list-style-type: none"> <li>Must register with nursing personnel</li> <li>Instructed by nursing personnel in the necessary protective measures (informed sheet)</li> <li>If applicable, visitors not admitted</li> <li>Instructed in hand disinfection</li> </ul>
Aerogenic isolation	<ul style="list-style-type: none"> <li>Wear special FFP masks (fine filter) when entering the room</li> <li>Wear gloves in the event of direct contact or contact with contaminated material</li> <li>If applicable, wear aprons in the event of direct contact</li> </ul>	<ul style="list-style-type: none"> <li>Single room</li> <li>Instructed in hand disinfection</li> <li>May not leave the room</li> <li>Door to remain closed</li> <li>Wear an FFP mask when</li> </ul>	<ul style="list-style-type: none"> <li>Must register with nursing personnel</li> <li>Instructed by nursing personnel in the necessary protective measures</li> </ul>



# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

	<ul style="list-style-type: none"> <li>Only remove used material from the room in sealed containers / bags</li> </ul>	<p>they need to leave the room</p>	<p>(informed sheet)</p> <ul style="list-style-type: none"> <li>If applicable, visitors not admitted</li> <li>Instructed in hand disinfection</li> </ul>
<p>Protective isolation (also known as reverse isolation)</p>	<ul style="list-style-type: none"> <li>Wear mask, gloves and apron when entering the room</li> <li>Instruments, material, bedding and client laundry should be sterile</li> <li>Dispose of used items, laundry etc. immediately and do not leave these in the room.</li> </ul>	<ul style="list-style-type: none"> <li>Single room</li> <li>Instructed in hand disinfection</li> <li>May not leave the room</li> <li>Door to remain closed</li> </ul>	<ul style="list-style-type: none"> <li>Must register with nursing personnel</li> <li>Instructed by nursing personnel in the necessary protective measures (informed sheet)</li> <li>Must wear apron, possibly mask</li> </ul>

Q.2. Describe the disinfection agents.

Active ingredient	Application	Effect
Alcohol	Hand disinfection Skin disinfection Surface disinfection	Fast-acting (within seconds) Often inadequate against fung / spores
Aldehydes, paraformaldehyde, O2-releasing agents	Surface disinfection Device in rooms / instruments	Effects lasts for up to an hour Biodegradable
Halogens, e.g. iodine	Laundry disinfection Waste water disinfection Swimming pools	Chlorine has a bleaching effect
Octenidine	Disinfection of mucosa Wound disinfection	Effective against bacteria, stick rigidly to the application time
Ammonium	Devices Surface disinfection	Non-toxic, may also be used in kitchens

Q.3. Define infectious disease. Explain the four cause and symptom of infectious disease.

## Infection diseases

An infectious disease is the consequence of infection with pathogens. Infections can only occur, however, if the person concerned has no immunity against these pathogens

### 1.1 Causes

Various types of pathogens can cause an infection



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**Bacteria** are fast-multiplying single-cell organisms with a metabolism of their own. They can also survive and multiply outside of a host organism. They adapt well to various environmental conditions. Basic shapes: cocci, rods, spirals, e.g. Streptococci ⇒ pneumonia.

**Viruses** are tiny pathogens that need a host to multiply. Viruses only possess genetic information (DNA) and a protein shell, e.g. influenza ⇒ flu

**Fungi** are organisms whose metabolic properties offer some very useful applications. A few types of fungi can also cause infections, e.g. *Candida albicans* ⇒ thrush.

**Protozoa** are parasites with a cell nucleus, e.g. amoebae ⇒ amoebiasis.

**Worms** are animals that live as parasites, e.g. *Taenia solium* ⇒ pork tapeworm.

**Insects** e.g. *Pediculus capitis* ⇒ head lice.

## Symptoms

Whether symptoms occur at all and how severe they are if they do will depend on the type and virulence of the pathogen and the response from the immune system. The more virulent the pathogen and the more vigorous the immune system response, the more pronounced the symptoms will be.

**Typical symptoms of an infectious disease are the following signs of inflammation:**

- redness = rubor
  - the flow of blood is increased due to widening of the arterioles and capillaries, and redness ensues.
- overheating = calor
  - the greater flow of blood and stimulation of the metabolism generate heat;
- swelling = tumor
  - the smallest veins tend to narrow, less blood drains away, fluid leaks into the tissue and swelling develops.
- pain = dolor
  - swelling causes tissue to tense up and pain develops.
- restricted functionality = *functio laesa*
  - the swelling and pain lead to restricted functionality.

Fever can often occur too. The body, by increasing its temperature, attempts to 'burn away pathogens. Organ-specific symptoms will occur depending on the organ affected by the pathogens. These include coughing, colds, diarrhoea, itchiness and excretion of pus.

Q.4. What is aim of hand hygiene.

**Hand washing** (or **handwashing**), also known as **hand hygiene**, is the act of cleaning hands for the purpose of removing soil, dirt, and microorganisms. ... The main medical purpose of washing hands is to cleanse the hands of pathogens (like bacteria or viruses) and chemicals which can cause harm or disease.

The aim of hand hygiene is to prevent the transmission of pathogens and thereby avoid nosocomial infections. Patients, personnel and visitors should be protected against pathogens (e.g. hepatitis or HIV). Since every patient can be a source of pathogens, personnel must comply with hand hygiene in all their dealings with patients and across all areas.



# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Hand hygiene includes:

- hand disinfection
- hand washing and
- hand care.

## 1.2 Hand disinfection

<b>When?</b>	<ul style="list-style-type: none"><li>• Before and after any client contact</li><li>• Before and after any aseptic treatment</li><li>• After contact with bodily fluids</li><li>• After contact with contaminated object, e.g. bed, bedside table</li><li>• After removing gloves</li><li>• After sneezing, coughing, wiping nose</li></ul>
<b>How?</b>	<ul style="list-style-type: none"><li>• Dispense an alcohol-based hand disinfectant into the dry palm of your hand</li><li>• Rub both hands together well until the skin is dry (for at least 30 seconds)</li></ul>

### Please note!

- Do not apply hand disinfectant to wet or dirty hands
- When applying disinfectant, it is not unusual to forget the thumbbs, the fingertips, the area between the fingers or the folds of skin on the palm of the hand
- If applied correctly, the moisturising agent in the hand disinfectant should take effect and the skin will be protected

Hand disinfection is preferable to hand washing because it is more efficient, gentler, faster and cheaper. Hands do still need to be washed, however.

## 1.3 Hand washing

<b>When?</b>	<ul style="list-style-type: none"><li>• When starting and finishing work</li><li>• Before handling food</li><li>• Before and after food breaks</li><li>• If hands are visibly dirty</li><li>• After using the bathroom</li></ul>
<b>How?</b>	<ul style="list-style-type: none"><li>• Wet the hands</li><li>• Rub normal liquid soap into the hands wrists for at least 30 seconds</li><li>• Rinse thoroughly with water</li><li>• Dry with a paper towel</li></ul>
<b>Please note!</b>	<ul style="list-style-type: none"><li>• Turn off the tap with the used paper towel</li><li>• When washing hands, it is not unusual to forget the thumbs, the fingertips, the area between the fingers or the folds of skin on the palm of the hand</li><li>• Disinfection soaps are only used in specific areas of the hospital</li></ul>



Figure 1: Hand washing steps

## 1.4 Hand care

Regular hand care is required to prevent the skin becoming damaged (irritated, broken in places) as a result of frequent washing or disinfection.

<b>When?</b>	<ul style="list-style-type: none"><li>• During winter, when the skin is dry</li><li>• Before lengthy breaks</li><li>• After finishing work</li></ul>
<b>How?</b>	<ul style="list-style-type: none"><li>• Rub hand cream into clean hands</li></ul>
<b>Please note!</b>	<ul style="list-style-type: none"><li>• Damaged, broken skin provides a better habitat for pathogens not associated with normal skin flora, e.g. methicillin-resistant <i>Staphylococcus aureus</i> (MRSA).</li><li>• Nails should be cut short and kept clean, with no nail varnish. Rings and nail varnish are great places for pathogens to hide and should not be worn if possible. Please observe any in-house guidelines.</li><li>• Never disinfect wet hands as this too causes skin to dry out.</li></ul>





School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1<sup>st</sup> Semester,

End-Sem. Examination

Course Code: <sup>SHF</sup>1103

Time: 2 Hours

Course Name: Body Mechanics and Positioning

Max. Marks: 50

Instruction:

1. SECTION-A: Answer all questions from section A. Each question carries 01 mark
2. SECTION-B: Answer all questions from section B. Each question carries 04 marks
3. SECTION-C: Answer all questions from section C. Each question carries 06 marks

## Section – A

10X01 = 10 Marks

Q.1. The nurse can best prevent foot drops for the bed rest client by the use of:

- a) Traction
- b) Splint
- c) Cradle
- d) Railing

Q.2. The level of uric acid increase:

- a) In arthritis
- b) In myocardial infarction
- c) In gout
- d) Fracture

Q.3. Kinesthetic is known as:

- a) Emotional support
- b) Reflection of light
- c) Study of perception movement
- d) Study fracture

Q.4. Break in the bone is known as:

- a) Fracture
- b) Bone fragment
- c) Bone disease
- d) continuity of bone

Q.5. What do you mean "ergonomics"?

- a) Work with low
- b) Work with efficiency
- c) Work with reflects
- d) All of above

Q.6. Which part of the body is affected by arthroses disease?

- a) Hip Joint
- b) Knee Joint
- c) Both a and b
- d) None of above

Q.6. Mobility is known as:

- a) Restricted the movement
- b) Unable to freely movement
- c) Able to freely movement
- d) Bone fracture

Q.7. Close fracture is known as:

- a) Broken bone that does not penetrate the skin
- b) No complete break the bone
- c) Broken bone with penetrate the skin
- d) Complete break the bone



**Q.8. Arthroses is known as:**

- a) Degenerative joint disease
- c) Inflammation of bone

- b) Gout
- d) Complete break the bone

**Q.9. Pressure sore is caused by:**

- a) Fracture
- c) Infection

- b) Bacteria
- d) Reduce circulation in skin

**Q.10. Paralysis means is:**

- a) Loss of the ability to move
- c) Severe pain in body

- b) Freely movement
- d) Tiredness

**Section – B**

04X04 = 16 Marks

Q.1. How to charge our life from movement?

Q.2. Define ergonomics. Write down the aims of ergonomics

Q.3. What are the prevention of gout?

Q.4 Draw the chart of estimating the risk of falls.

**Section – C**

04X06 = 24 Marks

Q.1. Describe the influencing factors of movement.

Q.2. Explain the pathophysiology of general immobility.

Q.3. Define rheumatic disease. Write down the four causes, symptom of rheumatic disease.

Q.4. How to deal with people in a wheelchair.

*K. Koen*



School of Health Care and Paramedics

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10X01 = 10 Marks

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- |                                |                    |
|--------------------------------|--------------------|
| a) Loss of the ability to move | b) Freely movement |
| c) Severe pain in body         | d) Tiredness       |

## Section – B

04X04 = 16 Marks

**Q.1. How to charge our life from movement?**

**Patterns of movement tend to charge our life**

- Babies will move from where you lay them down. They only have a limited capacity to choose and change position freely and independently.
- Young children learn how to crawl and then walk independently. The next step will be cycling — possibly with stabilizers to start with. Children learn gradually more to coordinated in their movements and their micro motor skills becoming more deliberate as they learn, for example, to eat on their own.
- Adults can generally move without restriction.
- Events such as accidents, illness and disability may lead to a temporary or lasting loss of independence during a person 's life. This will have an impact on their mobility and movement.
- With the starting of old age, our independence — including in terms of movement — may decline as a result, for example, of a loss of strength and/or tarnished mental faculties. This may often make us reliant on support from others such as family members or nursing personnel or from various aids.

**Q.2. Define ergonomics. Write down the aims of ergonomics**

**Ergonomics**

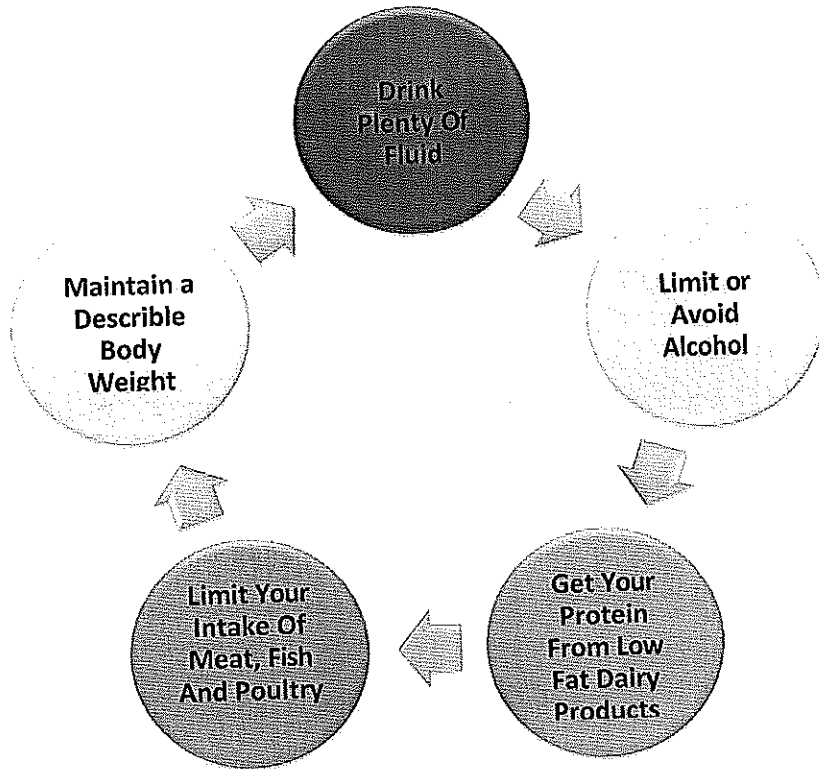
The term 'ergonomics combines the Greek words ergon = work and nomos= law. Ergonomics is the science of improving working conditions, particularly in terms of avoiding damage to health.

**Aims of ergonomics**

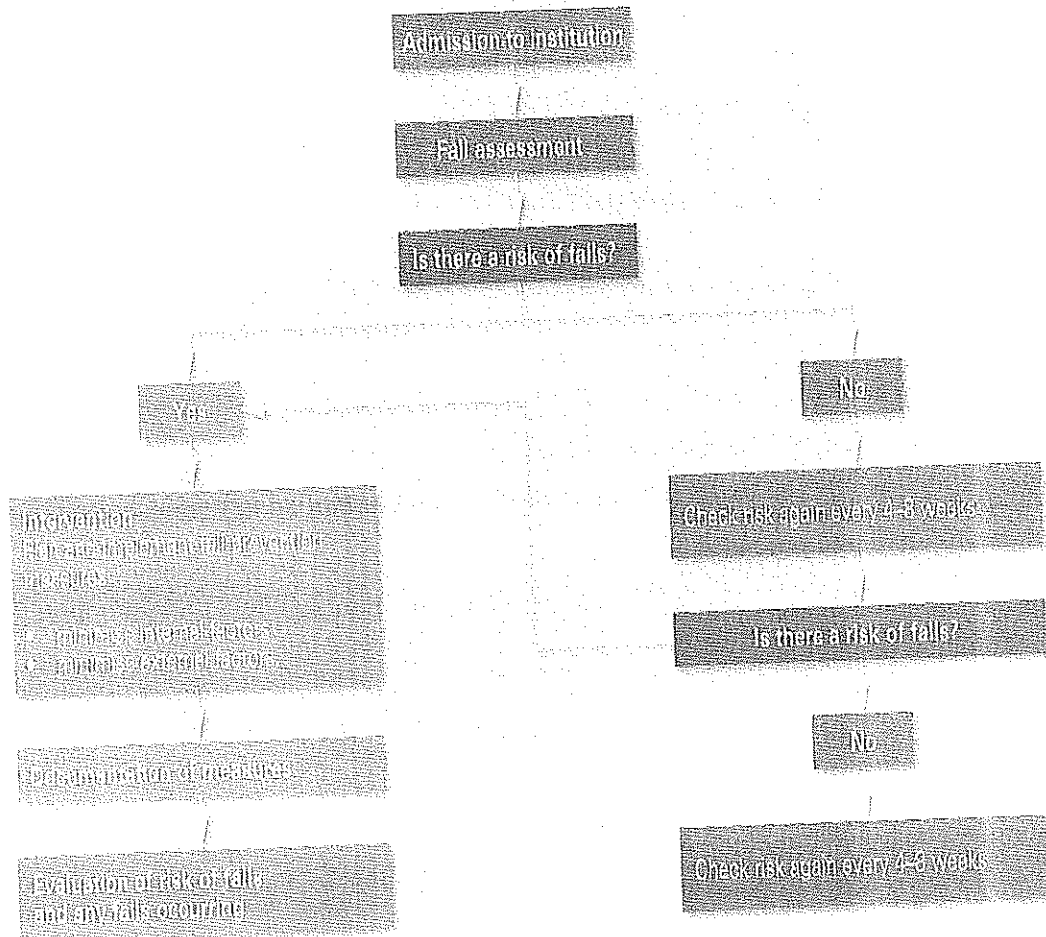
- Avoid direct or long-term damage caused by work
- Ensure work can be done in a way that reflects an individual 's circumstances
- Ensure working conditions do not have a negative impact on people 's mental health or well-being.



Q.3. What are the prevention of gout?



Q.4 Draw the chart of estimating the risk of falls.





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## Section – C

04X06 = 24 Marks

### Q.1. Describe the influencing factors of movement.

Biological factors	The age or stage of development of a person will influence their mobility. As children practice their motor skills, they become familiar with their environment, which is an important prerequisite site for developing their mental faculties. In addition, the body 's ability to move depends on a person 's general condition, muscle strength and state of health. The sick or those suffering with pain or disability, as a result, for example, of malnutrition, impaired cardiovascular performance or immobility, will be restricted in their mobility.
Psychological factors	A person 's mood and emotions may be reflected in their posture and movement. For example, happiness and self-confidence may be expressed in an upright gait. Depressive feelings, stress or anxiety influence the normal pattern of movement and can be detected in people 's expressions. Some people are naturally more active, while other's appetite for movement may be less pronounced.
Sociocultural factors	An individual 's family and social life can influence their decision to undertake specific movement-related activities, with, for example, children of sporty parents being encouraged to prefer sporting activities. A person 's occupation is another important factor. Those who sit down at work will have limited opportunities for movement, while those working in the great outdoors will find themselves moving quite a lot. Today 's multicultural age provides us with a chance to experience the peculiarities of individual cultures via the media, from our neighbors or on our holidays. Different forms of movement are expressed in things like dance.
Environmental factors	A person 's environment and living conditions will influence their behavior in terms of movement. Children living in cramped conditions with no real opportunity to spend time outside will not have much opportunity to indulge their natural appetite for movement. Those with restricted mobility are dependent on aids like a lift in an apartment block in order to leave their home. Climate and weather can also play a major role in people 's movement.

### Q.2. Explain the pathophysiology of general immobility.

#### Pathophysiology – general

There are many diseases that restrict a person 's mobility. For example, the musculoskeletal system may be affected directly by things like bone and joint diseases. Diseases of the brain and nervous System may make it impossible or difficult to control sequences of movements. Psychiatric disorders may also have an impact on mobility. This can be seen, for example, in those with depression, who often perform movements very slowly. The descriptions below provide more details regarding some of the most important changes

Paralysis	The motor functions of the affected muscle can no longer be initiated or activated voluntarily. A distinction is made between paresis and a plegia affecting a part of the body or an organ. A further distinction is made between spastic paralysis or flaccid paralysis.
Trembling/ tremor	Depending on the kind of trembling involved, a distinction is made between coarse and fine tremor. Various main diseases may be involved. Coarse tremor can be seen, for example, in people with Parkinson 's disease.



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Restlessness	This can take different forms in different people, including continuously wandering around, constant fumbling movements or a pressing desire to get out of bed.
Cramps	Cramps take the form of involuntary clenching of the muscles. A distinction is made between tonic cramps, a term which refers to tensing of the muscles, and clonic cramps where muscles twitch repeatedly in quick succession.
Relieving postures	These are postures that provide the patient with some relief so tend to be adopted quite frequently — and mainly unconsciously. Examples include drawing one's legs up when experiencing abdominal pain or sitting upright when short of breath.
Forced postures	Forced postures may occur for example, when parts of the body or limbs are immobilized when wearing a plaster cast or splint.

**Q.3. Define rheumatic disease. Write down the four causes, symptom of rheumatic disease.**

**Inflammatory rheumatism (rheumatoid arthritis)**

Rheumatoid arthritis is a chronic inflammatory disease of the connective, supporting and muscle tissue. It tends to follow an episodic course and symptoms mainly affect the joints.

**Diagnosis**

- Anamnesis
- physical examination
- Findings of laboratory tests (sign of inflammation, below hemoglobin level, evidence of rheumatoid factors)
- X-ray

**Causes**

- Bacteria & Virus
- Age
- Family history
- Obesity
- Environmental exposure

**Symptoms**

- Stiff joints for more than 15 minutes in the morning
- Inflammation affecting 3 or more joints (arthritis), often following a symmetrical pattern with both sides involved at the same time
- Swelling of joints
- Overheating of joints
- Joint pains at night and in the morning
- Tiredness
- Exhaustion Long-term
- Atrophy of the associated muscles due to lack of joint activity
- Visible changes and misalignment of joints

**Q.4. How to deal with people in a wheelchair.**



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## Walking and mobilization aids

Various walking and mobilization aids are used for patients with restricted mobility. The essential thing is to ensure these aids are tailored to the individual person and keep on reviewing whether they are still necessary.

### Principles

- Walking and mobilization aids such as walking sticks or a rollator must always be tailored to the patient with a view to preventing misalignments or malpositioning. Individual adjustments are crucial to ensuring optimal use and safety.
- Walking sticks should have a rubber tip and a cushioned grip. The elbow of someone using a walking stick should be bent by some 30°. If just the one stick is used, it should generally be on the 'healthy' side to provide some relief for the affected side.

### Basic rules for dealing with people in a wheelchair

- The general idea is to provide the patient with a sense of security
- Push the wheelchair in front of you (do not drag it backwards). This helps the person in the wheelchair to keep their bearings and provides you with a clearer view
- A person sitting in a wheelchair has a different eye line from a person standing upright. In view of this, make sure you are level with their eyes when talking to them. A wheelchair can only move efficiently if its tyres are fully inflated. With this in mind, check the tyres on a regular basis
- Carry out regular maintenance on the wheelchair or have this done by the technical services area
- If the wheelchair is at rest, put the brake on for safety reasons
- Place an anti-decubitus cushion on the seat as required for those with a significant degree of immobility  
Transfer with support: fold the footrest away and/or remove it. You may also need to remove the armrests. Caution: risk of falls!
- Adjust your speed to the relevant conditions.



# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1<sup>st</sup> Semester,

End-Sem. Examination

Course Code: SHP1104

Course Name: Nutrition & Elimination I

Time: 2 Hours

Max. Marks: 50

**Instruction:**

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

**Section – A**

10X01 = 10 Marks

**Q.1. The following symptom can be observed in case of a body fluid deficit:**

- a) Thirst
- b) Hypertension
- c) Oily skin
- d) Wet mucous

**Q.2. Full form of PEG tube:**

- a) Protein energy gas
- b) Percutaneous enderic gas
- c) Percutaneous endoscopic gastrostomy
- d) Percutaneous endoscopic gastric

**Q.3. How much required of water per day in adults?**

- a) 1000 ml
- b) 1500-2000 ml
- c) 800 ml
- d) 2500-3000 ml

**Q.4. What do you mean by parenteral nutrition?**

- a) By venous
- b) By oral
- c) By artery
- d) By stomach

**Q.5. Inflammation of urinary bladder is known as:**

- a) Cholecystitis
- b) Cystitis
- c) Endosystitis
- d) Carcinoma

**Q.6. Most common cause foe excessive fluid excretion:**

- a) Physical exertion
- b) Normal body temperature
- c) Taking medicine against blood pressure
- d) Hypoglycaemia

**Q.7. What is symptom of obstipation:**

- a) Wet stool
- b) Pain during defecation
- c) Frequent defection
- d) No abdominal pain

**Q.8. A bland diet consists of:**

- a) High carbohydrate and high fat
- b) Plenty of roughage
- c) Non irritating food
- d) Both a and c



**Q.9. Influential factors on nutrition. Food and drink play an important role in the daily lives of people of all age. which Influential factors on nutrition are as not following:**

- a) Biological factor: Sense of smell and taste
- b) Psychological factor: Eye sight disease or disability
- c) Environmental factor: Decoration of the table
- d) Environmental factor: Eating meals alone or with others

**Q.10. Special nutritional recommendations for elderly people:**

- a) Nutrition in accordance with the food pyramid in order to prevent deficiency symptoms.
- b) Adapt the supply of energy in line without activities
- c) Do not herbs to good flavour to dishes and present them attractively to stimulate the appetite
- d) Ensure that people have no company when eating.

## Section – B

04X04 = 16 Marks

Q.1. Write down the rules for healthy nutrition.

Q.2. Weight of a man is 75 kg and height is 185 cm. Calculate his BMI using the formula and indicate the Condition.

Q.3. Difference between the balance diet and light balance diet.

Q.4 Define excretion. Describe the influencing factors of excretion.

## Section – C

04X06 = 24 Marks

Q.1. Write the twelve principle of tube feeding.

Q.2. Define diarrhea. Write the four causes, symptom and two difference between the chronic and acute diarrhea.

Q.3. What do you mean disgust? Describe the strategies against disgust.

Q.4. Explain the food pyramid with the help of diagram.

*V. K. Kaur*



School of Health Care and Paramedics

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- a) Nutrition in accordance with the food pyramid in order to prevent deficiency symptoms.
- b) Adapt the supply of energy in line without activities
- c) Do not herbs to good flavour to dishes and present them attractively to stimulate the appetite
- d) Ensure that people have no company when eating.

**Section – B**

04X04 = 16 Marks

Q.1. Write down the rules for healthy nutrition.

**Rules for healthy nutrition**

The recommendations for good nutrition can be summarised as follows: •

Consume plenty of unsweetened drinks, spread over the course of the day. [1] [1] •

Eat as varied a range of fruit and vegetables as possible each day. [1] [1] •

One portion of starch should be eaten as main meal, with the wholegrain products. [1] [1] •

Eat one portion of protein each day. •

Three portions of milk and dairy products should be consumed each day. [1] [1] •

Do not avoid oils and fats. Use these foodstuffs in small quantities. [1] [1] •

Enjoy sweet things, snacks, coffee and alcohol in moderation. [1] [1] •

Choose a wide variety of foods, for seasonal products, cook foods gently. [1] [1] •

Eating in the company of others and with enjoyment increases our sense of well-being. •

Daily exercises in the fresh air stimulates our appetite and helps us to maintain a constant body weight.

Q.2. Weight of a man is 75 kg and height is 185 cm. Calculate his BMI using the formula and indicate the Condition.

$$\text{BMI} = \frac{\text{weight in kg}}{(\text{height in m})^2}$$

$$\text{BMI} = 75/3.42 = 21.92$$

The condition is normal



Q.3. Difference between the balance diet and light balance diet.

Example

### **Balance Diet**

Mixed salad

Breaded escalope stuffed with ham and cheese

Fried Potatoes

Paperonata (Peppers, tomatoes and onions)

Chocolate mousse Apple compote

### **Light balanced diet**

Salad of green Leaves Poached Chicken Escalope Steamed potatoes carrots

Q.4 Define excretion. Describe the influencing factors of excretion.

Excretion The process of eliminating or expelling of waste material from body.

### **Biological factors**

Stage of development and age, quality and quantity of food and fluid intake, physical activity, function of the autonomic nervous system, state of the urinary and digestive system

### **Psychological factors**

Feelings and sensitivities, mental faculties, attitude to life and outlook.

### **Environmental factors**

Living conditions, state of hygiene of toilet facilities.

### **Sociocultural factors**

Social taboos and feelings of shame, upbringing and socialization, precepts of various religions as regards, for example, wiping one 's posterior.

## **Section – C**

04X06 = 24 Marks

Q.1. Write the twelve principle of tube feeding.

Principles of Tube Feeding

- Prepare the food according to the prescription.
- Check the expiration date.
- If necessary, warm the tube food to room temperature (in the water bath, not in the microwave).
- Shake the food before use (observe the instructions on the package).
- Inform the patient about the dosage administration.
- Store up the upper body of the patient.
- Perform oral hygiene to promote salivary secretion.
- Remove the cap. • Check the tube location (using the stethoscope and / or aspiration of gastric juice).
- Check the food transport of the last meal by aspiration.
- Administer the following:
  - o Do not allow air to enter the digestive tract (flatulence).
  - o Observe the patient during administration (condition, nausea, breathing / coughing, abdomen).



o Disassemble the syringe or transfer system. o Rinse the tube with at least 20 ml of still water. o Close the tube with the cap.

o Check the fixation of the tube. • Store the upper body of the patient about half an hour high. • Document the tube cost.

Q.2. Define diarrhea. Write the four causes, symptom and two difference between the chronic and acute diarrhea.

Diarrhea

Frequent evacuation involving several watery stools per day. If this situation lasts for more than 1 month, it would be described as chronic diarrhea. Diarrhea is a symptom rather than an actual disease.

Causes/risk factors

Acute diarrhea: • GI infections involving bacteria, virus, fungi, parasite (e.g. norovirus, salmonella, coliform bacteria)<sup>[1][1]</sup> • Food poisoning<sup>[1][1]</sup> • Side effects of medication (e.g. antibiotics, cytostatic) • Laxative use<sup>[1][1]</sup> • Psychological influences (e.g. anxiety, stress).

Chronic diarrhea: •

Chronic inflammatory intestinal diseases (e.g. Crohn 's disease, ulcerative colitis) • Food intolerance<sup>[1][1]</sup> • Irritable bowel syndrome<sup>[1][1]</sup> • Laxative abuse • Hormonal problems (e.g. hyperthyroidism)<sup>[1][1]</sup> • No cause can be found in many cases of chronic diarrhea.

Symptoms

Typical symptoms are watery, mushy and foul-smelling stools, possibly containing blood. People may experience abdominal cramps or flatulence during defecation. infectious diarrhea will typically also involve vomiting and fever. If diarrhea persists, there is a risk of desiccation. In most cases, patients will complain of a loss of appetite and physical weakness and tend to lose weight.

Q.3. What do you mean disgust? Describe the strategies against disgust.

**Disgust**

Those employed in a nursing role on a day-to-day basis may feel some disgust when dealing with excretory products. The main thing to realise is that disgust is a natural feeling and an important and even healthy reaction. Feelings of disgust at a form of protection. Extreme physical proximity and dealing frequently with bodily fluids in a nursing role can trigger adverse reactions such as disgust. Physiologically speaking, disgust triggers increased secretions from the salivary glands and blood supply to the head also increases slightly. The resulting gag or vomiting reflex is also, among other things, a physical protective function against poisoning.

**Strategies**

The following rules and strategies may prove helpful for both patients and nursing personnel in terms of dealing with feelings of disgust:

• Using gloves when dealing with bodily fluids o it is not just important to wear gloves for hygiene purposes. It also makes it clear that contact with the genitals has no sexual connotations.<sup>[1][1]</sup>

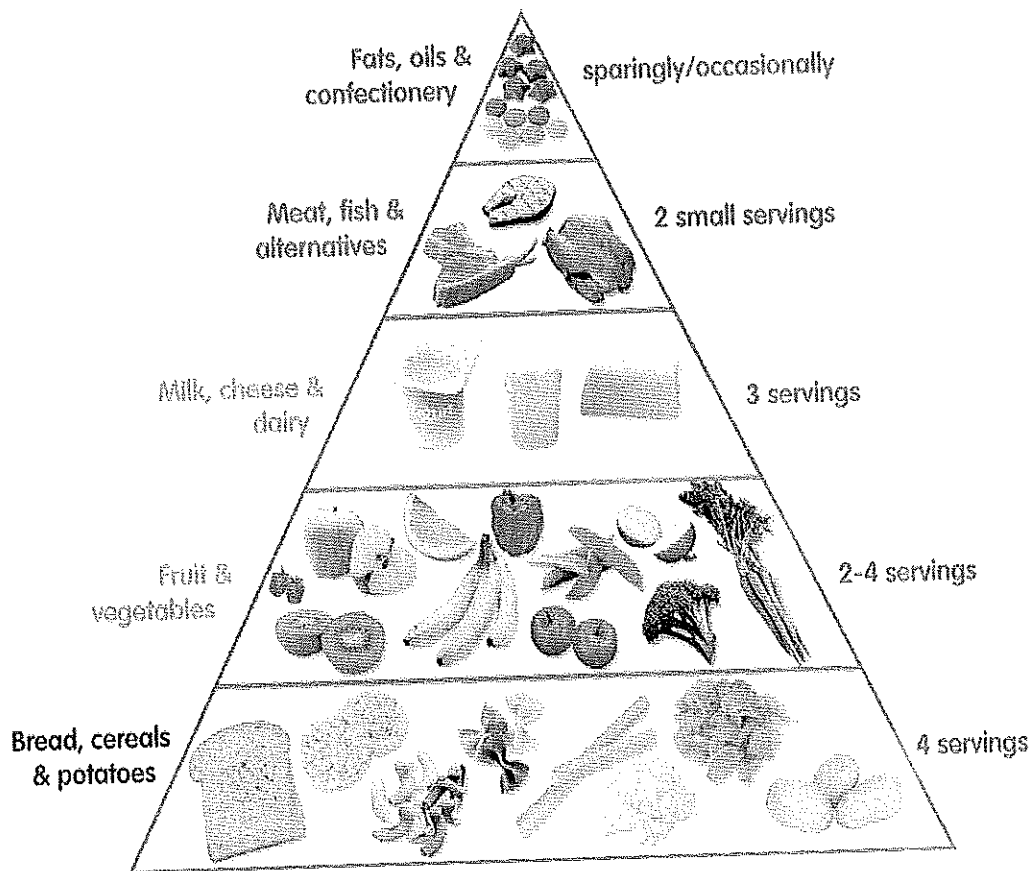


# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Protective gowns in intimate nursing situations or wearing a protective gown when working close to a person's body makes it clear that excessive close contact is nothing personal, but is required as part of the nurse's duties.

- Performing unpleasant work in teams of 2 or 3. a feeling of team spirit can make things much easier to bear.
- Rotating unpleasant work or rotating unpleasant work around members of a team has been proven to work. This avoids a situation where the same person is always stuck with this kind of work.
- Forced ventilation or if the air in a room is very unpleasant, it is a good idea to ventilate the room for 5 minutes about half an hour before going to help someone in this room and then close the window once more and wait until the ambient air warms up again.

Q.4. Explain the food pyramid with the help of diagram.



Drinks	<p>Mineral water, herbal tea, green tea, diluted fruit juice, tap water</p> <p>The human body is made up of 50—70% of water. Water in the body is essential in order to proper function of life process. Water is a transport substance and solvent, regulates body temperature and is a support substance for cells. We should consume 1—2 litre each day. This requirement is increased in cases of physical activity, high temperatures, fever, infection and diarrhoea. Children also have higher requirements.</p>
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Fruit and vegetables	Cucumber, onions, red cabbage, broccoli, apples, pineapple, pears Fruit and vegetables provide many vitamins, minerals. We should consume five portions per day from this food group. 1 Portion = 120 g or one handful. Each day, one portion can be replaced by a fruit or vegetable juice.
Grain products, pulses and potatoes	Bread, maize, pasta, rice, millet, barley, potatoes, soya, chickpeas Grains, pulses and potatoes contain high levels of starch. They mainly supply the body with energy. Wholegrain products are also rich in vitamins, minerals and bioactive compounds. We should eat a portion from this group at every main meal. 1 portion = approx. 100 g of bread or 200—300g of potatoes or 70g of pasta or cereal.
Milk and dairy products	Yoghurt, soft cheese, milky drinks, hard cheese, soured milk Milk and dairy products provide us with protein and the mineral calcium. We should consume around three portions per day. 1 portion = 200 ml of milk or 180g of yoghurt or 200g of cottage cheese or 40 g of cheese. Caution: the fat content of dairy products varies.
Meat, fish, eggs, cheese and sources of vegetable protein	trout, meat, fried egg, seafood Foods from this group mainly supply the human body with protein. Meat also provides the body with the mineral iron and B-group vitamins. Oil fish in particular contain fish oil, which has a beneficial effect on the level of cholesterol in the blood. We need approximately one portion per day and it is important to vary our sources of protein. 1 portion= 100g of meat or 2—3 eggs or 200g of Quorn or 120g of Tofu.
Oils and fats and nuts	Olive oil, milk fat, sunflower seeds, rapeseed oil, avocado, butter Oils and fats firstly provide us primarily with energy. Vegetable oils and fish oil also contain important vitamins and valuable Omega 3 fatty acids, which have a beneficial effect on our health. Oils in fried dishes and animal fats are not recommended to the same extent. Each day, we should consume 2—3 teaspoons of olive or rapeseed oil for salads, 2—3 teaspoons of vegetable oil for heating up food, approximately 2 teaspoons of spreadable fat (e.g. butter).
Confectionery, salted snacks and high-energy drinks	Chocolate, salted peanuts, energy drinks, alcohol, ice cream, sugar lumps, cola, rasgulla other Indian sweets. Foodstuffs from this level of the pyramid mainly provide us with a lot of energy, but no valuable nutrients. We should therefore enjoy these foods in moderation. It is important to ensure that the portion sizes of these foods and drinks are kept small and that we do not get into the habit of satisfying our hunger with foods from this group.



School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1<sup>st</sup> Semester,

End-Sem. Examination

Course Code: <sup>SHP</sup> 1105

Course Name: Clinical Picture I

Time: 2 Hours

Max. Marks: 50

Instruction:

1. SECTION-A: Answer all questions from section A. Each question carries 01 mark
2. SECTION-B: Answer all questions from section B. Each question carries 04 marks
3. SECTION-C: Answer all questions from section C. Each question carries 06 marks

## Section – A

10X01 = 10 Marks

Q.1. A urinary tract infection (UTI) is an infection that affects part of the urinary tract. Choose the right symptom:

- |                 |                              |
|-----------------|------------------------------|
| a) Clear urine  | b) Blue urine                |
| c) Bloody urine | d) No burning with urination |

Q.2. Which diagnosis of urinary tract infection:

- |  |                  |
|--|------------------|
| a) The smell of urine                    | b) Urine culture |
| c) Based on the information of a patient | d) Burning sign  |

Q.3. What is the symptom of dry skin?

- |                |                            |
|----------------|----------------------------|
| a) Oily skin   | b) Enough drinking         |
| c) Dehydration | d) Good smooth of the skin |

Q.4. Psoriasis vulgaris is a chronic inflammatory skin disease associated with an immunological response. Chose the right symptom:

- |                         |                  |
|-------------------------|------------------|
| a) No sign of psoriasis | b) No itchy sign |
| c) Oily skin            | d) Blister       |

Q.5. Psoriasis is a:

- |                       |                        |
|-----------------------|------------------------|
| a) Short time disease | b) Not chronic disease |
| c) Chronic disease    | d) None of above       |

Q.6. House dust is which type of allergy?

- |                     |                    |
|---------------------|--------------------|
| a) Food allergy     | b) Inhaled allergy |
| c) Injected allergy | d) Contact allergy |

Q.7. Which of the following is not considered a portal of entry for bacteria?

- |          |                |
|----------|----------------|
| a) Eyes  | b) Nose        |
| c) Mouth | d) Intact skin |

Q.8. Droplet infection transmitted by:

- |                          |                   |
|--------------------------|-------------------|
| a) By blood transfusion  | b) Direct contact |
| c) Sneezing and coughing | d) All of above   |



**Q.9. BMI of 25 indicates which status?**

- a) Normal
- b) Under weight
- c) Over weight
- d) Malnutrition

**Q.10. What is most common prevention of urinary tract infection:**

- a) Hygiene is not so important
- b) Do not maintain hygiene method after using urinating and disinfection
- c) To use a catheter method as long as possible is not a big thing
- d) Never hold the urine

**Section – B**

04X04 = 16 Marks

Q.1. Define infection. Write the four transmission and types of infection.

Q.2. Explain the symptoms of fungal infection.

Q.3. Write down the eight causes of psoriasis.

Q.4. Describe the risk factors of allergies.

**Section – C**

04X06 = 24 Marks

Q.1. Explain obesity.

Q.2. Define eating disorder. Explain the symptom and Nursing measure for eating disorders.

Q.3. Define dry skin. Write down the four causes, symptoms and prevention of dry skin.

Q.4. What do you mean nosocomial infection and How prevention of nosocomial infection? Write down the difference between the endogenous and exogenous

*K. Kour*



School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1<sup>st</sup> Semester,

End-Sem. Examination

Course Code: <sup>SHF</sup> 1105

Course Name: Clinical Picture I

Time: 2 Hours

Max. Marks: 50

Instruction:

1. SECTION-A: Answer all questions from section A. Each question carries 01 mark
2. SECTION-B: Answer all questions from section B. Each question carries 04 marks
3. SECTION-C: Answer all questions from section C. Each question carries 06 marks

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- c) Dehydration
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## Section – B

04X04 = 16 Marks

**Q.1. Define infection. Write the four transmission and types of infection.**

### Infection

Infection is the invasion of an organism's body tissues by disease-causing agents, their multiplication, and the reaction of host tissues to the infectious agents and the toxins they produce. Infectious disease, also known as transmissible disease or communicable disease, is illness resulting from an infection. These include skin contact, bodily fluids, contact with faeces, airborne particles, and touching an object that an infected person has also touched. The immune system is an effective barrier against infectious agents.

#### 1.1 Types

- Bacteria
- Viruses
- Fungi
- Protozoa
- Parasites
- Pathogen

#### 1.2 Transmission

- Droplet contact
- Faecal-oral transmission
- Sexual transmission
- Oral transmission
- Transmission by direct contact

#### 1.3 Mode of Transmission

- Contact
- Air borne
- Oral route
- Parenteral route



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Q.2. Explain the symptoms of fungal infection.

<b>Oral thrush</b>	whitish deposits, most of which can be wiped away, on reddened mucosa, possibly bleeding or ulcerated mucosa, pain during eating or swallowing
<b>Oesophageal thrush</b>	pain during swallowing
<b>Vaginal thrush</b>	reddened and swollen vaginal mucosa, whitish deposits that can be wiped away, considerable itchiness, burning, lots of whitish crumbly discharge from the Vagina
<b>Thrush affecting the urethra or bladder</b>	symptoms like those associated with cystitis, namely a burning during urination, itchiness, more frequent desire to urinate
<b>Thrush affecting the respiratory tracts</b>	coughing, sputum

Q.3. Write down the eight causes of psoriasis.

### Causes

The immune System of those with psoriasis, attacks the keratinocytes (cells in the outer skin). The skin responds with an inflammatory reaction. This causes the skin to thicken. Even now, the reasons why psoriasis occurs have still to be fully explained. There would appear to be some kind of genetic predisposition, although the disease only tends to break out when various factors coincide. These can be:

- emotional stress
- excess weight
- infectious diseases (e.g. tonsillitis, viral infections)
- medication (e.g. lithium, beta blockers, ACE inhibitors, malaria drugs)
- metabolic disorders (e.g. diabetes)
- excessive consumption of alcohol and nicotine
- hormonal factors (e.g. pregnancy, menarche, menopause)
- external injuries (e.g. prolonged friction, sunburn)
- climatic influences (e.g. cold, damp weather)
- certain foods (varies greatly between individuals, each psoriatic must find out for themselves which foods can trigger an episode)
- first outbreak of psoriasis often as early as childhood or adolescence or only from age 40 onwards

Q.4. Describe the risk factors of allergies.

<b>Inhaled allergens</b>	these are inhaled with the air we breathe (e.g. house dust, pollen, particular matter).
<b>Contact allergens</b>	these involve contact (e.g. latex), are worn next to the skin (e.g. nickel) or are applied to the skin (e.g. cosmetics).
<b>Food allergens</b>	these are eaten or drunk (e.g. nuts, strawberries, milk).
<b>Injected allergens</b>	allergens introduced to the circulation (e.g. wasp stings, blood of a different group, medicines).



Q.1. Explain obesity.

### 2 Obesity

Obesity is a state of excess adipose tissue mass.

#### 2.1 Causes of Obesity

- excessive food intake,
- having a sedentary (inactive) lifestyle
- not sleeping enough, which can lead to hormonal changes that make you feel hungrier and crave certain high-calorie foods
- genetics, which can affect how your body processes food into energy and how fat is stored
- growing older, which can lead to less muscle mass and a slower metabolic rate, making it easier to gain weight
- pregnancy (weight gained during pregnancy can be difficult to lose and may eventually lead to obesity)

#### Prevention

- Social changes and personal choices
- Diet:
  - the primary focus of diet therapy is to reduce overall calorie
  - low carbohydrate, high protein diets appear to be more effective in lowering BMI
- Increase physical activity
- Behavior modification:
  - Self-monitoring of weight
  - Stress management
  - Social support
- Exercise

Q.2. Define eating disorder. Explain the symptom and Nursing measure for eating disorders.

Below we describe the two main eating disorders, anorexia nervosa and bulimia nervosa.

<b>Anorexia nervosa</b>	Anorexia Nervosa is a life threatening, psychological eating disorders. It's mean lack of appetite, sometime patient does complete refusal of food and extreme weight loss.
<b>Bulimia nervosa</b>	Bulimia means "hunger of an ox" and characterised by episode of eating of large amount of food, alternating with vomiting.

#### Symptoms

The symptoms of both eating disorders are as following.

<b>Anorexia nervosa</b>	<b>Bulimia nervosa</b>
<ul style="list-style-type: none"> <li>• Strong compulsion to exercise</li> <li>• Hypersensitivity to cold</li> <li>• Reduced productivity, Chronic fatigue</li> <li>• Problems concentrating</li> <li>• Depression with risk of suicide</li> </ul>	<ul style="list-style-type: none"> <li>• Feelings of shame and guilt because of the binge eating</li> <li>• Body weight fluctuates more than of anorexia nervosa and is usually significantly higher</li> <li>• Reduced productivity, Chronic fatigue</li> <li>• Problems concentrating</li> </ul>



- Changes to the teeth are typical due to the frequent vomiting
- Episodes of weakness
- Gastrointestinal disorders
- Cardiac irregularities
- Depression with risk of suicide

## Nursing measures for people with eating disorders

The following measures are important:

- Make sure that you comply with the agreed rules and do not allow the patient to 'haggle' with you.
- Try not to moralise.
- Check the patient's weight regularly. (The frequency of weight checks will depend on the patient's general state of health and the concept at the individual institution.)
- If the patient is severely underweight, make sure that the rules of treatment are complied with, such as prescribed bed rest etc.
- Observe the patient's behaviour in relation to eating and drinking. Document may be that special nutrition is needed.
- Practise a constructive approach to food with the patient, e.g. putting together a balanced menu in a cookery group, or shopping and cooking together.
- Supervise the taking of medication if applicable.
- Make sure that there is no 'smuggling' of food. To do this, check the room regularly together with the patient or lock the ward kitchen.
- Make sure that the patient does not go to the toilet for one hour after meals (risk of vomiting).
- Encourage and support the patient to keep a therapy diary about self-control over eating and vomiting.
- Take note of any suicidal statements and report these.

Q.3. Define dry skin. Write down the four causes, symptoms and prevention of dry skin.

### Dry Skin

Dry skin is an uncomfortable condition marked by scaling, itching, and cracking. It can occur for a variety of reasons Dry skin can affect any part of your body. It commonly affects hands, arms, and legs. In many cases, lifestyle changes.

#### 2.2 Causes

- Age
- Medical history
- Season
- Bathing habits

#### 2.3 Symptoms of Dry Skin

- Excessive thirst
- Fast heart rate
- Dehydration



- Rash
- Skin lesion
- Dry mouth

## 2.4 Prevention of Dry Skin

- void using hot water to bathe or shower
- shower every other day instead of every day
- keep your shower time to less than 10 minutes
- use a moisturizing soap when you bathe or shower
- apply moisturizer immediately after bathing or showering
- pat, rather than rub, wet skin dry with a soft towel
- avoid itching or scrubbing dry skin patches
- use a humidifier in your home
- drink plenty of water

Q.4. What do you mean nosocomial infection and How prevention of nosocomial infection? Write down the difference between the endogenous and exogenous

## 2.5 Nosocomial Infection

A hospital-acquired infection (HAI), also known as a nosocomial infection, is an infection that is acquired in a hospital or other health care facility. To emphasize both hospital and nonhospital settings, it is sometimes instead called a health care-associated infection.

## 2.6 Where do the microbes come from?

1. Patient owns place
2. Cross infection patient to patient
3. Hospital environment
  - a. Air
  - b. Water dust
  - c. I.v. fluid & catheters
  - d. Bed pans
  - e. Ventilators

## 2.7 Source of Infection

Endogenous	Exogenous
<ul style="list-style-type: none"><li>• patient own flora may invade patients tissue during some surgical operations</li></ul>	<ul style="list-style-type: none"><li>• From another patient, staff member and environment in the hospital</li><li>• Environment source: air, water and food</li></ul>

## 2.8 Mode of Transmission

- Contact
- Air borne
- Oral route
- Parenteral route



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## Prevention of Nosocomial Infection

- Source patient to destroy the pathogenic agents
- Proper sterilization & disinfection of inanimate object. This helps to control the source of infection.
- Transmission can be controlled by regular washing of hands
- Disinfection of equipment & change of working cloths
- Use of sterile dressing, surgical gloves & face mask further contributes in control of nosocomial infection
- Pre-operative disinfection of patient





# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1<sup>st</sup> Semester,

End-Sem. Examination

Course Code: SHP1106

Course Name: First Aid, CPR and Palliative Care

Time: 2 Hours

Max. Marks: 50

Instruction:

1. SECTION-A: Answer all questions from section A. Each question carries 01 mark
2. SECTION-B: Answer all questions from section B. Each question carries 04 marks
3. SECTION-C: Answer all questions from section C. Each question carries 06 marks

## Section – A

10X01 = 10 Marks

Q.1. Heimlich maneuver involves the following:

- a) Abdominal thrusts
- b) Chest compressions
- c) Blind finger sweep in throat
- d) Jaw thrust

Q.2. Full form of CPR is:

- a) Cardio Pulmonary Resuscitation
- b) Cardiac pulmonary respiration
- c) Cardio Pulmonary Relapse
- d) Cardiac pulmonary Replace

Q.3. While doing CPR the compression ventilation ratio in an adult should be?

- a) 15:2
- b) 20:2
- c) 15:1
- d) 30:2

Q.4. What do you mean "Aims of First Aid"?

- a) Preserve life
- b) Promote recovery
- c) Transport nearest healthcare
- d) All of above

Q.5. AVPU scale means is:

- a) Alert, Voice, Pain, Unconsciousnes
- b) Active, Verbal, Pain, Unique
- c) Alert, Voluntary, Pain, Unconsciousnes
- d) Alert, Voice, Pain, United

Q.6. Dyspnea is known as:

- a) Softness of breathing
- b) Normal Breathing
- c) Absence of breathing
- d) Shortness of breathing

Q.7. What first aid should you give to someone who is having a heart attack?

- a) Call 108
- b) Perform CPR
- c) Loosen his/her clothes
- d) All of above

Q.8. What should you do to help someone who is choking?

- a) Encourage them to breathe through their nose
- b) Help them drink some water to dislodge the object
- c) Hit them firmly on their back between the shoulder blades
- d) Start CPR



**Q.9. Which is the first step when caring for bleeding wounds?**

- a) Apply direct pressure with a clean or sterile dressing
- b) Apply pressure at the pressure point
- c) Apply bulky dressing to reinforce blood soaked bandages
- d) Elevate the wound

**Q.10. Dressing and bandages are used to:**

- a) Reduce the victim pain
- b) Reduce internal bleeding
- c) Help control bleeding and prevent infection.
- d) Make a easier to take the victim to the hospital.

**Section – B**

04X04 = 16 Marks

Q.1. Define wound. Explain the three types of wound.

Q.2. Define fracture. Difference between the close and open fracture.

Q.3. Draw the first aid overview flow chart.

Q.4 Difference between the cradle technique and human crutch technique.

**Section – C**

04X06 = 24 Marks

Q.1. Define burn. Explain the degree of burn.

Q.2. How to deal with emergency situation.

Q.3. Describe the recovery position to provide unconscious patient.

Q.4. Define Dyspnea. Write down the grades and four symptom of dyspnea.

*K. Koceri*

**School of Health Care and Paramedics**  
**Session: 2019-20 (Summer Semester)**  
**B. Voc. Program, 1<sup>st</sup> Semester,**  
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**Section – A**

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- |                                 |                       |
|---------------------------------|-----------------------|
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| c) Blind finger sweep in throat | d) Jaw thrust         |

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- |                                   |                                  |
|-----------------------------------|----------------------------------|
| a) Cardio Pulmonary Resuscitation | b) Cardiac pulmonary respiration |
| c) Cardio Pulmonary Relapse       | d) Cardiac pulmonary Replace     |

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- |                                 |                     |
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**Q.5. AVPU scale means is:**

- |   |                                 |
|---|---------------------------------|
| a) Alert, Voice, Pain, Unconsciousnes     | b) Active, Verbal, Pain, Unique |
| c) Alert, Voluntary, Pain, Unconsciousnes | d) Alert, Voice, Pain, United   |

**Q.6. Dyspnea is known as:**

- |                          |                           |
|--------------------------|---------------------------|
| a) Softness of breathing | b) Normal Breathing       |
| c) Absence of breathing  | d) Shortness of breathing |

**Q.7. What first aid should you give to someone who is having a heart attack?**

- |                           |                 |
|---------------------------|-----------------|
| a) Call 108               | b) Perform CPR  |
| c) Loosen his/her clothes | d) All of above |

**Q.8. What should you do to help someone who is choking?**

- a) Encourage them to breathe through their nose
- b) Help them drink some water to dislodge the object
- c) Hit them firmly on their back between the shoulder blades
- d) Start CPR

**Q.9. Which is the first step when caring for bleeding wounds?**

- a) Apply direct pressure with a clean or sterile dressing
- b) Apply pressure at the pressure point
- c) Apply bulky dressing to reinforce blood soaked bandages
- d) Elevate the wound

**Q.10. Dressing and bandages are used to:**

- a) Reduce the victim pain
- b) Reduce internal bleeding
- c) Help control bleeding and prevent infection.
- d) Make it easier to take the victim to the hospital.

### Section – B

04X04 = 16 Marks

**Q.1. Define wound. Explain the three types of wound.**

A wound is an injury in which the skin or another surrounding surface is torn, pierced, cut or otherwise broken. Wounds can be external or internal in the body. Each type of wound carries specific risks associated with the surrounding tissue damage and infection.

#### Abrasions

These wounds are superficial wounds in which the top most layers of the skin are scraped off, leaving a raw, tender area. These wounds appear often when experiencing a sliding fall (e.g. of a bike). The wounds often contain embedded foreign particles which may result in infections. Abrasions do not bleed much, but are usually very painful.

#### Incisions

#### Incised

wounds are caused by sharp instruments such as a knife, razor, etc. The blood vessels show a straight cut and bleeding may be profuse. Other structures such as tendons and nerves may be damaged too.

#### Contusions (bruises)

Contused wounds are caused by blows, by blunt instruments or by punching. The capillaries are ruptured by the punch and blood leaks into the tissues. Severe contusion might be an indication of a deeper damage,

like a fracture or internal injury

#### Lacerations

Lacerated wounds are caused by crushing, ripping forces by machinery, or clawing of animals resulting in tears or lacerations. The edges are mostly irregular in shape. There is usually more underlying tissue damage. These wounds are often contaminated with germs; the risk of infection is high. This type of wound sometimes has less bleeding, but is usually very painful.

#### Puncture wounds

Puncture wounds are caused by stabs or sharp instruments like knives, daggers or nails. These wounds typically have a smaller opening, but may reach deep into the tissue. These may not be very painful.

A *stab wound* is a puncture wound by a knife or sharp blade. A *gunshot wound* is the wound caused by a bullet or missile driven into the body. The entry wounds of gunshot wounds are mostly small and neat. If the projectile also exits the body, the exit wound may be large and ragged

#### Amputations

Amputation is the removal of a limb by trauma. Re-attachment of amputated limbs, fingers or toes might be possible if the injured and the amputated part(s) arrive at the hospital as soon as possible.

Q.2. Define fracture. Difference between the close and open fracture.

A fracture is a break/bend or crack in a bone. Generally, a considerable force is needed to break a bone, unless it is diseased or old. The bones that are still growing are supple and may split, bend, or crack.

#### Open and Closed Fractures

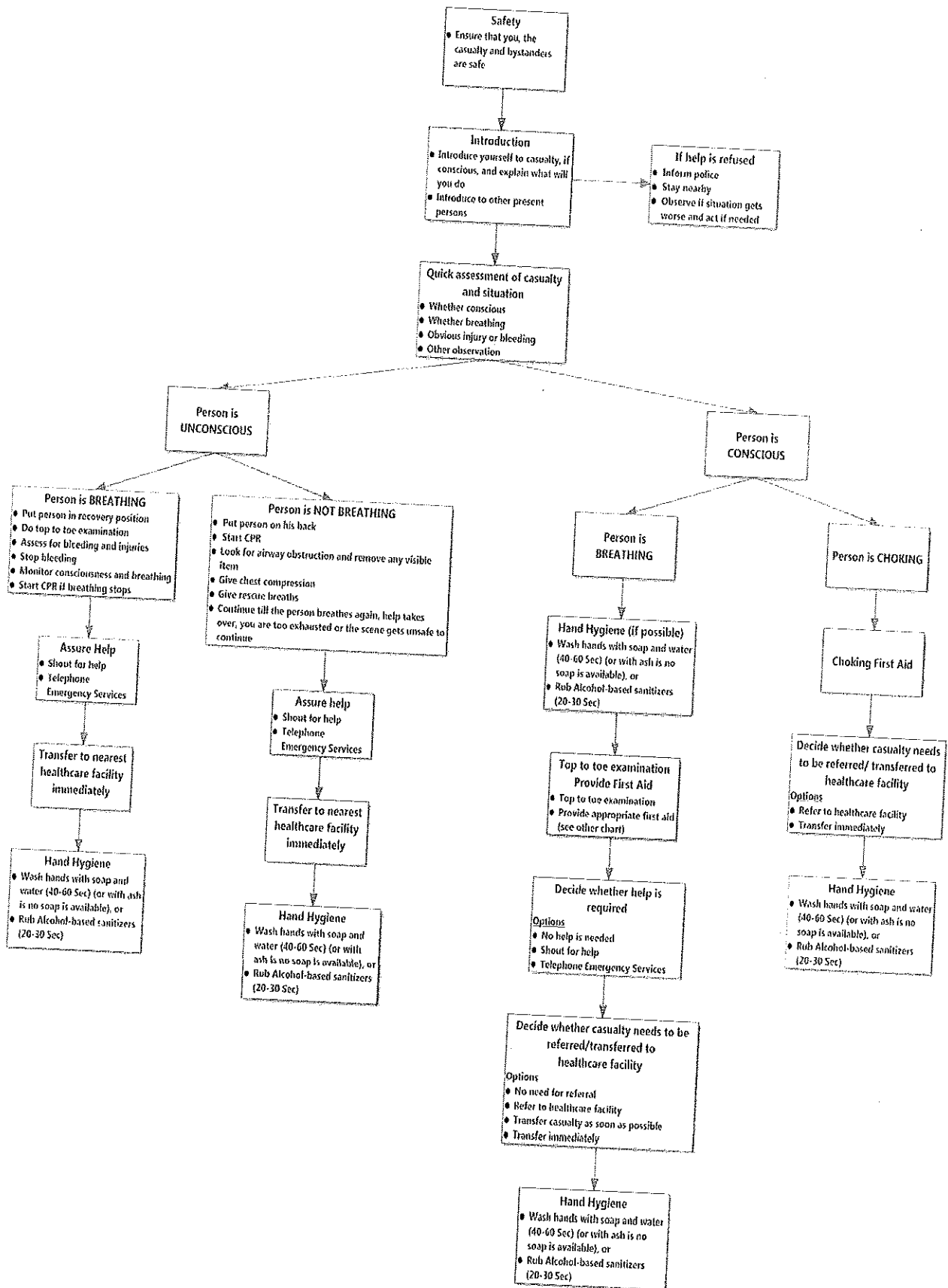
##### Closed Fractures

The skin above the fracture is intact, although the bone ends may have damaged nearby tissues and blood vessels.

##### Open Fractures (Compound Fractures)

The skin above the fracture is not intact. There is bleeding. The bone is exposed to the outside air at the surface; dirt, dust and germs can enter the wound. There is a high risk of infection.

Q.3. Draw the first aid overview flow chart.



Q.4 Difference between the cradle technique and human crutch technique.

#### **CRADLE TECHNIQUE**

This technique is only to be used in the case of light casualty or children.

Lift the casualty by passing one of your arms well beneath his two knees and the other round his back.

#### **HUMAN CRUTCH TECHNIQUE**

Standing at his injured side except where there is injury to an upper limb, assist the casualty by putting your arm round his waist, grasping the clothing at him and placing his arm round your neck, holding his hand with your free hand.

If his upper limbs are injured and his other hand is free, the casualty may gain additional help from a staff or walking stick.

If both legs are injured, another first aider might hold the other side in a similar way (see human crutch technique with two helpers).

### **Section – C**

04X06 = 24 Marks

Q.1. Define burn. Explain the degree of burn.

#### **A.1 BURN WOUNDS**

---

Burns are injuries to the skin and underlying tissue that result from the sun, heat sources, fire, hot items, boiling liquids, chemicals, irradiation, etc. However, cold can also create burn wounds!

##### **A.1.1 FIRST, SECOND AND THIRD DEGREE BURNS**

Burns are classified by the degree of skin and underlying tissues that are damaged. You will observe different signs and symptoms according to the severity of the burn wound.

##### **H.3.1.1 FIRST DEGREE BURNS**

Superficial first degree burns show following signs and symptoms:

- red or darker than usual skin;
- slightly swollen skin;
- painful, but mostly bearable.

These burns usually extend only into the epidermis.

##### **H.3.1.2 SECOND DEGREE BURNS**

Intermediate second degree burns show following signs and symptoms:

- blistering,
- swelling,
- very painful.

These burns usually involve the epidermis and the dermis.

### H.3.1.3 **THIRDEGREEBURNS**

Deep third degree burns show following signs and symptoms

- black, parchment-like or white-looking burn wound;
- mostly dry;
- no pain inside the third degree area, but very painful in the surrounding second and first degree burned parts of the skin.

## Q.2. How to deal with emergency situation.

### A.2 **DEALING WITH AN EMERGENCY**

Emergency situations vary greatly but there are four main steps that always apply:

1. Make the area safe.
2. Evaluate the injured person's condition.
3. Seek help.
4. Give first aid.

#### A.2.1 **STEP 1: MAKE THE AREA SAFE**

Your own safety should always come first.

As a first aider, you should:

- try to find out what has just happened;
- check for any danger: is there a threat from traffic, fire, electricity cables, etc.;
- never approach the scene of an accident if you are putting yourself in danger;
- do your best to protect both the injured person(s) and other people on the scene;
- be aware that the property of the injured person is at risk. Theft can occur. So mind your safety, and
- seek police or emergency help if an accident scene is unsafe and you cannot offer help without putting yourself in danger.

ⓘ An important part of safety also includes washing your hands and wearing gloves or a protection when coming in contact with the injured or sick person's blood or body fluids.

In case of road accidents, as a first aider, you should:

- always follow the traffic rules;
- ask other people to warn traffic about the event;
- if possible, place a warning sign at a good distance, at least 30 meters to either side of the accident, to warn traffic. Do not forget to remove the warning signs afterwards;
- seek help from the police or emergency services;
- not allow anybody to smoke near an accident site;
- switch off the engine of every car involved in the accident; and

- try to apply the handbrake of vehicles involved in the accident to prevent them from moving. You can also put something against the tyres to prevent rolling.

As a general rule, the injured person should not be moved from the scene of an accident. Any movement may make the injury worse if there has been a head, neck, back, and leg or arm injury.

Only move injured people if:

- the injured person is in more danger if he is left there,
- the situation cannot be made safe,
- medical help will not arrive soon, and
- you can do so without putting yourself in danger.

### **A.2.2 STEP 2: EVALUATE THE CONDITION OF THE SICK OR INJURED PERSON**

If it is safe, you can evaluate the sick or injured person's condition. Always check that he is conscious and breathing normally. Situations in which consciousness or breathing are impaired are often life threatening.

Bleeding can also happen inside the body and can be life-threatening although the loss of blood is not seen.

Techniques of resuscitation (CPR), the recovery position, etc. are explained in this manual.

### **A.2.3 STEP 3: SEEK HELP**

Once you have evaluated the sick or injured person's condition you can decide if help is needed urgently.

If help is needed, ask a bystander to call for help. Ask him to come back and confirm that help is underway.

If you call for help, be prepared to have the following information available:

- the location where the help is required (address, street, specific reference points, location; if in a building: floor, room);
- the telephone or mobile number you are calling from;
  - the nature of the problem;
  - what happened (car accident, fall, sudden illness, explosion, ...);
  - how many injured;
  - nature of the injuries (if you know);
  - what type of help is needed:
    - ambulance,
    - police,
    - fire brigade, or
    - other services;

- and any other information that might help.

You might be asked to give your name. Always

stay calm and answer their questions calmly. The call takers are professionals and will give you further guidance.

If an ambulance can be obtained in a short time, it is best to call for one and use it to transport the injured or sick person to the healthcare facility. An ambulance is the best way to transport ill or injured persons, but they are not always and everywhere quickly available.

You can always ask the police for help.

If no help is available, you will have to arrange transport yourself (in a van, a truck, a car, an auto-rickshaw, a motorbike, a scooter, a bike-rickshaw, a bike...). Always move the sick or injured person with great care.

#### **A.2.4 STEP 4: PROVIDE FIRST AID**

Give first aid in accordance with the instructions given in the following chapters in this manual. When providing first aid, try to protect an ill or injured person from cold and heat.

Do not give anything to eat or drink to a person who is:

- severely injured,
- feeling nausea,
- becoming sleepy, or
- falling unconscious.

❗ In fact, as a general principle, the rule is not to give a casualty anything to drink or eat. Important exceptions include hypothermia (low body temperature), hypoglycaemic shock (low blood sugar in a diabetes patient), diarrhoea and fever leading to dehydration and in case of heat exhaustion or heatstroke. The details can be reviewed in the specific chapters on these conditions.

Be aware that experiencing an emergency situation is a very stressful experience for the injured or sick person.

To support him through the ordeal, follow these simple tips:

- tell the sick or injured person your name, explain how you are going to help him and reassure him. This will help to relax him;
- listen to the person and show concern and kindness;
- make him as comfortable as possible;
- if he is worried, tell him that it is normal to be afraid;
- if it is safe to do so, encourage family and loved ones to stay with him; and
- explain to the sick or injured person what has happened and what is going to happen.

#### **A.2.5 WHEN CAN I STOP PROVIDING FIRST AID?**

The question arises when your first aid 'duty' comes to an end?

Within first aid, CPR is a lifesaving activity. But when you can stop giving CPR? There are four reasons allowing you to stop CPR:

- you see a sign of life, such as breathing;
- someone trained in first aid or a medical professional takes over;
- you are too exhausted to continue; or
- the scene becomes unsafe for you to continue.

Q.3. Describe the recovery position to provide unconscious patient.

### **A.3 RECOVERY POSITION**

The recovery position refers to a lateral prone position of the body, in to which an unconscious but breathing normally casualty can be placed as part of the first aid treatment.

In an unconscious person, the muscles are relaxed. This causes the tongue to obstruct the airway. This risk can be eliminated by carefully tilting the head back and lifting the chin. The recovery position should be used for unconscious casualties who are breathing.

The position of the casualty's arms and legs provide the necessary stability to keep the body in a safe and comfortable position.

Unblocking the breathing passage takes priority over concerns about a potential spinal injury. Unless you can clearly see that the person is breathing normally, an unconscious person must be turned onto his back to unblock the breathing passage and to check breathing.

#### **A.3.1 HOW TO PUT A PERSON INTO THE RECOVERY POSITION?**

##### **A.6.1.1 SAFETY FIRST AND CALL FOR HELP**

1. Make sure there is no danger to you, the person who needs help and bystanders before giving help.
2. The victim needs urgent help. If not yet done, shout or call for help if you are alone but do not leave the person unattended. Ask a bystander to seek help or to arrange urgent transport to the nearest healthcare facility. Tell him to come back to you to confirm that help has been secured.

##### **A.6.1.2 HOW TO PUT A PERSON INTO THE RECOVERY POSITION**

3. Put the person on the floor if he is not there already.
4. Remove the person's spectacles if necessary.
5. Kneel down by the side of the casualty.
6. Make sure both of his legs are outstretched.
7. Place the nearest arm (the one on the side you are kneeling next to) at right angles to his body.
8. Bend the forearm upwards with palm facing up.
9. Lay the person's other arm across his chest

Hold the back of this hand against his cheek on the side at which you are kneeling.

10. Keep that hand in that position.
  11. With your other free hand, grasp the leg on the other side of the person's body under the knee.
  12. Raise that leg, but leave the person's foot on the ground.
  13. Pull the raised leg towards you.
  14. In the meantime, keep the back of the person's hand held against his cheek. Roll the person towards you so he turns on his side pull leg figure
  3. Position the person's upper leg in such a way that his hip and knee are at right angles.
  4. The person is now in a turned position and will not turn on his back.
  5. Tilt the head of the person backwards to keep the airway open.
  6. Make sure the mouth is angled towards the ground. This will prevent the risk of choking on blood or vomit.
  7. Adjust the hand under the cheek if necessary so that the head remains tilted backwards and the mouth remains at a downward angle.
- ⓘ A casualty lying position is commonly referred to in the 'recovery position'
8. Do not leave a casualty alone and continue observing his condition and monitoring his breathing. If the person stops breathing, start resuscitation (see resuscitation).

Q.4. Define Dyspnea. Write down the grades and four symptom of dyspnea.

### **Dyspnoea**

Difficulty in breathing; shortness of breath

### **Grade of Dyspnea**

Dyspnoea is divided into four different severity levels:

*Grade I:* The shortness of breath arises with a greater physical exertion, e.g. when climbing the stairs.

*Grade II:* The shortness of breath arises already with moderate physical strain, e.g. go straight.

*Grade III:* This is where the breathing is already at the smallest physical load, e.g. during trouser pulling and pulling out.

*Grade IV:* Dyspnoea at rest: dyspnoea also in rest, without physical activity



School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1<sup>st</sup> Semester,

End-Sem. Examination

Course Code: SHP1107

Time: 2 Hours

Course Name: Drug Education and Vital Sign

Max. Marks: 50

Instruction:

1. SECTION-A: Answer all questions from section A. Each question carries 01 mark
2. SECTION-B: Answer all questions from section B. Each question carries 04 marks
3. SECTION-C: Answer all questions from section C. Each question carries 06 marks

## Section – A

10X01 = 10 Marks

Q.1. Most reliable method of taking temperature:

- a) By rectum
- c) By axilla

- b) By mouth
- d) Vagina

Q.2. Hyperpyrexia called if body temperature is more then:

- a) 101°F
- c) 105°F

- b) 102°F
- d) 107°F

Q.3. Which one below is not considered a "Vital Sign"?

- a) Temperature
- c) Pulse

- b) Blood pressure
- d) Weight

Q.4. Tachycardia means is:

- a) Decrease the pulse rate
- c) Shortness of breathing

- b) Increase the pulse rate
- d) Normal pulse rate

Q.5. Increase respiration rate is called:

- a) Tachycardia
- c) Tachypnea

- b) Bradycardia
- d) Bradypnea

Q.6. Normal blood pressure is:

- a) 120/58 mm of Hg
- c) 120/80 mm of Hp

- b) 120/80 mm of Hg
- d) 120/80 mg of Hg

Q.7. Normal pulse rate of a newborn ranges between:

- a) 100-110 beat/minute
- c) 120-130 beat/minute

- b) 110-120 beat/minute
- d) 130-140 beat/minute

Q.8. Normal axillary temperature is:

- a) 98.6°F
- c) 99.6°F

- b) 97.6°F
- d) 96.6°F



**Q.9. Subcutaneous injection is administered:**

- a) Epidermally
- c) In the muscle

- b) Hypodermally
- d) Intradermally

**Q.10. Application of drugs on skin by local rubbing called:**

- a) Topical
- c) Intracochlear

- b) Instillation
- d) Insertion

## Section – B

04X04 = 16 Marks

Q.1. Describe the factors influencing increase cardiac output.

Q.2. Define fever. Explain the hypothermia.

Q.3. Define blood pressure. Write down the three difference between the hypertension and hypotension.

Q.4 What do you mean pharmacokinetics. Draw the flow chart of drug administration.

## Section – C

04X06 = 24 Marks

Q.1. Explain the six abnormal breathing sounds.

Q.2. Define angina pectoris. Write down the four causes and symptom of angina pectoris.

Q.3. What do you mean by respiration depth and rhythm?

Q.4. Explain the LADME and eight rights of medication administration.

K. Kocun



# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

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- |          |          |
|----------|----------|
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- |                |                   |
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- |                |                |
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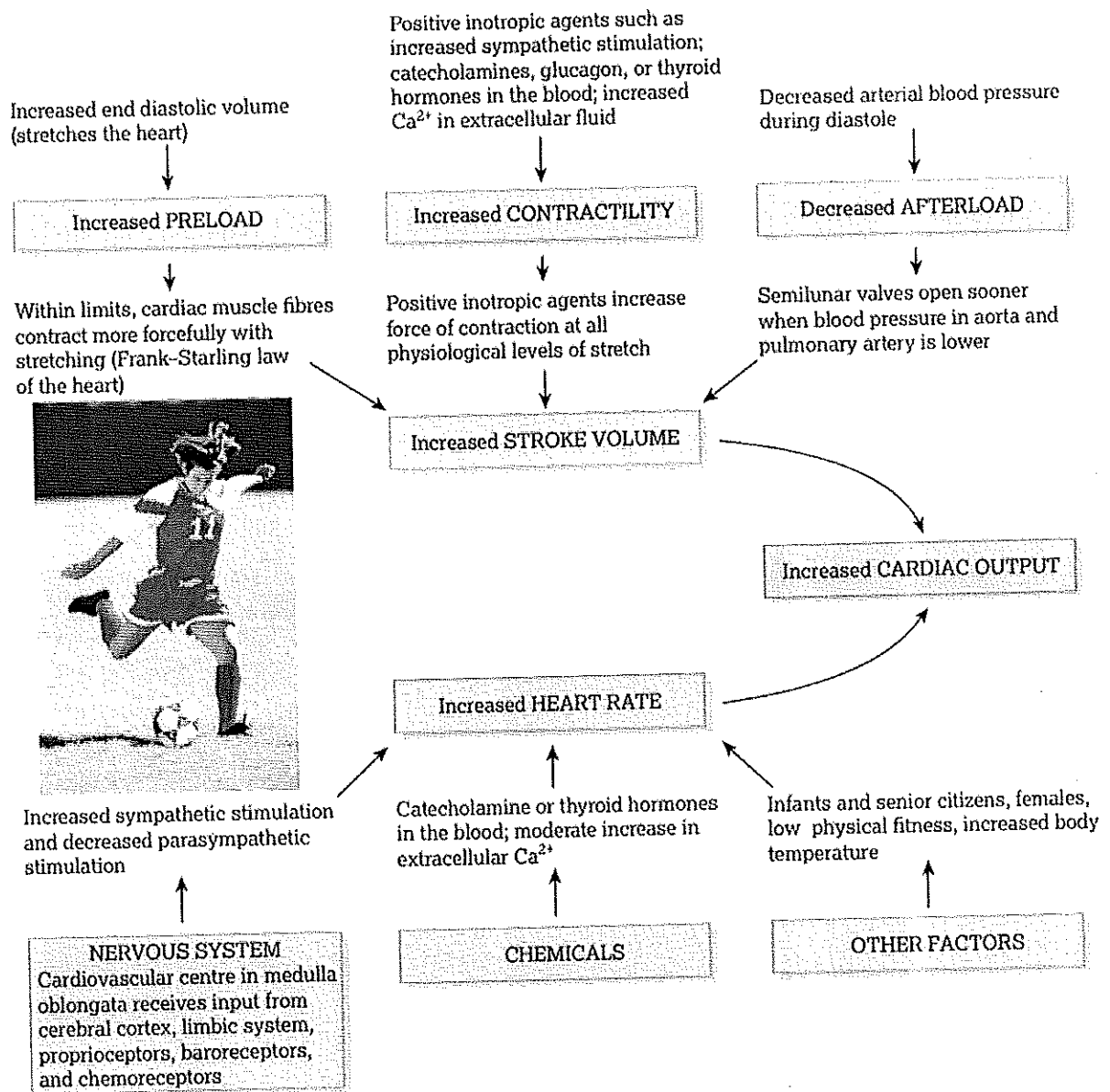
- a) Topical
- c) Intracochlear

- b) Instillation
- d) Insertion

## Section – B

04X04 = 16 Marks

**Q.1. Describe the factors influencing increase cardiac output.**





## Q.2. Define fever. Explain the hypothermia.

Fever or pyrexia is a body temperature above 38°C. When the body is in a feverish state, it is producing more heat than it is losing. A condition caused by fever is termed febrile; a condition not caused by fever is termed afebrile. For example, a febrile seizure is a seizure caused by fever, whereas an afebrile seizure is caused by something other than a fever, such as a head trauma.

### Hypothermia

The reverse of hyperthermia is a below normal body temperature or hypothermia. Hypothermia is defined as a body temperature below 35°C and is the result of the body losing more heat than it is producing. Hypothermia commonly occurs in cases of environmental exposure to cool or cold temperatures and/or submersion in cold water. In general, a body temperature below 33.3°C is considered severe hypothermia and may be life-threatening. Clinical signs of hypothermia are:

- lack of muscle coordination
- slurred speech
- violent shivering
- decreased pulse and respirations
- pale
- waxy
- cool skin
- drowsiness
- dazed consciousness progressing to coma and death.

## Q.3. Define blood pressure. Write down the three difference between the hypertension and hypotension.

Blood pressure (BP) is one of the most important vital signs because it aids in diagnosis and treatment, especially for cardiovascular health. Blood pressure readings are almost always taken at every medical visit, even if it is the only vital sign obtained.

### Hypertension

Hypertension, or high blood pressure, is a very common and serious condition that can lead to or complicate many health problems. The risk of cardiovascular morbidity and mortality is directly correlated with blood pressure. Risks of stroke, angina, heart failure, kidney failure or early death from a cardiovascular cause are directly correlated with BP. Hypertension is often called "the silent killer" because it generally has no symptoms until serious complications develop

### Hypotension – Low blood pressure

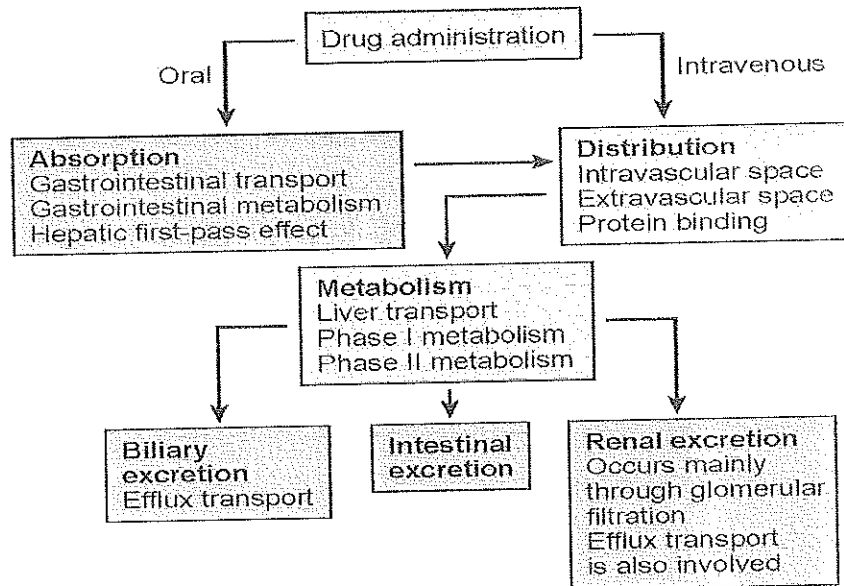
Low blood pressure is a reading of below 90/60. Naturally-low blood pressure doesn't have any symptoms. However, if it drops too low you may experience symptoms, so it might need to be treated. Common symptoms of low blood pressure include:

- feeling dizzy or light-headed (especially when you stand up after sitting or lying down)
- blurred vision
- feeling weak
- feeling muddled or confused



**Q.4 What do you mean pharmacokinetics. Draw the flow chart of drug administration.**

Pharmacokinetics looks at the absorption, distribution, metabolism and excretion of drugs within the body, i.e. what the body does to the drug. When these four factors are considered, with the dose of a drug given, the concentration of drug in the body over a period of time can be determined. Pharmacokinetics is most useful when considered with pharmacodynamics which is the study of the mechanisms of action of drugs and other biochemical and physiological effects, i.e. what the drug does to the body.



### Section – C

04X06 = 24 Marks

**Q.1. Explain the six abnormal breathing sounds.**

#### Breath Sounds

Normal respirations do not usually have any noticeable sounds. However, certain diseases and illnesses can cause irregular respiration sounds. Terms for describing these abnormal breath sounds include the following:

<b>Stridor</b>	A shrill, harsh sound, heard more clearly during inspiration but that can occur during expiration. This sound may occur when there is airway blockage, such as in children with croup and patients with laryngeal obstruction.
<b>Stertor (stertorous breathing)</b>	Noisy sounds during inspiration, sounds like those heard in snoring.
<b>Crackles (also called rales)</b>	Crackling sounds resembling crushing tissue paper, caused by fluid accumulation in the airways. Crackles can be further defined as coarse or fine. Crackles can be heard with pulmonary edema, asthma, early congestive heart failure, and some types of pneumonia.
<b>Rhonchi</b>	Rattling, whistling, low-pitched sounds made in the throat. Rhonchi can be heard in patients with pneumonia, chronic bronchitis, cystic fibrosis, or COPD (chronic obstructive pulmonary disease).
<b>Wheezes</b>	Sounds like rhonchi but more high-pitched, made when airways become obstructed or severely narrowed, as in asthma or COPD.
<b>Cheyne-Stokes breathing</b>	Irregular breathing that may be slow and shallow at first, then faster and deeper, and that may stop for a few seconds before beginning the pattern again. This type of breathing may be seen in certain patients with traumatic brain injury, strokes, and brain tumors.



**Q.2. Define angina pectoris. Write down the four causes and symptom of angina pectoris.**

Angina Pectoris

Angina pectoris, or just angina, is temporary chest pain or discomfort caused by decreased blood flow to the heart muscle. Because of the decreased flow of blood, there is not enough oxygen to the heart muscle resulting in chest pain. Coronary artery disease, which can result in narrowing of the coronary arteries that carry blood and oxygen to the heart muscle, is one of the most common causes of angina. While angina is not a heart attack, it does signal an increased risk for a heart attack. **There are two main types of angina – stable and unstable.** Stable angina, the most common type, develops during physical activity and usually lasts a short time (approximately five minutes or less) if the physical activity has ended. Unstable angina is less common and usually occurs during periods of rest. Unstable angina usually lasts longer and symptoms may be more severe. Symptoms of angina include:

- Chest pain or discomfort, such as tightening of the chest
- Discomfort in the jaw, neck, arms, upper abdomen, shoulder or back
- Fatigue Sweating Nausea Dizziness

There are many risk factors associated with angina including, but not limited to, high blood pressure, diabetes, obesity, family history, tobacco use, stress and age.

**Q.3. What do you mean by respiration depth and rhythm?**

**Respiratory Rhythm**

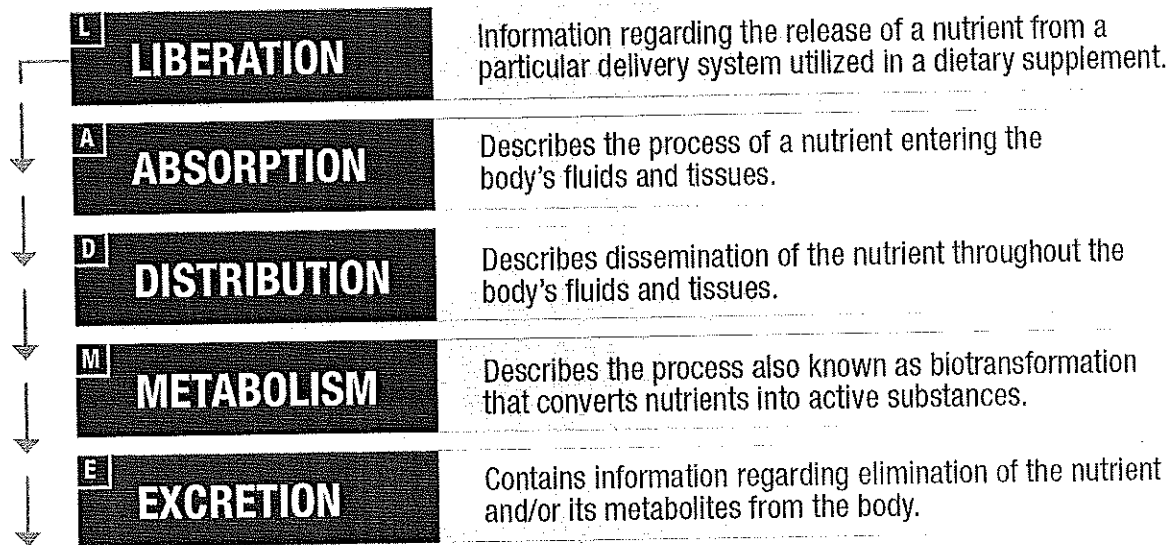
Respiratory rhythm, similar to pulse rhythm, refers to the regular and equal spacing of breaths. In a regular respiratory rhythm, the cycles of inspiration and expiration have about the same rate and depth. With irregular breathing patterns, the depth and amount of air inhaled and exhaled and the rate of respirations per minute will vary. When you detect abnormalities in respiratory rhythm, continue assessment and measurement of breathing for 2 to 3 more minutes. This will help establish a more complete pattern of what is happening with the patient's respiratory cycle. Patients with emphysema may not experience difficulty with inhalation but may struggle to fully exhale. Asthma may also cause an irregularity in breathing rhythm.

**Respiratory Depth**

The depth of respiration is the volume of air that is inhaled and exhaled. It is described as either "shallow" or "deep." Rapid but shallow respirations occur in some disease conditions, such as high fever, shock, and severe pain. Hyperventilation refers to deep and rapid respirations, and hypoventilation refers to shallow and slow respirations. When a patient is unable to take in enough oxygen during inhalation, the body becomes deprived of the amount of oxygen needed for proper functioning. If oxygen deprivation continues, the skin around the mouth and nail beds of the hands and feet may appear bluish in colour because of the increase of respiration and the signs of cyanosis in the patient's record.



**Q.4. Explain the LADME and eight rights of medication administration.**



<b>1. Right patient</b>	<ul style="list-style-type: none"><li>• Ask the patient their first and last name</li><li>• Does the order match the patient?</li></ul>
<b>2. Right medication</b>	<ul style="list-style-type: none"><li>• Does the medication label match the order?</li><li>• Be vigilant with look-alike and sound-alike medications</li></ul>
<b>3. Right dose</b>	<ul style="list-style-type: none"><li>• Does the strength and dosage match the order?</li><li>• Is it half, whole or multiple tablets?</li></ul>
<b>4. Right time</b>	<ul style="list-style-type: none"><li>• Does the administration time match the order?</li></ul>
<b>5. Right route</b>	<ul style="list-style-type: none"><li>• Does the route match the order?</li><li>• Can this be crushed or mixed in other substances?</li><li>• Have any transdermal patches been removed?</li></ul>
<b>6. Right documentation</b>	<ul style="list-style-type: none"><li>• Document immediately after the medication is administered</li></ul>



School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1<sup>st</sup> Semester,

End-Sem. Examination

Course Code: SHP1108

Course Name: Support and Breathing

Time: 2 Hours

Max. Marks: 50

Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

## Section – A

10X01 = 10 Marks

Q.1. Blood into sputum of patient called:

- |                |              |
|----------------|--------------|
| a) Hemoptysis  | b) Epistaxis |
| c) Hematemesis | d) Melena    |

Q.2. According to priorities which position used in pneumonia prophylaxis?

- |                        |                   |
|------------------------|-------------------|
| a) Side lying position | b) Prone position |
| c) Supine position     | d) VATI           |

Q.3. Dyspnea is often connected is with:

- |                    |            |
|--------------------|------------|
| a) Suffocation     | b) Anxiety |
| c) Unconsciousness | d) Fatigue |

Q.4. Tuberculosis is caused by:

- |                               |                         |
|-------------------------------|-------------------------|
| a) Mycobacterium Tuberculosis | b) streptococcus        |
| c) Vericella zoster           | d) Mycobacterium tetani |

Q.5. Apnea is known as:

- |                           |                           |
|---------------------------|---------------------------|
| a) Shortness of breathing | b) Increase the breathing |
| c) Absence of breathing   | d) Normal breathing       |

Q.6. Normal respiration rate of a old age ranges between:

- |                        |                        |
|------------------------|------------------------|
| a) 18-20 breath/minute | b) 12-16 breath/minute |
| c) 16-20 breath/minute | d) 20-24 breath/minute |

Q.7. Which respiratory sound produce during sleep?

- |            |                 |
|------------|-----------------|
| a) Stridor | b) Rattle noise |
| c) Snoring | d) Moisture     |

Q.8. The meaning of cyanosis:

- |                       |                    |
|-----------------------|--------------------|
| a) Blueness of skin   | b) Redness of skin |
| c) Yellowness of skin | d) Normal skin     |



**Q.9. Full form of COPD is:**

- a) Chronic obstructive pulmonary disease
- b) Complete obstruction pulmonary disease
- c) Chronic obstruction pulmonary dyspnoea
- d) Chronic obstructive pulmonary distress

**Q.10. What is the full form of "DOTS"?**

- a) Directly observed therapy short course
- b) Direct obsessive therapy short course
- c) Direct obese treat symptom
- d) Direct observed therapy system

**Section – B**

04X04 = 16 Marks

- Q.1. Describe influencing factors of breathing.
- Q.2. Write down the complication of oxygen administration.
- Q.3. What do you mean by "lip brake"?
- Q.4. What do you mean by breathing depth?

**Section – C**

04X06 = 24 Marks

- Q.1. Define pneumonia. Explain the pneumonia prophylaxis.
- Q.2. Define COPD. Write down the four cause and symptom of COPD.
- Q.3. Explain Tuberculosis.
- Q.4. Define lung embolism. Write down the four causes and symptom of lung embolism.

*K. Kaur*



Q.3 What do you mean by "lip brake"?

The lip brake is a special breathing technique, which should be used mainly by patients with existing respiratory diseases and the associated temporary dyspnoea, eg in asthma bronchial. Inhale slowly and deeply through the nose. Exhalation is through the mouth through the half-closed lips. By this procedure, a slight, sustained pressure is maintained within the respiratory tract, which counteracts respiratory distress and an unproductive cough.

Q.4 What do you mean by breathing depth?

### 2.1 Breathing Depth

The following differences are distinguished in the depth of the breath:

- Flat Breathing
- Deep breathing

Deviation	Physiological Causes	Pathological Causes
Flat Breathing	In Stress	Pain in the thorax area, for example broken ribs or pneumonia
Deep Breathing	There is not enough oxygen (high altitude above 2500 meters)	Metabolic disorders

## Section – C

04X06 = 24 Marks

Q.1. Define pneumonia. Explain the pneumonia prophylaxis.

### Pneumonia

Pneumonia is a mostly acute infection of the lung tissue. And pneumonia is an inflammation of the parenchyma in the lung is known as pneumonia.

### 2.1 Pneumonia prophylaxis

Think about who is especially pneumonia-susceptible and what measures would be appropriate to prevent pneumonia. To do this, create a table. Pneumonia prophylaxis involves preventative measures to prevent the onset of pneumonia. Pneumonia prophylaxis must be performed early and continuously. It is included in the individual care and is integrated into the daily routine. With appropriate information and education the affected persons are motivated to help. All prophylactic measures are documented in the care documentation and are thus demonstrable.

### 2.2 The taking of prophylactic measures involves the following steps:

- Realizing Risks
- Assess the hazard
- Plan measures
- Perform measures
- Evaluate the result of the measures
- Realizing Risks
- Patients are particularly vulnerable to pneumonia
- with insufficient lung ventilation (eg, pain-induced breathing, reduced general condition, bed rest),
- with increased accumulation of secretion in the respiratory tract (eg bronchitis, severe smokers or smokers),



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- with descending infections (eg oral thrush, deficient oral hygiene),
- that aspirate (eg, humans after apoplexy)
- Assessment of Hazards
- Pneumatic scales are used to assess the risk of pneumonia. The assessment is carried out by a qualified staff member.
- Planning Measures
- The measures are planned individually according to the risk of pneumonia and the resources of the patient. These measures include:
  - For people with insufficient lung ventilation: early mobilization, respiratory stimulation, breathing support, respiratory training / respiratory gymnastics.
  - Patients with increased secretion collection: retraction, wrapping, inhalation, high fluid intake (mucolytic teas), cough assistance, drainage.
  - For people with descending infections: oral and nasal care, mucosal examination.
  - Patients with aspiration hazard: Aspiration prophylaxis.
- Execute Measures
- The implementation of the individual measures has already been described. As always, precise documentation is part of the process.
- Evaluation of the Results
- In order to evaluate the success or failure of the selected measures, it is important to assess the risk once again by means of a breathing scale and to plan further measures accordingly. This step is usually carried out by a qualified nurse.

Q.2. Define COPD. Write down the four cause and symptom of COPD.

## Chronic Obstructive Pulmonary Diseases, COPD

Chronic obstructive pulmonary diseases include:

- Chronic-obstructive bronchitis
- bronchial asthma
- Pulmonary emphysema
- COPD is often referred to as "smoking lung".
- Diagnosis
- Anamnesis
- Auscultation: The diagnosis can usually be made using the clinical picture.
- Pulmonary function test
- ABG (measuring O<sub>2</sub> and CO<sub>2</sub> content in the arterial blood)
- Thoracic X-ray
- Electrocardiogram
- Causes
- Long-term smoking / passive smoking
- inhalation of pollutants
- Occupational exposure
- Air pollution

## 2.2 Symptoms



**Sputum:** The sputum is usually tenacious and whitish. Cough in the morning is often referred to as "smoking cough".

**Respiratory distress;** The oxygen intake is disturbed, at the beginning of the disease occurs **Dyspnoea:** dyspnoea, later also **Dyspnoea at rest**

**Therapy**

The most important therapy is the smoke stop.

Medicines do not cure the COPD but can alleviate the symptoms. Bronchial dilating drugs, so-called bron- chospasmolytics.

### Q.3. Explain Tuberculosis.

#### 2.1 Tuberculosis

It is the most prevalent communicable infection disease. Usually involves lungs but may effect other organs or tissues in body.

#### 2.2 Causes

Mycobacterium

tuberculosis Poor

hygiene

Reduce immune status

#### 2.3 Transmission

Airborne droplets coughed or sneezed by the patient

#### 2.4 Sign and symptom

- Productive cough
- Fever
- Night sweats
- Weight loss
- Hemoptysis
- Pleuritic pain

#### 2.5 Diagnosis

Tuberculosis test: positive reaction to intradermal injection of a tuberculosis.

#### 2.6 Therapy

- DOTS ( Directly observed therapy short course )
- Detection through sputum smear microscopy of TB suspects.
- **month treatment**
- Regular supply of anti- TB drugs

Reporting system to evaluate the treatment outcome

Q.4. Define lung embolism. Write down the four causes and symptom of lung embolism.

#### 2.1 Lung Embolism

Pulmonary embolism is define as the obstruction of the pulmonary artery or one of its branches by material (eg. Thrombus, tumor, air, or fat ) that originated elsewhere in the body.

#### 2.2 Causes and Risk Factors



- Orthopaedic operation
- Trauma
- Smoking
- Prolonged bed rest
- COPD
- Thrombus
- Risk factors for thrombus formation:
  - Changes in blood flow, eg bed rest, plaster, long-distance flight, etc.
  - Change of the vascular walls, eg after surgery
  - Changes in the blood composition, eg in congenital blood clotting disorders

## 2.3 Symptoms

- Small embolisms are mostly symptomless
- Large embolism:
  - Sudden dyspnoea
  - Cyanosis
  - Respiratory-dependent thoracic pain
  - Anxiety
  - Cold sweat
  - Cough
  - Possibly with bloody sputum
  - Tachycardia
  - Stuck neck vein



## School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1<sup>st</sup> Semester,

End-Sem. Examination

Course Code: SHP1109

Course Name: Assisting in medical procedure

Time: 2 Hours

Max. Marks: 50

### Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

### Section – A

10X01 = 10 Marks

**Q.1. What is the contraindication of enema?**

- a) To stop local hemorrhage
- b) To reduce hyperkalemia
- c) To reduce portal systemic encephalopathy
- d) In paralytic ileus

**Q.2. Why to use of sterile gloves?**

- a) For fashion
- b) For contact infection
- c) Free from all microorganism
- d) All of above

**Q.3. Full form of HCAI:**

- a) Human care association infections
- b) Health care active intact
- c) Health care associated infections
- d) Health care associated intact

**Q.4. When are absorb absorbable suture?**

- a) Within 12-14 weak
- b) Within 4 to 8 weak
- c) Within 19-12 weak
- d) Only 2 weak

**Q.5. K-90 catheter is:**

- a) Permanent catheter
- b) Only till 2 days' insertion
- c) Temporarily catheter
- d) Indwelling catheter

**Q.6. What is the risk of urinary catheterization?**

- a) Urinary tract infection
- b) Urinal tract infection
- c) Urinary tract intact
- d) Union tract infection

**Q.7. Which position is used while administrating enema in a patient?**

- a) Supine position
- b) Prone position
- c) Side lying position
- d) Left lateral position

**Q.8. What is the indication enema?**

- a) To clean the higher bowel after surgery
- b) To clean the lower bowel after surgery
- c) The force hyperkalemia
- d) To clean the lower bowel before surgery



**Q.9. Full form of the CSSD:**

- a) Center sterile store department
- b) Center sterile systemic department
- c) Center sterile store distribution
- d) Centre store sterile department

**Q.10. Perform the hand hygiene is needed:**

- a) Hand hygiene prevents spread of microorganism
- b) To have nick skin
- c) Because only management wants that
- d) Only to protect my self

## **Section – B**

04X04 = 16 Marks

Q.1. Difference between the intermittent and indwelling catheter.

Q.2. What is included in HCAI.

Q.3. What do you mean by sterile gloves?

Q.4 Write down the types of enema.

## **Section – C**

04X06 = 24 Marks

Q.1. Describe the sutures.

Q.2. Define asepsis. Describe the aseptic technique vs clean technique.

Q.3. Define urinary catheterization. Write the four uses and prevention of urinary catheterization.

Q.4. Define enema. Write down the four indication and contraindication of enema administration.

*K. Koc*



**School of Health Care and Paramedics**

**Session: 2019-20 (Summer Semester)**

**B. Voc. Program, 1<sup>st</sup> Semester,**

**End-Sem. Examination**

**Course Code: SHP1109**

**Time: 2 Hours**

**Course Name: Assisting in medical procedure**

**Max. Marks: 50**

**Instruction:**

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

**Section – A**

**10X01 = 10 Marks**

**Q.1. What is the contraindication of enema?**

- |   |                           |
|---|---------------------------|
| a) To stop local hemorrhage                 | b) To reduce hyperkalemia |
| c) To reduce portal systemic encephalopathy | d) In paralytic ileus     |

**Q.2. Why to use of sterile gloves?**

- |                                |                          |
|--------------------------------|--------------------------|
| a) For fashion                 | b) For contact infection |
| c) Free from all microorganism | d) All of above          |

**Q.3. Full form of HCAI:**

- |                                      |                                  |
|--------------------------------------|----------------------------------|
| a) Human care association infections | b) Health care active intact     |
| c) Health care associated infections | d) Health care associated intact |

**Q.4. When are absorb absorbable suture?**

- |                      |                       |
|----------------------|-----------------------|
| a) Within 12-14 week | b) Within 4 to 8 week |
| c) Within 19-12 week | d) Only 2 week        |

**Q.5. K-90 catheter is:**

- |                         |                                |
|-------------------------|--------------------------------|
| a) Permanent catheter   | b) Only till 2 days' insertion |
| c) Temporarily catheter | d) Indwelling catheter         |

**Q.6. What is the risk of urinary catheterization?**

- |                            |                           |
|----------------------------|---------------------------|
| a) Urinary tract infection | b) Urinal tract infection |
| c) Urinary tract intact    | d) Union tract infection  |

**Q.7. Which position is used while administrating enema in a patient?**

- |                        |                          |
|------------------------|--------------------------|
| a) Supine position     | b) Prone position        |
| c) Side lying position | d) Left lateral position |

**Q.8. What is the indication enema?**

- a) To clean the higher bowel after surgery
- b) To clean the lower bowel after surgery
- c) The force hyperkalemia
- d) To clean the lower bowel before surgery



Q.9. Full form of the CSSD:

- a) Center sterile store department
- b) Center sterile systemic department
- c) Center sterile store distribution
- d) Centre store sterile department

Q.10. Perform the hand hygiene is needed:

- a) Hand hygiene prevents spread of microorganism
- b) To have nick skin
- c) Because only management wants that
- d) Only to protect my self

## Section – B

04X04 = 16 Marks

Q.1. Difference between the intermittent and indwelling catheter.

- **intermittent catheters** – catheters that are temporarily inserted into the bladder and removed once the bladder is empty
- **indwelling catheters** – catheters that remain in place for many days or weeks and are held in position by a water-filled balloon in the bladder.

Q.2. What is included in HCAI.

- catheter-associated urinary tract infection
- central line-associated bloodstream infection
- *Clostridium difficile* infection
- surgical site infection
- ventilator-associated pneumonia

Q.3. What do you mean by sterile gloves?

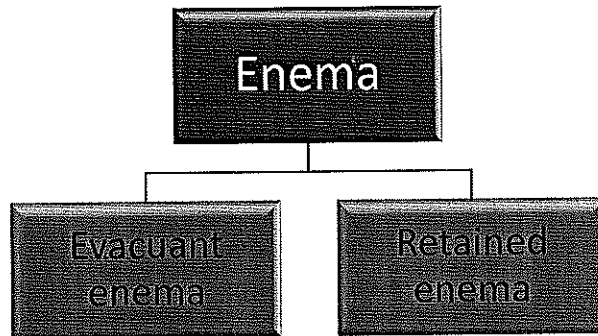
### **Sterile gloves**

Sterile gloves are gloves that are free from all microorganisms. They are required for any invasive procedure and when contact with any sterile site, tissue, or body cavity is expected. Sterile gloves help prevent surgical site infections and reduce the risk of exposure to blood and body fluid pathogens for the health care worker. Studies have shown that 18% to 35% of all sterile gloves have tiny holes after surgery, and up to 80% of the tiny puncture sites go unnoticed by the surgeon. Double gloving is known to reduce the risk of exposure and has become common practice, but does not reduce the risk of cross-contamination after surgery.



Q.4 Write down the types of enema.

Types of enema: -



**1. Evacuant enema: -**

- A. Simple enema
- B. Medicated evacuant enema: - it is five type of medicated enema
  - i. Oil enema
  - ii. Purgative enema
  - iii. Astringent enema
  - iv. Anthelmintic enema
  - v. Carminative enema
- C. Cold enema

**2. Retained enema: -**

- A. Stimulant enema
- B. Nutrient enema
- C. Emollient enema
- D. Sedative enema
- E. Anaesthetic enema

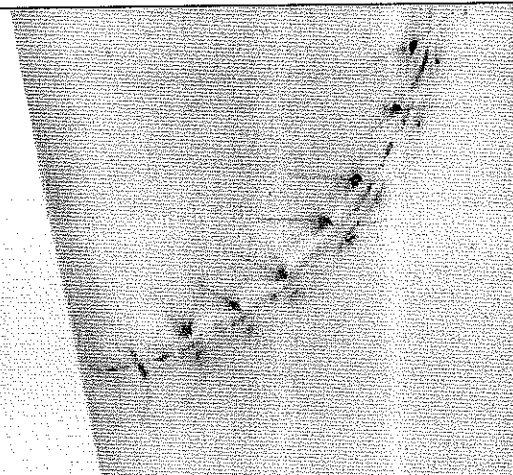
**Section – C**

04X06 = 24 Marks

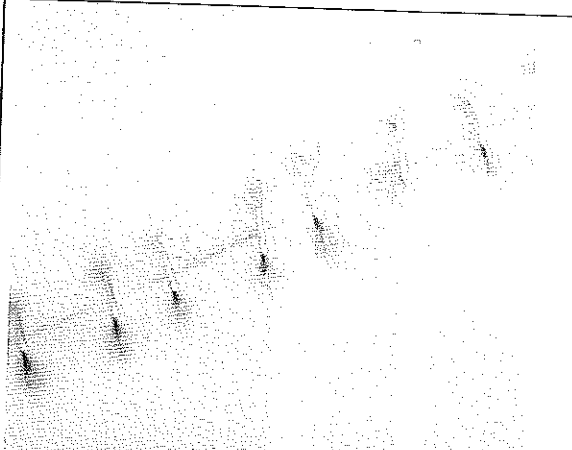


Q.1. Describe the sutures.

**Sutures (Stitches)**

Sutures (stitches) are fine threads sewn through the skin to bring a wound together. Sutures are either permanent or absorbable (usually absorbed by the body within 4 to 8 weeks). Absorbable sutures, which do not require removal, are used to close incisions of the mouth, tongue, and genitals or deep, multilayered lacerations. Nylon and other nonabsorbable sutures should be removed by your health care provider.





<p><b>Staples</b> Staples are metal clips that are used to close surgical incisions that have fairly straight edges. Medical staples are made of special metal and are not the same as office staples. They often provide the strongest closure. The amount of time they are left in depends upon the wound location and healing rate of the patient. Staples are usually removed at a doctor's office or hospital. There may be some localized redness around the staples for the first few days. If this redness increases, it may be a sign of a wound infection.</p>	
<p><b>Steri-Strips</b> Steri-Strips are adhesive strips used to bring the edges of an incision together. The strips should be placed with enough space between them to allow drainage. Steri-Strips should be kept dry for the first 24 hours, but you may usually shower after that. They will usually fall off in 7 to 10 days.</p>	
<p><b>Tissue or Skin Adhesives</b> Tissue adhesives (also known as skin adhesives) are used to close wounds and may be used alone or with sutures. Your doctor will put a liquid film on the wound and let it dry. The film holds the edges of the wound together and also protects the wound from getting wet. You should leave the film on the skin until it falls off, usually in 5 to 10 days.</p>	

Q.2. Define asepsis. Describe the aseptic technique vs clean technique.

**Asepsis**

Asepsis or aseptic means the absence of germs, such as bacteria, viruses, and other microorganisms that can cause disease. Healthcare professionals use aseptic technique to protect patients from infection. Aseptic technique is a standard healthcare practice that helps prevent the transfer of germs to or from an open wound and other susceptible areas on a patient's body.

The skin is the body's first line of defense against germs. A person is vulnerable to infection as soon as there is a break in their skin, regardless of whether it occurs as a result of an accidental injury or a surgical incision.

Aseptic technique helps prevent healthcare-associated infections (HCAIs). An HCAI is an infection that a person acquires as a result of treatment from a healthcare professional



## 1.1 Aseptic technique vs. clean technique

Aseptic technique and clean technique are two closely related healthcare practices that both aim to keep people safe from infection. The aim of using aseptic technique is to eliminate germs, which are disease-causing microorganisms. Clean technique focuses on reducing the number of microorganisms in general.

Healthcare professionals learn both aseptic and clean techniques and use them in different situations. They will use aseptic technique during surgical operations or when inserting a foreign object, such as a catheter, into a person's body.

Clean technique is often sufficient for long-term care, in-home care, and some outpatient clinical settings. Healthcare professionals use clean technique for people who are not at high risk of infection. For example, they may use clean technique when changing the dressing on a wound that is healing.

Some examples of clean technique practices include thorough handwashing, wearing gloves, and maintaining a clean environment or work area. Clean technique uses non-touch practices. Non-touch practices prohibit healthcare professionals from touching key parts of objects, such as syringe tips and the inside of sterile dressings, even when they are wearing gloves. The medical community define clean technique as a modified form of aseptic technique, as maintaining proper hygiene and a clean environment will help achieve asepsis

Q.3. Define urinary catheterization. Write the four uses and prevention of urinary catheterization.

Urinary catheterization is a procedure used to drain the bladder and collect urine, through a flexible tube called a catheter. Urinary catheters are usually inserted by doctors or nurses in hospital or the community. The catheter usually remains in the bladder, allowing urine to flow through it and into a drainage bag. Depending on the type of catheter you have and why it's being used, the catheter may be removed after a few minutes, hours or days, or it may be needed for the long term.

## 1.2 Uses of Urinary Catheter

A urinary catheter is usually used in people who have difficulty passing urine naturally. It can also be used to empty the bladder before or after surgery and to help perform certain tests. Specific reasons include:

- to allow urine to drain if you have an obstruction in the tube that carries urine out of the bladder (urethra) – for example, because of scarring or prostate enlargement.
- to allow you to urinate if you have bladder weakness or nerve damage which affects your ability to pee.
- to drain your bladder during childbirth, if you have an epidural anaesthetic.
- to drain your bladder before, during and/or after some types of surgery, such as operations on the womb, ovaries or bowels.
- to deliver medication directly into the bladder, such as during chemotherapy for bladder cancer.
- as a treatment for urinary incontinence when other types of treatment haven't worked.



### 1.3 Preventing Infections and other Complications

Having a long-term urinary catheter increases your risk of developing urinary tract infections (UTIs), and can also lead to other problems, such as blockages. You will be advised about measures to take to minimise these risks, such as:

- Regularly washing your hands, body and catheter with warm water and soap – it's particularly important to clean your hands before and after touching your equipment.
- Ensuring you stay well hydrated – you should aim to drink enough fluids so that your urine stays pale.
- Preventing constipation – staying hydrated can help with this, as can eating high-fibre foods such as fruits, vegetables and wholegrain foods.
- Avoiding kinks in the catheter and making sure any urine collection bags are kept below the level of your bladder always.

Q.4. Define enema. Write down the four indication and contraindication of enema administration.

An enema administration is a technique used to stimulate stool evacuation. It is a liquid treatment most commonly used to relieve severe constipation. The process helps push waste out of the rectum when you cannot do so on your own.

Constipation is a common gastrointestinal condition. It occurs when the colon is unable to remove waste through the rectum. People with this condition have three or fewer bowel movements over a seven-day period. Mild constipation often occurs when you don't eat enough fiber or drink enough water on a regular basis. Daily exercise also helps to prevent constipation. An enema administration is most commonly used to clean the lower bowel. However, this is normally the last resort for constipation treatment. If diet and exercise are not enough to keep it regular, laxative are recommend before using an enema. In some cases, laxatives are used the night before an enema administration to encourage waste flow.

### 1.4 Indications

Enemas may be prescribed for the following reasons.

- To clean the lower bowel before surgery, X-ray examination of the bowel using contrast medium or endoscopy examination.
- To treat severe constipation when other methods have failed.
- To introduce medication into the system.
- To soothe and treat irritated bowel mucosa.
- To decrease body temperature (due to contact with the proximal vascular system)
- To stop local haemorrhage.
- To reduce hyperkalaemia (calcium resonium).
- To reduce portal systemic encephalopathy (phosphate enema).



## 1.5 Contraindications

Enemas are contraindicated under the following circumstances.

- In paralytic ileus.
- In colonic obstruction.
- Where the administration of tap water or soap and water enemas may cause circulatory overload, water intoxication, mucosal damage and necrosis, hyperkalaemia and cardiac arrhythmias.
- Where the administration of large amounts of fluid high into the colon may cause perforation and haemorrhage.
- Following gastrointestinal or gynaecological surgery, where suture lines may be ruptured (unless medical consent has been given).
- Frailty.
- Proctitis.
- The use of microenemas and hypertonic saline enemas in patients with inflammatory or ulcerative conditions of the large colon.
- Recent radiotherapy to the lower pelvis unless medical consent has been given.





# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1<sup>st</sup> Semester,

End-Sem. Examination

Course Code: <sup>SHP</sup>1110

Course Name: Clinical Picture II

Time: 2 Hours

Max. Marks: 50

Instruction:

1. SECTION-A: Answer all questions from section A. Each question carries 01 mark
2. SECTION-B: Answer all questions from section B. Each question carries 04 marks
3. SECTION-C: Answer all questions from section C. Each question carries 06 marks

## Section – A

10X01 = 10 Marks

Q.1. Parkinson's disease (PD) was first described by Dr. James Parkinson in:

- |         |         |
|---------|---------|
| a) 1817 | b) 1872 |
| c) 1995 | d) 1875 |

Q.2. Most common symptom of Parkinson's disease is:

- |                |                        |
|----------------|------------------------|
| a) Weight loss | b) Stiffness of muscle |
| c) Tremor's    | d) Dizziness           |

Q.3. Epilepsy disease is a:

- |  |                        |
|--|------------------------|
| a) Acute syndrome                        | b) Respiratory disease |
| c) chronic medical disorder or condition | d) Bone disease        |

Q.4. Hypoglycemia is known as:

- |                               |                               |
|-------------------------------|-------------------------------|
| a) Decrease the glucose level | b) Increase the glucose level |
| c) Normal blood sugar         | d) Increase the sugar         |

Q.5. Parkinson's disease patient often require assistance with walking because they:

- |                            |                                    |
|----------------------------|------------------------------------|
| a) Forget how to take step | b) Do not notice safety problems   |
| c) Have visual problems    | d) Have shuffling walk and tremors |

Q.6. Which of the following is a specific investigation of detect epilepsy?

- |            |             |
|------------|-------------|
| a) CT Scan | b) MRI Scan |
| c) EEG     | d) X-ray    |

Q.7. First aid treatment for a patient of epilepsy is:

- |                                |                        |
|--------------------------------|------------------------|
| a) To protect the patient      | b) To clean the airway |
| c) To provide rest and comfort | d) To give medicine    |

Q.8. Full form of EEG:

- |                            |                             |
|----------------------------|-----------------------------|
| a) Electroencephalographic | b) Electroenseptic gram     |
| c) Electroencephalicgraphy | d) Electicalencephalography |



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**Q.9. What is the mode of administration of insulin injection?**

- a) Intradermal
- b) Subcutaneous
- c) Intrathecal
- d) Intramuscular

**Q.10. Parkinson's disease caused by:**

- a) Genetic problems
- b) Death of brain cells due to old age
- c) Impaired of dopamine producing cells in the brain
- d) Demyelination of the nerve cells

## Section – B

04X04 = 16 Marks

Q.1. What do you by bradykinesia.

Q.2. Difference between the diabetes type I and type II.

Q.3. Explain the rigidity.

Q.4. Define Parkinson's. Write the four symptom of Parkinson's disease.

## Section – C

04X06 = 24 Marks

Q.1. Explain the pathology of Parkinson's disease.

Q.2. Consequences when taking care for people with Parkinson.

Q.3. Describe the partial and generalized seizure.

Q.4. Define diabetes mellitus. Describe the treatment of diabetes mellitus.

*V. Koen*



# BHARTIYA SKILL DEVELOPMENT UNIVERSITY

Registration No.: .....

School of Health Care and Paramedics

Session: 2019-20 (Summer Semester)

B. Voc. Program, 1<sup>st</sup> Semester,

End-Sem. Examination

Course Code: <sup>SHP</sup> 1110

Time: 2 Hours

Course Name: Clinical Picture II

Max. Marks: 50

Instruction:

1. **SECTION-A:** Answer all questions from section A. Each question carries 01 mark
2. **SECTION-B:** Answer all questions from section B. Each question carries 04 marks
3. **SECTION-C:** Answer all questions from section C. Each question carries 06 marks

## Section – A

10X01 = 10 Marks

Q.1. Parkinson's disease (PD) was first described by Dr. James Parkinson in:

- |         |         |
|---------|---------|
| a) 1817 | b) 1872 |
| c) 1995 | d) 1875 |

Q.2. Most common symptom of Parkinson's disease is:

- |                |                        |
|----------------|------------------------|
| a) Weight loss | b) Stiffness of muscle |
| c) Tremor's    | d) Dizziness           |

Q.3. Epilepsy disease is a:

- |  |                        |
|--|------------------------|
| a) Acute syndrome                        | b) Respiratory disease |
| c) chronic medical disorder or condition | d) Bone disease        |

Q.4. Hypoglycemia is known as:

- |                               |                               |
|-------------------------------|-------------------------------|
| a) Decrease the glucose level | b) Increase the glucose level |
| c) Normal blood sugar         | d) Increase the sugar         |

Q.5. Parkinson's disease patient often require assistance with walking because they:

- |                            |                                    |
|----------------------------|------------------------------------|
| a) Forget how to take step | b) Do not notice safety problems   |
| c) Have visual problems    | d) Have shuffling walk and tremors |

Q.6. Which of the following is a specific investigation of detect epilepsy?

- |            |             |
|------------|-------------|
| a) CT Scan | b) MRI Scan |
| c) EEG     | d) X-ray    |

Q.7. First aid treatment for a patient of epilepsy is:

- |                                |                        |
|--------------------------------|------------------------|
| a) To protect the patient      | b) To clean the airway |
| c) To provide rest and comfort | d) To give medicine    |

Q.8. Full form of EEG:

- |                            |                             |
|----------------------------|-----------------------------|
| a) Electroencephalographic | b) Electroenseptic gram     |
| c) Electroencephalicgraphy | d) Electicalencephalography |



**Q.9. What is the mode of administration of insulin injection?**

- a) Intradermal
- b) Subcutaneous
- c) Intrathecal
- d) Intramuscular

**Q.10. Parkinson's disease caused by:**

- a) Genetic problems
- b) Death of brain cells due to old age
- c) Impaired of dopamine producing cells in the brain
- d) Demyelination of the nerve cells

## Section – B

04X04 = 16 Marks

**Q.1. What do you by bradykinesia.**

### Bradykinesia

Bradykinesia is a core clinical motor feature of PD and has been defined as a reduction in the speed, gait, and amplitude of a repetitive action involving voluntary movements. Bradykinesia is the most common clinical feature observed in patients with PD and is considered to be a key diagnostic criterion. The disorder usually appears later than tremor, although in some cases it may be the initial symptom and tremor may never develop. A common clinical presentation associated with this feature is difficulty getting started or initiating movements and a slow, shuffling gait. Patients with bradykinesia may also demonstrate hastening of their gait, in which their walking speed increases with small, rapid steps in an effort to "catch up" with their displaced center of gravity. Patients may also experience immobility associated with bradykinesia, typically when confronted by the need to turn or enter through a narrow door. Episodes of "freezing" are an extreme manifestation of PD and usually occur in advanced disease.

**Q.2. Difference between the diabetes type I and type II.**

### 1.1.1 Diabetes mellitus type I

Type 1 diabetes occurs because the insulin-producing cells of the pancreas (beta cells) are damaged. In type 1 diabetes, the pancreas makes little or no insulin, so sugar cannot get into the body's cells for use as energy. People with type 1 diabetes must use insulin injections to control their blood glucose. Type 1 is the most common form of diabetes in people who are under age 30, but it can occur at any age. Ten percent of people with diabetes are diagnosed with type 1.

### 1.1.2 Diabetes mellitus type II

In type 2 diabetes (adult onset diabetes), the pancreas makes insulin, but it either doesn't produce enough, or the insulin does not work properly. Nine out of 10 people with diabetes have type 2. This type occurs most often in people who are over 40 years old but can occur even in childhood if there are risk factors present. Type 2 diabetes may sometimes be controlled with a combination of diet, weight management and exercise. However, treatment also may include oral glucose-lowering medications (taken by mouth) or insulin injections (shots).



Q.3. Explain the rigidity.

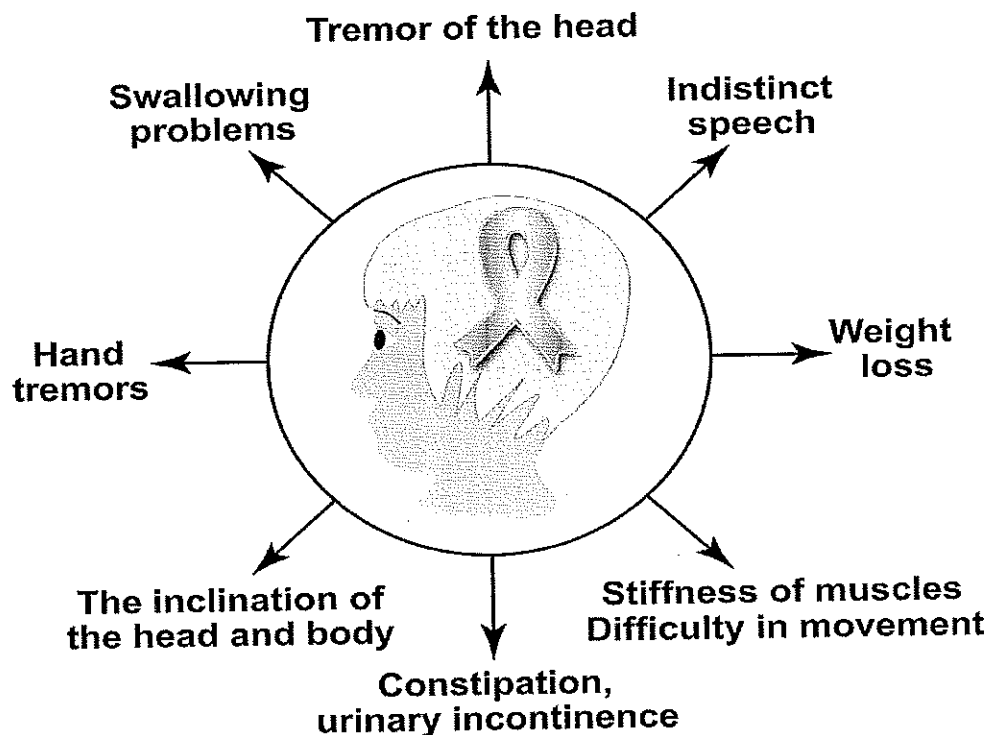
### 1.1.3 Rigidity

The third major cardinal feature of PD is rigidity, which presents as increased muscle tone or amplified resistance to a passive range of motion. The term commonly used to describe this phenomenon in PD patients is "cogwheel rigidity." This is best described as tension in the muscle, which displays small jerks or a ratchet-like quality when moved passively. Cogwheel rigidity requires an unambiguous diagnosis, since benign essential tremor may also present with a cogwheeling phenomenon. The rigidity of PD can affect other body parts besides the limbs, such as the face, which can display a "masked" expression (hypomimia).

Q.4. Define Parkinson's. Write the four symptoms of Parkinson's disease.

## 2 Parkinson

Parkinson's disease (PD) was first described by Dr. James Parkinson in 1817 as a "shaking palsy." It is a chronic, progressive neurodegenerative disease characterized by both motor and nonmotor features. The disease has a significant clinical impact on patients, families, and caregivers through its progressive degenerative effects on mobility and muscle control. The motor symptoms of PD are attributed to the loss of striatal dopaminergic neurons, although the presence of nonmotor symptoms supports neuronal loss in nondopaminergic areas as well. The term parkinsonism is a symptom complex used to describe the motor features of PD, which include resting tremor, bradykinesia, and muscular rigidity. PD is the most common cause of parkinsonism, although a number of secondary causes also exist, including diseases that mimic PD and drug-induced causes.



Section – C

04X06 = 24 Marks



Q.1. Explain the pathology of Parkinson's disease.

## 2.1 Pathology

PD is a disorder of the extrapyramidal system, which includes motor structures of the basal ganglia, and is characterized by the loss of dopaminergic function and consequent diminished motor function, leading to clinical features of the disease. Research in the late 1950s identified striatal dopamine depletion as the major cause of the motor symptoms of PD, although the presence of nonmotor features supports the involvement of other neurotransmitters of the glutamatergic, cholinergic, serotonergic, and adrenergic systems, in addition to the neuromodulators adenosine and enkephalins. Further evidence suggests that PD may originate in the dorsal motor nucleus of the vagal and glossopharyngeal nerves and in the anterior olfactory nucleus, suggesting a disease pattern that begins in the brain stem and ascends to higher cortical levels. The histopathological features of PD include the loss of pigmented dopaminergic neurons and the presence of Lewy bodies (LBs).

Q.2. Consequences when taking care for people with Parkinson.

## 2.2 Consequences for Caregivers

- For those affected, it is usually difficult to move around freely in society. For fear of a sudden blockade, for example, many people with Parkinson's disease are withdrawing.
- As a rule, the ability to think is not reduced in people with Parkinson's disease. They often need only longer to formulate their own thoughts and to express themselves. Likewise, they tend to struggle with new situations. This can also lead the patient into isolation.
- Depressive moods can also be the first sign and occur long before the physical symptoms. In addition, depressive moods can also be a reaction to the various symptoms.
- Nursing care for people with Parkinson's is a challenging task. The three main symptoms can be very different in their manifestation and change rapidly.
- Important in communicating with Parkinson's patients is patient listening. Since the symptoms of mimicry, gestures and vocal variations are absent from Parkinson's patients, for example, he cannot speak spontaneously. Everything can only be achieved by overcoming certain start-up difficulties. This demands a lot of sympathetic patience for the conversation partner.
- It is also very helpful to set targets together. These are to be adapted to the constantly changing situations or the disease pattern.

Q.3. Describe the partial and generalized seizure.

## 2.2.1 Partial

Partial seizures are confined to discrete areas of the cerebral cortex; only a certain area of the body is usually involved, at least at the start. By contrast, generalized seizures are noted in diffuse regions of the brain. Simple partial seizures cause motor, sensory, autonomic, or psychic symptoms without an obvious alteration in consciousness. These seizures may also be manifested as changes in somatic sensation (e.g., paresthesias or tingling), vision, equilibrium, autonomic function olfactory changes, and hearing. Complex partial seizures are characterized by focal seizure activity, accompanied by transient impairment of the patient's ability to maintain normal contact with the environment. Partial seizures can spread to involve both cerebral hemispheres and may produce a generalized seizure, usually of tonic-



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clonic variety. Secondary generalization is often observed following simple partial seizures, especially those with a focus in the frontal lobe.

## 2.2.2 Generalized

Generalized seizures arise from both cerebral hemispheres simultaneously. Absence seizures (petit mal) are characterized by sudden, brief lapses of consciousness without loss of postural control. The seizure typically lasts for only seconds; consciousness returns as suddenly as it was lost, and there is no postictal confusion. Atypical absence seizures have features that deviate clinically and electro physiologically from typical absence seizures. For example, the lapse of consciousness is usually of longer duration and less abrupt in onset and cessation.

A simple absence seizure is defined as a brief clouding of the sensorium, or loss of consciousness, accompanied by certain generalized epileptic discharges without other detectable clinical signs. A complex absence seizure indicates that other signs are also present. Generalized, tonic-clonic seizures (formerly grand mal) are the main seizure type in approximately 20% of all persons with epilepsy. They are also the most common seizure type resulting from metabolic derangements and are therefore frequently encountered in many different clinical settings. Atonic seizures are characterized by sudden loss of postural muscle tone lasting 1 to 2 seconds. Consciousness is briefly impaired, but there is usually no postictal confusion. Myoclonus is a sudden and brief muscle contraction that may involve one part of the body or the entire body.

Q.4. Define diabetes mellitus. Describe the treatment of diabetes mellitus.

### 3 Diabetes mellitus type I and II

Diabetes mellitus is a disease that prevents your body from properly using the energy from the food you eat. Diabetes occurs in one of the following situations:

- The pancreas (an organ behind your stomach) produces little insulin or no insulin at all. Insulin is a naturally occurring hormone, produced by the beta cells of the pancreas, which helps the body use sugar for energy.
- The pancreas makes insulin, but the insulin made does not work as it should. This condition is called insulin resistance.

The body is made up of millions of cells. To make energy, the cells need food in a very simple form. When you eat or drink, much of your food is broken down into a simple sugar called glucose. Glucose provides the energy your body needs for daily activities. The blood vessels and blood are the highways that transport sugar from where it is either taken in (the stomach) or manufactured (in the liver) to the cells where it is used (muscles) or where it is stored (fat). Sugar cannot go into the cells by itself. The pancreas releases insulin into the blood, which serves as the helper, or the "key," that lets sugar into the cells for use as energy.

When sugar leaves the bloodstream and enters the cells, the blood sugar level is lowered. Without insulin, or the "key," sugar cannot get into the body's cells for use as energy. This causes sugar to rise. Too much sugar in the blood is called "hyperglycemia" (high blood sugar).



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## 3.1 Treatment

There is no cure for diabetes, but treatment can help people to manage it and prevent it from getting worse. Here are some points about treating and managing diabetes.

	<b>Type I</b>	<b>Type II</b>
<b>Possible cure</b>	Currently no cure, but lifetime treatment can manage symptoms. In time, gene therapy, regenerative medicine using stem cells, or pancreatic islet transplantation may become an option.	Currently no cure, but measures can slow progression and manage symptoms. Gastric bypass may reduce symptoms in people with severe obesity.
<b>Treatment with insulin and other drugs</b>	Daily insulin injections or using an insulin pump can provide insulin as needed through the day and night. Other drugs, such as pramlintide, can stop glucose levels from rising too far.	Metformin can reduce the amount of sugar the liver produces. SGLT2 inhibitors, DP-4 inhibitors, or alpha-glucosidase inhibitors (AGIs) can reduce blood sugar levels.
<b>Lifestyle treatment</b>	Follow the treatment plan and the doctor's instructions regarding insulin and glucose testing. Follow an active, healthful lifestyle to reduce the risk of cardiovascular disease and other health issues. Pay attention to glucose levels when exercising. Managing blood pressure and high cholesterol levels.	Follow the treatment plan and medical advice. Healthful diet, Regular exercise, Managing blood pressure and high cholesterol levels, Avoiding smoking, Knowing the signs of adverse effects and complications.
<b>Avoiding complications</b>	Follow the treatment plan and know the signs of hypo and hyperglycemia and the complications of diabetes.	Know the signs of possible complications to be ready to take action. Take measures to avoid infections. Check for wounds and seek early treatment. Have regular eye tests. Follow a healthful diet and take exercise to manage cholesterol levels and high blood pressure and reduce cardiovascular risk.
<b>Prevention</b>	It is not yet possible to prevent type 1 diabetes	Follow a healthful diet with regular exercise. Avoid or quit smoking.