

**BHARTIYA SKILL DEVELOPMENT UNIVERSITY**

School of Health Care and Paramedics Skills

Session: 2021-22 Summer

B. Voc. Program, 1st Semester1st In-Sem. Examination

Course Code: SHP1102

Time: 1 Hour

Course Name: Hygiene and Safety & Support in Personal Hygiene

Max. Marks: 20

Instructions:

1. SECTION-A:05 objective type questions, each question carries 01 mark
2. SECTION-B:03 short answer type questions, each question carries 02 marks
3. SECTION-C:03 essay type questions, each question carries 03 marks.

SECTION-A**[5x1=Marks]**

1. The aim of hand hygiene is:
 - a. To show off
 - b. To appear smart
 - c. To wash hand
 - d. To prevent transmission of germs
2. What is the duration for washing hands?
 - a. 40 Second
 - b. 35 Second
 - c. 60 Second
 - d. 30 Second
3. Choose one criteria which cannot be observed regarding the skin:
 - a. Blister
 - b. Color
 - c. Smell
 - d. Age
4. When would you put a needle after use?
 - a. Blue waste bin
 - b. White waste bin
 - c. Red waste bin
 - d. Yellow waste bin
5. How to hand disinfection in hospital?
 - a. Dispense an alcohol based disinfection into the dry palm of your hand
 - b. Use half a bottle
 - c. Use full bottle liquid water
 - d. After removing gloves

SECTION-B**[3x2=6 Marks]**

- 1) Difference between the antisepsis and sepsis.
- 2) Define hygiene.
- 3) Describe the two physiological and pathological causes of skin color changes.

SECTION-C**[3x3= 9 Marks]**

- 1) Write down the six principles of personal hygiene.
- 2) Define nosocomial infection. Describe the methods of sterilization.
- 3) What do you mean infection diseases? Describe the causes of infection disease.

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SECTION-B**[3x2=6 Marks]**

- 1) Difference between the antiseptics and sepsis.

Antiseptics = germ reduction

This incorporates measures to inactivate microorganisms using physical or chemical means. Antiseptics covers measures intended to eradicate/reduce germs on the skin (within certain parameters), and particularly the hands of medical personnel. The idea is to use disinfectant agents to prevent harmful germs from penetrating or being introduced to the body.

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Asepsis = freedom from germs

Asepsis covers all measures designed to prevent pathogens from penetrating the body or contamination with germs during various interventions. Asepsis is achieved through the sterilisation of instruments, bandages and other equipment used during nursing activities. Sterilisation means the eradication of all germs (pathogenic and non-pathogenic) using physical and chemical means or radiation.

2) Define hygiene.

The word hygiene comes from Greek and is derived from „Hygeia“, the name for the goddess of good health. It is essentially synonymous with health. Hygiene is the science of keeping people and the environment health and covers the measures used to achieve this. Just over 100 years ago, general refuse and waste water from toilets and bathrooms were still being diverted into rivers and streams. This favoured the spread of epidemics such as cholera and typhoid. These diseases tended to be fatal. Drainage channels were also home to rats and other disease-carrying animals, with rats, for example, carrying the plague. Hygiene levels were so bad that these water courses were often referred to as cloacal in towns and cities. Infant mortality was high and life expectancy much lower than today. In addition to medical advances (eg. the discovery of antibiotics in the 1940s), the improvements in hygiene levels associated with infrastructure measures such as the introduction of sewage pipes in towns and villages and hygiene monitoring for drinking water and food led to sustainable progress in health conditions. Of every 1,000 live births, some 130 infants were still dying around the year 1900 compared with just 3 or 4 today. Life expectancy has also increased over the past century from around 47 years to today 's figure of about 80.

3) Describe the two physiological and pathological causes of skin color changes.

Changes in skin colour and their causes

Changes in skin colour can have both physiological and pathological causes. The following table lists the most common changes in skin colour and their causes.

Change in colour	Physiological causes	Pathological causes
Pale	<ul style="list-style-type: none"> • Contraction of capillary vessels in cold conditions, skin is white or blue • Psychological factor: pale with fright 	<ul style="list-style-type: none"> • E.g. in the event of blood loss (shock), anaemia (particular visible in the mucosa), problems with arterial blood flow
Red	<ul style="list-style-type: none"> • Psychological factor: red with anger or shame • Expansion of capillary vessels in warm conditions, skin becomes red 	<ul style="list-style-type: none"> • Fever • Hypertension • Stage 1 decubitus ulcer • Sometimes with first-degree burn • Frostbite, inflammation, allergies etc.
Blue	<ul style="list-style-type: none"> • Contraction of capillary vessels in cold conditions, skin is white or blue 	<ul style="list-style-type: none"> • Cyanosis associated with heart or lung disease
Change in colour	Physiological causes	Pathological causes
Brown	<ul style="list-style-type: none"> • Change in pigment as a result of solar radiation 	<ul style="list-style-type: none"> • Malignant melanoma

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Marbled	<ul style="list-style-type: none"> In cold conditions 	<ul style="list-style-type: none"> Poor blood flow, e.g. peripheral arterial occlusive disease, the dying
Yellow	<ul style="list-style-type: none"> excessive intake of carrots, particularly evident in the cheeks and inside of the hands 	<ul style="list-style-type: none"> jaundice (also evident in the whites of the eyes), hepatitis, gall-stones

SECTION-C

[3x3= 9 Marks]

1) Write down the six principles of personal hygiene.

Principles of personal hygiene

Personal hygiene requires thorough preparation. The time, duration and sequence involved should reflect the habits and condition of the patient. Respect their independence and plan personal hygiene together. Use the time spent on personal hygiene to take a look at the condition of the patient's skin and their condition in general. It is also a good opportunity to build a relationship with the patient and create an atmosphere of trust. This opens the door to conversations where those involved can also ask personal questions and speak their mind.

- 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.

2) Define nosocomial infection. Describe the methods of sterilization.

Nosocomial infections

Nosocomial means that a patient becomes infected with an additional disease as a result of their stay in an institution. Often these infections are difficult to treat, because the pathogens may be resistant to antibiotics. Prophylactic measures for these often dangerous infections are therefore very important and are frequently the responsibility of nursing personnel.

Various methods of sterilization

Various sterilization processes can be used to achieve an aseptic state:

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Sterilisation method	Application	Effect
Steam sterilisation Used as the most reliable method	Instruments, laundry, bandages, glass-based-materials, heat-sensitive plastics, rubber	Steam in the autoclave (high-pressure sterilisation unit) penetrates the sterile material for 18 minutes at 134° C and 2-3 bar.
Plasma sterilisation	Thermolabile material	Process involving hydrogen peroxide and low temperatures
Gas sterilisation (used only rarely, because of toxicity, no further new approvals)	Optical instruments (ophthalmology), endoscopes, plastics	Formaldehyde gas at around 60°C, also peracetic acid
"Factory-sterile" radiation sterilisation	Used for the manufacture of single-use items (catheters, plastic items etc.) in an industrial setting, comparatively expensive	e.g. X-rays, gamma rays. Sterilisation is performed at low temperature and is also suitable for temperature-sensitive substances.

3) What do you mean infection diseases? Describe the causes of infection disease.**Pathophysiology – 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.

Causes

Various types of pathogens can cause an infection

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.

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Course Code: SHP1101

Time: 1 Hour

Course Name: Anatomy Physiology & Professional behaviour

Max. Marks: 20

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2. **SECTION-B:**03 short answer type questions, each question carries 02 marks
3. **SECTION-C:**03 essay type questions, each question carries 03 marks.

SECTION-A**[5x1=Marks]**

1. **The bone which is also known as "Knee Cap":**
 - a. Tibia
 - b. Fibula
 - c. Femur
 - d. Patella
2. **Which endocrine gland called master gland:**
 - a. Thyroid gland
 - b. Pituitary gland
 - c. Thymus gland
 - d. Pancreas
3. **Outer most layer of the nucleus in the cell:**
 - a. Cell membrane
 - b. Cytoplasm
 - c. Nuclear membrane
 - d. Plasma membrane
4. **Life span of RBS is:**
 - a. 120 Days
 - b. 80 Days
 - c. 200 Days
 - d. 60 Days
5. **The innermost layer of the heart is:**
 - a. Epicardium
 - b. Endocardium
 - c. Myocardium
 - d. Pericardium

SECTION-B**[3x2=6 Marks]**

- 1) Write the name of upper and lower respiratory tract organs.
- 2) Draw the diagram of cell with label.
- 3) Write down the two differences between the Olfactory and Vagus cranial nerve.

SECTION-C**[3x3= 9 Marks]**

- 1) Describe the cardiac circulation with the help of flow chart.
- 2) Define nephron. Write down the four function of kidney.
- 3) Define bone. Write down the four functions of bone.

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SECTION-A

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 - a. Tibia
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 - a. Epicardium
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SECTION-B

[3x2=6 Marks]

- 1) Write the name of upper and lower respiratory tract organs.

Upper respiratory tract

- Nose
- Pharynx

Lower respiratory tract

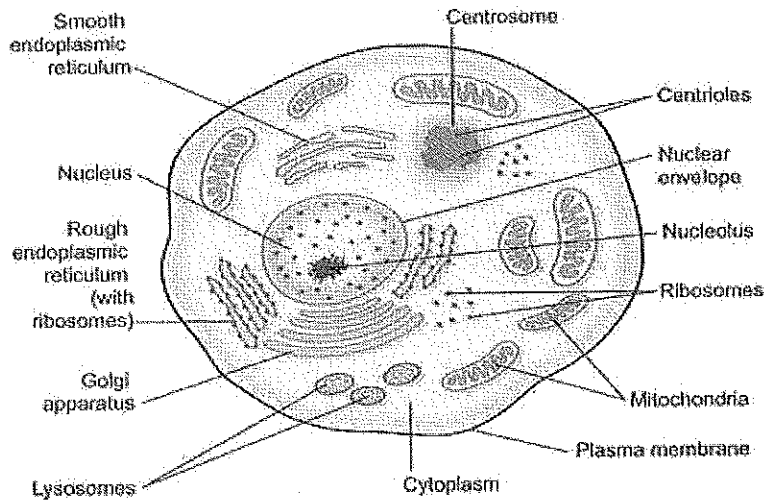
- Larynx
- Trachea
- Two bronchi (one bronchus to each lung)

K. Kour

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- Bronchioles and smaller air passages
- Two lungs and their coverings, the pleura
- Muscles of breathing – the intercostal muscles and the diaphragm.

2) Draw the diagram of cell with label.



3) Write down the two differences between the Olfactory and Vagus cranial nerve.

Olfactory	sensory	These are the nerve sense of smell
Vagus	mixed	Secretion of the gland and sensory fibres convey impulses from the membranes.

SECTION-C

[3x3= 9 Marks]

1) Describe the cardiac circulation with the help of flow chart.

Blood circulation

Blood circulation comprises two parts:

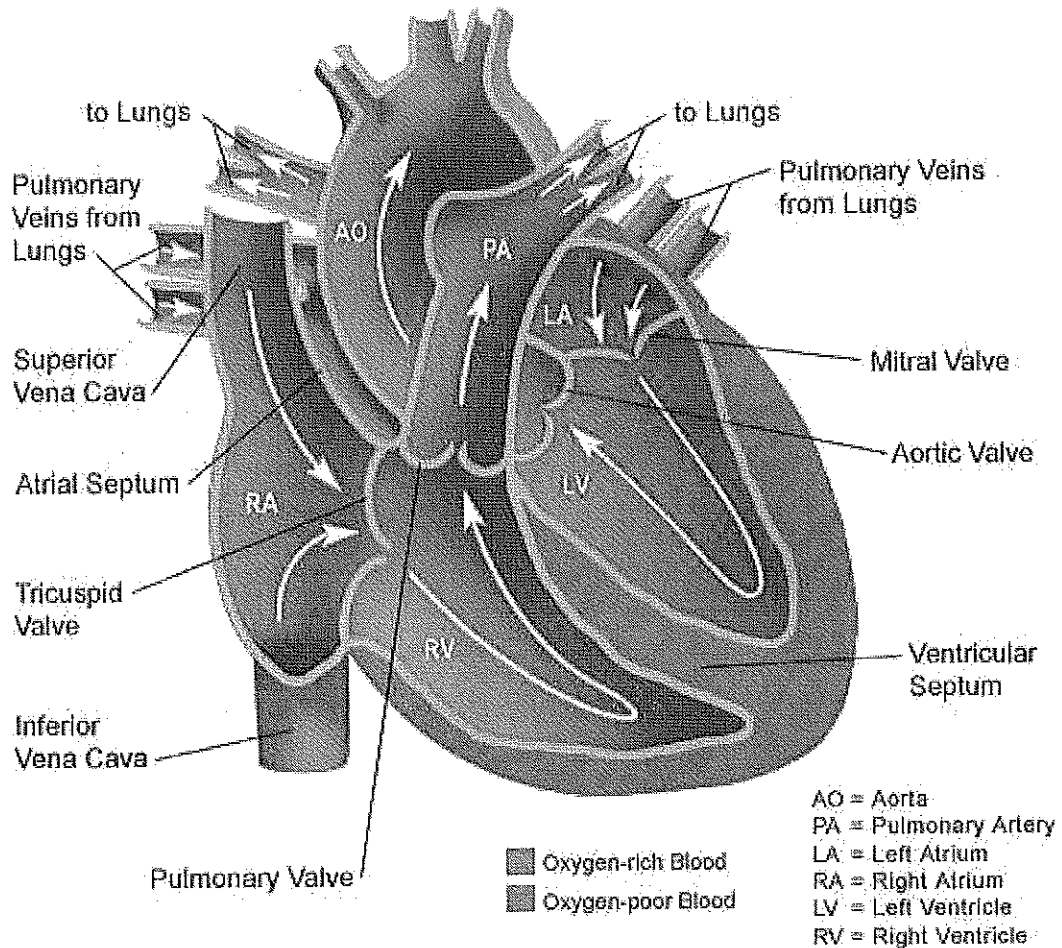
Pulmonary circulation

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

Systemic circulation

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



2) Define nephron. Write down the four function of kidney.

Nephron

There are approximately 1million nephrons in each kidney. Each nephron has two sections:

- The renal corpuscle
- The renal tubule

Around 1500 liters of blood flow through the kidney each day. This is roughly 300 times the total amount of blood found in the human body. Approximately 170 liters of primary urine are produced from the blood by the renal corpuscles each day. This leaves around 1.5liters of final urine which excreted.

K. Kowar



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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

3) Define bone. Write down the four functions of bone.

Bones

Although bones are often thought to be static or permanent, they are highly vascular living structures that are continuously being remodelled.

Function

- Provision of the framework of the body
- Giving attachment to muscles and tendons
- Allowing movement of the body as a whole and of parts of the body, by forming joints that are moved by muscles
- Haemopoiesis, the production of blood cells in red bone marrow
- Mineral storage, especially calcium phosphate