DIPLOMA IN COMMUNITYY HEALTH NURSING

# REVISION QUESTIONS SEM 1-EDITION 1

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## Anatomy and Physiology:

1. State 2 components of the central nervous systems.
2. Explain the composition of the peripheral nervous system.
3. State 4 compositions of plasma.
4. State 6 factors that affect heart rate.
5. State three processes involved in the formation of urine.
6. State 4 factors which affect cardiac output.
7. Explain 3 functions of the cerebral cortex.
8. Explain 4 types of bones, giving an example in each type.
9. State the functions of cerebrospinal fluid.
10. State the functions of reticular formation.
11. With an aid of well labeled diagram, explain the development of bone tissue.
12. Explain the 3 types of muscles giving specific examples.
13. State 3 layers of tissue covering the walls of arteries and arterioles.
14. State 2 mechanisms which control the blood pressure.
15. List 8 arteries forming the circus arteriosus.
16. List 6 components of the lymphatic system.
17. Explain 2 types of nerves which transmit nerve impulses.
18. Explain 3 layers of the meninges.
19. Explain the 3 functions of the cerebral cortex.
20. State the functions of insulin.
21. Explain the three types of joints giving examples.
22. Discuss the functions of stomach.
23. With an aid of a well labeled diagram of nephrone, describe the process of urine formation.
24. Explain the functions of the skin.
25. Explain the structural relationship between chromosomes, genes and DNA.
26.

a) Draw the diagram of the conducting system of the heart, showing the specialized mass of neuromuscular fibers.
b) Describe the conducting system of the heart.

27.

a) Draw a clearly diagram of the stomach showing its muscle fibers.
b) Explain the functions of the stomach.

## Nursing Fundamentals: - BNP, Professionalism, Nursing Process and Theories:

1. Differentiate between the two terminologies:
   a) Tachycardia.
   b) Tachypnoea.
2. List any 6 bed appliances.
3. List 4 sites where pulse can be taken on a human body.
4. List 4 observations noted on respirations.
5. Name 4 methods of raising body temperature.
6. Define the following terms:
   a) Isolation nursing.

b) Barrier nursing.
c) Reverse barrier nursing.

7. One of the methods of handing over reports is by moving from patient to patient reporting on each patient. List any 2 advantages and 2 disadvantages of this type of report.
8. List the 6 components of a nursing care plan.
9. For the following statements, indicate whether they are TRUE or FALSE:
   a) Nursing diagnosis remains constant while medical diagnosis keeps changing……..
   b) Dehydration is a nursing diagnosis when a patient looses fluid through diarrhea and vomiting…….
10. State any five functions of the nursing council of Kenya.
11. State the role of the escort nurse in referral and transfers.
12. Highlight the importance of infection prevention.
13. Briefly explain how to maintain a sterile field in a ward set up during wound dressing.
14. Outline 5 measures of preventing pressure sores in a patient.
15. Briefly explain the observation you will carry out in a patient immediately after receiving him/her from major surgery.
16. The current nurses' training traces back to 1860 when Florence Nightgade started a Nurses' school in London. State any 5 five principles on which her training school was based on.
17. Highlight any 5 characteristics of profession.
18. What are the objections of isolation nursing?
19. Describe the bill of rights of customers.
20. Highlight the principles of a specimen collection.
21. Outline the rights of a nurse as a worker.
22. Briefly explain the techniques used to gather data during physical examinations, giving examples of the information that can be obtained by each technique.
23. Master Joto, 3 years old is admitted in the pediatric ward with a major complain of hotness of the body. On taking the vital signs the temperature is 39.8$^{o}$C.
    a. Formulate any 2 nursing diagnosis related to fever.
    b. State any 4 immediate nursing intervention that you will put in place in an attempt to reduce fever.
    c. Describe the nursing care of a patient during a rigor.

24. Briefly describe 5 stages of emotional responses that a patient facing death goes through.

25. Mr. Mawe is admitted into your ward unconscious.
    a. Define unconsciousness.
    b. Explain how you will use a neurological observation chart to determine the level of unconsciousness of Mr. Mawe.
    c. Formulate any 4 nursing diagnosis related to unconsciousness.
    d. Describe the nursing management of Mr. Mawe till fully conscious.
26. Mrs. Patma is admitted with a diagnosis of breast cancer till fully conscious.
    a. Define pre-operative care.
    b. Highlight the pre-operative teachings that you will give to Mrs. Patma before operation.
    c. Describe the pre-operative management of Mrs. Patma until she is wheeled to theatre.
27. Define the following terms:
    a. Profession.

   b. Professionalism.
   c. Medical asepsis.
   d. surgical
28. State any aspects of the nurses' code of ethics.
29. Outline the factors that influence the dosage of a drug prescribe to a patient.
30. State the 5 rights of giving safe injection

## Normal Midwifery and Reproductive Health:

1. Draw well labeled landmarks of gynaecoid type of pelvis.
2. Briefly describe the menstrual anatomy.
3. Describe the changes that take place in the female body during the first 8 weeks of gestation.
4. Define normal labor.
5. State 2 factors that induce labor.
6. State 5 components of a partograph.
7. State 5 minor disorders of pregnancy.
8. Draw and label a diagram showing fundal height at various weeks of pregnancy.
9. Explain the physiological changes that take place in the breast of a pregnant woman.
10. Outline the stages a fertilized ovum undergoes till it becomes a fetus.
11. Differentiate between true and false labor.
12. Describe the pathophysiology of true labor.
13. State 5 factors that contribute to normal labor.
14. State 3 indications of 1st examination of a newborn.
15. Outline the process of a normal peuperium.
16. State 5 temporary structures of fetal circulation.
17. Mrs. Obiero para 1+0 gravida 2 comes to the prenatal clinic for the first time at 24 weeks gestation:
    a. Define focused antenatal care.
    b. State 4 components of focused antenatal care.
    c. Describe the management of Mrs. Obiero during this visit.

18. Ms. Rose aged 18 years para 0+0 gravida 1 is admitted in the labor ward in labor ward in labor pains. On examination, the cervix is 4cm dilated:
    a. Describe the management of Ms. Rose from admission until the commencement of 2nd stage.
    b. State 5 temporary structures of fetal circulation.
    c. Briefly describe the 1st examination of a newborn.

19. Mrs. P has come to MCH/FP for antenatal care 1st visit. She is 25 years old and married to a matatu driver. She is a housewife and they have a small shamba. Her last menstrual period was on 20/02/2015.
    a. What was her expected date of delivery? Show the calculations.
    b. What is her maturity by date today? Show your calculations.
    c. State the level at which the uterine fundus can be palpated at this visit.
    d. Explain the histories you would take from her.
20. State 4 types of jaundice newborns are likely to present.
21. Explain six predisposing causes of babies at risk.

22. Explain how you would manage a newborn unit where neonates at risk are nursed.
23. Baby Jones born at 36 weeks gestation weighed 2100grams and is admitted in the new born unit (NBU):
    a. State 5 predisposing factors to maturity.
    b. State 6 characteristics of a preterm baby.
    c. State 5 complications baby Jones may develop if proper nursing interventions are not done:
    d. Describe management of baby Jones in the newborn unit in the first 48 hours.

24. Explain 5 injuries that may be found in the head of a newborn baby.
25. State 4 types of jaundice.
26. State the 3 things you do to check airway and breathing of an asphyxiated baby.
27. State 3 things signs of severe respiratory distress syndrome.
28. State 4 principles of management of a baby with intracranial injury.
29. State 5 predisposing factors to ophthalmia neonatorum.
30. Baby Junior, born at term with birth weight of 3.2kg and score $^{9}/_{1}$, $^{10}/_{10}$ is diagnosed with jaundice on the second day of delivery.
    a. Explain 3 causes of physiological jaundice.
    b. Describe the specific management of baby Junior until jaundice clears.
31. List 6 causes of ante partum haemorrhage.
32. Define obstetric shock.
33. Differentiate between puerperal sepsis and puerperal infection.
34.
    i) Define amniotic fluid embolism.
    ii) Explain the management of a mother who has just delivered and has been diagnosed with amniotic fluid embolism.
35. Differentiate between fetal distress and maternal distress.
36. Define fibrinogenemia.
37. Miss Jane has been admitted in labor ward with a history of prolonged labor:
    a. State 4 causes of prolonged labor.
    b. Explain briefly the management of prolonged labor.

## Social Anthropology:

1. Define the following terms as used in social anthropology:
    a. Incest taboo.
    b. Culture.
    c. Social stratification.
    d. Polyandry.
2. Explain 3 characteristics of culture.
3. Describe 5 social functions of religious institutions.
4. Evolution of society from primitive to become modern and industrialized leads to many health and social challenges.
    a. Define the term social change.
    b. Describe the social health effects of rural to urban migration of population.
    c. State 3 health related benefits of using modern farming technology.
5. Define the following terms:
    a. Culture……

b. Social group ……
c. Urban drift ……..
d. Ethnocentrism …….
e. Society ……..

6. Differentiate the following terms:
   a. Sociology and anthropology…….
   b. Formal and informal education ……
   c. Nuclear and extended family ……..
   d. Non material and material culture ……..
   e. Polygyny and polyandry ……
7. Explain 5 functions of the family in the provision of health care.
8. State 5 characteristics of a society.
9.
   a. Define social change.
   b. Explain 2 social changes affecting health.
   c. List 6 types of change agents.
   d. Using the 7 doors model, explain the basic steps of implementing change.
10. State 4 social institutions which perform functions of secondary socialization.
11. Explain 4 characteristics of culture.
12. State 3 types of kinship relationships.
13. State 5 functions of family.
14. Religion is a system in which individuals have beliefs and practices relative to sacred things:
   a. State 3 types of religious beliefs.
   b. Describe the functions of religion in relation to promotion of health.
   c. Explain your role as a nurse working in ward in a busy hospital in ensuring that your patients enjoy the benefits of religion while in hospital.
15. State 4 components of culture.
16. List 6 main sources of social change.
17. State 5 agents of socialization.
18. State 4 effects of over-urbanization on the family.
19. Conflicts are common in places of work as we meet community health needs:
   a. Define a conflict.
   b. State 3 benefits of conflicts.
   c. State 4 disadvantages of conflicts.
   d. Describe ways of reducing conflicts in our places of work.
   e. List 4 types of conflicts.
20. Define the following terms as used in social anthropology:
   a. Sanctions.
   b. Status.
   c. Social stratification.
   d. Culture.
21. Explain 4 important social functions of educational institutions.
22. State 3 leadership styles used by the government as a social institution to maintain social order.

**KENYA MEDICAL TRAINING COLLEGE –**
END OF SEMESTER EXAMS
HUMAN ANATOMY & PHYSIOLOGY PAPER

**INSTRUCTIONS**

1. Write your examination number on each sheet of paper used
2. For part I, MCQs, circle in ink the correct response
3. All questions are compulsory
4. Omission of or wrong numbering of examination paper, question or part for the question will result in 10% deduction of marks scored from the relevant part
5. MOBILE PHONES are not allowed in the examination hall

**PART I: MCQ's**

**1.** The most fundamental structural level of the body is:
   a) Chemical
   b) Molecular
   c) Atom
   d) Biochemical

**2.** The structure that is made up of a number of different types of tissue is:
   a) A cell
   b) A tissue
   c) An organ
   d) Organelles

**3.** The water-based medium in which the body cells exist is the:
   a) External environment
   b) Internal environment.
   c) None of the above.
   d) All the above (a) and (b)

**4.** The fluid that surround and bathe human cell is:
   a) Extracellular fluid
   b) Plasma globulin
   c) Interstitial fluid
   d) Blood

**5.** The membrane which encloses the cell as well as provide a potential barrier to substances entering and/or leaving the cell is:
   a) Cytoplasm
   b) Cell wall
   c) Cell membrane
   d) Plasma membrane

**6.** The mechanism that control the body's internal environment within narrow limits is:

a) Positive feedback mechanisms
b) Negative feedback mechanisms
c) Nervous and endocrine systems
d) Homeostasis

**7.** The tiny walled blood vessels that consists of one layer of cell is:
a) Arteries
b) Capillaries
c) Venuoles
d) Arterioles

**8.** The system that provides the sites for the formation and maturation of lymphocytes and white blood cells is:
a) Reticuloendothelial system
b) Lymphatic system
c) The bone marrow
d) Circulatory system

**9.** The system that transmit signals from the body to the brain is:
a) The nervous system
b) The sensory or afferent
c) The motor or efferent nerves
d) The somatic senses

**10.** Nerves communicate to each other by release of:
a) A catalyst
b) Neurotransmitter
c) Reflex action
d) Sensory impulses

**11.** A system that consists of a number of discrete glands situated in different parts of the body is:
a) Endocrine system
b) Lymphatic system
c) Body's defense mechanisms
d) Reticuloendothelial system

**12.** Reflex action is basically for the body's:
a) Defense mechanism
b) Protective mechanism
c) Facilitation of rapid movement
d) Interaction with nervous activity

**13.** Changes in the blood hormonal levels are normally controlled by:
a) Positive feedback mechanism
b) Negative feedback mechanism
c) Positive and negative mechanism
d) Negative mechanisms

**14.** A gas that is necessary for a series of chemical reactions that result in the release of energy from nutrients:
   a) Oxygen
   b) Carbon dioxide
   c) Nitrogen
   d) Hydrogen

**15.** Food component used in cell building, growth and repair is:
   a) Fats
   b) Carbohydrates
   c) Proteins
   d) Micronutrients

**16.** Atrial natriuretic hormone is produced by:
   a) Endocrine gland
   b) Kidney
   c) Heart
   d) Pituitary gland

**17.** Blood entering the liver must first pass through:
   a) Common iliac vein
   b) The mesentery vein
   c) Portal circulation
   d) Interior venacava

**18.** Nerves originating in muscles and joints for maintenance of balance, posture and stability are:
   a) Proprioceptor senses
   b) Motor senses
   c) Somatic cutaneous senses
   d) Autonomic afferent nerves

**19.** Muscles that are involved in difficult or deep breathing are:
   a) The diaphragm and abdominal muscles
   b) Intercostals muscles
   c) Neck, shoulder and abdominal muscles
   d) Intercostals and diaphragmatic muscles

**20.** The area of the brain involved with comprehension, intelligence and understanding of languages is:
   a) Premotor area
   b) Wernicke's area
   c) Prefrontal area
   d) Broca's area

PART II: SAQ's

1. State the four (4) functions of the cerebrospinal fluid
   - Supports and protects the brain and spinal cord by maintaining a uniform pressure.
   - Acts as a shock absorber or cushion between the brain and the skull.
   - Keeps the brain and spinal cord moist and there may be exchange of nutrients and waste products.

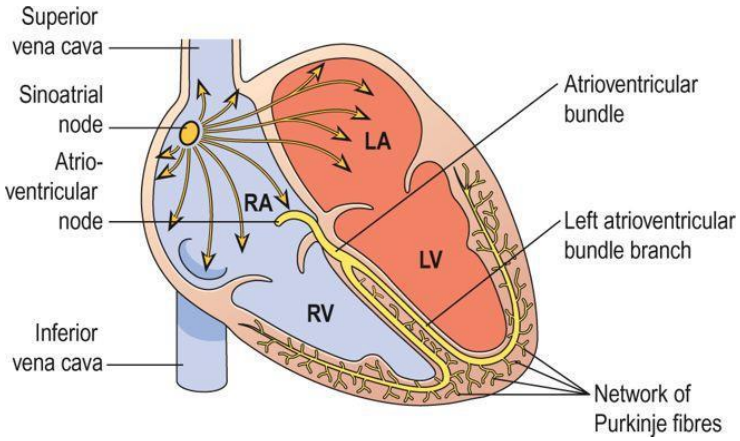
2. State three (3) functions of reticular formation (3mks)
3. State three (3) different types of joints
4. State four (4) functions of bones
5. With an aid of a labeled diagram, explain the development of bone tissue (5mks)
6. State five (5) constituents of plasma

KENYA MEDICAL TRAINING COLLEGE –
REVISION WORK
HUMAN ANATOMY & PHYSIOLOGY

1. The water-based medium of the body is:-
   - Internal environment.
2. The body temperature is a physiological variable:-
   - The negative feedback mechanism.
3. The mechanism that facilitate body cells to receive nutrients and oxygen:-
   - The blood and circulatory system.
4. Homeostasis can be defined as:-
   - A dynamic and ever-changing state of the body which is kept within narrow limits.
5. The term used for sum total of the body's chemical activity is:-
   - Metabolism.
6. A chemical substance consisting of the same type of atom is:-
   - Element.
7. A waste product which dissolves in body fluid to make it acidic to maintain the body's pH within normal body range is:-
   - Carbon dioxide.
8. An example of the body's non-specific defense mechanism is:-
   - The skin.
9. The study of body structure and its physical relationship of body systems is:-
   - Anatomy.
10. A substance that maintain normal body pH by preventing dramatic changes in blood value is:-
    - Buffer.
11. The measure of the acidity of a solution is determined by:-
    - Hydrogen ions.
12. Substances that cross semi-permeable membrane down its concentration gradient without use of energy, the process involved is:-
    - Passive transport.
13. Complex carbohydrates that form important biological molecules are:-
    - Polysaccharides.
14. Groups of tissues found covering body lining cavities and hollow organs and tubes are:-
    - Epithelial tissues.
15. The largest cavity in the body that is oval in shape is:-
    - Abdominal cavity.
16. Red blood cells develop from:-
    - Pluripotent stem cells.
17. The exchange of nutrients and gases take place at:-

- Capillary bed.

18. Lymphatic duct that drains lymph from the right half of the thorae, head, neck and right arm is:-
    - Right lymphatic duct.
19. Transmission of the nerve impulses during action potential occurs due to:-
    - Movement of ions across the nerve cell membrane.
20. Sympathetic nerve fibres have axons of cells in:-
    - White mater.
21. State the properties of the neurons.
    - Irritability/excitability.
    - Conductivity.
22. List six main arteries which form the cirulus arteriosus.
    - Basilar artery.
    - Internal carotid artery.
    - Anterior communicating artery.
    - Posterior communicating artery.
    - Anterior cerebral arteries.
    - Posterior cerebral arteries.
23. State the three distinct parts of the human ear.
    - Outer ear.
    - Middle ear.
    - Inner ear.
24. State the three types of nerves.
    - Sensory or afferent nerves.
    - Motor or efferent nerves.
    - Mixed nerves.
25. Explain the three functions of the cerebral cortex.
    - Mental activities like thinking and reasoning.
    - Sensory perception like pain and temperature.
    - Initiation and control of skeletal muscle contraction and voluntary movement.
26. Explain the four functions of the cerebro-spinal fluid (CSF).
    - Supports and protects the brain and spinal maintain uniform pressure.
    - Cushioning or shock absorber between the brain and the skull.
    - Keeps brain and spinal cord moist hence exchange of nutrients and waste products between CSF and cells.
27. State the composition of blood plasma.
    - Plasma proteins.
    - Inorganic compounds.
    - Gases (oxygen).
    - Nutrients.
    - Waste materials (urea)
28. With an aid of a well labeled diagram of the heart, explain the conducting system of the heart.




The heart possesses the property of *autorhythmicity*, which means it generates its own electrical impulses and beats independently of nervous or hormonal control, i.e. it is not reliant on external mechanisms to initiate each heartbeat. However, it is supplied with both sympathetic and parasympathetic autonomic nerve fibres, which increase and decrease respectively the intrinsic heart rate. In addition, the heart responds to a number of circulating hormones, including adrenaline (epinephrine) and thyroxin.
Small groups of specialized neuromuscular cells in the myocardium initiate and conduct impulses, causing coordinated and synchronized contraction of the heart muscle.

Sinoatrial node (SA node)
This small mass of specialized cells lies in the wall of the right atrium near the opening of the superior vena cava.
The sinoatrial cells generate these regular impulses because they are electrically unstable. This instability leads them to discharge (*depolarize*) regularly, usually between 60 and 80 times a minute.
This depolarization is followed by recovery (*depolarization*), but almost immediately their instability leads them to discharge again, setting the heart rate. Because the SA node discharges faster than any other part of the heart, it normally sets the heart rate and is called the *pacemaker* of the heart. Firing of the SA node triggers atrial contraction.

Atrioventricular node (AV node)
This small mass of neuromuscular tissue is situated in the wall of the atrial septum near the atrioventricular valves. Normally, the AV node merely transmits the electrical signals from the atria into the ventricles. There is a delay here; the electrical signal takes 0.1 of a second to pass through into the ventricles. This allows the atria to finish contracting before the ventricles start. The AV node also has a secondary pacemaker function and takes over this role if there is a problem with the SA node itself, or with the transmission of impulses from the atria. Its intrinsic firing rate, however,is slower than that set by the SA node (40–60 bpm).

Atrioventricular bundle (AV bundle or bundle of His)
This is a mass of specialised fibres that originate from the AV node. The AV bundle crosses the fibrous ring that separates atria and ventricles then, at the upper end of the ventricular septum; it divides into *right* and *left bundle branches*. Within the ventricular myocardium the branches break up into fine fibres, called the *Purkinje fibres*. The AV bundle, bundle branches and Purkinje fibres transmit electrical impulses from the AV node to the apex of the myocardium where the

wave of ventricular contraction begins, then sweeps upwards and outwards, pumping blood into the pulmonary artery and the aorta.

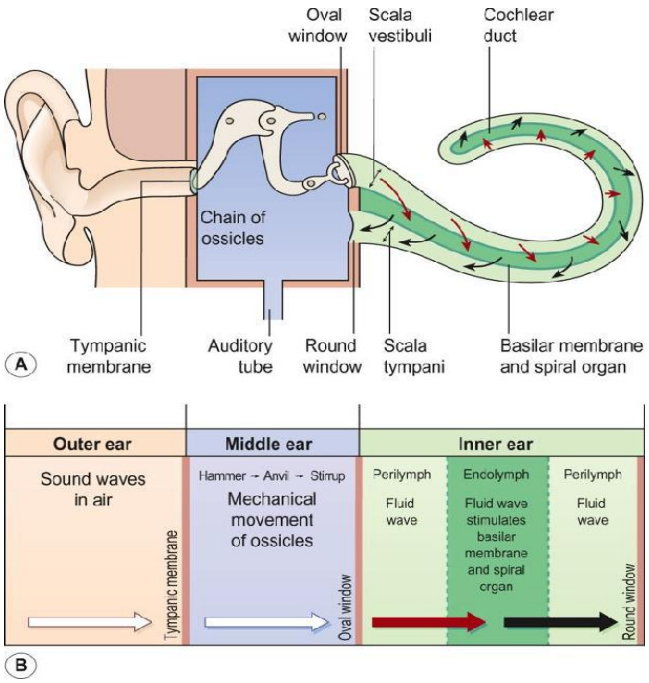
29. Explain the physiology of hearing.

Every sound produces sound waves or vibrations in the air, which travel at about 332 meters per second.

The auricle, because of its shape, collects and concentrates the waves and directs them along the auditory canal causing the tympanic membrane to vibrate. Tympanic membrane vibrations are transmitted and amplified through the middle ear by movement of the ossicles. At their medial end the footplate of the stapes rocks to and fro in the oval window, setting up fluid waves in the perilymph of the scala vestibuli. Some of the force of these waves is transmitted along the length of the scala vestibuli and scala tympani, but most of the pressure is transmitted into the cochlear duct. This causes a corresponding wave motion in the endolymph, resulting in vibration of the basilar membrane and stimulation of the auditory receptors in the hair cells of the spiral organ. The nerve impulses generated pass to the brain in the cochlear (auditory) portion of the vestibulocochlear nerve (8th cranial nerve). The fluid wave is finally expended into the middle ear by vibration of the membrane of the round window. The vestibulocochlear nerve transmits the impulses to the auditory nuclei in the medulla, where they synapse before they are conducted to the auditory area in the temporal lobe of the cerebrumBecause some fibres cross over in the medulla and others remain on the same side, the left and right auditory areas of the cerebrum receive impulses from both ears.

Sound waves have the properties of *pitch* and *volume*, or intensity. Pitch is determined by the frequency of the sound waves and is measured in Hertz (Hz). Sounds of different frequencies stimulate the basilar membrane at different places along its length, allowing discrimination of pitch.

The volume depends on the magnitude of the sound waves and is measured in decibels (dB). The greater the amplitude of the wave created in the endolymph, the greater is the stimulation of the auditory receptors in the hair cells in the spiral organ, enabling perception of volume. Long-term exposure to very loud noise causes hearing loss because it damages the sensitive hair cells of the spiral organ



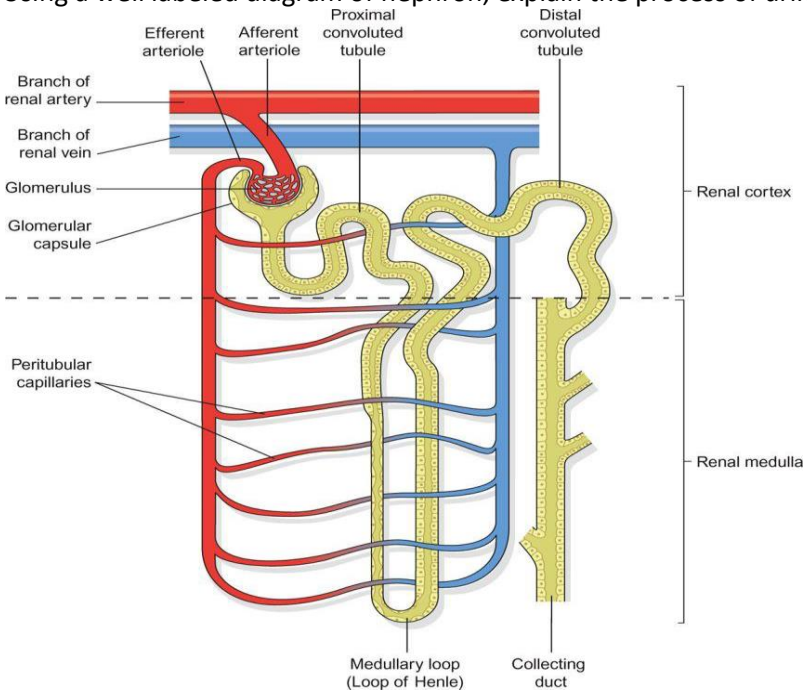

30. Factors which would determine blood pressure.
    - ❖ Cardiac output – determined by stroke volume X heart rate.
    - ❖ Auto regulation – capability of blood organs to adjust blood flow and pressure independent of systemic blood pressure.
    - ❖ Peripheral/Arteriolar resistance – arterioles have tunica media entirely composed of smooth muscle sensitive to nerve and chemicals. Vasoconstriction raises pressure while vasodilatation causes it to fall.
31. Components of lymphatic system.
    - ❖ Lymph.
    - ❖ Lymph vessels.
    - ❖ Bone marrow.
    - ❖ Lymph nodes.
    - ❖ Lymph organs e.g. spleen.
    - ❖ Diffuse lymphoid tissue e.g. tonsils.

32. Functions of reticular formation.
    Definition: - it is a collection of neurons in the core of the brain stem, surrounded by neural pathways that conduct ascending and descending impulses between the brain and spinal cord.
    - ❖ Coordination of skeletal muscle activity associated with voluntary motor movement and the maintenance of balance.
    - ❖ Coordination of activity controlled by the autonomic nervous system e.g. CVS and GIT activity.
    - ❖ Selective awareness that functions through the reticular activating system (RAS) which selectively blocks or passes sensory information to the cerebral cortex.
33. Distinct parts of the ear.
    - ❖ Outer ear – consists of auricle (pinna), external acoustic meatus (auditory canal) and tympanic membrane.

- ❖ Middle ear – auditory ossicles (malleus, incus and stapes), oval and round window.
- ❖ Inner ear – vestibule (utricle and succule), 3 semi circular canals and cochlea.

34. Hormones produced by the anterior lobe of pituitary gland.
    - ❖ Growth hormones.
    - ❖ Thyroid stimulating hormone.
    - ❖ Adrenocorticotrophic hormone.
    - ❖ Gonadotrophin.
    - ❖ Prolactin.
    - ❖ Follicle Stimulating Hormone (FSH) and Luteinizing Hormone (LH) also known as Interstitial Cell Stimulating Hormone (ICSH)
35. Hormones produced by the posterior lobe of pituitary gland.
    - ❖ Oxytocin.
    - ❖ Antidiuretic Hormone (ADH)
36. Mechanisms responsible for the control of respiration.
    - ❖ Respiratory centre.
    - ❖ Chemoreceptor – change in partial pressures of oxygen and carbon dioxide in blood and CSF.
    - ❖ Exercise and respiration.
    - ❖ Emotional displays.
37. Physiological variables affecting breathing.
    - ❖ Elasticity – ability to return to normal shape after breath.
    - ❖ Compliance – stretchability of lungs.
    - ❖ Airway resistance.

38. Using a well labeled diagram of nephron, explain the process of urine formation:



The nephron consists of a tubule closed at one end, the other end opening into a collecting tubule. The closed or blind end is indented to form the cup-shaped *glomerular capsule* (Bowman's capsule), which almost completely encloses a network of tiny arterial capillaries, the *glomerulus*. These resemble a coiled tuft and are shown above. Continuing from the glomerular capsule, the remainder of the nephron is about 3 cm long and is described in three parts:

- The proximal convoluted tubule.
- The medullary loop (loop of Henle)
- The distal convoluted tubule, leading into a collecting duct.

FILTRATION:

This takes place through the semipermeable walls of the glomerulus and glomerular capsule. Water and other small molecules pass through, although some are reabsorbed later. Blood cells, plasma proteins and other large molecules are too large to filter through and therefore remain in the capillaries. The filtrate in the glomerulus is very similar in composition to plasma with the important exceptions of plasma proteins and blood cells.

Filtration takes place because there is a difference between the blood pressure in the glomerulus and the pressure of the filtrate in the glomerular capsule. Because the efferent arteriole is narrower than the afferent arteriole, a *capillary hydrostatic pressure* of about 7.3 kPa (55 mmHg) builds up in the

glomerulus. This pressure is opposed by the *osmotic pressure* of the blood, provided mainly by plasma proteins, about 4 kPa (30 mmHg), and by *filtrate hydrostatic pressure* of about 2 kPa (15mmHg) in the glomerular capsule.

SELECTIVE REABSORPTION

Most reabsorption from the filtrate back into the blood takes place in the proximal convoluted tubule, whose walls are lined with microvilli to increase surface area for absorption. Materials essential to the body are reabsorbed here, including some water, electrolytes and organic nutrients such as glucose.

Some reabsorption is passive, but some substances are transported actively. Only 60–70% of filtrate reaches the loop of the nephron. Much of this, especially water, sodium and chloride, is reabsorbed in the loop, so only 15–20% of the original filtrate reaches the distal convoluted tubule, and the composition of the filtrate is now very different from its starting values. More electrolytes are reabsorbed here, especially sodium, so the filtrate entering the collecting ducts is actually quite dilute.

The main function of the collecting ducts therefore is to reabsorb as much water as the body needs.

Active transport takes place at carrier sites in the epithelial membrane, using chemical energy to transport substances against their concentration gradients.

Some ions, e.g. sodium and chloride, can be absorbed by both active and passive mechanisms depending on the site in the nephron.

TUBULAR SECRETION:

Filtration occurs as the blood flows through the glomerular. Substances not required and foreign materials, e.g. drugs including penicillin and aspirin, may not be cleared from the blood by filtration because of the short time it remains in the glomerular. Such substances are cleared by secretion from the peritubular capillaries into the convoluted tubules and excreted from the

body in the urine. Tubular secretion of hydrogen ions (H+) is important in maintaining normal blood pH.

39. Layers of tissues covering arteries and arterioles.
    - Tunica adventitia – fibrous tissue.
    - Tunica media – elastic and smooth muscle.
    - Tunica intima – squamous epithelium (lining).
40. Mechanisms which control blood pressure.
    - Short-term control involving baroreceptors (pressure receptors), chemoreceptor and higher centers of brain.
    - Long-term control effected by Renin-angiotensin-aldosterone system (RAAS) and ADH.
41. List the 8 arteries that form arteriosus (circulus arteriosus)
    - 1 basilar artery.
    - 2 posterior cerebral arteries.
    - 2 anterior cerebral arteries.
    - 1 anterior communicating artery.
    - 2 posterior communicating arteries.
    - 2 internal carotid arteries.
42. State the types of nerves.
    - Sensory nerves – from the body to spinal cord.
    - Motor nerves – from brain, spinal cord and autonomic ganglia to muscles and glands.
43. Layers of meninges.
    - Dura mater – outer layer (dense fibrous tissue) takes place of periosteum on the inner surface of skull bones and inner layer provides a protective covering of brain.
    - Arachnoid mater – passes over the convolutions of the brain and accompanies the inner layer of dura mater in the formation of falxi cerebri, tentorium cerebella and falxi cerebelli.
    - Pia mater – contains many minute blood vessels. Adheres to the brain, completely covering convolutions and dipping into each fissure.
44. Hormones that influence selective reabsorption in the nephrone.
    - Parathyroid hormone – calcium control where it rises level where calcitonin lowers it.
    - Antidiuretic hormone – increases permeability of distal convoluted tubules and collecting tubules increasing water reabsorption.
    - Aldosterone – increases reabsorption of water and sodium and excretion of potassium.
    - Atrial Natriuretic Peptide – lowers reabsorption of sodium and water from proximal convoluted tubules and collecting ducts.
45. Functions of the cerebral cortex.
    - High order functions i.e. mental activities involved in memory.
    - Sensory perception like pain.
    - Initiation and control of skeletal muscle movement.
46. Functions of insulin.
    - Increasing conversion of glucose to glycogen (glycogenesis)
    - Prevention of breakdown of protein and fat and gluconeogenesis.
    - Accelerating uptake of amino acids by cells and the sysnthesis of proteins.
    - Promoting synthesis of fatty acids storage of fat in adipose tissue.
    - Decreasing glycogenolysis.
47. Types of joints.

- Fibrous joints – permits no movement e.g. skull joints.
- Cartilaginous joints – formed by a pad of tough fibro cartilage acting as shock absorber e.g. between vertebral bodies.
- Synovial joints – presence of a capsule between the articulating bones e.g. hinge, ball and socket, gliding e.t.c

48. Types of muscles.
    - Skeletal muscles – biceps and triceps.
    - Cardiac muscles – myocardium of the heart.
    - Smooth muscles – walls of vessels and intestines.
49. Functions of bones.
    - Providing body framework.
    - Giving attachment to muscles and tendons.
    - Allowing movement.
    - Haemopoiesis.
    - Mineral storage e.g. calcium phosphate.
50. Types of bones.
    - **Long bones –** have shaft and two extremities and they include femur, tibia.
    - **Short bones –** have neither shaft nor extremities e.g. carpals.
    - **Irregular bones –** have neither shaft nor extremities e.g. vertebrae.
    - **Flat bones –** have neither shaft nor extremities e.g. ribs.
    - **Sesamoid bones –** have neither shaft nor extremities e.g. patella.
51. Functions of cerebrospinal fluid (CSF)
    - Supports and protects the brain and spinal cord by maintaining a uniform pressure.
    - Acts as a shock absorber or cushion between the brain and the skull.
    - Keeps the brain and spinal cord moist and there may be exchange of nutrients and waste products.
    - Regulation of breathing as it bathes the surface of the medulla where central respiratory chemoreceptors are located.
52. Functions of lacrimal fluid.
    - Provision of oxygen and nutrients to the avascular corneal conjunctiva and drainage of water.
    - Washing away irritating materials e.g. dust.
    - Bacteriocidal enzyme lysozyme prevents microbial infection.
    - Its oiliness delays evaporation and prevents friction or drying of the conjunctiva.
53. Functions of cerumen (earwax)
    - **It is secreted by ceruminous glands and modified by sweat glands.**
    - Sticky substance that contains protective substances like bacteriocidal enzyme lysozyme and immunoglobulins.
    - Preventing foreign materials from reaching tympanic membrane by wax.
54. Functions of membrane proteins.
    - Some are involved in transport across the membrane.
    - Some are enzymes.
    - Acts as specific receptors (recognition sites) for hormones and other chemical messagers.
    - Branched carbohydrate molecules attached to the outside of some membrane protein molecules give the cell its immunological intentity.
55. The cytoskeleton of a cell.

- **Microfilaments –** it provides structural support, maintenance of characteristic shape and permit contraction.
- **Microtubules –** they are involved in movement of:-
  - Organelles within the cell.
  - Chromosomes during cell division.
  - Cell extremities.
- **Centrosome –** it directs organization of microtubules.
  - It is also involved in cell division.

56. Types of tissues.
    - Epithelial.
    - Muscle.
    - Nervous.
    - Connective.
57. Types and functions of epithelial tissue.

**Types:**

a. **Squamous (pavement) epithelium tissue:**
   - Found in:-
     - ✓ Endocardium of the heart muscle.
     - ✓ Alveoli of lungs.
     - ✓ Collecting ducts of the nephrones (lining layers)

b. **Cuboidal epithelium tissue:**
   - Found in:-
     - ✓ Kidney tubules.

c. **Columnar epithelial tissue:**
   - Found in:-
     - ✓ Lining of the stomach and small intestines

**Functions:**
- Absorption.
- Protection.
- Secretion.

58. Functions of nutrients in the body.
    - Provision of fuel for energy production.
    - Maintenance of water balance within the body.
    - Provision of building blocks for synthesis of large and complex molecules needed by body.
59. Functions of electrolytes.
    - Acts as buffers to resist pH changes in the body fluids.
    - Electricity conduction essential for muscle and nerve function.
    - Exert osmotic pressure keeping body fluids in their own compartments.
60. Functions of sugars.
    - Forming integral part of the structure of DNA and RNA.
    - Providing a ready source of energy to fuel cell metabolism.
    - Providing a form of energy storage i.e. glucagon.
    - Acting as receptors to recognize other molecules and cells.
61. Biologically active proteins include.
    - Hormones.
    - Enzymes.
    - Antibodies.

- Carrier molecules (haemoglobin).

62. Important groups of lipids.
    - Phospholipids – integral to cell membrane structure.
    - Fat-soluble vitamins i.e. A, D, E, K.
    - Fats (Triglycerides) for:-
        - Energy source.
        - Insulating the body.
        - Protection of internal organs.
    - Prostaglandings – responsible for inflammation.
    - Steroids e.g. gonads.
63. Constituents of blood plasma.
    - Plasma proteins – responsible for osmotic pressure i.e. albumins.
    - Inorganic salts (electrolytes).
    - Waste products.
    - Gases (oxygen).
    - Nutrients.
    - Hormones.
64. Function of globulins.
    - Inhibition of some proteolytic enzymes.
    - Antibodies (immunoglobulins) play part in immunity.
    - Transportation of some hormones and mineral salts.
65. Constituents of bones.
    - Water (25%).
    - Organic constituents including **osteoid** and **bone cells.**
    - Inorganic constituents mainly calcium phosphate (50%).
66. Characteristics of a synovial joint.
    - Articular or hyaline cartilage.
    - Capsule/capsular ligar.
    - Synovial membrane.
    - Synovial fluid.
    - Nerve and blood supply.
    - Movement at synovial joints.
    - Extracapsular structures.
    - Intracapsular structure.
67. Types of synovial joint.
    - Ball and socket joints.
    - Hinge joints.
    - Gliding joints.
    - Pivot joints.
    - Saddle joints.
    - Condyloid joint.
68. Main types of synovial joints of the limbs.
    - Shoulder joint.
    - Elbow joint.
    - Ankle joint.
    - Knee joint.
    - Proximal and distal radioulnar joint.

- ❖ Wrist joint.
- ❖ Hip joint.
- ❖ Joints of the foot and toes.

69. Action of skeleton muscle.
    - In order to move a body part, the muscle or its tendons must stretch across at least one joint.
    - When it contracts, the muscle then pulls one bone towards another.
    - Many muscles/muscle groups of the body are arranged so that their actions oppose one another.
70. Factors affecting skeletal muscle performance.
    - ❖ Skeletal muscle performs better when it is regularly exercised.
    - ❖ Training improves endurance and power.
    - ❖ Weight lifting increases muscle bulk because it increases the size of individual fibres within the muscle (hypertrophy).
    - ❖ Aging reduces the size of muscle fibres as well as their endurance and strength.
71. List the cranial nerves in order.
    - I. Olfactory – sensory.
    - II. Optic – sensory.
    - III. Oculomotor – motor.
    - IV. Trochlear – motor.
    - V. Trigeminal – mixed.
    - VI. Abducent – motor.
    - VII. Facial – mixed.
    - VIII. Vestibulocochlear.
    - IX. Glossopharyngeal.
    - X. Vagus.
    - XI. Accessory.
    - XII. Hypoglossol.
72. The water-based medium of the body is:-
    - ❖ Internal environment.
73. The body temperature is a physiological variable:-
    - ❖ The negative feedback mechanism.
74. The mechanism that facilitate body cells to receive nutrients and oxygen:-
    - ❖ The blood and circulatory system.
75. Homeostasis can be defined as:-
    - ❖ A dynamic and ever-changing state of the body which is kept within narrow limits.
76. The term used for sum total of the body's chemical activity is:-
    - ❖ Metabolism.
77. A chemical substance consisting of the same type of atom is:-
    - ❖ Element.
78. A waste product which dissolves in body fluid to make it acidic to maintain the body's pH within normal body range is:-
    - ❖ Carbon dioxide.
79. An example of the body's non-specific defense mechanism is:-
    - ❖ The skin.
80. The study of body structure and its physical relationship of body systems is:-
    - ❖ Anatomy.

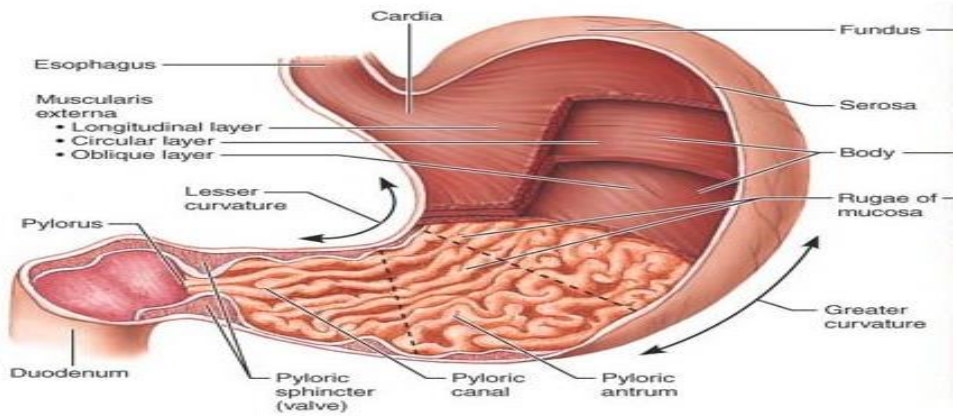
81. A substance that maintain normal body pH by preventing dramatic changes in blood value is:-
    - Buffer.
82. The measure of the acidity of a solution is determined by:-
    - Hydrogen ions.
83. Substances that cross semi-permeable membrane down its concentration gradient without use of energy, the process involved is:-
    - Passive transport.
84. Complex carbohydrates that form important biological molecules are:-
    - Polysaccharides.
85. Groups of tissues found covering body lining cavities and hollow organs and tubes are:-
    - Epithelial tissues.
86. The largest cavity in the body that is oval in shape is:-
    - Abdominal cavity.
87. Red blood cells develop from:-
    - Pluripotent stem cells.
88. The exchange of nutrients and gases take place at:-
    - Capillary bed.
89. Lymphatic duct that drains lymph from the right half of the thorae, head, neck and right arm is:-
    - Right lymphatic duct.
90. Transmission of the nerve impulses during action potential occurs due to:-
    - Movement of ions across the nerve cell membrane.
91. Sympathetic nerve fibres have axons of cells in:-
    - White mater.
92. State the properties of the neurons.
    - Irritability/excitability.
    - Conductivity.
93. List six main arteries which form the cirulus arteriosus.
    - Basilar artery.
    - Internal carotid artery.
    - Anterior communicating artery.
    - Posterior communicating artery.
    - Anterior cerebral arteries.
    - Posterior cerebral arteries.
94. State the three distinct parts of the human ear.
    - Outer ear.
    - Middle ear.
    - Inner ear.
95. State the three types of nerves.
    - Sensory or afferent nerves.
    - Motor or efferent nerves.
    - Mixed nerves.
96. Explain the three functions of the cerebral cortex.
    - Mental activities like thinking and reasoning.
    - Sensory perception like pain and temperature.
    - Initiation and control of skeletal muscle contraction and voluntary movement.
97. Explain the four functions of the cerebro-spinal fluid (CSF).
    - Supports and protects the brain and spinal maintain uniform pressure.

- ❖ Cushioning or shock absorber between the brain and the skull.
- ❖ Keeps brain and spinal cord moist hence exchange of nutrients and waste products between CSF and cells.

98. State the composition of blood plasma.
    - ❖ Plasma proteins.
    - ❖ Inorganic compounds.
    - ❖ Gases (oxygen).
    - ❖ Nutrients.
    - ❖ Waste materials (urea)

## REVIEW OF THE ANATOMY AND PHYSIOLOGY OF THE ALIMENTARY CANAL:

1. With an aid of well labeled diagram, explain the functions of the stomach (10 marks)



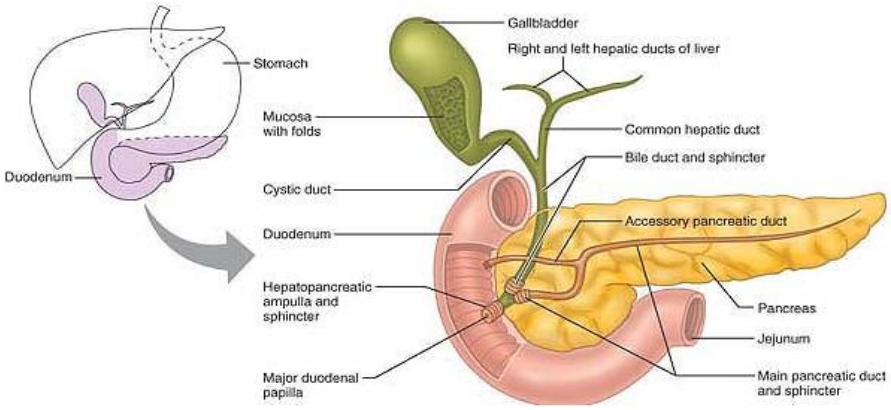

**Functions:**

- It's a temporary storage of food allowing time for pepsin activity
- Chemical digestion- in the stomach proteins are converted to polypeptides by pepsin.
- Mechanical digestion - through churning of food ensures thorough mixing with gastric juice and liquefaction to make chyme.
- Limited absorption of water, alcohol and some drugs.
- Provides non -specific defense against microbes by the presence of HCL and vomiting.
- Within the stomach iron is dissolved from food ready for absorption in the small intestines.
- It produces and secretes intrinsic factor needed for vitamin $_{12}$ absorption
- Secretes the hormone gastrin.

2. List at least 5 structures associated with small intestines (2.5 marks)
    - Ascending colon.

- Descending colon.
- Transverse colon.
- Sigmoid colon.
- Caecum.

3. State the functions of the structures that make up the small intestine (5 marks)
    - Onward movement of its contents by peristalsis.
    - Secretion of intestinal juice.
    - Secretion of the hormones CCK and secretin.
    - Absorption of nutrients.
    - Protection against infection.
    - Completion of chemical digestion of carbohydrates, proteins and fats in enterocytes of villi.
4. Explain the process of digestion in the small intestine (5 marks)
5. List 4 functions of large intestines (2 marks)
    - Defaecation.
    - Absorption of water, mineral salts and some drugs.
    - Mass movement.
    - Microbial activity.
6. Draw a well labeled diagram of the pancreas in relation to the duodenum and biliary tract




(5mks)

7. List 10 functions of the liver (5 marks)
    - Metabolism of fats.
    - Detoxification of drugs and toxic substances.
    - Carbohydrate metabolism.
    - Protein metabolism.
    - Breakdown of erythrocytes and defense against microbes.
    - Production of heat through metabolism.
    - Storage of: - iron, copper, vitamins (A,D,E,K), glycogen.
    - Secretion of bile.
    - Inactivation of hormones e.g. insulin, glucagon.

8. Explain the physiology of the gall bladder (3 marks)
    - Release of stored bile.
    - Reservoir for bile.

- Concentration of bile.

9. List 5 components of bile (2.5 marks)
    - Water.
    - Mucus.
    - Bile salts.
    - Bile pigments.
    - Mineral salts.
    - Cholesterol.

**BASIC NURSING PROCEDURES**

**PART I: MCQ's**

1. The following statement is true about admission of a patient in the ward:
    a) Admission to hospital is not a stressful event like other procedures.
    b) The condition of the patient will determine the extent of the admission procedure.
    c) Clients past experience in the hospital is not relevant.
    d) Nurses may not play a key role in coordinating case from admission through discharge.
2. The following are observations noted on stool specimen:
    a) Color, smell, acetone
    b) Deposits, color, urea
    c) Color, smell, deposits
    d) Reaction, color, uric acid
3. The best time to collect a sputum specimen is:
    a) Early in the morning
    b) Late in the evening
    c) After breakfast
    d) Before breakfast
4. After removing a urinal from a patient, routinely one should:
    a) Warm it, empty, sterile and clean
    b) Observe urine, empty, disinfect, clean
    c) Measure urine, record in patients records and give report
    d) Keep it under the bed, let patent use it till it's full
5. The following is the procedure in collection of a 24hour urine specimen:
    a) Give the patient a big urine container; instruct him to put all urine passed from midnight to midnight the following day.
    b) Give the patient a big urine container; ask him to put all the urine passed from 6am to 6am the following day.
    c) Give the patient a big urine container, ask him to pass urine at 6am and discard it, then collect all the urine passed up to 6am the following day.
    d) Give the patient a big urine container, ask him to pass urine at 6am and discard it, then collect all the urine passed up to 6am the following day and discard.
6. The following should be observed when making an occupied bed:
    a) Open nearby windows.
    b) Remove all linen.
    c) Keep the dirty linen on the floors.
    d) Keep the patient covered always.
7. The liver is palpated on the:
    a) Left hypochondriac region

b) Epigastric region.
c) Right hypochondriac region.
d) Hypogastric region

8. A patient has been taking medicines for high blood pressure before admission, his information is recorded as part of:
   a) Present medical history
   b) Past medical history
   c) Family history
   d) Surgical history

PART II:

a. List four indications of admitting a patient in to hospital.
   - Monitor progress.
   - Pre-operative.
   - Post-operative.
   - Safe environment.
   - Treatment.

b. State the five steps involved in making a diagnosis:
   - Demographic data-involves name, age, sex, tribe, hospital number of the patient/client.
   - Subjective data-deals with reasons for consultation.
   - Objective data-obtained through P/E.
   - Assessment-diagnosis
   - Plan-treatment and review clinics.

c. List two indications for giving bedpans and urinals:
   - Seriously sick patients unable to walk confined in bed.
   - During urine collection for testing.

d. List three specific instructions given to a patient to collect a midstream urine specimen:
   - Initial urine should be discarded.
   - Midstream urine collected.
   - Last stream should be discarded.

e. State three methods used in P/E
   - Inspection-observation
   - Auscultation-vibrations of movements of organs by use of e.g. stethoscope.
   - Palpation-use of fingers to examine

**KMTC / QP-08/TIS**
**KENYA MEDICAL TRAINING COLLEGE –**
**NURSING CLASS**
**BASIC NURSING PROCEDURES**
**END- SEMESTER EXAMS**

**MULTIPLE CHOICE QUESTIONS (MCQs)**

1. Which of the following complications is most likely to occur 2-4 hours post operatively?
   a. Wound infection, chest infection, aspiration.
   b. Chest infection, paralytic ileus, aspiration.
   c. Paralytic ileus, aspiration, bleeding.

   d. Aspiration, bleeding, wound infection.
2. In death rigor mortis occurs after?
   a. 48 hrs.
   b. 12 hrs.
   c. 2-6 hrs.
   d. 30 minutes.
3. Pre-operative period is defined as?
   a. Time before, during and after an operation.
   b. It begins when the patient is admitted in the ward and ends when the patient is discharged home.
   c. Time when the patient recovers from anesthesia.
   d. Time when the patient is prepared from operation.
4. The following is an advantage of verbal report.
   a. Removes error in identifying the patient reported on.
   b. Communicates to other team members giving care to patient e.g. doctors.
   c. During change of shift by the nursing staff.
   d. Given twice in a day in the morning and in the evening.
5. The three essential elements of effective hand washing include:
   a. Running water, disinfectant, and spirit.
   b. Friction, water in a basin, spirit.
   c. Friction, running water, soap.
   d. Soap, water in a basin, alcohol rubs.
6. When feeding a patient through nasogastric tube, the best position to place is:
   a. Flat on his back.
   b. On his left side.
   c. On his right side.
   d. In a low sitting position.

7. A technique in physical examination where sounds are elicited is:
   a. Palpation.
   b. Percussion.
   c. Auscultation.
   d. Impaction.
8. Reverse barrier nursing is aimed at:
   a. The patient is nursed in Lerner bed.
   b. Precautions are taken to protect the patient.
   c. Precautions are taken to protect the infected patient.
   d. The patient usually has a high infectious condition.

SECTION B:

1. List four types of therapeutic baths.
   - Cool water tub bath.
   - Warm water tub bath.
   - Hot water tub bath.
   - Sitz bath.
2. Giving indications, list six bed appliances.
   - Hot water bottle-keep the patient warm

- Bed cradle-protect injured parts from coming to contact with the bed cloths.
- Foot rest- to prevent foot drop
- A back rest/ bed rest-patient with difficulty in breathing
- Fracture board-provide support to painful back
- Side rails/cot rails-safety of patient from falling.

3. List five aspects used to assess if a dressing pack is sterile.
   - Check expiry date – takes 28 days after sterilization.
   - Check sterilizing tape.
   - Wetness.
   - Holes.
   - Protruding instruments.
   - Looseness of the pack.
4. State three steps in wound healing.
   - Inflammatory Phase
   - Proliferative Phase
   - Maturation Phase
5. List four nursing interventions used to prevent pressure soles development.
   - Changing positions often.
   - Using support surfaces.
   - Cleaning.
   - Controlling incontinence.
   - Removal of damaged tissue (debridement).
6. List four advantages of injections over oral drug administration.
   - Fast in action.
   - Intravenous is the fastest.
   - One is sure the drug has been given.
   - Small doses are more effective.
   - Some drugs are inactivated in the stomach.
   - Drugs which do not pass the blood brain barrier must be given intradhecally.
   - Impressive method for all.
7. List five rights of drug administration.
   - Right Drug.
   - Right Patient.
   - Right Time.
   - Right Route.
   - Right Dosage.

**KENYA MEDICAL TRAINING COLLEGE –**

END- SEMESTER EXAMS

BASIC NURSING PROCEDURES

**PART I: MCQ's**

1. Indications for admitting a patient:
   - ✓ Treatment
   - ✓ Monitor progress
   - ✓ Safe environment
   - ✓ Investigation

- ✓ Pre-operative
- ✓ Post-operative

2. Kinds of patients who will come to you in the ward for admission.
   - ✓ Amputated.
   - ✓ On a wheel chair.
3. What is Hx taking?
   - ✓ Information a patient presents to a health care provider.
4. Types of Hx obtained from a patient.
   - ✓ History of presenting illness.
   - ✓ Past medical hx.
   - ✓ Surgical hx.
   - ✓ Social hx.
   - ✓ Family hx.
   - ✓ Obstetric hx.
   - ✓ Economic hx.
   - ✓ Immunizations hx (pediatrics)
5. Differentiate between subjective and objective data.
   - ✓ Subjective Data: - deals with reasons for consultation (use patients own words).
   - ✓ Objective Data: - obtained through P/E.
6. Methods used in P/E.
   - ✓ Palpation-use of sense of touch.
   - ✓ Auscultation-use of stethoscope to listen to sounds.
   - ✓ Percussion- striking or tapping
   - ✓ Inspection-observation
7. Observation noted on stool specimen.
   - ✓ Shape.
   - ✓ Texture.
   - ✓ Smell.
   - ✓ Color.
   - ✓ Size.

8. Observations noted on urine specimen.
   - ✓ Color.
   - ✓ Smell.
   - ✓ Turbidity.
   - ✓ Specific gravity.
   - ✓ Deposits.
   - ✓ pH.
9. The removal of necrotic tissue from a decubitus is referred to as:
   - ✓ Debridement.
10. When giving a bed bath to a patient, always start with the:
    - ✓ Face.
11. The main purpose of writing ward report is to:
    - ✓ Ensure continuity of care.
12. The most effective method of infection prevention is:
    - ✓ Hand washing.
13. An intravenous fluid concentration is similar as plasma is:

- ✓ Hypotonic solution.

14. A technique in P/E where a stethoscope is used is:
    - ✓ Auscultation.
15. Maintenance of normal blood pressure depends on:
    - ✓ Cardiac output.
    - ✓ Venous return.
    - ✓ Peripheral resistance.
16. Which is the bed appliance used for patients with spinal cord fracture:
    - ✓ Fracture board.
17. Position indicated for enema administration:
    - ✓ Left lateral.
18. Pressure soles can be prevented by:
    - ✓ 2 hourly turning of the patient, pressure area care.
19. Personal hygiene for a patient confined in bed due to a fracture of the lower limbs can be maintained through:
    - ✓ Assisted bed bath.
20. During P/E, enlarged spleen will be detected on:
    - ✓ Left Hypochondriac region
21. A patient may be transferred when:-
    - ✓ The condition requires specialized care.
22. Reverse barriers nursing is practiced to:-
    - ✓ Protect susceptible individual from getting infection from other people.
23. The three essential elements of effective hand washing include use of:
    - ✓ Soap, running water, friction.
24. A chemical agent which is irritant to the skin and mucous membrane but is used to kill micro-organisms in object only is:
    - ✓ Disinfectant.
25. Definitions:-
    a) Pre – operative period: - period before patient is taken to operation section.
    b) Intra operative period: - period in which operation is being done on a patient.
    c) Post operative period: - period after procedure has been to a patient and is at the ward from operation section.
26. Roles of escort nurse:-
    - ✓ Continuity of nursing care while on the way.
    - ✓ Assess and give emergency care as required.
    - ✓ Offering psychological support.
    - ✓ Give adequate report when handling patient and documents over to receiving hospital.
    - ✓ Introduce the patient to other care providers of receiving hospital.
27. Indications of admitting a patient:-
    - ✓ Rx.
    - ✓ Pre – operative
    - ✓ Post operative.
    - ✓ Monitoring progress.
    - ✓ Safe environment.
28. List indications of bed making:
    - ✓ If the bed has been occupied the bed should be prepared once it's used.
    - ✓ In the morning before normal activities start.

- ✓ When the patient is admitted in the ward.
- ✓ When preparing the ward i.e. during cleanliness to ease movement.
- ✓ After discharging a patient.

29. Giving indications, list the types of beds made in hospital:

- ✓ Admission bed/ empty bed/ unoccupied bed
- ✓ Occupied bed- someone assigned to it
- ✓ Operation bed/ post-operating bed-
- ✓ Cradle bed/ amputation bed/ divided bed
- ✓ Fracture bed
- ✓ Cardiac bed

30. Giving uses, list bed appliances:

- ✓ Water proof material & a draw sheet
- ✓ Hot water bottle-keep the patient warm
- ✓ Bed cradle-protect injured parts from coming to contact with the bed cloths (burns).
- ✓ Bed blocks/ bed elevators – to raise head or foot of the patient and prevent patient from falling.
- ✓ A back rest/ bed rest-patient with difficulty in breathing
- ✓ Fracture board-provide support to painful back
- ✓ Side rails/cot rails-safety of patient from falling.
- ✓ Sand bags – immobilizes joint below the fracture.
- ✓ Airing/ form/ rubber ring (used to relief pressure)
- ✓ Bed table – used for patients taking food.
- ✓ Foot rest- to prevent foot drop
- ✓ Foot-boot
- ✓ Electric blanket-extra warmth
- ✓ Extra pillows-extra comfort
- ✓ Bed side table/ a locker- used to store patients food
- ✓ Over head trapeze – regulates movement.
- ✓ Egg create mattress – to prevent pressure sores.
- ✓ Heel/ elbow ring- to relief pressure

31. List specific indications for any positions used in nursing:-
    - ✓ Dorsal recumbent – vaginal examinations.
    - ✓ Trendelenburg's – postural drainage and promote venous drainage.
    - ✓ Knee-chest – rectal procedure/examination.
    - ✓ Supine – spine surgery and spine anesthesia.
    - ✓ Fowler's – breathing problems and cardiac output problems.
32. State specific instructions given to a patient on 24 hour urine specimen collection:
    - ✓ Void the initial urine into toilet.
    - ✓ All subsequent urine collected to be passed to urine jug before emptying to specimen bottle.
    - ✓ Last urine after 24 hours should be collected.
    - ✓ Label and send urine specimen to lab within 15-20 minutes of collection.
33. Differentiate between barrier and reverse barrier nursing:

34. State four consequences of Hospital Acquired Infections:
35. List factors influencing wound healing:

- ✓ Developmental consideration.
- ✓ Nutrition.
- ✓ Lifestyle.
- ✓ Medication.
- ✓ Adequate rest.
- ✓ Infection.
- ✓ Smoking.

36. Importance of infection prevention:-
    - ✓ Reduce period of stay in the hospital.
    - ✓ Reduce the cost due to extended hospitalization.
    - ✓ Prevent sepsis on wounds.
37. Abnormalities noted on stool specimen:-
    - ✓ Texture.
    - ✓ Smell.
    - ✓ Shape.
    - ✓ Deposits.
    - ✓ Size.
38. Methods of lowering temperature:-
    - ✓ Exposure.
    - ✓ Giving cold drinks.
    - ✓ Fanning.
    - ✓ Antipyretics.
    - ✓ Opening nearby windows and doors.
39. Sites of checking pulse rate:-
    - ✓ Temporal.
    - ✓ Facial.
    - ✓ Carotid artery.
    - ✓ Radial artery.
    - ✓ Femoral artery.
    - ✓ Fontanels.
    - ✓ Apex beat
    - ✓ Post tibial artery.
40. Bed appliances:-
    - ✓ Egg crate mattress – prevent pressure sores.
    - ✓ Hot water bottle – provide warmth to patient.
    - ✓ Electric blanket – extra warmth.
    - ✓ Extra pillows
    - ✓ Fracture board.
    - ✓ Bed side table
    - ✓ Bed table
41. Stages of dying process according to Ross Kubler:
    - ✓ Denial: patient appears dazed and refuses to believe the Dx.
    - ✓ Anger: patient becomes frustrated, irritable and angry that he/she is sick and going to die.
    - ✓ Bargaining: patient may attempt to negotiate with physicians, friends or even God in return for cure.
    - ✓ Depression: patient shows withdrawal, sleep disturbances, hopelessness and possible suicidal ideation. May be due to effects of illness or anticipation of approaching death.

- ✓ Acceptance: patient realizes death is inevitable and accepts the universality of the experience.

42. Observations carried out on a patient immediately on being received back from a major operation:-
    - ✓ Temperature.
    - ✓ Pulse rate.
    - ✓ Blood pressure.
    - ✓ Level of response.

END OF SEMESTER ONE EXAMS
THE NURSING PROCESS (PAPER)

**PART I: MCQ's**

1. Which of the following is a priority nursing diagnosis:-
   a) Health promotion diagnosis.
   b) Wellness diagnosis.
   c) Risk diagnosis.
   d) Actual diagnosis.
2. Signs and symptoms are likely to the etiology by the phrase:-
   a) ``Related to''
   b) ``Secondary to''
   c) ``As evidenced by"
   d) ``Primary to"
3. Emergency assessment:-
   a) Collects data about a problem that has already been identified.
   b) Performance to identify a life threatening problem (choking, stab wound, heart attack).
   c) Initial assessment on first contact with a client or on admission.
   d) Screening for a specific problem.
4. Represents a problem that has been validated by presence of a defining characteristics (signs and symptoms):-
   a) Medical diagnosis.
   b) Risk diagnosis.
   c) Actual diagnosis.
   d) Maslow's needs.
5. Activities in the planning phase of the nursing process:-
   a) Reassess client, prioritize problem, and collect data, nursing interventions.
   b) Data collection, prioritize problem, organize data, and formulate goals.
   c) Prioritize problem, formulate goals, state nursing interventions, write nursing interventions.
   d) Reassess client prioritize problem, organize data, nursing intervention.
6. Activities in the assessment phase of the nursing process:-
   a) Compare data, reassess client, determine nursing interventions, and formulate diagnosis.
   b) Reassess client, prioritize problem, organize data, and formulate goals.
   c) Reassess client, collect data, and formulate goals, nursing interventions.
   d) Data collection, organizing data, validating data, documenting data.
7. An objective behavior or response you expect the client to achieve in a long period of time possibly over several days, weeks or months:-
   a) Short term.
   b) Long term.

c) Lapsed time.
d) Emergency time.

8. What is the evaluation phase of the nursing process:-
   a) Compare the client's response in relation to set goals/desired outcome.
   b) Implements the nursing interventions.
   c) Identifies health problems.
   d) Validates data collected.
9. 
   e) How do you formulate a risk diagnosis? /what does a risk diagnosis consist of. A risk nursing diagnosis consists of 3 parts/components false.
   f) Implementing interventions include: personal skills in communication and therapeutic interactions false.
10. 
   a) Emergency assessments → collect data about a problem that has already been identified false.
   b) Secondary sources of data → information collected are obtained from patient only false.

**PART II: SAQ's**

1. Define the following terms:-
   *a.* The nursing process – It is a systematic, rational, scientific method of planning and providing individualize care to the patient, a family or a community at large
   *b.* The nursing diagnosis – It is a clinical judgment about a client's individual, family community response to actual and potential health problems that a nurse can order nursing interventions to reduce, eliminate or prevent.
   c. The nursing care plan – A written or computerized guide that organizes information about the patient's/ client's care, it provides continuity of care.
   d. A goal/expected outcome.
   e. Documentation. **(5mks)**
2. Explain the components of the nursing diagnosis. **(3mks)**
3. Differentiate between the nursing process and the medical process. **(3mks)**
4. Outline three (3) benefits of the nursing process (NANDA). **(3mks)**
5. Explain on how to collect object data during assessment phase of the nursing process. **(5mks)**
6. Briefly explain three (3) characteristics of the nursing process.**(3mks)**
7. Outline three (3) types of assessment in the assessment phase of the nursing process. **(3mks)**

**PART III: ESSAY/LAQ**

1. Discuss the five (5) steps/phases of the nursing diagnosis **(20mks)**

**KENYA MEDICAL TRAINING COLLEGE –**

NURSING PROCESS

**QUESTIONS:**

1. Define the following terms:
   a) Nursing process:-**it is a rational and systematic method of planning and providing individualized quality nursing care to an individual, family or society.**
   **b)** Assessment phase of the nursing process: - **systematic and continuous data collection.**
   c) Nursing diagnosis: - **clinical judgment about individual, family or community responses to actual or potential health problems.**
2. Outline characteristics of the Nursing process:
   ⇒ Cyclic and dynamic.
   ⇒ Client's centered.
   ⇒ Universally acceptable.
   ⇒ Interpersonal and collaborative.
   ⇒ Humanistic.
   ⇒ Permits creativity, critical thinking and rational decision making.
3. Explain benefits of the Nursing process:
   ⇒ Individualized care.
   ⇒ Increases client's participation.
   ⇒ Stresses the independent function of a nurse.
   ⇒ Provides an orderly and systemic method of planning and providing care.
   ⇒ Facilitates documentation of care.
   ⇒ Continuity of care and prevention of duplication of services.
   ⇒ Provides a unity of language for nursing profession.
4. List phases of the Nursing process:
   ⇒ Assessment.
   ⇒ Diagnosis.
   ⇒ Planning.
   ⇒ Implementation.
   ⇒ Evaluation.
5. List types of assessment done to clients during the assessment phase of the nursing process.
   ⇒ Comprehensive assessment.
   ⇒ Problem – focused/Episodic assessment.
   ⇒ Time lapsed re – assessment.
   ⇒ Emergency assessment.
6. List types of **NANDA** nursing diagnosis:
   ⇒ Actual.
   ⇒ Risk/potential.
   ⇒ Possible.
   ⇒ Syndrome.
   ⇒ Wellness.
7. Briefly explain the components of the nursing diagnosis:
   ⇒ Problem statement/diagnosis.
   ⇒ Etiology.

⇒ Defining characteristics.

8. List the activities in the planning phase of the nursing process:
   - ⇒ Set priorities.
   - ⇒ Establish goals and desired outcomes.
   - ⇒ Set individualized nursing intervention.
   - ⇒ Write individualized nursing intervention in NCP.

**Scenario:**

Brenda sixteen (16) years old is brought to your medical ward with Hx of diarrhea and vomiting, headache, hotness of the body and general body weakness. O/E, her temperature is 40.8°c, she verbalizes severe headache, her skin pinch goes back very slowly (poor skin turgor) and she is very weak, so passing stool and urine in bed.

9. Read the scenario and formulate five nursing diagnoses for this patient:
   - ⇒ Fluid volume deficit related to GI infection as evidenced by Diarrhea.
   - ⇒ Electrolyte imbalance related to loss of fluids as evidenced by irritability.
   - ⇒ Acute pain related to infections as evidenced by patient verbalizing.
   - ⇒ Anxiety related to state of illness as evidenced by patient asking many questions.
   - ⇒ Impaired thermoregulation related to infection as evidenced by temperature at 40.8°c.
   - ⇒ Risk of impaired skin integrity related to immobility.
10. State the unique function of a nurse according to Virginia Henderson:
    - ⇒ It is to assist individuals sick or well in the performance of the activities contributing to health recovery or peaceful deaths that he/she could perform unaided if he/she had necessary will and knowledge and to do this in such a way as to hope gain independent rapidly as possible.
11. State two classifications of a nursing Dx:
    - ⇒ Actual diagnosis.
    - ⇒ Potential diagnosis.
12. State five benefits of using N.P in patients care:
    - ⇒ Individualized care.
    - ⇒ Increases client's participation.
    - ⇒ It stresses the unique function of a nurse.
    - ⇒ It enhances continuity of care and prevents duplication of services.
    - ⇒ It enhances documentation of care.
    - ⇒ Provides orderly and systematic method of planning and providing care.
13. State three components of using Dx according to NANDA:
    - ⇒ Problem statement.
    - ⇒ Etiology.
    - ⇒ Defining characteristics.
14. State four types of patient assessment:
    - ⇒ Comprehensive assessment.
    - ⇒ Problem focused/episodic.
    - ⇒ Time lapsed re-assessment.
    - ⇒ Emergency assessment.
15. Define N.P according to Virginia Henderson:
    - ⇒ It is a systematic rational method of planning and providing individualized quality nursing care to a patient, family or community.
16. State four characteristics of N.P:

⇒ Client centered.
⇒ Cyclic and dynamic.
⇒ Humanistic.
⇒ Universally applicable.
⇒ Interpersonal and collaborative.
⇒ All phases are collaborative.
⇒ Permits creativity, critical thinking and rational decision making.

17. State three differences between Nursing and Medical Process:

| Nursing process | Medical process |
|---|---|
| **Identifies situation the nurse is licensed and qualified to Rx** | Identifies the situation the medical doctor is licensed and qualified to Rx |
| **Focuses on client's responses to actual or potential health problem.** | Focuses on illness, injuries and disease process. |
| **Changes as the client responds and/or health problem changes.** | Remains constant until the cure is effected. |

18. State four activities in Assessment data:
⇒ Data collection.
⇒ Organization of data.
⇒ Validating data.
⇒ Documentation/record.
19. State five types of Nursing Dx:
⇒ Actual.
⇒ Potential.
⇒ Possible.
⇒ Syndrome.
⇒ Wellness.
20. State three categories of patient classification and three benefits:

**Category A**

- Very sick patients who need maximum care
- Nursed near nursing station and nursed by the experienced and most skilled

**Category B**

- They are partial compensatory
- They need less close monitory
- They are out danger
- Need supportive care and can conduct their daily activities on their own

**Category C**

- They are out of danger patients who are either discharged to go home or they are awaiting elective surgery.
- They need support, health education and psychotherapy.

**Benefits of patient's classification:**

- It maximizes use of nursing staff and nursing competences.
- It minimizes danger patients may be exposed to.
- It makes staff accountable for the action.
- It reduces error margins.

21. The most important and widely acceptable reason for using nursing process is:
22. When reading the nursing goals/outcomes for client, the nurse should:
23. Define nursing care plan and describe the components of the nursing care plan:
24. State the initial components of in compressive assessment which leads to problem identification in a patient:

**KENYA MEDICAL TRAINING COLLEGE –**
PROFESSIONALISM

**PART I – MCQ's**

1. According to nursing code of ethics, when working as a nurse and a conflict comes up between your client's needs and what the family or physician wants, your first loyalty is to the:-
   a) Hospital.
   b) Client.
   c) Family.
   d) Physician.

2. You are attending an elderly patient who refuses vitamin B injection ordered by the physician but the family insists that this injection must be given and you give it while client is objecting. The client contacts a lawyer, from your knowledge of nursing and the law, you realize that you:-
   a) Did the right thing because the client improved.
   b) Should have the family put their request in writing.
   c) Have committed an assault against the client.
   d) Have committed an act of battery against the client.
3. When a nurse is tried under criminal law the nurse is being brought to trial by:-
   a) Society as a whole.
   b) An organization.
   c) An individual.
   d) The plaintiff's lawyer.
4. When a nurse is checking the physician's order against medication prior to setting up medication record prior to setting up medications that nurse discovers a medication errors made on the previous shift. The nurse reports this error to the supervising nurse. Which of the following persons will need to fill out an incident report?
   a) The nurse who discovered the error.
   b) The nurse who committed the medication error the previous shift.
   c) Supervising nurse who is in-charge of the nursing care unit.
   d) Primary nurse assigned to the client the previous day.
5. When working as a nurse, you determine that a patient scheduled for surgery does not understand the physician's earlier explanation of the surgery. The client is asking many questions about risks and seems worried. Which of the following actions would be best on your part?
   a) Quickly explain the surgery procedure and the risks to the client.
   b) Ask your supervisor to explain the surgery procedure and its risks.
   c) Notify the physician.
   d) Cancel the surgery.

**PART II – SAQ's**

1. Define Professionalism:
   ⇒ It is adherence to a set of values comprising statute laws of professional creations and formerly agreed codes of conduct which inform the expectations of patients and team mates.
2. Define a professional nurse:
   ⇒ It is an individual who has successfully undergone a prescribed training program, has passed a licensing examinations and is registered by the nursing regulatory body i.e. NCK
3. State six characteristics of a professional nurse:
   ⇒ Displays high standards of profession and integrity.
   ⇒ Have inner resources he can come for renewal of fate and encouragement when weary and discouragement.
   ⇒ Dealing competently with crisis situation.
   ⇒ Providing holistic care to patients and relatives.
   ⇒ Proud of the profession and considers it to be at bar like other professions.

⇒ Seeks competently to improve on his/her skills through continuing education and research.

4. Outline six roles of KRCHN:
   - ⇒ Counselor.
   - ⇒ Entrepreneur.
   - ⇒ Change – agent.
   - ⇒ Educator.
   - ⇒ Care provider.
   - ⇒ Clients' advocate.
   - ⇒ Researcher.
5. State six universal goals of nursing:
   - ⇒ Research.
   - ⇒ Promotion of health.
   - ⇒ Prevention of illness.
   - ⇒ Promoting safe working environment.
   - ⇒ Health systems Mnx.
   - ⇒ Care of sick.
   - ⇒ Education to patients and families.
6. State the roles of a nurse in achieving the 14 basic needs of a patient:
   - ⇒ Supplementary role.
   - ⇒ Complimentary role.
   - ⇒ Substitutive role.
7. State the unique function of a nurse according to Virginia Henderson.
   - ⇒ It is to assist the individuals, sick or well in the performance of these activities contributing to health recovery or peaceful deaths that he/she could perform unaided if he/she had necessary will, strength and knowledge and to do this in such a way as to hope gain independently rapidly as possible.
8. Outline the ethical principles in Nursing.
   - ⇒ Non – maleficence-nurse avoids negative acts against the clients/patients.
   - ⇒ Beneficence – give proper services for the self interest.
   - ⇒ Veracity – faithful to one's duty.
   - ⇒ Fidelity – maintain integrity of clients.
   - ⇒ Justice – provision of services equally with no discrimination.
9. State benefits of nursing professional organizations to its members.
   - ⇒ Update nursing with knowledge, attitude and skills for improvement.
   - ⇒ Form link with other organizations.
   - ⇒ Advocate on welfare issues.
10. State nurse's bills of rights.
    - ⇒ Compensation.
    - ⇒ Supplies.
    - ⇒ Promotion and career development.
    - ⇒ Continued learning.
    - ⇒ Risk allowance.
    - ⇒ Safe working environment.
    - ⇒ Autonomy/independence.

11. State functions of Nursing Council of Kenya.
    - ⇒ Indexes student nurses aspiring to be nurses.
    - ⇒ Make provision for training, registration and enrolling of nurses.
    - ⇒ Advising the minister on matters concerning nursing.
    - ⇒ Describing badges, uniform by persons to be registered.
    - ⇒ Sets and marks exams for those ready to be nurses.
    - ⇒ Disciplines nurses for omissions and malpractice.
12. Outline the customer's obligations as displayed in the Nursing charter.
    - ⇒ Care for personal hospital records and produce them when they are requested.
    - ⇒ Be considerable to other patients and ensure minimal noise.
    - ⇒ Follow nurses' appointment dates.
    - ⇒ Engage in a positive health seeking behavior and lifestyle.
13. Nursing is a service to humanity:
    a) Describe the 14 fundamentals of human beings.
    - ⇒ Breathing normally.
    - ⇒ Eating and drinking adequately.
    - ⇒ Eliminating body waste.
    - ⇒ Sleeping and resting.
    - ⇒ Moving and maintaining a desirable posture.
    - ⇒ Selecting desirable clothing.
    - ⇒ Maintaining body temperature.
    - ⇒ Keeping body clean.
    - ⇒ Avoiding dangers in the environment both physical and psychological.
    - ⇒ Communicating with others in expressing emotions, needs, fears and opinions.
    - ⇒ Worshipping according to one's faith.
    - ⇒ Working in such a way that they feel a sense of accomplishment.
    - ⇒ Playing and participating in various forms of recreation.
    - ⇒ Running, discover or satisfy the curiosity that leads to normal development and health using available resources.

    b) Outline nurses bills of rights.
    - ⇒ Compensation.
    - ⇒ Supplies.
    - ⇒ Promotion and career development.
    - ⇒ Continued learning.
    - ⇒ Risk allowance.
    - ⇒ Safe working environment.
    - ⇒ Autonomy/independence.

    c) State functions of NCK
    - ⇒ Indexes student nurses aspiring to be nurses.
    - ⇒ Make provision for training, registration and enrolling of nurses.
    - ⇒ Advising the minister on matters concerning nursing.
    - ⇒ Describing badges, uniform by persons to be registered.
    - ⇒ Sets and marks exams for those ready to be nurses.
    - ⇒ Disciplines nurses for omissions and malpractice.

**PART III – LAQ's**

The Goal of nursing is to provide high quality nursing services to patients/clients:

a) Describe the customers' bills of rights.
   - ⇒ Right to access care.
   - ⇒ Right to quality nursing practice.
   - ⇒ Right to informed consent.
   - ⇒ Right to information concerning disease, Rx and care.
   - ⇒ Right for privacy and confidentiality.
   - ⇒ Right to be treated with respect and dignity.
   - ⇒ Right for safety and healing environment.
   - ⇒ Right to refuse recommended plan of care and Rx.
   - ⇒ Right to be involved in planning care and Rx.
   - ⇒ Right to high quality care without discrimination.

b) Outline five elements of an informed consent.

c) State five roles/responsibilities of a Kenya Registered Community Health Nurse (KRCHN)
   - ⇒ Entrepreneur.
   - ⇒ Researcher.
   - ⇒ Care provider to patients.
   - ⇒ Educator.
   - ⇒ Change-agent.
   - ⇒ Client's advocate.
   - ⇒ Manager of health services.

**SEMESTER ONE**

**PREGNANCY**

PART I: MCQ's

1. The pelvis forms a bony canal through the fetus must pass during delivery. It is individual into two parts, namely:
   a. The bony and oval pelvis.
   b. The false and true pelvis.
   c. The false and bony pelvis.
   d. The true and triangular pelvis.
2. Which is the flared outer part of the pelvis:
   a. The ischium.
   b. The coccyx.
   c. The ischial spine.
   d. The ilium.
3. The bones which forms the innominate bones are:
   a. Ilium, ilias, ischium.
   b. Pubis, iliac, ischium.
   c. Pubis, ischial, iliac.
   d. Ilium, ischium, pubis.
4. Which are the ligaments that are between the sacrum and the ilium:
   a. Interpubic ligaments.

   b. Sacro-tuberous ligaments.
   c. Sacro-iliac ligaments.
   d. Sacro-spinous ligaments.

5. When measuring diameters, the measurements from the sacral promontory to a point 1.25cm down the posterior surface of symphysis pubis is known as:
   a. Anatomical conjugate.
   b. Obstetrical conjugate.
   c. Diagonal conjugate.
   d. Oblique conjugate.
6. The longest diameter of the pelvis outlet is:
   a. Antero-posterior.
   b. Transverse.
   c. Oblique.
   d. Intertuberous.
7. Ovulation is triggered by:
   a. Follicle stimulating hormone.
   b. A mid-cycle surge of inteinilizing hormone.
   c. Hormone from the follicular cells.
   d. Hormones from the theca-intima.
8. Which hormone is detected in a pregnancy test:
   a. Estrogen.
   b. Human chorionic gonadotrophin.
   c. Progesterone.
   d. Testosterone.
9. A full term gravid uterus increases 10 times non – gravid uterus to measure:
   a. 7.5x5x2.5cm.
   b. 30x20x23cm.
   c. 30x23x20cm.
   d. 30x25x20cm.
10. The acidic state of the vagina at a pH of mainly to:
   a. Promote the flow of spermatozoa.
   b. Enhance sexual enjoyment.
   c. Inhibit growth of microbes.
   d. Promote the growth of microbes like the lactobacilli.
11. The placenta is fully functional as from:
   a. 8-12weeks.
   b. 12-16weeks.
   c. 12-14weeks.
   d. 6-8weeks.
12. The normal head circumference of a newborn measures:
   a. 40-45cm.
   b. 30-35cm.
   c. 33-37cm.
   d. 32-38cm.
13. First physical examination of a newborn is done to:
   a. Rule out abnormalities, estimate weight, and rule out birth injuries.
   b. Rule out abnormality, estimate maturity, assess its health.

c. Rule out abnormality, estimate maturity, and rule out birth injuries.
d. Assess the completeness of the placenta, determine maturity, and assess the health status of the placenta.

14. Moulding is defined as:
    a. Alteration of skull bone due to obstructed labor.
    b. Overlapping of the fetal sutures during labor.
    c. Swelling of the fetal skull due to obstructed labor.
    d. Overriding of the skull bones due to obstructed labor.
15. Which one of the following investigations confirms lung maturity during pregnancy:
    a. Surfactant factor.
    b. Lecithin spineomyelin.
    c. Chest x-ray.
    d. Glucoronyl transferase.
16. When a baby is left in wet clothing it loses heat by:
    a. Radiation.
    b. Conduction.
    c. Convention.
    d. Evaporation.

17. The care of the baby following delivery of the head (crowning) is:
    a. Check the cord round the neck, clear this airway.
    b. Clear the airway; check the cord round the neck.
    c. Check the cord round the neck, score the baby.
    d. Score the baby; check the cord round the neck.
18. Which of the following appears soon after birth:
    a. Cephalohematoama.
    b. Caput succedenum.
    c. Spinal bifida.
    d. Meningomyelocate.
19. The nurse documents the neonate's anterior fontanelle as normal because it is:
    a. Oval.
    b. Square.
    c. Diamond shaped.
    d. Triangular.
20. During the first feeding the nurse observes the neonate gaggling on mucus and becoming cyanotic. The nurse should first:
    a. Start mouth to mouth resuscitation.
    b. Raise the neonate's head and pat the back gently.
    c. Raise the neonatal resuscitation team.
    d. Clear the neonate's airway with sunction or gravity.
21. A neonate with low APGAR score is given vitamin K injection soon after delivery and the nurse tells the mother that the injection is given because:
    a. Neonates have no gastrointestinal bacteria.
    b. Neonates are susceptible to clotting disorder.
    c. Hemolysis of the fetal red blood cell destroy vitamin K.
    d. The neonate's liver does not produce sufficient vitamin K.

22. While performing a gestational age assessment the nurse determines that the neonate is at term when he/she observes the neonate's:
    a. Ear lying flat against the head.
    b. Absence of ranugal in the scrotum.
    c. Sole creases covering the entire foot.
    d. Absence of tremors.
23. When the neonate is 2hours old, the nurse notes increased respiratory rate and tremors of the hands and feet. A priority nursing diagnosis is:
    a. Ineffective airway clearance related to post term gestational age.
    b. Hyperthermia related to large size and use of radiant warmer.
    c. Decreased cardiac output related to difficulty breathing.
    d. Altered nutrition less than the body requirement related to depleted glycogen.
24. Laboratory findings indicate that neonate's hemoglobin is 16g/100ml of blood. The nurse should:
    a. Document this as normal findings.
    b. Assess for symptoms of polycythemia.
    c. Recheck hemoglobin in 1 hour.
    d. Assess for skin pallor and anemia.

PART II: SAQ's

1. Describe the process of adaptation of fetal circulation soon after birth (10marks).
2. Outline stages a fertilized ovum undergoes till it is a fetus (6 marks)
3. Explain the physiological changes that take place in the breast of a pregnant woman (6 marks)
4. State three indications of first examination of a newborn (3 marks)

PART III: LAQ's

1. Rose aged 18 years para 0+0 comes to clinic for the first time in her second trimester.
   a) Outline the aims of antenatal care (5 marks)
   b) Describe the management of Rose during this first visit (15 marks)
2. State five characteristics of a full term neonates (6 marks

**MIDWIFERY:**

**EXAMINATION NUMBER:**

**PART I: MCQ's**

1. The non-gravid uterus measures:
   - 7.5cmx5.0cmx2.5cm
2. Where is the infundibulum found?
   - The end of the tube.
3. Progesterone works on:
   - Tissues previously affected by estrogen.
4. The fetus starts passing urine at the:
   - $10^{th}$ weeks of gestation.

5. The fetal sac consists of a double layer of membrane known as:
   - Amnion.
   - Chorion.
6. Neonatal death occurs:
   - First week
7. During development of fertilized ovum, the inner cell mass forms:
   - Blastocyst.
8. The presenting diameters in the avertex presentation:
   - Sub occipital frontal diameter and biparietal diameters.
9. During vaginal examination for a mother in labor, brow presentation is diagnosed by feeling the:
   -
10. Ductus venosus connects the:
    - Umbilical vein to the inferior venacava.
11.
    a) Schutze method of placenta delivery:-
       - Formation of retro placental clot, weight of the clot helps peel the membranes off their uterine wall, clot becomes enclosed in a membranous bag as placenta descends fetal surface first.
    b) Mathew and Duncan method of placenta delivery:
       - Placenta descends, slipping sideways, maternal surface first.
12. Drying the baby at birth helps to minimize heat loss by:
13.
    a) The denominator is the part of presentation that indicates position:-true
    b) A lie is the relationship of the fetal head and the limb to its trunk:-false
    c) Osiander's sign is increased pulsation felt in the lateral fornicles of the vagina:-true
    d) Fetal heart is listened through the trunk if possible is cephalic:-false
14. During pregnancy the heart has a greater blood volume to pump round the body:
    - The increased output is 20-4%
15. The safe motherhood initiative focuses on:
    - The well-being of the mother.
16. In fetal circulation exchange of oxygen, nutrients and elimination of waste products are formed by:
    - Placenta.
17. By $9^{th}$ and $10^{th}$ day of post natal the uterus is usually palpated:
18. State 6 pillars of safe motherhood:
    - Family planning.
    - Essential obstetric care.
    - Clean and safe delivery.
    - FANC.
    - Post abortive care.
    - Neonatal care.
    - Targeted postpartum care.
    - Prevention of mother to child transmission of HIV/AIDs.

**PART II: SAQ's**

1. State major functions of the placenta.
   - Nutritive.

- Respiratory.
- Excretory.
- Endocrine.
- Barrier – some diseases and drugs cannot pass from mother to the fetus

2. List constituents of amniotic fluid.
   - 99% water.
   - Mineral salts.
   - Urea – from fetal urine
   - Protein.
   - Cells from the fetus.
   - Lanugo.
   - Vernix caseosa.
3. List the temporary structures in fetal circulation.
   - Ductus venosus.
   - Foramen ovale.
   - Ductus arteriosus.
   - Hypogastric arteries.
4. Define:
   a) Lie
   b) Presentation:
   c) Denominator:
   d) Position:
5. Match the following:
   a) Forms the nervous system and skin:-Ectoderm
   b) Forms the muscles, bones and circulatory system:-Mesoderm.
   c) Forms the alimentary canal:-Endoderm
6. Explain:
   a) Ectoderm.
   b) Mesoderm.
   c) Endoderm.
   d) Fundal height: - distance from the pubic bone to the top of the uterus.
7. List danger signs in pregnancy.
   - Blurred vision due to hypertension and anemia.
   - Labored breathing.
   - Pre-mature labor pains.
   - Vaginal bleeding.
   - Swelling of face, hands and legs.
   - Hx of convulsions.
   - Reduced fetal movement.
8. State causes of normal onset of labor.
   - Oxytocin hormone – causes uterine muscles to contract.
   - Oxytosinase enzyme – stops Oxytocin from working during pregnancy.
   - Progesterone hormone – level falls at end of pregnancy for removing relaxing.
   - Prostaglandins – stimulate pituitary gland to produce Oxytocin.
   - Increased contractibility.
   - Engagement of head.
   - Over distension.

9. Functions of amniotic fluid:
   During Pregnancy:
   - Allows free movement of the fetus and growth.
   - Absorbs sock and prevents injury.
   - Provides the correct temperature for the fetus to live in.

   During Labor:

   - Equalizes uterine pressure.
   - Prevents interference with placental circulation during contraction.
   - Washes birth canal.
   - Cervical dilatation.
10. Compensatory factors in fetal circulation:
    - Fetal heart rate is faster to move blood quicker round the body.
    - Fetus has extra RBCs in intrauterine life that are able to carry more oxygen.
    - Fetus has special hemoglobin that combines very easily with oxygen in intrauterine life.

**PART III: LAQ's**

1. Mother X arrives in your clinic for check-up. This is her first visit time on P/E she is healthy and well groomed. On abdominal examination, her fundus is 32 weeks of gestation:
   a) Explain how you will develop and implement her individual birth plan before delivery:
      - Place of labor.
      - Finances.
      - Transport.
      - Birth partner/companion.
      - Identification of skilled labor.
      - Identify decision maker in case of emergency.
   b) List types of lab investigations mother X will be done.
2. Baby Z has just been born and the Apgar score is 8/10.
   a) Explain the Apgar score grading.
   b) Describe the subsequent observation that you will perform on baby Z.

**MORE QUESTIONS:**

1. State 5 ways in which infection can occur during labor:
   - Client can infect herself – vulva, rectum or skin.
   - Midwife.
   - Surrounding area.
   - Equipments.
2. Show the difference between true and false labor.
   Uterine Contractions:

| True labor | False labor |
|---|---|
| Always present | Not always present. |
| Painful | Not always painful. |
| Rarely exceed 60 seconds | May last 3-4 minutes. |
| Often accompanied by backache | Not accompanied by backache |

The Cervix:

| True labor | False labor |
|---|---|
| Cervix is shortened | Cervix not shortened |
| Os is dilating | Os not dilating |
| Membranes feel tense during contractions | Membranes not tense |
| Show is usually present | No show. |

3. State the true sign of labor.
   - Dilatation of the cervix.
   - Regular painful uterine contraction.
4. Indicate 5 important features that develop between 4-8weeks in embryonic life of a fetus.
   - Appears C shape.
   - Head becomes prominent accounting for 1/3 of the entire embryo.
   - Nervous system begins to form.
   - Extremities appear as buds.
   - Heart appears as rudimentary form as bulge on the anterior cervix.
   - Eyes, ears and nose appear in rudimentary form.
5. List temporary structures in fetal circulation:- repetition
6. Mrs. Y reports to your clinic for the first time. On P/E she's 28 weeks of pregnancy; her LMP was 19th November 2013.
   a) Calculate her expected date of delivery and her gestation date.

      19th 11 2013

      07 03 xxxx

      26 08 2014

   b) Explain on how you will implement her individual birth plan: - repeated
7. A mother completed her second stage, describe her active Mnx of 3rd stage of labour.
8. Baby Zoe is born and has a good score 10/10 minutes
   a) Explain AGPAR score.
   b) Describe the subsequent Mnx care of baby Zoe.
   c)

**KENYA MEDICAL TRAINING COLLEGE -**

**SEMESTER ONE**

**LABOR**

PART I: MCQ's

1. The true signs of labor include:
   a) Contractions radiate to the back contraction, rarely exceed 60 seconds.
   b) Rhythmic contractions are painless.
   c) Contractions are on the low abdomen only there is attachment of the cervix.
   d) Cervical attachment, pain is received by analgesics.
2. When assessing a mother in labor the midwife will consider the fetal head to be engaged when:

a) Presenting part through the pelvis.
b) The fetal head rotates to pass through the ischial spines.
c) The fetal head extends as it passes under the symphsis.
d) The bi-lateral diameter passes the pelvic inlet.

3. The mechanism of labor that allows the fetal head to present itself to fit the widest anteroposterior diameter of the pelvic cavity is:
   a) Flexion.
   b) Internal.
   c) Descent.
   d) Extension.
4. The anteroposterior diameter of the pelvic outlet measures:
   a) 12 cm.
   b) 13 cm.
   c) 11 cm.
   d) 10 cm.
5. Uterine contractions are controlled by the:
   a) Central nervous system.
   b) Sympathetic nervous system.
   c) Peripheral nervous system.
   d) Autonomic nervous system.
6. The part of the uterus in which a contraction begins is:
   a) Cornua.
   b) Fundus.
   c) Isthmus.
   d) The body or corpus.
7. First stage of labor is defined as a period from the onset of:
   a) Labor pains to full dilatation of cervix.
   b) Labor to crowning of the head.
   c) True labor to delivery.
8. The management of a normal mother during the first 48 hours involves:
   a) Examining the breast, treating the infection, monitor fluid intake/output.
   b) Inspecting the iodine loss, observing the initiation of lactation, assessing involution of the uterus.
   c) Encouraging postnatal exercise, giving plenty of oral fluids daily, urinalysis.
   d) Encouraging early ambulation, totally high vaginal swab taking vital signs.
9. For question 9 indicate whether the following statements are true or false on the answer booklet provided:
   a) Oxytocin hormone prepares the myoepithelial milk let down reflex …….
   b) Fall in Prolactin level enhances the prociferation of lactiferous ducts ……..
10. The continuity of care of a pustridal mother after discharge mainly depends on:
    a) The number of postnatal visits that a midwife can make.
    b) The ability of the midwife to detect problems and intervene.
    c) Adequate health messages shared with the mother.
    d) Availability of health facility.

PART II: SAQ's

1. Outline the health messages that can be shared with a mother during 4th stage of labor (5 marks).
2. State five factors that can cause onset of labor (5 marks)
   - Oxytocin hormone.
   - Oxytocinase enzyme.
   - Progesterone hormone.
   - Prostaglandins.
   - Increased contractibility.
   - Engagement of head.
   - Overdistension.
3. State three functions of the pelvic floor muscles (3 marks)
4. State four benefits of breastfeeding (4 marks)
   - Breast milk is suited to baby and easy to digest.
   - Breastfeeding causes less work.
   - It is not expensive.
   - Promotes relationship between mother and baby.
   - Milk is always fresh.
   - Milk contains antibodies.
   - Sterile and hence no risk of contamination.
5. Differentiate between true and false labor (3 marks)

| True Labor | False Labor |
|---|---|
| **Uterine contractions always present.** | Uterine contractions not always present. |
| **Painful uterine contractions.** | Contractions not always painful. |
| **Contractions rarely exceed 60 seconds.** | Contractions may last 3 – 4 minutes. |
| **Contractions often accompanied by backache.** | Contractions not accompanied by backache. |
| **Cervix is shortened.** | Cervix not shortened. |
| **Cervical Os is dilating** | Cervical Os not dilating. |
| **Cervical membranes feel tense during contractions.** | Cervical membranes no tense. |
| **Show is usually present in the cervix.** | No show. |

PART III: LAQ's

1. Mrs. KI arrives into labor and delivery unit at a gestation of 38 weeks. She complains of low abdominal pain with some vaginal discharge. On examination you note some pouring of amniotic fluid at the posterior frinix with cervical dilatation of 4 cm.
   a) Define labor (2 marks)
   b) Describe the management of Mrs. KI (18 marks)

**REPRODUCTIVE HEALTH**
**END- SEMESTER EXAMS**
**MULTIPLE CHOICE QUESTIONS (MCQs)**

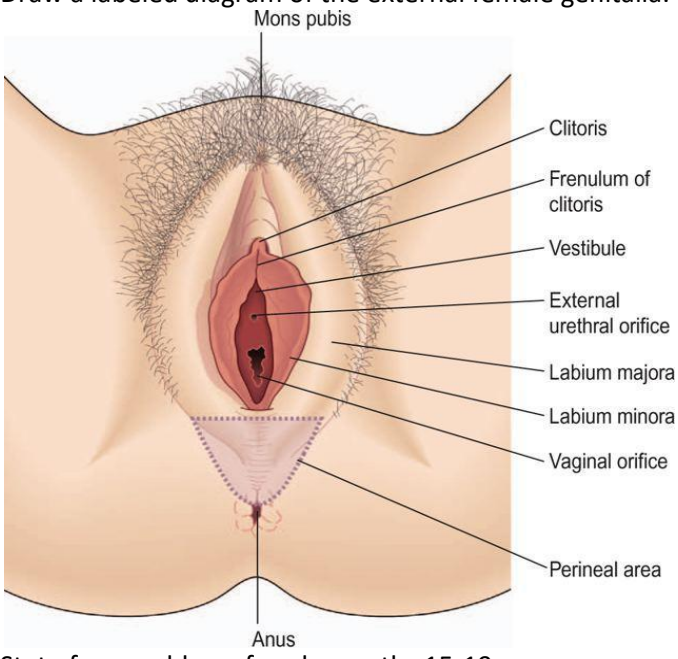
**1. The deep muscles of the pelvic floor include:**
   a) Pubococcygneous.
   b) The bulbocavernosus muscles.
   c) Ischio cavernosus.

d) Transverse perineal.

2. The bones that form the pelvic are:
   a) 5 coccyx, 2 ileum, 2 ischium.
   b) 2 pubis, ileum, ischium.
   c) 2 coccyx, 2 pubis, 2 ileum.
   d) 2 ischium, 2 pubis, 5 coccyx.
3. The non-gravid uterus measures (cm):
   a) 7.5x5x2
   b) 7.5x5x2.5
   c) 7x5x2.5
   d) 7.5x5.5x2
4. An adolescent is a person aged:
   a) 13-19 years.
   b) 15-24 years.
   c) 15-19 years.
   d) 11-24 years.
5. The type of a pelvis that is kidney shaped is not favorable for delivery because:
   a) It has a wide transverse diameter.
   b) It has reduced anteroposterior diameter.
   c) It has reduced transverse diameter.
   d) It has reduced outlet diameter.
6. The active hormone during the proliferative phase of the menstrual cycle is:
   a) Luteinising hormone.
   b) Progesterone.
   c) Oestrogen.
   d) Follicle stimulating hormone.
7. The hormone responsible for breast milk ejection is:
   a) Prolactine.
   b) Oxytocin.
   c) Human gonadotrophin hormone.
   d) Progesterone.
8. Integrated youth friendly approach is one where:
   a) Only youths get services.
   b) Only family planning services are offered.
   c) Youth and other members of the public get services.
   d) All services are offered to youths only.
9. Men and women who derive sexual gratification by being held, kissed or cuddled by an admired opposite sex are:
   a) Foudlists.
   b) Necrophilia.
   c) Paraphilias.
10. Men or women derive sexual satisfaction by passing and handling faeces especially in a swimming pool or bath basin are:
   a) Co-prophilia.
   b) Tele-scaltogia.
   c) Frotteorism.

**Short Answer Questions:**

1. Draw a labeled diagram of the external female genitalia.




2. State four problems face by youths 15-19 years.
   - Peer pressure.
   - Early pregnancies.
   - Drug abuse.
   - High risk of contracting STI's.
3. State any four accessory glands of male reproductive system.
   - Prostate gland.
   - Seminal vesicle gland.
   - Bulbourethral gland.
   -
4. State any six structures of the lactating breast.
   - Areolar responsible for production of milk and storage.
   - Nipple in which baby sucks.
   - Lactiferous ducts which transmit milk produced from lobes.
   - Lobes which are responsible to secrete milk and colostrum.
   - Highly vascularised to enable milk production.
   - Dark primary areolar.

**Long Answer Questions:**

1. Describe the hormones involved in fertility regulation of a woman.
   - Oestrogen hormone is responsible for the growth of endometrium which in turn receives fertilized ovum.
   - Human chorionic gonadotrophin is produced during pregnancy to inhibit production of oestrogen and progesterone which in turn prevents ovulation.
   - Lutenising hormone is responsible for activating progesterone to heal the affected endometrium for preparation of receiving ovum.
   - Prolacting is responsible for development of breast during pregnancy.
   - Oestrogen hormone acts on breasts to grow at puberty.

- Follicle stimulating hormone is responsible for initiating ovulation.
- Follicle stimulating hormone also helps in activating oestrogen for development of endometrial wall ready to receive fertilized ovum.

2. Describe reasons why youths don't utilize youth friendly services.
   - Ignorance.
   - Unfavorable conditions.
   - Unawareness.
   - Fear.
   - Harsh/unfavorable care givers

## REPRODUCTIVE HEALTH:

### PART I: MCQ's

1. Innominate bone is made of:
   - Pubis.
   - Ilium.
   - Ischium.
2. Structures that form the posterior fontanel are:
3. Differentiate between reproductive health and family planning:
   - Reproductive Health includes concept of male involvement.
4. Area enclosed by two labia minora is called:
   - Vestibule.
5. Fertilization takes place at:
   - Ampulla.
6. Normal menstrual cycle takes:
   - 3 – 5 days
7. Testes in the utero descent at:
   - By 28th weeks
8. Organ that lies superior to the vagina is;

### PART II: SAQ's

1. Draw a well labeled diagram of the gynaecoid pelvis and indicate the characteristic feature.
   - Classic pelvis for females
   - It is well rounded in all directions and wide.
   - It is well suited for supporting delivery.
2. State five sexual problems that face the adolescents in the community today.
   -
3. State five services offered in a Youth Friendly Clinic.
   - Sexual and reproductive health counseling.
   - Abortive services.
   - Sexual abuse counseling.
   - Relationship and sexuality counseling.
   - Sexually transmitted infection counseling, testing and prevention.
   - Contraceptive counseling and provision including E.C
4. State four male sexual dysfunctions.

- **Premature ejaculation**:-it occurs when a man ejaculates sooner during sexual intercourse than he or his partner would like.
- **Retarded ejaculation: -** it is a condition in which it takes an extended period of sexual climax and release semen from the penis i.e. ejaculation
- **Erectile dysfunction (impotence): -** it is the inability to get and keep an erection firm enough for sex.
- **Retrograde ejaculation: -** occurs when semen enters the bladder instead of emerging through the penis during orgasm.
- **Difficult in arousal and desire.**

**PART III: LAQ's**

1. Describe the menstrual cycle:
   - It is a series of four phases affecting the tissue of the endometrium.
   - Changes are caused by the hormones from pituitary gland and also estrogen and progesterone.
     i) **Regeneration stage: -** begins when menstruation stops and lasts for 2 days.
     The remaining glands and stroma cells multiply and blood absorbed.
     Endometrium is reformed.
     ii) **Proliferative stage: -** lasts until ovulation (14 days before the onset of next menstrual period)
     Estrogen causes the growth of the endometrium.
     iii) **Luteal stage: -** pre-menstrual phase.
     Begins after ovulation.
     Progesterone makes the endometrium to grow more.
     Glands increase in size, capillaries are distended with blood and endometrium is ready to receive fertilized ovum.
     If fertilization does not occur, ovum dies and corpus luteum degenerates.
     Level of estrogen and progesterone falls and endometrium starts to die.
     iv) **Menstrual stage: -** characterized by menstrual bleeding per vagina.
     Superficial layer of endometrium is shed.

2. Describe the important hormones that control the human sexual characteristics.
   - Testosterone hormone in males directly induces growth of the testicles and penis. Increases size and mass of muscles, vocal cords and bones deepening the voice and changing the shape of the face and skeleton.
   - Estradiol Hormone in females causes breasts to develop.
   - Estrogen Hormone widens the pelvis and increases the amount of body fats in hips, thighs, buttocks and breasts. It also induces growth of uterus, proliferation of the endometrium and menses.
3. Draw a well labeled diagram of the pelvis indicating different diameters and its landmarks.
4. Explain the types of pelvis.
   - Platypelloid pelvis: - it is wide but flat and may still allow vaginal birth.
   - Android pelvis: - it is narrow and heart – shaped found in men.
   - Anthropoid pelvis: - it is narrow and oval in shape and resembles an ape.
   - Gnaecoid pelvis: - it is wide and well rounded in all directions and is classic female pelvis.
5. State the functions of prostate gland.

6. Draw the diagram of the male reproductive organ and indicate the flow of the spermatozoa.

## PSYCHOLOGY AND SOCIAL ANTHROPOLOGY:

1. State the five (5) stages of psychosexual development.
   i. **Oral stage 0 - $1^{1/2}$ yrs**
   The driving energy is from the mouth because it wants to get custom of the community where he is.
   ii. **Anal stage**
   This is done through the anal opening so that they are satisfied.
   Disorder: obsessively smart, O.C.N (OBSESSIVE COMPULSIVE NEUROSIS)
   iii. **Phallic stage 4- 6yrs**
   The energy comes from genitals.
   Disorder: doing against the community e.g. homosexuality.
   iv. **Latency phase 7 - 12 yrs**
   School age where the child is quiet
   This stage they start learning their customs
   v. **Genital stage (13 - death)**
   Must get satisfied from opposite sex

2. State four (4) defense mechanisms used to reduce anxiety.
   - Displacement – discharging feelings of hostility to a less powerful person or object.
   - Denial – refusal to acknowledge something disturbal.
   - Repression – preventing painful thoughts from entering into conscious mind.
   - Regression – retreating to early stages of development where behavior will be much immature.
   - Rationalization – blaming others for one's fault.

3. Explain the three (3) types of kinships relationships existing among family members.
   - Blood kinship (consanguinity) – between the child and parents.
   - Affinity – as a result of love leading to their marriage.
   - Adoption kinship – legally incorporated child in a family.

4. State two (2) characteristics of culture.
   - Not genetically inherited.
   - Learnt through observation, imitation or instruction (socially transmitted).
   - It is dynamic.
   - Handed down from generation to generation.

END OF SEMESTER EXAMS
BEHAVIORAL SCIENCES
PSYCHOLOGY AND SOCIAL ANTHROPOLOGY

PART I {MCQ's}

1. Infections which can cross the blood – placenta barrier to affect a growing fetus in the mothers uterus include :-

- ✓ Poliomyelitis, syphilis, German measles.

2. A defense mechanism characterized by an individual discharging feelings of hostility to a weaker object or person is :-
   - ✓ Displacement.
3. A type of stress which may arise due to an achievement which is too good is :-
   - ✓ Eustress.
4. A crisis experienced by adolescents according to Erick Erickson's stages of development is :-
   - ✓ Identity versus identity diffusion.
5. Constant interplay among the ID, Ego and Super Ego personality structure is :-
   - ✓ Psychodynamics.
6. Characteristics of an introvert personality include :-
   - ✓ Shy, self centered, seclussive.
7. The psycho – sexual theory of personality development is associated with :-
   - ✓ Sigmund Freud.
8. The personality structure a child has at birth is :-
   - ✓ ID
9. A person who attained self – actualization has the following characteristics :-
   - ✓ Satisfied and generous.
10. The best way to cope with stress is by :-
    - ✓ Emotional expression.
11. Survival needs according to Abraham Maslow's theory include;
    - ✓ Water, Food, Air.
12. According to Erick Erickson's stages of development. The task associated with adolescent state is :-
    - ✓ Identity versus identity diffusion.
13. A defense mechanism in which an individual discharges feelings of hostility to a less powerful person or object is :-
    - ✓ Displacement.
14. An observable actions in an individual is :-
    - ✓ Behavior.

PART II {SAQ's}

1. Define the following concepts as used in psychology :-
   - ✓ Personality – sum total of physical and psychological characteristics that makes an individual unique.
   - ✓ Growth – physical increase in size.
   - ✓ Motivation – driving and pulling forces which result in persistent behavior directed towards certain goals.
   - ✓ Phobia – inappropriate/irrational fear of people, objects, animals, events or ideas.
2. State four (4) defense mechanisms used to reduce anxiety.
   - ✓ Displacement – discharging feelings of hostility to a less powerful person or object.
   - ✓ Denial – refusal to acknowledge something disturbal.
   - ✓ Repression – preventing painful thoughts from entering into conscious mind.
   - ✓ Regression – retreating to early stages of development where behavior will be much immature.
   - ✓ Rationalization – blaming others for one's fault.
3. State four (4) characteristics of a person with positive self concept (i.e. optimistic person)

- ✓ Proactive – takes action and also get things done.
- ✓ Persistent – goal oriented so failure triggers new tries not giving up.
- ✓ Creative – tries multiple choices when one thing fails.
- ✓ Confident – future is bright.

4. Draw a well labeled diagram to illustrate the hierarchy of needs according to Abraham Maslow's theory (RP in LAQ's)
   **Drawn in question 2 of LAQ's**

5. State 5 branches of psychology.
   - ✓ Educational.
   - ✓ Cognitive.
   - ✓ Clinical.
   - ✓ Social.
   - ✓ Developmental.
   - ✓ Experimental.

6. State 5 stages of psychosexual development.
   - ✓ Oral stage.
   - ✓ Anal stage.
   - ✓ Phallic stage.
   - ✓ Latency stage.
   - ✓ Genital stage.

PART III (LAQ's)

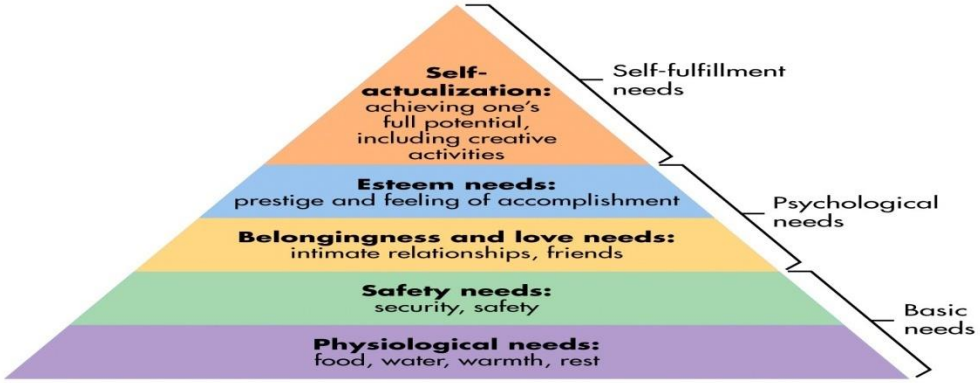
1. Health workers require knowledge on crisis knowledge on crisis and crisis intervention.
   i) Define crisis – state of disequilibrium and disorganization.
   ii) State six (6) types of crisis.
   - ✓ Natural crisis.
   - ✓ Technological.
   - ✓ Confrontation.
   - ✓ Malevolence.
   - ✓ Rumors.
   - ✓ Workplace violence.
   - ✓ Organization misdeeds.

   iii) Describe the steps of crisis intervention.
   - ✓ Psychosocial and lethality assessment.
   - ✓ Rapidly establish rapport.
   - ✓ Identify the major problems or crisis precipitants.
   - ✓ Deal with feelings and emotions.
   - ✓ Generate and explore alternatives.
   - ✓ Implement an action plan.
   - ✓ Follow – up.

2. Knowledge of Abraham Maslow's hierarchy of human needs theory is paramount in enhancing patient's care.
   a. Define need:-

It is a physical or psychological condition which if present will increase the satisfaction of an individual.

b. Draw a well labeled diagram to illustrate the levels of human needs according to Abraham Maslow's theory.




c. Describe the role of a nurse in assisting a patient to meet those physiologic levels of needs.

- ✓ Oxygen – constantly evaluate the oxygenation status of the patient.
- ✓ Feeding – nurse helps by feeding the client, monitoring calorie counts and maintains alternative methods of nutrition e.g. tubing and I.V infusions.
- ✓ Sleep and rest – nurse assists enough sleep and rest by providing safe, comfortable and quiet surroundings.
- ✓ Sexual gratification – nurse will need to be aware of sexuality issues when care is given.
- ✓ Activity and exercise – nurse can assist the client to obtain needed exercise e.g. encouraging a person to walk after surgery.
- ✓ Temperature regulation – the nurse will assist clients to meet the need for temperature regulation in cases such as a severe burn or high fever.
- ✓ Water and fluids – nurse can assist by measuring intake and output, weighing the client daily and observing I.V infusion of fluids.

BEHAVIORAL SCIENCES

SOCIAL ANTHROPOLOGY

**PART II: SAQ's**

1. A cultural diplomacy in which all cultures are viewed as equal and important is best referred to as.
   - -Culture relativism
2. A type of marriage in which one man is married to more than one wife is:
   - -Polygamy
3. Norms can be defined as:
   - -Socially acceptable patterns of behavior in a society
4. The type of kinship which exists between a husband and wife is
   - -Affinity
5. The type of status enjoyed by a prince or princess is:
   - -Ascribed status.
6. Payment made by a man to parents of his wife to be is:
   - -Bride price

7. A religious belief system in which an individual believes in many gods is:
   - -Polytheism
8. A cultural control system in which marriage among members of the same lineage is prohibited is:
   - -Exogamy
9. The process of ranking members of society according to wealth, prestige or power is:
   - -Social stratification
10. Culture can be defined as:
   - -The whole of man's learnt and socially influenced characteristics.
   - A traditional way of doing things.
11. The type of norms practiced by small subset of a society but is disapproved by the larger majority is :-
   - -Deviant norms
12. Sanctions applied to individuals who violate group norms to discourage disapproved behavior is :-
   -
13. A child from a poor background can work hard in school to attain the highest level and earn respect and status as a professor. This type of status is :-
   - -Achieved
   -
14. A tendency to look at other cultures as inferior to your own is :-
   - -Ethinocentricism.
15. The type of kinship which exists among a mother and her son is :-
   - -Blood/consanguinity relationship.
16. In polytheism :-
   - -Individuals religiously belief in many gods.
17. The term `exogamy' in marriage refers to :-
   - -Marriage among members of unrelated lineage.
18. The process by which culture is passed from one generation to the other in a society is :-
   - -Enculturation.
19. A type of marriage in which one woman is married to more than one husband is :-
   - -PolyaSndry.

**PART II (SAQ's)**

1. State the 4 branches of anthropology.
   - Pre – historic archeological anthropology – past human cultures.
   - Biological anthropology – long term development of the human organism.
   - Linguistic anthropology – influence of language in social life.
   - Social and cultural anthropology-workings of societies around the world.
2. Explain 3 characteristics of culture.
   - Not genetically inherited.
   - Learnt through observation, imitation or instruction (socially transmitted).
   - It is dynamic.
   - Handed down from generation to generation.
3. State 4 health effects of rural to urban migration of population.
   - Outbreak of diseases and spread of communicable diseases due to overcrowding.

- ❖ Improper disposal of waste materials leading to outbreak of diseases.
- ❖ Unemployment leading to inadequate resources which lead to poor health as a result of poor feeding [poverty]
- ❖ High rate of social evils including immorality and high crime rates.

4. Explain 3 types of kinship relationships.
   - ❖ Blood kinship (consanguinity) – between the child and parents.
   - ❖ Affinity – as a result of love leading to their marriage.
   - ❖ Adoption kinship – legally incorporated child in a family.

PART III (LAQ's)

1. Religion is important in promoting the well – being of individuals.
   a. Define religion – the belief in and worship of a superhuman controlling power, especially a personal God or gods.
   b. Describe with examples how religion can promote the well – being of individuals.
      - ❖ Source of hope and optimism.
      - ❖ Promotes feelings of belongingness.
      - ❖ Can boost self – esteem.
      - ❖ Provides protection from existential threats.
   c. State 4 types of religious beliefs
      - ❖ Monotheism – acknowledges the existence of only one god.
      - ❖ Polytheism – honors more than one god but not in dualistic relationship.
      - ❖ Atheistic – expressly states that there are no divine beings (lack of supernatural beings)
      - ❖ Non – theistic – does not center upon the existence of any deities, but it does not deny their existence either.
2. State characteristics of a person with positive self concept i.e. optimistic person
   - ❖ Proactive – takes action and also get things done.
   - ❖ Persistent – goal oriented so failure triggers new tries not giving up.
   - ❖ Creative – tries multiple choices when one thing fails.
   - ❖ Confident – future is bright.
3. Explain the three types of kinships relationships existing among family members.
   - ❖ Blood/consanguinity – child and her mother.
   - ❖ Adoption – children legally incorporated in a family.
   - ❖ Affinity – occurs because of love and marriage.
4. Describe 5 functions of religion in relation to health of individuals.
5. State 4 health related effects of social change due to rural – urban migration of population.
   - ❖ Poor sanitation my lead to outbreak of diseases such as cholera.
   - ❖ Overcrowding may result into spread of communicable diseases.
   - ❖ Poor economic status may lead into inadequate/shortage of food leading to malnourished children and also leading to their deaths.
   - ❖ A social evil such as immorality may result into spread of STI's including HIV.
6. A family is the most basic institution which gives birth to other social institutions.
   a) Define family.
      - ❖ Most basic social institution comprising of one or two parents with or without offspring whose functions is to nature and nurture offspring.
   b) Name and describe the composition of 2 types of family.

- Nuclear family – married couples and their offspring in a common residence.
- Extended family – two or more nuclear families.

c) Describe the primary functions of a family.

- Spiritual functions.
- Nurturance.
- Reproduction.
- Security.
- Legal function.
- Regulation of sexual behavior.
- Economic function.

**COMMUNICATION MODULE CAT**

**TIME ALLOWED: $1^1/_2$HRS**

**PART A: CRITICAL THINKING (20MARKS)**

**MCQ's**

1. **Critical thinking is important because:-**
   a) **It helps none to live long.**
   b) **It helps one to pass in exams.**
   c) **Quality of our thought determines quality of our life.**
   d) **It helps team leaders to put members together.**
2. **A critical thinker must be: -**
   a) **Egocentric.**
   b) **Socio centric.**
   c) **Dependent on others for decision making.**
   d) **Open minded.**
3. **Critical thinking skills entails:-**
   a) **Problem solving, reasoning, analyzing.**
   b) **Evaluating, arguments, decision making.**
   c) **Analyzing, conflicts, empathy.**
   d) **Questioning, guiding and giving information.**
4. **Cognitive skills in critical thinking include:-**
   a) **Deciding for others, advising.**
   b) **Reflection, Divergent thinking.**
   c) **Advising, Reasoning.**
   d) **Questioning, guiding and giving information.**

**For questions 5, indicate whether the statements given are true or false:-**

5. **a) Critical thinking directly impacts decision making**
   **b) Critical thinking depends on own thinking only**

**SAQ's**

1. State any five (5) barriers to critical thinking.
2. IDEAL is an acronym used in problem solving skills, briefly explain its meaning.

**PART B: COMMUNICATION PROCESS (20MKS)**

**MCQ's**

1. Communication involves:
   a) Intrapersonal information sharing.
   b) Interpersonal information sharing.
   c) Goal setting.
   d) Counseling.

2. Nonverbal communication include:
   a) Letter writing.
   b) Use of media.
   c) Face to face communication.
   d) Crying.
3. The main objective of any communication is:
   a) Give information to the receiver.
   b) Command the receiver and expect feedback.
   c) Understand of what you are saying by the receiver.
   d) Explaining the information over and over again.
4. In communication process, 'Noise' refers to:
   a) Any form of interference.
   b) External interference.
   c) Internal interference.
   d) Noisy environment.
5. Effective (Active) listening involves:
   a) Avoiding direct eye contact to encourage the speaker to continue talking.
   b) Focusing fully on the speaker.
   c) Interrupting when necessary for clarification.
   d) Waiting for your turn to take.

**SAQ's**

1. By aid of a diagram: describe the communication process.
2. State any five (5) communication techniques that a nurse may use in history taking.
   - Silence.
   - Restating.
   - Accepting.
   - Recognition.
   - Reflecting.

**PART C: COUNSELLING PROCESS (15MARKS)**

**MCQ's**

1. Counseling is:
   a) Giving advice.
   b) Giving information and assisting in problem solving.
   c) Solving clients' problem.
   d) Sympathizing with the client.
2. The 1st step of the counseling process is:
   a) Assessment.

b) Goal setting.
c) Relationship building.
d) Intervention.

3. Therapeutic relationship in counseling :
   a) Creates an emotional attachment between the two parts.
   b) Creates an atmosphere of sympathy and understanding.
   c) Creates a perfect ideal confidentiality of information.
   d) Modes a healthy interpersonal relationship.
4. Assessment as a step in the counseling process entails:
   a) Obtaining information about the clients.
   b) Deciding on the plan of action.
   c) Evaluating to see the effect of the counseling process.
   d) Establishing a rapport between the two parts.

For questions (5) indicate whether the statements given are true or false:

5. a) In collaborative therapy, the expertise of the clients is given as much weight as the expertise of the therapist
   b) Client status is elevated from passive recipient to active contributor

**SAQ's**

1. State any five (5) qualities of a treatment goal in counseling.
2. Explain the acronym SOLER as applied in counseling.
   - **S** Face the other **S**quarely
   - **O**: Adopt an **O**pen Posture
   - **L: L**ean toward the other
   - **E:** Make **E**ye Contact
   - **R**: Be Relatively **R**elaxed

**KENYA MEDICAL TRAINING COLLEGE**
**COMMUNICATION MODULE CAT**

**TIME ALLOWED: 1HRS** **DATE: ……**

**PART ONE: MCQ's**

1. **Decoding can be defined as:**
   ✓ Process of receiver understanding the message.
2. **Examples of non verbal communication includes:**
   ✓ Facial gestures, body language, dressing.
3. **Components of an appraisal report include:**
   ✓ Relationship with other workers area of improvement, strengths.
4. **Communication is said to be complete if:**
   ✓ Receiver understands the message and responds.
5. **In communication the best method of enhancing understanding is by:**
   ✓ Lecture the demonstration.

**SHORT ANSWER QUESTIONS:**

1. State phases of nurse patient relationship.
   **a) Pre-orientation Phase:**

- ✓ Begins when the nurse is assigned to the patient.
- ✓ Patient is excluded as an active participant.
- ✓ Nurse feels a certain degree of anxiety.
- ✓ It includes all that the nurse thinks and does before interacting with patient.
- ✓ Major task of the nurse is self-awareness.

**b) Orientation Phase:**

- ✓ Begins when the nurse and the patient meet.
- ✓ Parameters of relationship are done.
- ✓ Explanation of roles is done including responsibilities and expectation of the patient and nurse.
- ✓ Nurse begins to know the patient.
- ✓ Major task of the nurse is to develop mutually acceptable set contract.

**c) Working Phase:**

- ✓ It is highly individualized.
- ✓ It is more structured.
- ✓ It is longest and most productive.
- ✓ The nurse and the patient explore stressors and promote insight in the patient by linking perceptions, thoughts, feelings and actions.
- ✓ Limit setting is employed.
- ✓ Major task of nurse is identification and resolution of the patient's problem.

**d) Termination Phase:**

- ✓ It is the gradual weaning process since it is the most difficult and important phase.
- ✓ It is a mutual agreement, time to exchange feelings and memories and to evaluate the patient's progress and goal attainment.
- ✓ Involves feelings and anxiety, fear and loss.

2. State two channels of communication a nurse can use while in the ward.
   - ✓ Direct.
   - ✓ Indirect.
3. State three barriers of the receiver that affect communication.
   - ✓ Poor judgment.
   - ✓ Misunderstanding of the message.
   - ✓ Noise.
4. State the five elements of communication.
   - ✓ Sender.
   - ✓ Receiver.
   - ✓ Message.
   - ✓ Medium.
   - ✓ Feedback.

**MID SEMESTER EXAMINATION**
**Communication module**

**MCQ's**

1. Statistically, we remember what percentage of what is spoken?
   a. 70 %
   b. 20%
   c. 30%
   d. 80%

2. What characteristic is essential in the definition of communication?
   a. Interpreting.
   b. Sending.
   c. Sharing.
   d. Receiving.
3. According to the Communication Elements Model, the listener….
   a. Merely encodes the feedback.
   b. Decodes the feedback and encodes the message.
   c. Decodes both the message and the feedback.
   d. Encodes the feedback and decodes the message.
4. The first critical thinking skill one should utilize when public speaking is…..
   a. Brainstorming.
   b. Focusing.
   c. Organizing.
   d. Evaluating.
5. Which of the following levels of communication is most formal?
   a. Group.
   b. Public.
   c. Interpersonal.
   d. Intrapersonal.
6. What is the critical thinking skill that allows you to formulate questions and collect data?
   a. Generating.
   b. Focusing.
   c. Information gathering.
   d. Analyzing.
7. Josh is sitting in class listening to a speech when his stomach begins to growl. Josh is experiencing……
   a. Intrapersonal noise.
   b. Psychological noise.
   c. Physiological noise.
   d. Physical noise.
8. Decoding can be defined as
   a. Pathway the message is transmitted.
   b. Person getting the message.
   c. Process of receiver understanding the message.
   d. Process of sending the message by sender.
9. Example of non verbal communication includes
   a. Facial gestures, body language, dressing.
   b. Written, facial gestures, dressing.
   c. Written, body language, gestures.
   d. Facial, gestures, written, dressing.
10. Components of an appraisal report include
   a. Qualifications of appraise, character, tribe.
   b. Relationship with other workers area of improvement, strengths.
   c. Ability to perform, marital status, competency.
   d. Character seniority, marital status.

**SECTION B**
**SAQ's**

1. State five factors that would enhance interpersonal communication.
   - Use of proper medium to transfer the information especially in an organization.
   - Use of language understood by everyone.
   - Avoid information overload.
   - Avoid an external disturbance i.e. noise.
   -
2. State five benefits of critical thinking.
   - Provides self-disciplined thinking.
   - Offers self-monitored thinking.
   - Helps to think beyond understanding therefore a difficult situation can be solved.
   - Responsible for aiding in setting desirable goals for a certain problem.
   -
3. State three disadvantages of face to face communication.
   - Difficult to practice in large sized organization.
   - Not effective in large gatherings.
   - Ineffective if the listener is not attentive.
4. State five reasons why a nurse should be a critical thinker.
   - Helps in solving conflicting and difficult situations.
   - Helps to guide and assist patients in solving their problems for their care.
   - Assists a nurse to have broad focus on effecting solutions for a problem.
   - Helps in the management of serious health problems for patients.
   -

**SECTION C**
**LAQ's**

1. Describe the advantages and disadvantages of the following modes of communication.
   a) Electronic media.
   Advantages:
   - Faster.
   - Immediate feedback.

   Disadvantages:
   - Requires electricity and skills to operate.
   - Someone's attitude is not noted.

   b) Mass media.
   Advantages:
   - Faster.
   - Covers wide area to convey a message.

   Disadvantages:
   - Requires a device to receive the message.
   - No room for feedback.

   c) Interpersonal.
   Advantages:
   - Helps in decision making for one's issue secretly.
   - Immediate feedback.

Disadvantages:

- Feedback may be forgone and insufficient.
- Insufficient information gathering.

d) Grape vine.

Advantages:

- Entertainment.
- Immediate feedback.
- One's attitude is noted.

Disadvantages:

- Can be distorted hence no reference for future retrieval.
- Affected by misunderstanding of each one's information.

END OF SEMESTER EXAMS
MICROBIOLOGY

**PART I: (MCQ's 10 marks)**

1. Viruses are intracellular because they lack:-
   a) Genes necessary for energy production
   b) Both DNA and RNA
   c) Cell wall peptidoglycan
   d) DNA only
   e) RNA only
2. Which of the following is true about a subclinical infection:-
   a) It is called asymptomatic infection.
   b) It has few signs and symptoms
   c) It lacks signs and symptoms
   d) It is caused by unknown organism
   e) It has no-specific signs and symptoms
3. Vertical transmission is associated with:-
   a) Malaria
   b) Human papilloma
   c) Cytomegalovirus
   d) Mumps
   e) Measles
4. Which of the following microorganisms is an obligate intracellular parasite:-
   a) Bacteria
   b) Protozoa
   c) Fungi
   d) Virus
   e) Chlamydia
5. An outcome of an acute infection is characterized by:-
   a) Recovery with no residue effects
   b) A long silent period before disease
   c) Silent subclinical infection for life
   d) Proceed to chronic infection
   e) No signs and symptoms

6. Which of the following is an example of live whole virus vaccine:-
    a) Polio (Salk vaccine)
    b) Polio (Sabin vaccine)
    c) Hepatitis A vaccine
    d) Rabies vaccine
    e) Influenza vaccine
7. The following is/are examples of nematodes except:-
    a) Ascaris (roundworm)
    b) Trichuris (whipworm)
    c) Ancylostoma (hookworm)
    d) Necator (hookworm)
    e) Taenia (tapeworm)
8. The immune system is the third line of defense against infection involve:-
    a) Intact skin
    b) Mucous membrane
    c) Antibodies
    d) Antimicrobial protein
    e) Phagocytic white blood cell

**PART II: ESSAY QUESTIONS (40 Marks)**

1. State any four (4) characteristics of protozoan phyla (4 marks)
2. Describe the chain of infection (6 marks)
3. Outline the life cycle of *Ascaris lumbricoides* (10 marks)
4. Discuss the types of acquired immunity giving an example in each type
5. State the difference between virus and bacteria.
6. Discuss the modes of disease transmission in a man
7. List any 5 types of vaccine.
8. 
    a) Highlight any 5 prevention and control measures against a parasitic infection.
    b) Write short notes on innate type of immunity.
    c) Define:
        i) Immunity.
        ii) Nosocomial host.
        iii) Definitive host.
        iv) Commensal.
        v) Antigen.

END OF SEMESTER EXAMS
MICROBIOLOGY

**PART I: (MCQ's 10 marks)**

1. **The most commonly encountered bacteria are roughly spherical. The microbiological term describing this shape is?**
    - Coccus.

2. **In bacterial cells, ribosome are packed into the cytoplasmic matrix and also loosely attached to the plasma membrane. What is the function of ribosome?**
    - Site for protein synthesis.

3. **Fimbrae:-**
    - Attach bacteria to various surfaces.

4. **Capsules and slime layers:-**
    - Consists of secreted material lying outside of the bacteria cell wall.
    - They are required for bacteria to grow normally in culture.
    - Help the bacteria to resist phagocytosis by macrophages.

5. **Bacteria cells:-**
    - Do not have nuclei.
    - Not all are harmful.
    - Are prokaryotes.
6. **Most microorganisms are single celled except:-**
    - Algae and fungi.
7. **Prokaryotes have:-**
    - Cell membrane
    - Cytoplasm
    - Ribosome.
8. **Nucleus of eukaryote contains:-**
    - Nuclear membrane.
    - Nucleoli.
    - Nucleolus.
9. **Virulence:-**
    - Ability of an organism to produce severe pathological reactions.

10. **Antigenicity:-**
    - Ability of an organism to produce specific immunity.

**Part II**

1. **The five major groups in which microorganisms are classified:**
    - Bacteria.
    - Protozoa.
    - Fungi.
    - Algae
    - Viruses.
2. **General properties of viruses.**
    - Lack ribosome.
    - Undergo replication.
    - Contain either DNA or RNA.
    - Resistant to antibiotics.
    - Sensitive to interferone.

3. **Morphology and arrangement of bacterial cells are criteria used for classification of bacteria into different groups. State five groups of bacterial shapes using microbiological terms:**
    - **Coccus – roughly spherical/oval**
    - **Vibrio – comma shaped.**
    - **Bacilli – rod shaped.**
    - **Spirilla – rigid spiral forms.**
    - **Spirochetes – flexible spiral forms.**

**MICROBIOLOGY, IMMUNOLOGY & PARASITOLOGY (PAPER)**

**PART I: MCQ's**

1. Immunity is not long lasting to: -
    a) Influenza.
    b) Whooping cough.
    c) Diphtheria.
    d) Mumps.
2. Passive immunization is done for: -
    a) Tuberculosis.
    b) Diphtheria.
    c) Enteric fever.
    d) All of the above.
3. Which of the following is NOT true for prokaryotic organism: -
    a) Nucleus is not bounded by nuclear membrane.
    b) Chromosomes do not contain histones.
    c) 80s ribosome are distributed in cytoplasm.
    d) Cell wall contains peptiglycan as one of the major components.
4. Which of the following is/are included in kingdom prokaryote: -
    a) Bacteria.
    b) Protozoa.
    c) Fungi.
    d) All of these.
5. Viruses largely lack metabolic machinery of their own to generate energy or to synthesize: -
    a) Protein.
    b) Carbohydrate.
    c) Alcohol.
    d) All of the above.
6. The ability of bacteria to change morphological form frequently is termed as: -
    a) Lysogeny.
    b) Pleomorphism.
    c) Alteromorphism.
    d) None of the above
7. Naturally acquired active immunity would be most likely acquired through which of the following: -
    a) Vaccination.
    b) Drinking colostrums.
    c) Natural birth.
    d) Infection with disease causing organism followed by recovery.

8. Which of the following convey longest lasting immunity to an infectious agent: -
   a) Naturally acquired passive immunity.
   b) Artificially acquired passive immunity.
   c) Naturally acquired active immunity.
   d) All of the above.
9. Cell mediated immunity is carried out by …….while humoral immunity is mainly carried out by……:-
   a) Epitopes/Antigens.
   b) T cells/B cells.
   c) Antibodies/Antigens.
   d) Antibodies/Phagocytes.
10. In malaria, the form of plasmodia that is transmitted from mosquito to human is the: -
    a) Sporozoite.
    b) Gametocyte.
    c) Merozoite.
    d) Hypnozoite.

**PART II: SAQ's**

1.
   i. What does active immunization mean?
      - The individuals own immune system is stimulated.
   ii. What does passive immunization mean?
      - A person receives antibodies or lymphocytes that have been produced by another individual's immune system.
   iii. Mention two (2) bacterial infectious diseases that can be prevented or treated by passive immunization.
      - Whooping cough.
      -

2. What are the main advantages and disadvantages of live attenuated vaccines as compared to killed one.

   Advantages:
   - Strong.
   - Fast acting.

   Disadvantages:
   - Prone to mutation.
   - Dangerous.
   - Need refrigeration.

3. Which two (2) roles are attributed to bacterial pili (fimbrae)
   - Organs of adhesion (attachment).

4. Define the following terms used in parasitology.
   a) Parasitism: - This is a relationship which occurs between two organisms in which one organism, parasite, depends on another organism, host, for nutrients causing harm to the host.

b) Symbiosis: - This is a relationship occurring between two organisms whereby there is a mutual benefit between them and no harm caused to either of the organism.
c) Definitive host: - The organism in which the adult or sexually mature stage of the parasite lives.
d) Reservoir host: - Place in which an infectious agent can survive but may or may not multiply

**PART III: ESSAY/LAQ**

1. Describe the steps involved in an inflammatory response including the chemicals and cells involved.
   - Tissue damage cause by bacterial infection or injury.
   - Release of vasodilators and chemotatic factors like histamine.
   - This leads to increased capillary permeability and blood flow to the area.
   - The serum proteins along with phagocytes destroy bacteria.
   - Once intruder is destroyed, inflammation settles down.
2. Describe endospore.
   - It is a resistant asexual spore that develops inside some bacterial cells.
   - Its formation is usually triggered by a lack of nutrients and usually occurs in gram positive bacteria.
   - It enables bacteria to lie dormant for extended periods.
   - Favorable environment enables the endospore to reactivate itself to the vegetative state.
   - Bacteria that form endospores include Bacillus and Clostridium.
   - They are resistance to ultra violet radiation, desiccation, high temperatures, extreme freezing and chemical disinfectants.
   - They can survive without nutrients.
3. State five (5) criteria used to classify bacteria.
   - Phylogenic: - Based on branching system of organisms.
   - Molecular/Genetic: - Based on genetic relatedness of organisms.
   - Intraspecies: - Based on biochemical relationship

## COMMUNITY HEALTH:

1. Define:
   a) Community:-
   b) Community Health:-
   c) Public Health:-
2. Describe the roles of a Community Health Nursing.
3. Discuss any components of Home Based Care.
4. Draw an organogram to illustrate the Community Health Care System.
5. Describe the specific services offered in an MCH/FP clinic:
6. 
   i) Define Primary Health Care
   ii) State the elements of PHC
7. As a community health nurse, you realize an increase in Home Deliveries. Outline strategies you will implement to encourage Hospital Deliveries:
8. Briefly outline the development of Community Health Nursing in Kenya:
9. State the sources of revenue to the exchequer for health care in Kenya.
10. Describe the Kenyan elements of Primary Health Care:

11. Discuss the components of school health programs:
12. Describe health care delivery system in Kenya using tiers:

PART II: LAQ's

1. Describe any 5 millennium development goals, addressing women health.
   i) Discuss the level of implementation.
   ii) The success/failures in implementation

**END OF SEMESTER ONE EXAMS**

**INTRODUCTION TO COMMUNITY HEALTH**

**PART I: MCQ's**

1. Define community health nursing.
   - It is the union/synthesis of nursing and public health practices relied to promote and protect health of population.
2. Name the founder of community health nursing and country of origin.
   - Lilian Wald – New York
3. State two concepts of community health nursing.
   - The move towards the community.
   - High quality, cost effective and regulatory health services care accessible to everyone.
   - CHN considers a family as a unit of service. It is a level of a functioning influenced by the degree which it can relieve its own problems.
4. State five roles of community health nurse.
   - Deliver care and comfort for patients.
   - Respond to health needs and risks for individuals.
   - Evaluate health status for patients and diagnose illness.
   - Take history of patients' sickness and conduct physical examination.
   - Collect lab and diagnose data and evaluate.
   - Discuss with physician or consuming specialist about patients illness.
   - Plan treatment procedures for patients and their families in accordance with doctor's instructions.
   - Educate patients and their families on diseases their preventive and control measures.
   - Educate communities about health risks and preventive measures.
   - Educate communities, patients and their families on infection control, emergency safety methods.
   - Teach self care abilities to patients with disabilities.
   - Document all visits and health care outcomes.

5. Differentiate between community health nurse and general nurse

**State whether the following statements are true or false**

6. One of the roles of SHMT (DMHT) is to supervise health matters in the county……
7. The County Health Management Team (CHMT) equivalent to former PHMT advises the county government on matters of health…….

**PART II: ESSAY**

1. Describe the history of community health nursing in Kenya.
   - It has been said that you have to know the past to understand the future.

- Before the **Europeans** came to Kenya, the knowledge of treatment of diseases was handed from fathers to sons between generations.
- It was believed that diseases could be caused by evil spirits, breaking taboos, witchcraft or by god.
- Western medication came to Kenya with missionaries in the beginning of 20th century.
- They started to build up hospitals and started to educate people about diseases.
- In the beginning it was almost impossible to train local people for nursing and dressing. This was because the Western medicine was seen as infringing their customary ways i.e. Africans and people did not want to be involved in it and if involved they were easily outcast from the tribe.
- The first local were trained as dresser in the year **1908** and slowly after, the number of trained locals raised.
- Upon that time, it wasn't easy to get women to come to hospital for training because of family pressures, so most of the local people who came for training were male.
- The training lasted for **3 years** and they were trained as dressers. In the training, the subjects covered were **cleanliness, sanitation, dressing of wounds and ulcers, taking temperature** and **assisting in operations.**
- Training and people's attitude evolved over time and the need for medical people grew.
- In **June 1949,** the act of enabling the formation of nurses and midwives registration ordinance was born and training of nursing.
- Before, this training was done by both government and missionaries without coordination.
- The first training of **registered nurses** started in **1952** i.e. **KRN**. Studies took **$3^1/_2$ years.**
- In comparison, to graduate as **enrolled assistant nurse** it took **2 years.**
- In **1966,** training of **CHN** was started in **Kisumu** in the **Nyanza School of Nursing (KECHN).**
- CHN were so called multipurpose nurses, they were trained to working as **nurse, midwives** or **health visitors.**
- Trainings happened because there was a great man of personnel.
- Training for **Registered Nurses** begun in **Nairobi** in **1972** and spread out (**KRCHN**).
- In **1968, 2 year** training in advanced nursing was started at **University of Nairobi.**
- Over time it was noticed that improving health care training could enhance quality and skills in training.
- In **2000** it was decided that training programs for **certificate level** to be terminated and **diploma level** started.
- This program is still going on because some training centers are still offering certificates

2. Discuss five principles of community health nurses.
   - The recognized need of individuals, families and communities provides a basis for CHN practice.
   - The primary purpose is to further apply public health measures within the framework of the total CHN.
   - Knowledge and understanding of objectives and policies of the agency facilitates goal achievement.
   - CHN considers family as the unit of service. Its level of functioning is influenced by the degree to which it can lead with its own problems.
   - It calls respects for values, customs and beliefs of the clients, contribute to the effective care.

- CHN integrates health education and counseling as vital part of the actions.
- Collaborative work relationships with co-workers and members of team facilitates establishment of goals.
- Periodic and continued evaluation provides means of assessing the degree to which the CHN goals and objectives are being attained. Clients are involved in the appraisal of their health program through observations and accurate.
- Continuing staff education program and quality service is essential for upgrading sound nursing practice. Professional interest and needs of CHN are considered in planning program of the client.
- Utilization of indigenous and existing community resources maximizes the success of the CHN.
- Active participation of individual, family and community in planning and making decisions of their health care need determine the success of CHN program.
- Supervision of nursing services by qualified CHN personnel provides directions and guidance to the work they do.
- Accurate recording and reporting serve as basis in which regulation of plan progress and activities as a guide for future activities.

3. Discuss the roles of government in provision of health services.
   - Financing the ministry.
   - Making policies.
   - Sets standards.
   - Manpower acquisition/training.
   - Build/improve infrastructure.
   - Provides leadership.

**Environmental Health:**

1. Roles of a nurse in Occupational Health:
   - Counsel and guide employees on individual's health status.
   - Offering first aid services at times of emergency and crisis.
   - They take part in crisis intervention e.g. during outbreak of diseases.
   - Health surveillance; they promote health, primary care, counseling and rehabilitation.

2. Methods of waste disposal applicable in the community:
   - Incineration.
   - Burying.
   - Open dumping.
   - Recycling.

3. Sources of water in your catchment area:
   - Boreholes.
   - Wells.
   - Rivers.
   - Springs.
   - Lakes,

4. Factors to assess if a house is fit for human occupancy:
   - Ventilation.
   - Adequate light.
   - Adequate rooms.
   - Site of location.
   - Adequate water supply.

5. Why pests and vectors are of environmental concern:
   - Some vectors such as anopheles mosquito transmit malaria.
   - Some pests destroy crops in the farms such as cereals, vegetables hence causing loss to the farmers e.g. weevil, rats, arphids.
   - Some vectors such as lice cause discomfort by making one to scratch them including bedbugs which make one not to sleep comfortably.
   - Some pests cause a lot of damage in the house e.g. rats eat clothes, food making it not suitable for human consumption.

6. Diseases transmitted by vectors:
   - Sleeping sickness transmitted by tsetse flies.
   - Malaria transmitted by female anopheles mosquito.

7. The general methods of pests and vector control:
   - Clearing of bushes and grasses around the house to avoid mosquito from breeding in those areas.
   - Clearing stagnated water around the house to avoid mosquito breeding in those areas.
   - Proper disposal of solid waste such as plastic containers which collects rainy water hence providing breeding site for mosquitoes.
   - Use of insecticides and pesticides on crops to kill pests and microorganisms on crops.
   - Improving personal hygiene by maintaining short hair to avoid lice, taking bath daily and maintaining short nails.
   - Use of mosquito sprays and also other chemicals to spray bedbugs and pests.
   - Use of insecticide treated nets to protect mosquito bites.
   - Killing rats by use of traps.

# ALL THE BEST IN YOUR REVISION

# THANKS!!!!!!!!!!!!