CHUKA  **UNIVERSITY**

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR BACHELOR OF SCIENCE IN NURSING (UPGRADING)

NURU 118 : MEDICALPHYSIOLOGY IV

STREAMS: Y1T2 **TIME: 2 HOURS**

DAY/DATE : WEDNESDAY 18/11/2020 **2.30PM – 4.30 PM**

INSTRUCTIONS:

1. Do not write anything on the question paper.
2. Mobile phones and any other reference materials are NOT allowed in the examination room.
3. The paper has three sections. Answer ALL questions.
4. All your answers for Section I (MCQs) should be on one page.
5. Number ALL your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.
6. Write your answers legibly and use your time wisely

MCQS (20 MARKS)

1. Juxtaglomerular (JG) Cells are found in
   a. Afferent arteriole
   b. Proximal convoluted tubule
   c. Efferent arteriole
   d. Distal convoluted tubule
2. Production of urine involves the following processes
   a. Filtration, reabsorption and excretion
   b. Filtration, secretion and excretion
   c. Filtration, reabsorption and secretion
   d. Filtration, reabsorption, secretion and excretion
3. In the nephron, mesangial cells
   a. Form part of filtration membrane
   b. Regulates filtration rate
   c. Are protective

   d. Form part of juxtaglomerular apparatus
4. Facultative water reabsorption in the kidneys occur due to
   a. Osmosis
   b. Anti-diuretic hormone
   c. Ion's electrochemical gradient
   d. Renin
5. In renal tubules, location of Sodium-potassium pumps only on basal lateral membrane ensures that
   a. Sodium reabsorption is one way
   b. Sodium secretion is one way
   c. Potassium reabsorption is one way
   d. Potassium secretion is one way
6. The diluting segment of the kidney is
   a. Thick ascending limb of the loop of henle
   b. Thin ascending limb of the loop of henle
   c. Proximal convoluted tubule
   d. Distal convoluted tubule
7. Parathyroid hormone (PTH) stimulates reabsorption of Ca2+ in
   a. Early distal convoluted tubule
   b. Late distal convoluted tubule
   c. Proximal convoluted tubule
   d. Collecting duct
8. In the loop of henle, the following are secreted except
   a. Water
   b. Magnesium ions
   c. Potassium ions
   d. Bicarbonate
9. In the late DCTs and collecting ducts, sodium is reabsorbed via
   a. Na+ 2K+ pump
   b. Na+ K+ 2Cl- symporters
   c. Na+ glucose symporter
   d. Na+ leakage channels
10. The inner lining of the GIT is called
   a. Mucous membrane
   b. Serosa
   c. **Muscularisexterna**
   d. **Submucosa**
11. The rate of renewal of GIT epithelial cells is
   a. Every 5 to 7 days
   b. Every 5 to 7 months
   c. Every 5 to 7 hours

d. Every 5 to 7 years

12. Intrinsic salivary glands are

a. Parotid glands
b. Submandibular glands
c. Sublingual glands
d. Buccal glands

13. Intrinsic factor is essential in absorption of
    a. Amino acids
    b. Vitamin B12
    c. Vitamin D
    d. Glucose
14. Pancreatic amylase
    a. Digests starch
    b. Digest proteins
    c. Digest triglyceride
    d. Digest nucleic acid
15. The longest part of the digestive tract is
    a. Esophagus
    b. Colon
    c. Small intestine
    d. Stomach
16. Most of the water in GIT is reabsorbed in
    a. Stomach
    b. Small intestines
    c. Large intestines
    d. Mouth
17. The neurons of the Enteric Nervous System are arranged into
    a. Myenteric plexus and submucosal plexus
    b. Sympathetic and parasympathetic
    c. Central nervous system and peripheral nervous system
    d. Autonomic nervous system
18. In Testes, seminiferous tubules
    a) Support sperms
    b) Nourish sperms
    c) Protect sperms
    d) Produce sperms
19. The two hormones contributing to regulation of Glomerular Filtration Rate are
    a) Angiotensin II and Atrial natriuretic peptide
    b) Angiotensin I and Anti-diuretic hormone
    c) Angiotensin II and Anti-diuretic hormone
    d) Angiotensin I and Atrial natriuretic peptide

20. Cells in the renal collecting ducts that deal with acid base balance are called

    a) Principal cells
    b) Intercalated cells
    c) Aquaporin-I
    d) Aquaporin-2

SHORT ANSWER QUESTIONS (30MARKS)

21. State four (4) functions of the tongue. [4 Marks]
22. Describe four (4) ways in which the stomach protect itself from the harsh acidic and enzymatic environment it creates. [8 Marks]
23. Explain the four (4) functions of the stomach acid [8 Marks]
24. Describe the voluntary stage of swallowing. [4Marks]
25. Ovulation is one of the 4 phases of female reproductive cycle. Describe the events occurring during the ovulation phase. [6 Marks]

LONG ANSWER QUESTION (20MKS)

27. Explain urine formation and excretion [20 Marks]

……