

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF
BACHELOR OF SCIENCE (NURSING)**

NURS 225: HUMAN PATHOPHYSIOLOGY

STREAMS: BSc Nursing

TIME: 3 HOURS

DAY/ DATE:

INSTRUCTIONS TO CANDIDATES

- Do not write anything on the question paper.
- Mobile phones and any other reference materials are **NOT** allowed in the examination room.
- The paper has three (3) Sections. **ALL** the questions are compulsory
- Your answers for Section A (MCQs) should be on the first page of the answer Booklet.
- Number **ALL** your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.

SECTION A: MULTIPLE CHOICE QUESTIONS (20 marks)

1. Congenital heart diseases associated with late cyanosis include:
 - a) Atrial septal defect
 - b) Tricuspid atresia
 - c) Persistent truncus arteriosus
 - d) Transposition of aorta
2. Abdominal aortic aneurysm occurs due to:
 - a) Salmonella infection
 - b) Mural thrombus
 - c) Atherosclerosis
 - d) Hypertension
3. The most characteristic and frequent feature of chronic rheumatic heart disease is the development of:
 - a) Vegetations on the endocardium
 - b) Stenosis of the mitral valve
 - c) Aschoff bodies within the myocardium
 - d) Fibrin deposits within the pericardium
4. Concentric “onion-like” thickening of the arteriole wall is seen in:
 - a) Hyaline arteriolosclerosis
 - b) Monkenberg medial sclerosis

- c) Metaplastic atherosclerosis
 - d) Hyperplastic arteriolosclerosis
5. Pre-renal causes of acute renal failure include:
 - a) Hepatic cirrhosis
 - b) Glomerular disease
 - c) Hypercalcuria without hypercalcemia
 - d) Malignant hypertension
 6. The major difference between nephritic and nephrotic syndrome is the presence of:
 - a) Hypertension in nephrotic syndrome
 - b) Hematuria in nephritic syndrome
 - c) Red cell casts in nephrotic syndrome
 - d) Heavy proteinuria in nephritic syndrome
 7. A feature of chronic renal failure include:
 - a) Low serum calcium
 - b) Broad waxy casts found in the urinalysis
 - c) Protein detected by urinalysis
 - d) High lipoprotein lipase levels in the blood
 8. Thrombocytopenic purpura:
 - a) Is associated with von willebrand factor deficiency
 - b) Can occur due to shiga-like toxins
 - c) Presents with blood diarrhea
 - d) Occurs due to ADAMTS 13 deficiency
 9. Helicobacter pylori causes gastritis by:
 - a) Inhibiting prostaglandins synthesis
 - b) Increasing gastric acid secretion
 - c) Increasing gastric vascular perfusion
 - d) Inhibiting gastric bicarbonate transport
 10. Common causes of large bowel obstruction include:
 - a) Fecal impaction, tumors
 - b) Hernias, tumors
 - c) Hernias, intussusception
 - d) Volvulus, adhesions
 11. A 49 year female presents with progressive dysphagia. X-ray studies with contrast reveals that she has markedly dilated esophagus above the level of LES. No lesion is seen within the lumen of the esophagus. Patient symptoms are most likely due to absence of:
 - a) Myenteric plexus in the body of the esophagus
 - b) Myenteric plexus at the LES
 - c) Sub-mucosal plexus in the body of the esophagus
 - d) Sub-mucosal plexus at the LES
 12. Features of crohn's disease include:
 - a) Severe bloody diarrhea that abates in fasting
 - b) Presence of mucosa pseudopolyps
 - c) Presence of non caseating granulomas
 - d) Mucosal and superficial submucosal lesions only
 13. In liver disease, hyperglycemia may manifest due to:
 - a) Portal to systemic shunting

- b) Reduced functional hepatocyte mass
 - c) Increased glycogenolysis
 - d) Hepatosplenomegally
14. Pheochromocytoma is mostly characterized by which of the following clinical manifestation:
- a) Cardiomegally
 - b) Pupillary dilation
 - c) Weight loss
 - d) Hypertension
15. Cataract formation is a long-term complication of Diabetes Mellitus. It results from:
- a) Activation of protein kinase C
 - b) Accumulation of sorbitol and fructose
 - c) Basement membrane thickening
 - d) Non –enzymatic glycosylation of proteins
16. In primary hyperthyroidism:
- a) TSH is decreased, Thyroxine is decreased
 - b) TSH is decreased, Thyroxine is increased
 - c) TSH is increased, Thyroxine is increased
 - d) TSH is increased, Thyroxine is decreased
17. Causes of primary aldosteronism include:
- a) Adrenocortical adenoma
 - b) Renal artery stenosis
 - c) Nephrotic syndrome
 - d) Hepatic cirrhosis
18. A 65 year old male is admitted with bacterial pneumonia. He has no history of smoking. This infection is likely to be caused by:
- a) Streptococcus pneumoniae
 - b) Haemophilus influenza
 - c) Moraxella catarrhalis
 - d) Mycoplasma pneumonia
19. Most characteristic morphologic feature in an asthmatic patient is:
- a) Calcification of bronchial cartilages
 - b) Hypertrophy of smooth muscle
 - c) Goblet cell metaplasia
 - d) Mucous gland hyperplasia.
20. 50-year-old man comes to the physician with gradually increasing dyspnea and a 4-kg. Weight loss over the past 2years. He admits to smoking two packs of cigarettes per day for 20 years. Physical examination shows an increase in the anteroposterior diameter of the chest (“barrel chest”). Which of the following finding will be encountered in his lungs:
- a) Lesions that are more common and severe in the lung bases
 - b) Involvement of entire acinus from the respiratory bronchioles to the alveoli
 - c) Large amounts of black pigment in the walls of the emphysematous spaces
 - d) Hypertrophy of bronchial smooth muscles.

SECTION B: SHORT ANSWER QUESTIONS (40 Marks)

1. State five (5) causes of gastric ulceration 5 marks
2. Outline four(4) types of diarrhea 4marks

3. Describe the pathophysiology of alcoholic liver cirrhosis 5 marks
4. Explain three(3) causes of cardiogenic pulmonary edema 6 marks
5. Describe the pathophysiology of atopic asthma 6 marks
6. Outline five (5) features of thyrotoxicosis 5 marks
7. Describe the pathophysiology of Diabetes Mellitus type I 5 marks
8. Enumerate four(4) causes of Cushing disease 4 marks

SECTION C: LONG ANSWER QUESTIONS (40 Marks)

1. Cardiovascular diseases interfere with tissue perfusion. This results in cell injury and if the condition is not treated early and adequately, tissue death can occur. One such disease is right sided congestive cardiac failure.
 - a) Explain five (4) mechanisms of cardiovascular dysfunction giving Examples. 10 marks
 - b) Describe four (4) morphologic features of right sided congestive cardiac failure. 10 marks

2. Nephrotic syndrome is often caused by damage to small blood vessels in the kidneys that filter waste and excess water from the blood. An underlying health condition usually plays a role
 - a) Define nephritic syndrome 2 marks
 - b) Describe four(4) primary glomerular diseases that cause nephrotic syndrome 12 marks
 - c) Explain three(3) causes of rapidly progressing glomerulonephritis 6 marks