



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

**MAIN CAMPUS
UNIVERSITY EXAMINATIONS**

2016/2017 ACADEMIC YEAR

FIRST YEAR, SECOND TRIMESTER EXAMINATION

**FOR THE DEGREE
OF**

BACHELOR OF SCIENCE PHYSIOTHERAPY

COURSE CODE: BSP 131

COURSE TITLE: SYSTEMIC PATHOLOGY

DATE:

TIME:

INSTRUCTIONS TO CANDIDATES

Answer all Questions

Sec A: Multiple Choice Questions (MCQ) 20 Marks

Sec B: Short Answer Questions (SAQ) (40 marks)

Sec C : Long Answer Questions (LAQ) (40 marks)

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of --- Printed Pages. Please Turn Over.

- The MCQs are heavy on nutrition which is not in the content. Replace the questions with systems which are not tested eg. Cardiovascular, alimentary, hepatobiliary, lymphatic, endocrine*
- In SAQ & LAQ replace question suggested with systems which are not tested.*

*JH
6/8/2017*

Section A: Multiple Choice Questions (40 marks)

- nutrition* — 1. The following are examples of water-soluble vitamins **except** *bold w/ capitalize*
- A. Vitamin C
 - B. Niacin
 - C. Vitamin D
 - D. Vitamin B12
- nutrition* — 2. Malnutrition is defined as having inappropriate level of micro and macronutrients. The following causes can lead to malnutrition **except**;
- A. Inadequate maternal and child care
 - B. Adequate health care
 - C. Insufficient access to food
 - D. Poor water/sanitatio
- Immune* — 3. Activation of the mast cells causes secretion of the following **except**
- A. Histamine
 - B. Heparin
 - C. Neutrophil chemotactic factor
 - D. None of the above
4. The following are intrinsic abnormal developmental process that causes malformations **except**
- A. Incomplete separation
 - B. Hypoplasia
 - C. Incomplete closure
 - D. All of the above
5. The following are multiple defects that are derived from a single known or presumed structural defect of meningomyocele **except**
- A. Hip dislocation
 - B. Hydrocephalus
 - C. C. Cleft palate
 - D. D. Club foot
- nutrition* — 6. Absorption of non-hemoglobin iron is strongly influenced by
- A. Integrity of gut mucosa
 - B. Iron status of the body
 - C. C. Solubility of iron salts
 - D. D. All the above
- nutrition* — 7. Iron deficiency can cause the following **except**
- A. Decreased work capacity
 - B. Delayed psychomotor development
 - C. Decreased maternal and fetal mortality
 - D. Inability to maintain body temperature
- nutrition* — 8. The following substances are absorbed within the duodenum **except**
- A. Calcium
 - B. Vitamins
 - C. Vitamin B12
 - D. Amino Acids
9. The following factors may cause hydrocephalus to progress during infancy **except**;
- A. Cardiopulmonary distress
 - B. Emesis
 - C. Seizures

D. All of the above

10. The following are major complications experienced in infants with hydrocephalus except.

- A. Shunt infection
- B. Mechanical difficulties like kinking
- C. Malfunction by mechanical obstruction
- D. None of the above.

11. Fat-soluble vitamins assist in energy release of carbohydrates and red blood cell formation. — nutrition

- A. True
- B. False

12. Proteins are classified as macronutrients and they play's a major role in structural development? — nutrition

- A. True
- B. False

13. According to the world health organization, malnutrition is not major the cause of childhood diseases in the developing countries? — nutrition

- A. False
- B. True

14. In the developed countries like United States of America, malnutrition is associated with being grossly overweight — nutrition

- A. False
- B. True

15. Vitamin A deficiency is greatly associated with childhood blindness and according to the world health organization estimates; 14 million pre-school children have some eye damages. — nutrition

- A. True
- B. False

16. Hookworm infestation is one of the causes of anemia especially in children below five years.

- A. True
- B. False

17. Type I (one) hypersensitivity reaction is also called antibody dependent anti-toxicity? — Immune

- A. False
- B. True

18. Non-hemoglobin iron can be found in meat while hemoglobin iron is found in vegetables and cereals. — nutrition

- A. True
- B. False

19. A middle-aged woman visits your home and before you serve her with a hot cup of coffee, she stops you and narrates to you how she was in the hospital last week and the doctor advised her to stop taking coffee because her hemoglobin level is low and she is on iron drugs. Is it true that coffee inhibits absorption of iron in the body? — nutrition

- A. False
- B. True

20. Apoptosis and necrosis are classified within the reversible types of cell death.

- A. True
- B. False

Section B: Short Answer Questions

(40 marks)

- written replace* →
1. Management of a patient with malnutrition requires a multi-disciplinary approach for one to achieve a good prognosis. Briefly describe your role as a physiotherapist (8 Marks)
 2. Discuss the congenital talipes equino varus (CTEV) (12 Marks)
 3. Briefly describe physiotherapy management of hydrocephalus (10 Marks)
 4. Briefly describe poliomyelitis and your role as a physiotherapist (10 Marks)

Section C: Long Answer Questions

(40 marks)

- asked in Q2. with replace system* →
1. You are a newly posted physiotherapist in an outpatient department and a mother brings to you a two months old baby who has a bilateral deformed feet. Describe the diagnosis, management and prognosis of your case. (20 Marks).
deformed feet
 2. Discuss bronchiectasis under the following sub headings (20 Marks)
 - a. Definition
 - b. Causes
 - c. Pathophysiology
 - d. Diagnosis
 - e. Treatment
 - f. Prognosis

BSP 131 SYSTEMATIC PATHOLOGY

Purpose of the Course

To introduce the students to the pathological basis of diseases as they affect the various systems. The knowledge and understanding of pathology of the pathological basis of diseases is essential to institute appropriate treatment or suggest preventive measures to the patient.

Course Objectives

To acquire knowledge and understanding of how pathology is related disease that may affect movement.

To learn how the diseases of various systems can affect body function.

To learn the limitations imposed on movement by various systematic pathologies.

Importance of massage and hydrotherapy to exercise.

Course Content:

Introduction to Pathology

Nutritional Disorders

Protein energy malnutrition: Marasmus, Kwashiorkor and vitamin deficiency disorders, classification with specific examples.

Genetic Disorders

Basic concepts of genetic disorders and some common examples and congenital malformation Systematic Pathology.

Haematology

Constituents of blood and bone marrow, Regulation of haematopoiesis. Anaemia: classification, clinical features and lab diagnosis. Nutritional anaemia: Iron deficiency anaemia, Folic acid, Vit, B 12 deficiency anaemia including pernicious anaemia. Haemolytic Anaemia: Classification and investigations. Hereditary haemolytic anaemia: Thalessemia, Sickle Cell anaemia, Spherocytosis and Enzyme deficiency. Acquired haemolytic anaemias: Allimmune, Autoimmune. Drug induced, Microangiopathic. Pancytopenia – Aplastic anaemia. Haemostatic disorders, Vascular and platelet disorders and laboratory diagnosis. Coagulopathies – (i) Inherited (ii) Aquired. Leukocytic disorders. Leukocytosis, Leukopenis, Leukemoid reaction. Leukemia: Classification, clinical manifestation, pathology and Diagnosis. Multiple myeloma and disproteinemias. Blood transfusion; Grouping and cross matching untoward reactions, transmissible infections including HIV and hepatitis, Blood components and plasma-pheresis.

Respiratory system

Pneumonia, bronchitis, Bronchiectasis, tuberculosis, Carcinoma of lungs, Occupational lung disease.

Cardiovascular Pathology

Congenital Heart Disease: Arterial septal defect. Ventricular septal defect, Fallot's tetralogy, Patent ductus arteriosus. Endocarditis, Rheumatic heart disease. Vascular diseases: Atherosclerosis, Monckeberg's medial calcification, Aneurysm and arteritis and tumours of Blood vessels. Ischemic heart disease: Myocardial infarction. Hypertension and hypertensive heart disease.

Alimentary tract

Oral pathology: Ulcers, leukoplakia, Carcinoma, oral cavity diseases and tumour of salivary gland and esophagus and precancerous lesions, Esophagus inflammatory, functional disorders and tumours. Stomach: Gastritis, Ulcers and tumours. Tumours and tumour-like condition of the small and large intestine: Polyps, carcinoid, carcinoma, Lymphoma. Pancreatitis and pancreatic tumours: i) Exocrine ii) Endocrine. Salivary gland tumours: Mixed Warthin's.

Hepato-biliary pathology

Jaundice: Types, aetio-pathogenesis and diagnosis. Hepatitis: Acute, Chronic, neonatal. Alcoholic: liver disease. Cirrhosis: Postnecrotic, Alcoholic, Metabolic and portal hypertension liver abscesses; Pyogenic parasitic and amoebic. Tumours of liver.

Lymphatic System

Osteomyelitis, acute, chronic, tuberculosis mycetoma. Metabolic diseases: Rickets/Osteomalacia, osteoporosis, Hyperparathyroidism, Paget's disease. Tumours Classification; Benign, Malignant, Metastatic and synovial sarcoma, Arthritis: Suppurative, Rheumatoid, Osteoarthritis, Gout, Tuberculosis.

Endocrine Pathology

Diabetes Mellitus: types, pathogenesis, pathology, laboratory diagnosis. Non-Neoplastic lesions of Thyroid: Iodine deficiency goiter, autoimmune thyroiditis. Thyrotoxicosis, myxedema, Hashimoto's thyroiditis. Tumours of thyroid: Adenoma, Carcinoma: Papillary, follicular, Medullary, Anaplastic. Adrenal diseases: cortical hyperplasia, atrophy, tuberculosis, tumours of cortex and medulla.

Neuropathology

Inflammation and infection: TB Meningitis, Pyogenic Meningitis, viral meningitis and Brain Abscess. Tuberculosis, Cysticercosis. CNS Tumours, Astrocytoma, Neuroblastoma, Meningioma Medulloblastoma.

Mode of Delivery

Lectures
Tutorials
Practical
Group discussions

Instructional Material

Wall Charts
Audio-visual Aids
Whiteboards and marker pens
Flip charts.

Course Assessment

Written Examination 70%
Continuous Assessment 30%

Core Reading Materials

Coltran RS, Kumar V, Colluns T. Robbin's, Pathologic basic of diseases 6th Ed. Harcourt, 1999
Carson F, Histotechnology: A self-Instructional Text, American Society of clinical Pathology, 1997
Harsh M, Textbook of pathology, 2nd Ed. Gopsons Paper Ltd., 2005

Recommendation Reference Materials

Laura L, Histological Methods and color atlas of special Stains and tissue artifacts, American Histolabs publication department, 1993.
McKenzie JC, Klein RM, Basic concepts in cell biology and histology: a student survival guide, McGaw-Hill Health professionals Division, 2000.
Bancroft JB, Stevens A, Theory and practice of histological techniques 3rd Ed. Churchill Livingstone, Edingburgh, 1995

