

M.B.B.S. SECOND PROFESSIONAL EXAMINATION, FEBRUARY-2022

PATHOLOGY
PAPER - FIRST

[Time allotted: Three hours]

SET - A

[Max Marks: 100]

- Q. 1. Multiple choice questions (attempt all MCQs in the allotted first 20 minutes in the OMR sheet) (20 x 1 = 20)**
- An adaptive response of a cell consists of:
 - Inflammation
 - Hypertrophy
 - Dysplasia
 - Neoplasia
 - The hallmark of cell injury includes:
 - Decreased oxidative phosphorylation
 - Cellular swelling
 - Adenosine triphosphate (ATP) depletion
 - All of the above
 - Which of the following is **not** a free radical?
 - Singlet oxygen
 - Hydroxyl group
 - Carbon monoxide
 - Hydrogen peroxide
 - Under the microscope necrotic cells show:
 - Increased eosinophilia
 - Amorphous mitochondrial densities
 - Myelin figures
 - All of the above
 - p53:
 - Activates cyclins
 - Activates BAX
 - Activates CDKs
 - Activates bcl2
 - Possible outcomes of an acute inflammation includes all **except**:
 - Abscess formation
 - Atrophy
 - Chronic inflammation
 - Fibrosis
 - The granularity in cloudy swelling is **not** caused by:
 - Increase in size & number of mitochondria
 - Swelling of endoplasmic reticulum
 - Increased protein synthesis
 - Increase in size & number of lysosomes
 - During inflammation vasodilatation is caused by:
 - Histamine
 - Kinin
 - Prostacyclin
 - All of the above
 - Which of the following histological changes are considered as features of shock?
 - Shock lung with diffuse acute alveolar damage
 - Fatty liver with hepatocellular necrosis
 - Liquid depletion from zona fasciculata & zona reticularis of adrenals
 - All of the above
 - A man sustained fracture of femur in a road traffic accident, two days later suddenly he developed breathlessness, possible cause is:
 - Myocardial infarction
 - Fat embolism
 - Pulmonary infarction
 - Sepsis
 - Which of the following is an example of metastatic calcification?
 - Psammoma body in papillary carcinoma of thyroid gland
 - Calcification of a tuberculous focus in lung
 - Calcification in carcinoma breast
 - Calcification in the lung in a patient with hyperparathyroidism
 - Erythroblastosis fetalis is an example of, which of the following types of immunologically mediated cell injury:
 - Type I
 - Type II
 - Type III
 - Type IV
 - Paraneoplastic syndrome is produced by:
 - Osteogenic sarcoma
 - Bronchogenic carcinoma
 - Seminoma
 - Hepatocellular carcinoma
 - Carcinoembryonic antigen is a tumor marker for:
 - Choriocarcinoma
 - Hepatocellular carcinoma
 - Carcinoma colon
 - Renal cell carcinoma
 - In case of lead poisoning, the most affected site of lead accumulation is:
 - Bones
 - Red cells
 - Brain
 - Kidneys
 - Chemical mediator that aids in opsonisation in acute inflammation is:
 - LTB4
 - C5a
 - IL – I
 - C3b
 - Necrosis is a feature in the following type of inflammation:
 - Sarcoidosis
 - Tuberculosis
 - Leprosy
 - Rheumatoid arthritis
 - Enzymatic digestion is seen in:
 - Coagulative necrosis
 - Liquefactive necrosis
 - Caseous necrosis
 - All of the above
 - Enzyme which prevents aging is:
 - Catalase
 - SOD
 - Telomerase
 - Metalloproteinase
 - Test used for detection of HIV in window period is:
 - ELISA
 - Western Blot
 - CD4 Count
 - P24 antigen detection

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Note: Attempt all questions.
Draw suitable diagrams (wherever necessary)

- Q. 2. Give reasons:** (5 x 2 = 10)
- Bone pains in multiple myeloma
 - Macrocytosis in megaloblastic anaemia.
 - Haemophilia is seen mostly in males
 - There is anaemia in B. Thalassemia
 - Splenomegaly in leukaemia
- Q. 3. Problem based question:** (2+5+3 = 10)
- An 18 years old boy was admitted in emergency with breathlessness, diarrhoea and itching. He gave H/o bee sting few minutes ago.
- What is your clinical diagnosis?
 - What is pathogenesis of the disease?
 - Classify the disease.
- Q. 4. Write briefly on:** (4 x 6 = 24)
- What is primary tuberculosis and what is fate of primary tuberculosis
 - Classification of Acute Myeloid Leukaemia
 - Discuss role of a Doctor in a Team.
 - Tabulate difference between Necrosis & Apoptosis
- Q. 5. (i) Define Neoplasia, enumerate routes of metastasis & discuss molecular basis of metastasis. (1+3+6= 10)**
- (ii) Define Anaemia, classify anaemia & discuss Lab. Diagnosis of Iron deficiency anaemia. (1+3+6= 10)**
- Q. 6. Answer as indicated :** (4 x 4 = 16)
- Enumerate factors affecting tissue repair
 - Draw labelled diagram of Coagulation cascade
 - Turner's syndrome
 - Fate of a thrombus

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Q. 1. Multiple choice questions (attempt all MCQs in the allotted first 20 minutes in the OMR sheet) (20 x 1 = 20)

1. The major change in blood vessels in hypertension is:
 - a. Atherosclerosis
 - b. Hyaline arteriosclerosis
 - c. Multiple small aneurysms
 - d. Fibrinoid necrosis
2. Heart failure cells contain:
 - a. Hemosiderin
 - b. Lipofuscin
 - c. Myoglobin
 - d. Albumin
3. Aschoff cells are:
 - a. Fibroblasts
 - b. Macrophage
 - c. Neutrophil
 - d. Lymphocyte
4. Emphysema pathologically involves beyond the:
 - a. Bronchi
 - b. Terminal bronchioles
 - c. Respiratory bronchioles
 - d. Alveolar sac
5. Sputum from an asthma patient may show:
 - a. Eosinophils
 - b. Curschmann's spirals
 - c. Charcot Leyden crystals
 - d. All of the above
6. Helicobacter pylori is **not** associated with:
 - a. GI Lymphoma
 - b. Gastric cancer
 - c. Gastric leiomyoma
 - d. Gastritis
7. Which is **not** premalignant?
 - a. Gardner's syndrome
 - b. Juvenile polyposis
 - c. Ulcerative colitis
 - d. Adenomatous polyp
8. Alkaline phosphatase is increased beyond 30KA units in:
 - a. Obstructive jaundice
 - b. Thyrotoxicosis
 - c. Polycythemia vera
 - d. Erythroblastosis foetalis
9. Onion skin lesions in the muscular layer of arteriole is seen in:
 - a. SLE
 - b. Benign nephrosclerosis
 - c. Malignant hypertension
 - d. Chronic pyelonephritis
10. Malignancy of breast is likely to be associated with:
 - a. Sclerosing adenosis
 - b. Epithelial hyperplasia
 - c. Duct ectasia
 - d. Fibrocystic breast disease
11. Most common carcinoma of breast is:
 - a. Infiltrating ductal carcinoma
 - b. Colloid carcinoma
 - c. Lobular carcinoma
 - d. Sarcoma phylloides
12. Kimmelstiel Wilson disease is diagnostic of:
 - a. Diabetic glomerulosclerosis
 - b. Benign hypertension
 - c. Malignant hypertension
 - d. Amyloidosis
13. Commonest type of testicular tumor is:
 - a. Teratoma
 - b. Yolk sac tumor
 - c. Seminoma
 - d. Choriocarcinoma
14. Psammoma bodies are seen in which malignancy of thyroid:
 - a. Medullary carcinoma
 - b. Papillary carcinoma
 - c. Follicular carcinoma
 - d. Anaplastic carcinoma
15. HBV is **not** associated with:
 - a. Chronic active hepatitis
 - b. chronic persistent hepatitis
 - c. postnecrotic cirrhosis
 - d. cholangiocarcinoma
16. Toxic megacolon occurs in:
 - a. Ulcerative colitis
 - b. Chrons disease
 - c. Whipple's disease
 - d. Reiter's disease
17. Single most important factor in cervical carcinogenesis is:
 - a. Radiation
 - b. High risk HPV
 - c. Sunlight
 - d. Herpes simplex
18. Precancerous lesion of oral cavity is:
 - a. Erythroplakia
 - b. Verrucous carcinoma
 - c. Ameloblastoma
 - d. Odontogenic cyst
19. Non alcoholic fatty liver disease includes:
 - a. SLE
 - b. Benign nephrosclerosis
 - c. Hemochromatosis
 - d. Viral hepatitis
20. Grave's disease includes triad of:
 - a. Pretibial myxedema, neoplasm, hypothyroidism
 - b. Pretibial myxedema, neoplasm, thyrotoxicosis
 - c. Pretibial myxedema, exophthalmos, hypothyroidism
 - d. Pretibial myxedema, exophthalmos, thyrotoxicosis

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Note: Attempt all questions.
Draw suitable diagrams (wherever necessary)

- Q. 2. Give reasons:** (5 x 2 = 10)
- Polyuria seen in Diabetes mellitus
 - 1-5 micron dust particles are more dangerous for pneumoconiosis
 - Helicobacter pylori causes chronic gastritis
 - Hyperlipidemia leads to increased risk for atherosclerosis
 - Retinopathy occurs in diabetes
- Q. 3. Problem based question:** (5 x 2 = 10)
- A 57 year old obese woman presented with history of polydipsia and recurrent infections for last 2 years. She has now difficulty in vision and her urine examination revealed albuminurea.
- What is the probable diagnosis for this case and name any one complication of this disease
 - What is the cause of reduced vision in this case?
 - Why there is polydipsia in this case?
 - What is the cause of recurrent infections in this case?
 - Name any two types of this disease
- Q. 4. Write briefly on:** (4 x 6 = 24)
- Rheumatic heart disease
 - Heymann nephritis
 - Advanced Glycation End products
 - How will you communicate diagnosis of malignancy to the patient?
- Q. 5. (i) Describe pathogenesis, clinical features, gross and microscopic features in emphysema.** (4+2+4= 10)
- (ii) Classify Hepatitis. Describe the changes in serological markers in infective hepatitis.** (4+6 = 10)
- Q. 6. Answer as indicated :** (4 x 4 = 16)
- Risk factors of breast carcinoma
 - Draw labelled microscopic diagram of atheromatous plaque
 - Draw labelled microscopic diagram of peptic ulcer
 - How does HPV infection causes cervical cancer (pathogenesis)