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S. No. of Question Paper : **5839**

Unique Paper Code : **3182013503**

Name of the Paper : **Human Pathology**

Name of the Course : **B.Sc. (Hons.) Biomedical Sciences**

Semester : **V (NEP-UGCF)**

Duration : **3 Hours**

Maximum Marks : **90**

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt *five* questions in all.

Q. No. 1 is compulsory.

Subparts of the questions should be attempted together.

Draw illustrations or diagrams wherever necessary.

1. (a) Differentiate between : 2×4=8
- (i) Pseudocyst and True cyst
 - (ii) Serous and Fibrinous inflammation
 - (iii) Haemorrhage and Hematoma
 - (iv) Fibrinous and Purulent exudate.
- (b) Define : 2×5=10
- (i) Sepsis
 - (ii) Aneurysm

P.T.O.

(iii) Cholecystitis

(iv) Anasarca

(v) Pyknosis.

(c) State True/False and justify (any *four*) : 2×4=8

(i) Environmental factors, such as smoking, can lead to bronchial dysplasia.

(ii) Neutrophils are often the first cells to arrive at the site of acute inflammation.

(iii) Left-sided heart failure cause pulmonary edema.

(iv) Bone remodelling differs in child and adult.

2. Write short notes on : 6,5,5

(i) Role of AA metabolites in inflammation

(ii) Stages of Shock

(iii) AGEs.

3. (a) A 60-year old woman developed chest pain that persisted for 4 hours. A radiographic imaging procedure showed an apparent myocardial infarction involving a 3×4 cm area of the posterior left ventricular free wall. Laboratory findings showed serum creatine kinase of 600 U/L. What changes must have taken place in the myocardium of the woman? What change would be observed in the tissue after 2 months of this myocardial infarction ? 5

- (b) Discuss the risk factors, pathogenesis, morphology and complications of Asthma. 5
- (c) Give any *one* physiological and pathological reason of the following :
- (i) Atrophy
 - (ii) Hypertrophy
 - (iii) Metaplasia. 6
4. (a) A 55-year old male was admitted to hospital in a state of coma. His history indicated Polydipsia, Polyurea and Polyphagia. His clinical examinations revealed patterns like nephropathy, microangiopathy and retinopathy. Blood test reveals plasma glucose levels to be 355 mg/DL and HbA1c is 11.8%. What could be the possible cause for these chronic changes ? Explain the pathogenesis and its symptoms in that light. 5
- (b) Discuss the concept of carcinogenesis and the role of oncogenes. 5
- (c) Draw well labelled schematic for : 6
- (i) Antithrombotic properties of endothelium
 - (ii) Intracellular destruction of microbes by ROS and NO.
5. (a) The journey of neutrophil from the vessel lumen to the site of inflammation is a multistep process, meant to take care of acute inflammation. Explain in detail. Comment on the statement that inflammation is a double edge sword. 5

- (b) What are extracellular matrix components ? Discuss their role in wound healing. 5
- (c) Mr. Gulati, age 48 years, has had a persistent unproductive cough for several months that did not respond to cough medications. Recently, he has developed a productive cough accompanied by fatigue, anorexia, and night sweats. Examination indicated abnormal chest sounds and weight loss. A chest radiograph showed a small cavity and infiltrate, the tuberculin test was positive, and the sputum sample contained a small amount of blood and numerous acid-fast bacilli. What could be your diagnosis ? Discuss its pathogenesis. 6
6. (a) Give one word for the following : 5
- (i) A sample of tissue or fluid taken for examination from a human body
 - (ii) Determination of the nature of disease
 - (iii) Traumatic injury to the skin or tissues beneath the skin
 - (iv) Extravasation of blood into the extrayascular spaces
 - (v) Malignant neoplasm of smooth muscles.
- (b) Which are the *two* major pathways of Apoptosis and how are they linked ? Discuss using a well labelled schematic/flowchart. 5
- (c) What is the difference between arteriosclerosis and atherosclerosis ? Discuss the pathogenesis of atherosclerosis. 6