

[This question paper contains 4 printed pages.]

Sr.No. of Question Paper : 2327

F-4

Your Roll No.....

Unique Paper Code : 2581402

Name of the Course : B.Sc. (H) Biomedical Science

Name of the Paper : Human Pathology

Semester : IV

Duration : 3 Hours

Maximum Marks : 75

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt 5 (five) questions in all.
3. Question No. 1 (one) is compulsory.
4. Draw diagrams wherever necessary.
5. Attempt all the subparts of the questions together.

1. (a) Explain why :

(1.5×4=6)

- (i) Unlike necrosis, apoptosis is not necessarily associated with pathologic cell injury.
- (ii) The usual outcome of abscess formation is scarring.
- (iii) Therapies to cure cancer should be targeted against cancer stem cells.
- (iv) Fever is a symptom rather than a disease.

(b) Define :

(1×3=3)

- (i) Congestion
- (ii) Steatosis
- (iii) Anorexia nervosa

(c) Differentiate between :

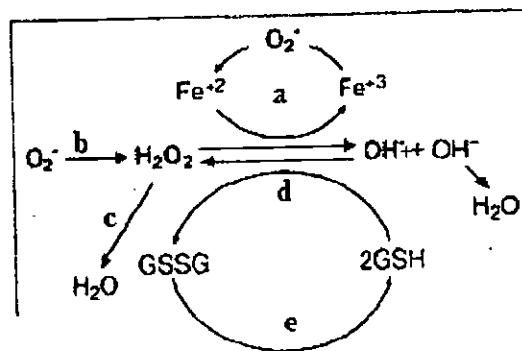
(2×2=4)

- (i) Abscess and ulcers
- (ii) Invasion and metastasis

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- (d) Give **one** word for : (1×3=3)
- (i) The protein rich fluid oozing from tissues during inflammation.
  - (ii) The movement of leukocytes from the circulation towards the site of injury through the endothelium.
  - (iii) The adaptive response consists of increase in the number of cells.
- (e) A patient X fractured his leg and was confined to bed for a long period of time. A swelling was seen in the lower extremity even though X ray pictures showed healing of the fracture. The patient had to be taken to ICU when he suddenly developed respiratory distress. Explain the development of the above said symptoms. (3)
2. Short notes on : (3,4,3,4)
- (i) Protein Energy Malnutrition
  - (ii) Role of arachidonic acid metabolites in acute inflammation
  - (iii) Various Phases of wound healing
  - (iv) Oncogenes
3. (a) Explain the sequence of events in pathogenesis of essential hypertension. How does it differ from secondary hypertension ? (5)
- (b) Match the following : (0.5×6=3)
- |                                |                      |
|--------------------------------|----------------------|
| (i) Smooth muscle tumor        | (a) Lymphangioma     |
| (ii) Striated muscle cancer    | (b) Angiosarcoma     |
| (iii) Connective tissues tumor | (c) Fibroma          |
| (iv) Lymphoid vessels tumor    | (d) Rhabdomyosarcoma |
| (v) Blood vessels cancer       | (e) Leiomyoma        |
| (vi) Connective tissue cancer  | (f) Fibrosarcoma     |

- (c) Suraj is a forty five year old man who always reports of stress and chest pain. He is a heavy smoker with type A personality. A few months ago he was submitted to ICU. Tests revealed abnormal ECG and coronary arteriogram, with 90% occlusion of his left main coronary artery. Diagnose his medical condition and analyze why it developed. (2)
- (d) Discuss that asthma is a type I hypersensitivity disorder. (4)
4. (a) Discuss the role and effects of any two metals in pathogenesis of cardiovascular and neurodegenerative diseases. (4)
- (b) Describe role of any tumor suppressor gene in the progression of cancer. (4)
- (c) Should people suffering from typhoid be isolated ? Is there a vaccine available for typhoid ? (2)
- (d) Discuss the sequence of events leading to systemic edema due to primary heart failure. (4)
5. (a) Give function of : (0.5×4=2)
- GAGS
  - Cadhesins
  - Histamine
  - Interleukins
- (b) Give the steps of phagocytosis of a microbe by neutrophils. (4)
- (c) Identify a, b, c, d and e in the given figure. (0.5×5=2.5)



- (d) A child was brought to the hospital having a fast weak pulse and rapid deep breathing. The skin seems to loose elasticity. Identify the condition and give its cure. (2.5)
- (e) Write contributions of following scientists : (0.5×6=3)
- (i) Louis Pasteur
  - (ii) Joseph Lister
  - (iii) Robert Koch
  - (iv) Celsus
  - (v) Kary Mullis
  - (vi) Rudolph Virchow
6. (a) Give functions and deficiency syndromes of water and fat soluble vitamins. (5)
- (b) What are the stages of shock ? Why tachycardia and hypotension occurs in shock ? (4)
- (c) Give sign symptoms and causes of acute respiratory distress syndrome. (2.5)
- (d) A deep sea diver seeing a shark suddenly comes up to the surface and cuddles up like a baby with intense joint pains. Identify the given condition of diver and explain the etiology. (2.5)