

**Q.P. Code: 213001**
**Reg. no.: .....**

**Second Professional MBBS Degree Regular/Supplementary Examinations  
December 2024  
Pathology - Paper I**

**Time: 3 Hours**
**Total Marks: 100**

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers
- Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw table/diagrams/flow charts wherever necessary

**1. Multiple Choice Questions**
**(1x20=20)**

**The Answers to MCQ questions (Q.No. i to Q.No. xx) shall be written continuously on the first two writing sheets (ie Page No. 3 & 4) only**

**Question Numbers (i) – (v) are Single Response Type**

- i. N-myc is a
 

a) Signal transduction factor	b) Growth factor
c) Growth factor receptor	d) Nuclear transcription factor
- ii. Translocation seen in Burkitt's lymphoma is
 

a) t(8:14)	b) t(9:22)	c) t(14:18)	d) t(15:17)
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- iii. The typical karyotype of Turner syndrome is
 

a) 45, XO	b) 46, XY	c) 47, XXY	d) 47, XYY
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- iv. Lipofuscin deposition is most likely due to
 

a) Autophagocytosis	b) Necroptosis	c) Pyroptosis	d) Apoptosis
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- v. The action of putrefactive bacteria in necrosed tissue results in
 

a) Coagulative Necrosis	b) Infarction	c) Wet Gangrene	d) Caseation
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**Question numbers (vi)-(x) are multiple response type questions. Read the statements & mark the answers appropriately.**

- vi. Which of the following are antioxidants
 

1) Catalase	2) Myeloperoxidase	3) Glutathione peroxidase	4) Superoxide dismutase
a) 1, 2, 3	b) 2, 3, 4	c) 3, 4, 1	d) 1, 2, 4
- vii. Examples for hypertrophy includes
 

1) Body builders	2) Myometrium of pregnant uterus		
3) Fibroadenoma	4) Left ventricle in Hypertension		
a) 1, 2, 3	b) 2, 3, 4	c) 3, 4, 1	d) 1, 2, 4
- viii. T cell mediated disease includes
 

1) Rheumatoid arthritis	2) Psoriasis	3) Multiple sclerosis	4) Polyarteritis nodosa
a) 1, 2, 3	b) 2, 3, 4	c) 3, 4, 1	d) 1, 2, 4
- ix. Classical Hodgkin lymphoma subtypes are
 

1) Nodular lymphocyte predominant	2) Mixed cellularity		
3) Nodular sclerosis	4) Lymphocyte depleted		
a) 1, 2, 3	b) 2, 3, 4	c) 3, 4, 1	d) 1, 2, 4
- x. Clinical features of cystic fibrosis includes
 

1) Sinusitis	2) Bronchial asthma	3) Cirrhosis	4) Meconium ileus
a) 1, 2, 3	b) 2, 3, 4	c) 3, 4, 1	d) 1, 2, 4

**Question numbers (xvi) – (xx) consists of two Statements-Assertion (A) and Reason (R). Answer these questions by selecting the appropriate options given below.**

- xi. (A): More than 70% of human cancers have a defect in p53 gene  
 (R): p53 plays a central role in maintaining the integrity of the genome
 

a) Both A & R are correct and R is the reason for A	b) Both A & R are correct but R is not reason for A
c) A is correct R is incorrect	d) A is incorrect R is correct
- xii. (A): Type-1 hypersensitivity reaction causes laryngeal edema  
 (R): Histamine causes increased vascular permeability and pain
 

a) Both A & R are correct and R is the reason for A	b) Both A & R are correct but R is not reason for A
c) A is correct R is incorrect	d) A is incorrect R is correct

**(PTO)**

- xiii. (A): Dengue hemorrhagic fever causes thrombocytopenia  
(R): Increase in immune destruction of platelets  
a) Both A & R are correct and R is the reason for A      b) Both A & R are correct but R is not reason for A  
c) A is correct R is incorrect      d) A is incorrect R is correct
- xiv. (A): IL-4 and IL-13 causes activation of M2 macrophages  
(R): M<sub>2</sub> macrophages are not microbicidal  
a) Both A & R are correct and R is the reason for A      b) Both A & R are correct but R is not reason for A  
c) A is correct R is incorrect      d) A is incorrect R is correct
- xv. (A): Rotheras test detects proteins in urine  
(R): Nephrotic syndrome causes massive proteinuria  
a) Both A & R are correct and R is the reason for A      b) Both A & R are correct but R is not reason for A  
c) A is correct R is incorrect      d) A is incorrect R is correct

**Read the following case scenario and answer subsequent questions based on this**

A 45 years old male presented to emergency department with difficulty in breathing, swelling of face, swollen lips, watering eyes and nose. He gave history of bee sting few minutes back.

- xvi. The hypersensitivity reaction associated with this condition is  
a) Type-I      b) Type-II      c) Type-III      d) Type-IV
- xvii. Release of which of the following chemical mediators is most likely responsible for this finding  
a) Nitric oxide      b) Prostaglandin E<sub>2</sub>      c) Complement C3b      d) Histamine
- xviii. Which of the following cytokine is NOT secreted by TH2 cells  
a) IL-4      b) IL-5      c) IFN-Gamma      d) IL-13
- xix. Which of the following mediators suppress inflammation  
a) Prostaglandin      b) Prostacyclin      c) Leukotriene      d) Lipoxin
- xx. Which of the following immunoglobulins play a major role in this reaction  
a) Ig A      b) Ig G      c) Ig E      d) Ig M

**Long Essays.**

**(2x10=20)**

2. A 35 year old male complains of fever, fatigue for the past 15 days. He had bleeding gums for the past 3 days. He had severe bone pains also. His total white blood cell count was 1,23,000 cells/c.mm with myeloblasts of 69%.  
a) What is your provisional diagnosis.  
b) Describe the peripheral smear and bone marrow findings.  
c) What other investigations are to be done for classifying the disease and assessing the prognosis of the patient. (1+4+5)
3. Define Apoptosis. Give examples of physiologic and pathologic conditions associated with Apoptosis. Write in detail about mechanisms of Apoptosis. (1+2+7)

**Short Essays.**

**(6X6=36)**

4. Cytokines in inflammation.
5. Paraneoplastic syndromes.
6. CSF findings in different types of meningitis
7. Factors affecting wound healing.
8. Haemophilia A
9. Explain the pathogenesis of septic shock.

**Short Answers.**

**(6x4=24)**

10. Define and classify Embolism.
11. Lab diagnosis of Megaloblastic anaemia.
12. Informed consent.
13. Rickets – Aetiopathogenesis and manifestations.
14. Transfusion reactions.
15. Type II hypersensitivity reaction.

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