

QP Code : 77047

(2½ Hours)

[Total Marks : 75

- Note:** 1) All Questions are compulsory.
2) Figures to the right indicate total marks
3) Draw neat and labeled diagrams wherever necessary.

1. (a) Do as directed (**Any Three**) 3
- (i) Define: Opsonisation
 - (ii) Give an example of cell belonging to myeloid lineage
 - (iii) Name an organ where haemopoietic stem cells are generated
 - (iv) Fill in the blank: Macrophages present in the kidney are called _____
 - (v) Give the role of Fc portion in an antibody
 - (vi) Fill in the blank: Total refractoriness to a pathogen by all members of a species is called as _____
- (b) Give an account of (**Any Two**):- 12
- (i) Structure and function of IgM
 - (ii) Anatomical barriers present in blood and mammary glands
 - (iii) Spleen: structure and function
 - (iv) Inflammation
2. (a) Explain the term (**Any One**) 2
- (i) Agglutination reaction
 - (ii) Peptide binding cleft
- b) Give one example of (**Any One**) 1
- (i) Cell that expresses CD8
 - (ii) Enzyme in Immuno assays
- (c) Discuss in brief (**Any Two**) 12
- (i) Structure and role of membrane molecules CD4 and CD8
 - (ii) Immunoelectrophoresis with two examples
 - (iii) Structure of T helper cell receptor complex
 - (iv) Principle of RIA
3. (a) Name the pathway to which the following are associated with (**Any Three**) 3
- (i) Pyruvate carboxylase
 - (ii) Galactose 1-phosphate uridylyl transferase
 - (iii) Glycogen synthase
 - (iv) Undecaprenol.
 - (v) ADP-glucose pyrophosphorylase
 - (vi) Aldolase

- (b) Describe the following (**Any Two**) 12
- (i) Role of glycogenin in glycogenesis
 - (ii) Peptidoglycan biosynthesis (schematically)
 - (iii) Synthesis of sucrose in plants
 - (iv) Bypass reactions of gluconeogenesis
4. (a) Write the reaction (**in words**) catalyzed by the following enzymes (**Any Three**) 3
- (i) Acetyl-CoA -ACP transacetylase
 - (ii) Phosphatidic acid phosphatase
 - (iii) PS synthase
 - (iv) Choline kinase
 - (v) HMG-CoA reductase
 - (vi) Mevalonate 5 phosphotransferase
- (b) Answer the following (**Any Two**) 12
- (i) Justify- Triacylglycerol biosynthesis is hormonally regulated
 - (ii) Schematically describe the synthesis of phosphatidylethanolamine from phosphatidic acid.
 - (iii) Describe transcriptional regulation of cholesterol biosynthesis.
 - (iv) Discuss the steps involved in formation of squalene from isoprene
5. Write short notes on (**Any three**) 15
- (i) Adaptive immunity
 - (ii) Any three determinants of antigenicity
 - (iii) Coomb's test
 - (iv) Hormonal regulation of glycogen synthesis
 - (v) Galactosemia
 - (vi) Structure of FAS complex