Q. P. Code:32050

Time: 3 Hours Marks: 100

N. b.

1. All questions are compulsory and carry equal marks.
2. Figures to right indicate full marks.
3. Draw neat labeled diagrams wherever necessary.
4. Attempt the questions in order.
5. Please check whether you have got the right question paper.

Q.1 A) Fill in the blanks by choosing the correct options given below. **05**

a) Genetic information of the eukaryotic cell is packed inside the _____
(Cytoplasm, Golgi complex, Nucleus)

b) The proteins that make up the nuclear pore complex are known as _____
(Nucleoporins, central granule, perinucleolar chromatin)

c) The cell organelle involved in the synthesis of phospholipids and hormones is _____
(Smooth endoplasmic reticulum, Rough endoplasmic reticulum, Golgi complex)

d) Aldehyde and Ketone derivatives of polyhydroxy alcohols are called _____
(Proteins, Lipids, carbohydrates)

e) A simple sugar with molecular formula same as glucose is called _____
(Galactose, Fructose, Ribose)

B) Match the columns I and II and rewrite. **05**

Column I		Column II
a) Plasma membrane	**i.**	Lysosomes
b) GERL	**ii.**	Polysaccharide
c) Autophagosomes	**iii.**	Endocytosis
d) Cellulose	**Iv**	Polypeptides
e) Amino acids	**v.**	Golgi + SER+ lysosome

C) State whether True or False **05**

a) Fluid mosaic model was proposed by Jolly and Dixon.
b) Desmosome is a type of cell to cell junction.
c) Golgi complex is involved in formation of plasma membranes, membranes of ER and mitochondria.
d) Lysosomes are packed in a single unit membrane.
e) Hemoglobin is a protein involved in the formation of exoskeleton of the vertebrate animals.

D) Define the following. **05**

a) Vitamin.
b) Biomolecules
c) Sarcoplasmic reticulum
d) Endomembrane system
e) Cell.

Q.2 **A)** Enlist the types of cell junctions and describe tight junctions and gap junctions in details. **10**

OR

A) Describe endocytosis. 10

B) **Explain any Two from the following.** **10**

a) Differentiate between prokaryotes and eukaryotes.
b) Write a note on interphase nucleus.
c) Write a note on nuclear sap.
d) Write the functions of plasma membrane.

Q.3 **A)** Describe the functions of Golgi complex. **10**

OR

A) Describe the functions of lysosomes. **10**

B) **Explain any Two from the following.** **10**

a) Write a note on the types of endoplasmic reticulum.
b) Write a note on the polymorphhism in lysosomes.
c) Draw and explain the ultrastructure of mitochondria.
d) Write a note cisternae of Golgi complex .

Q.4 **A)** Classify and explain the types of proteins on the basis of nutritional requirements. **10**

OR

A) Explain the properties of carbohydrates **10**

B) **Explain any Two from the following.** **10**

a) Enlist the properties of amino acids.
b) Write in short the biological role and the significance of Hemoglobin.
c) What are the causes of deficiencies of Vitamin 'B'.
d) Write the biological role and the significance of Carbohydrates.

Q.5 **Write short notes on any Four** **20**

a) Plasmodesmata
b) Draw neat and labeled diagram of Fluid Mosaic Model
c) Functions of Mitochondria
d) Fenestration and secretory vesicles.
e) Peptide bond
f) Write physical and chemical properties of lipids

****