

**Sardar Patel University**

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Biotechnology (NC), Semester –V

Thursday, 31<sup>st</sup> December 2020**US05CBIT-06****(Cell Biology)**

Time: 02:00-04:00pm

Marks: 70

- Q-1 Multiple Choice Question** **10**
1. Peripheral proteins have \_\_\_\_\_ bonding with the membrane lipid
    - a) Strong
    - b) Weak
    - c) Covalent
    - d) All of these
  2. Movement of phospholipids across the lipid bilayer called as \_\_\_\_\_.
    - a) Cholesterol
    - b) phospholipids
    - c) Glycolipid
    - d) None of the above
  3. \_\_\_\_\_ hydrocarbon chains tend to increase fluidity of phospholipid bilayer.
    - a) Saturated
    - b) Unsaturated
    - c) Both
    - d) None
  4. \_\_\_\_\_ motor protein are involved in plus end directed movement.
    - a) Keratin
    - b) Dynein
    - c) Kinesin
    - d) All of the above
  5. The activity of various MAPS is controlled primarily by the addition and removal of \_\_\_\_\_ group of amino acid by protein kinases.
    - a) Phosphate
    - b) Sulphate
    - c) Nitrogen
    - d) oxygen
  6. The receptor for tyrosine kinase receptor is ?
    - a) Dimeric
    - b) Multimeric
    - c) Monomeric
    - d) All of the above
  7. Characteristic of receptor protein in GPCR has \_\_\_\_\_ folds.
    - a) Four
    - b) Five
    - c) Six
    - d) Seven
  8. Which cellular organelles are involved in initiation of the intrinsic pathway of apoptosis.
    - a) Nucleus
    - b) Mitochondria
    - c) Golgi complex
    - d) Lysosomes
  9. Which of the following proteins is a death receptor which triggers the extrinsic pathway of apoptosis?
    - a) Caspase 8
    - b) FADD
    - c) FAS
    - d) Fas ligand
  10. Cancer in epithelial cell is referred as?
    - a) Carcinoma
    - c) Lymphoma

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b) Sarcoma

d) Blastoma

Q-2

**Answer the following**

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1. All tumor cells are cancerous cell. State true or false
2. \_\_\_\_\_ is an inhibitor of apoptosis?
3. Activation of GPCR is done by conversion of GDP to \_\_\_\_\_.
4. Cell signaling is not necessary for cell division. State true or false.
5. \_\_\_\_\_ primary components of the machinery responsible for mitosis and meiosis.
6. Myosins motor protein are found to move towards plus ends of microfilament. State true or false.
7. Movement of phospholipids across the lipid bilayer called as \_\_\_\_\_.
8. Integral proteins can be detached from lipid bilayer using heat. State true or false.

Q-3

**Short question (Attempt any ten)**

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1. What are oncogenes and protooncogenes?
2. What is the significance of apoptosis?
3. List different types of cancer.
4. Give two classes of receptor kinases receptors.
5. Define secondary messenger.
6. Enlist the importance of receptor tyrosine kinases.
7. Give function of microfilaments.
8. What are microtubules associated proteins.
9. What is kinesins and dyneins?
10. What is endocytosis?
11. What is glycocalyx and give its function?
12. How plasma membrane can act as a semipermeable membrane.

Q-4

**Long Question(Any Four)**

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1. Write a detail note on fluid mosaic model of plasma membrane along with a diagram.
2. Explain in detail chemical composition of plasma membrane.
3. Discuss the microtubule associated molecular proteins its structure and function.
4. Describe the cytoskeleton its role and significance.
5. Discuss in detail the signaling pathway of GPCR.
6. Explain the signaling pathway of receptor tyrosine kinase.
7. Explain intrinsic and extrinsic mechanism of apoptosis with help of labeled diagram.
8. Write notes on proto-oncogene

As the first

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