

**ST. JOSEPH'S COLLEGE OF ARTS & SCIENCE**  
**(AUTONOMOUS)**  
**DEPARTMENT OF BIOCHEMISTRY**  
**I M.Sc Biochemistry**

**Semester: III**

**Subject: Principles of Cell Biology.**

**Subject code: PBC702S**

**PART- A**

1. Give the example for micro body?
2. Who discovered endoplasmic reticulum?
3. What is rough & smooth endoplasmic reticulum?
4. Who named the ribosomes?
5. What is 70s & 80s ribosome's give example?
6. What is polysome & polyribosome?
7. Give the other name for Golgi complex?
8. Which organelle called suicidal bag of the cell?
9. When ETC occurs?
10. Where mitochondria found?
11. What is dictyosome?
12. Give an example for membrane phospholipid?
13. What is a transmembrane protein? Give an example?
14. Who introduced mitochondria?
15. When glycolysis takes place?
16. What are membrane glycoproteins?
17. Give the function of membrane glycoprotein?
18. Define refractive index?
19. What is meiosis?
20. Which microscope has maximum resolving power?
21. Where mitosis and meiosis occurs?
22. How many daughter cells are produced in mitosis and meiosis?
23. Who discovered mitosis and meiosis?
24. What is karyokinesis?
25. What is amitosis?
26. What are subcellular organelles give example?
27. Write the functions of cilia and flagella.
28. Give the composition in microtubule.
29. Write the compositions in microfilaments.
30. What are mtocs?
31. Give the example for microtubular associated proteins.
32. What is axoneme?
33. Where type if1 and if2 are present?
34. What is cadherins, give its role?

35. What is tight junction, give its role?
36. What is laminin, give its role?
37. What is gap junction, mention its functions?
38. What is hemidesmosomes?
39. What is integrins, give its role?
40. What is cell cycle?
41. What are the check points in cell cycle?
42. What are tumour suppressor genes? Give its examples.
43. What are mutagens?
44. Define oncogenes?
45. Give the role of G1, G2, G0 and S phase?
46. Define apoptosis?
47. Give the role of ubiquitin, protein ligases in cell cycle?

### **PART – B**

1. Write a note on integral protein?
2. Discuss the structure of prokaryotic and eukaryotic ribosomes?
3. Discuss the structure of lysosomes?
4. Discuss the structure and functions of peroxisomes?
5. Explain the ultra structure of nucleus?
6. Explain about different membrane model?
7. Write about RBC membrane?
8. Discuss the structure of Golgi complex and endoplasmic reticulum?
9. Explain principle and application of sem and tem
10. Explain the method of purification of sub cellular organelles.
11. Describe the structure and functions of cilia and flagella
12. Illustrate structure and assembly of actin filament?
13. Briefly explain about intermediate filament
14. Briefly explain about microfilament
15. Give an account of cadherins and connections.
16. Write short notes on cell adhesion molecules.
17. Explain the structure of collagen.
18. Explain in detail about cell junction and its types
19. Write a short note on tumour suppressor genes?
20. Give an account on the proportion of tumour cells.
21. Explain the various phases of cell cycle.
22. Briefly explain about onset of cancer.

## **PART –C**

1. Discuss the biological functions of mitochondria?
2. Write briefly about membrane structure and its function?
3. Give a comparative account on meiosis and mitosis.
4. Describe the principle and application of phase contrast microscopy and afm.
5. Write a detailed note on structure and composition of microtubule.
6. Explain about the molecular mechanism involved in cell-cell communications.
7. Describe in detail about chromosome walking
8. How is cell cycle regulated?
9. Explain in detail about the mechanism of apoptosis.