

**ST. JOSEPH'S COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)**  
**CUDDALORE – 1**  
**PG & RESEARCH DEPARTMENT OF BIOCHEMISTRY**  
**II-B.Sc Biochemistry**  
**QUESTION BANK**

**Subject: Cell Biology**

**Subject code: BC102S**

**Subject handled: Shift I & II**

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**Part A**

1. The animal cell can be distinguished from plant cell as they do not have.....
2. Sodium potassium pump is an example of.....
3. The organelle involved in lipid biosynthesis is
4. rRNA is present in.....
5. The site of electron transport chain and oxidative Phosphorylation is
6. The enzyme catalase, for the degradation of hydrogen peroxide is present in
7. Which type of cell division takes place in reproductive cells
8. In which phase of cell cycle, doubling of DNA takes place
9. Which organelle provides the shape and support to the cell
10. Streaming movement of cytoplasm is provided by
11. In cell cycle, the longest phase is
12. Which organelle is called traffic centre of the cell
13. The protein synthesis occurs in
14. In which stage of cell cycle, the chromosomes are seen at the equator
15. 80S ribosome is made up of
16. Microtubules are the polymer of
17. Nucleosomes are made up of \_\_\_\_\_ histones
18. Which of the following is a cell adhesion molecule?
19. Sodium potassium pump is an example of .....
20. The site of electron transport chain and oxidative Phosphorylation is
21. The organelle present only in germinating seeds of plants is
22. Which organelle of the cell contains rRNA
23. Which organelle is involved in lipid biosynthesis
24. The organelle found within the nucleus
25. In which phase of mitotic cell division, chromosomes are clearly visible
26. Which organelle provides the shape and support to the cell

27. Actin and myosin are present in
28. Golgi complex plays a major role in
29. Which of the following is a false statement
30. Actin filaments are involved in .....
31. Which is the longest phase in the cell cycle?
32. Which organelle is called suicidal bags.
33. The nucleosome contains .....
34. The Glycosylation of proteins takes place in
35. Chromosome is made up of .....
36. Synapsis occurs in .....
37. Which is called the traffic police of the cell.....
38. An example for microbody is
39. Microtubules are the polymer of
40. An example for calcium dependant cell adhesion molecule is
41. In a cell cycle, the replication of DNA occurs at
42. Which of the following is not a characteristic of prokaryotes?
43. Proteins synthesized by the rough ER are
44. The golgi apparatus is involved in
45. Chromatin is the combination of
46. Which Protein entirely sticks out on both sides of plasma membrane .....
47. Oxidative phosphorylation takes place in
48. F1-ATPase catalyse.....
49. Protein glycosylation mainly takes place in.....
50. Microfilaments play main role in .....
51. Eukaryotic cell do not contain \_\_\_\_\_
52. Unit model of plasma membrane was proposed by \_\_\_\_\_
53. Residual bodies are formed by incomplete digestion, is also known as \_\_\_\_\_
54. Respiratory electron transport chain is found in \_\_\_\_\_
55. Hydrogen peroxide catalysing enzyme is found in \_\_\_\_\_
56. How many pairs of chromosomes are present in human beings?
57. In meiotic division, crossing over take place in \_\_\_\_\_ phase
58. Microtubules are made of \_\_\_\_\_
59. If interfilament is found in epidermal cells, it is called as \_\_\_\_\_
60. What kind of molecules must pass between the nucleus and the cytoplasm?
61. Microtubules are the polymer of
62. An example for calcium dependant cell adhesion molecule is
63. Which cytoplasmic fibrils are most like the nuclear lamins?
64. Chromatin is the combination of.....
65. Animal cells contain all the organelles except
66. Sodium potassium pump is an example of
67. The site of electron transport chain and oxidative Phosphorylation is
68. The organelle present only in germinating seeds of plants is
69. Which organelle of the cell contains rRNA
70. Which organelle is involved in lipid biosynthesis
71. In which phase of mitotic cell division, chromosomes are clearly visible
72. Which organelle provides the shape and support to the cell

73. Actin and myosin are present in
74. In cell cycle, the longest phase is
75. Which organelle is called traffic centre of the cell
76. The protein synthesis occurs in
77. In which stage of cell cycle, the chromosomes are seen at the equator
78. 80S ribosome is made up of
79. Microtubules are the polymer of
80. Nucleosomes is made up of \_\_\_\_\_ histones
81. Which of the following is a cell adhesion molecule?
82. Golgi complex plays a major role in
83. Which of the following is a false statement
84. The polytene chromosome was first observed in
85. Which organelle is associated with RER.....

### Part B

1. What are liposomes?
2. How are membrane proteins classified?
3. Draw the structure of ribosomes.
4. Name some enzymes present in ER.
5. Write any two functions of peroxisome.
6. What are glyoxisomes?
7. Give the schematic representation of various phases of cell cycle.
8. What is meiosis?
9. Give the composition of microtubules.
10. What are intermediary filaments?
11. What is endocytosis?
12. Draw the structure of liposomes.
13. Write any two functions of RER.
14. What is symport and antiport?
15. What is SAT- chromosome?
16. Mention the differences between prokaryotic and eukaryotic cells?
17. What are cyclins?
18. What are microbodies?
19. What are the 4 different phases of cell cycle?
20. What is symport?
21. What are membrane proteins?
22. Draw the structure of golgi complex.
23. Give the chemical composition of ribosomes.
24. What is the importance of meiosis?
25. What are microfilaments?
26. Comment on intermediate filaments.
27. What is extracellular matrix?
28. Define porins.
29. Why mitochondria are known as the “power house of the cell”?
30. What are the two different types of lysosome?
31. What is perinuclear space?

32. What is lampbrush chromosome?
33. Define karyophorin?
34. What are satellite of a chromosomes?
35. Mention the function of membrane ATPase.
36. What is lignin?
37. What is endocytosis?
38. Which is a cell adhesion molecule?
39. Draw the structure of liposomes.
40. Write any two functions of RER
41. What is symport and antiport?
42. What is polytene - chromosome?
43. Mention the differences between prokaryotic and eukaryotic cells?
44. What are cyclins?
45. What are the 4 different phases of cell cycle?
46. Write a note on peroxisomes?
47. Which is the cellular power plant?
48. What is G<sub>0</sub> phase?
49. Expand MTOCs.
50. Where is Laminin found?
51. Liposomes.
52. Structure of Eukaryotic cell.
53. Function of microbodies.
54. Give the types of chromosomes.
55. Define kinetochore.
56. List various protein of cytoskeleton.
57. Define compartmentalization of golgi apparatus.
58. What are cisternae?
59. What are Ion-pumps?
60. Define membrane asymmetry.
61. Define antiport.
62. Define Diakinesis.
63. What is symport?
64. Mention the differences between RER and SER.
65. What is the importance of meiosis?
66. Define cell cycle.
67. What are microfilaments?
68. Comment on intermediate filaments.
69. Define liposomes
70. Give one function of ribosome.
71. List any two enzymes of endoplasmic membrane?
72. What are lamp brush chromosomes?
73. Define cell cycle?
74. What are proto filaments?
75. What is cytoskeleton?
76. Which is the cellular power plant?
77. What is G<sub>1</sub> phase?

78. Expand MTOCs.
79. What are actins?
80. Write any two function of microbodies
81. What is endocytosis?
82. Draw the structure of liposomes.
83. Write any two functions of RER.
84. What is symport and antiport?
85. What is SAT- chromosome?
86. Mention the differences between prokaryotic and eukaryotic cells?
87. What are cyclins?
88. What are microbodies?
89. What are the 4 different phases of cell cycle?
90. Write a note on peroxisomes?
91. What is Liposomes.
92. Define porins.
93. Why mitochondria are known as the “power house of the cell”?
94. What are lysosomes?
95. What is perinuclear space?
96. What is lampbrush chromosome?
97. Define Symport?
98. What are satellite of a chromosomes?
99. Mention the function of membrane ATPase.
100. Give a function of golgi apparatus?

### **PART C**

1. Give a note on membrane proteins.
2. Mention the structure, composition and functions of nucleus.
3. Write an account of microtubules and microfilaments.
4. Write the characteristic features that distinguish prokaryotic and eukaryotic cell.
5. Explain about the endocytosis and exocytosis.
6. Write short notes on cytoskeleton.
7. What are the differences between prokaryotic and eukaryotic cell?
8. Describe the two different types of membrane transport systems.
9. What are IF proteins? Mention their importance and composition.
10. Discuss the structure of Prokaryotic cell.
11. Write notes on integral proteins.
12. Write a note on ribosomes.
13. What are actins? Explain their functions.
14. What are microtubules? Describe their structure and function?
15. Write a short note on polytene chromosome and lamphbrush chromosome.
16. Write the functions of IFs.
17. Write a short note on Endocytosis.
18. Write a short note on F<sub>0</sub>-F<sub>1</sub> complex.
19. List out various kinds of lysosomes.

20. Write the characteristic features that distinguish prokaryotic and eukaryotic cell.
21. Explain about the endocytosis and exocytosis.
22. Explain the structure of glyoxysome.
23. Compare mitotic cell division with meiosis.
24. Give the functions of cell membrane?
25. Write a short note on sodium potassium pump
26. Explain the functions of smooth endoplasmic reticulum
27. Discuss the structure of Eukaryotic cell.
28. Write notes on integral proteins.
29. Discuss about lamp brush chromosome
30. Write short notes on Fluid mosaic model
31. Give a note on membrane proteins.
32. Mention the structure, composition and functions of nucleus.
33. Write an account of microtubules and microfilaments.
34. Write about the chemical composition and functions of lysosome.
35. What are IF proteins? Mention their importance and composition.
36. What are the differences between prokaryotic and eukaryotic cell?
37. Describe the two different types of membrane transport systems.
38. Write about the morphology and functions of microbodies.
39. Write a note on microtubules.
40. Draw and explain the various parts of eukaryotic cell.
41. Explain about endocytosis and exocytosis.
42. Draw the various stages of mitosis.
43. Discuss about the organization of microfilaments

### **PART D**

1. Describe in detail about various types of membrane transport.
2. Describe in detail about the structure and functions of lysosomes.
3. Explain the structure and functions of mitochondria.
4. Describe the different stages of meiotic cell division.
5. Describe the structure and role of microtubules
6. Describe sodium potassium pump and  $\text{Ca}^{2+}$  and ATPase pump.
7. Discuss the structure and functions of endoplasmic reticulum.
8. Give an account of fluid mosaic model of plasma membrane.
9. What is chromatin? Give the structure and organization of chromatin.
10. Describe the fluid mosaic model of plasma membrane.
11. Describe in detail about the structure and functions of Golgicomplex.
12. Explain the structure and functions of Lysosomes.
13. Describe the structural organization and functions of nucleus.
- 14.** Describe the various components involved in cytoskeleton.
15. Explain four different phases of cell cycle with neat sketch.
16. Describe in detail about membrane proteins.
17. Write about the structural composition and biochemical functions of nucleus.
18. What is membrane transport? And what are the types of transport?
19. Describe the chemical composition and function of microfilaments.

20. Give an account of fluid mosaic model of plasma membrane.
21. What is chromatin? Give the structure and organization of chromatin.
22. Explain the mitotic cell division.
23. Describe in detail the structure and composition of microtubules.
24. Explain the types of membrane transport.
25. Describe in detail the structure and composition of microtubules.
26. Describe sodium potassium pump and  $\text{Ca}^{2+}$  and ATPase pump.
27. What is ER? Describe the types, structure and functions?
28. What are ribosomes? Explain the structure of ribosomes.
- 29.** Describe ultra structure of nucleus.
30. Distinguish between euchromatin and heterochromatin.
31. Describe in detail about the structure and functions of Golgi complex.
32. Comment on types of membrane transport?
33. Draw and explain the structure and functions of nucleus.
34. Describe in detail about membrane proteins.
35. What is membrane transport? And what are the types of transport?
36. Describe the chemical composition and function of microfilaments.