**Question Bank**

# B.Sc. Biotechnology I Year

**Subject 101-103**

**Part A**

Answer the following in short:

1. What are carboxysomes?
2. Draw a typical growth curve of bacteria in a nutrient medium.
3. What is meant by PFus?
4. What is meant by bioleaching of ores?
5. Give any 2 characteristic features of fungi.
6. How do chemolithotrophic bacteria obtain their energy?
7. Name any one culture media used for growing bacteria and one culture media used for growing fungi.
8. Give the outline of Whittaker's Fire kingdom concept.
9. What is meant by Bio remediation?
10. Write names of any two industrial microbial products,
11. Who proposed the concept of the cell theory? Write any two functions of endoplasmic reticulum.
12. What is exocytosis?
13. Write difference between Active and Passive transport.
14. What is HeLa cell line?
15. Define GPCR.

16. What is cyclic AMP?
17. What is immunochemistry?
18. What do you understand by mesosomes?
19. What is signal transduction?
20. Curve
21. Grouped data
22. Standard deviation
23. ANOVA
24. RAID
25. ROM
26. ALU
27. e-Journal
28. MS Office
29. Mean
30. Mode median

## Part-B

Write short notes on:

1. Mycoplasma
2. Viruses
3. Plaids in bacteria.
4. Endospore structure and function
5. Describe conjugation in bacteria with suitably labelled diagrams.
6. Biofertilizers
7. Production of biogas
8. Nucleus
9. Ribosome
10. Phosphorylation of protein kinases.
11. Role of inositol phosphate messengers
12. Type of Data
13. Two way ANOVA
14. (Standard error.
15. Open devices
16. Processing device
17. Windows 2003
18. MS  word
19. e-book

20. MS-Excel
21. Explain the outline of Bergey's manual of determinative bacteriology. Also state its significance in microbial taxonomy
22. Describe the structure of cell wall in bacteria. Differentiate between Gram positive and Gram-negative cell wall
23. What is meant by Batch culture of microbes? Explain various factors that affect the growth of microbes in culture
24. Write a general account on spoilage and preservation of food.
25. Describe the representation of data by using graphs with suitable diagram.
26. Student - T - test with example
27. White a note on Na-K pump transport across cell membrane.
28. Explain autocrine, paracrine and endocrine model of action.
29. Explain calcium model of signal amplification
30. Explain in detail techniques of propagation of Prokaryotic and Eukaryotic cells.
31. Write a detailed note on characterization of cells.
32. Describe the various Application of computer.
33. Explain different stages of meiosis in detail.

34. In a class of 30 students, mark obtained by students in mathematics out of 50 is tabulated as below. Calculate the mode for given data

| Marks obtained | Numbers of Students |
|---|---|
| 10-20 | 8 |
| 20-30 | 20 |
| 30-40 | 17 |
| 40-50 | 5 |

35. Calculate the arithmetic mean by

I. Direct method

II. Shortcut method

From following data

| Family | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| Weekly income | 850 | 750 | 100 | 750 | 5000 | 80 | 420 | 2500 | 400 | 360 |

36. Compute the average marks of the following data

| Marks | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
|---|---|---|---|---|---|
| No. of students | 3 | 22 | 35 | 30 | 10 |