

**Anekant Education Society's
Tuljaram Chaturchand College**

Baramati (Pune)

Autonomous

F.Y.B.Sc. Microbiology (Sem. II : 2019-2020)

Paper I : Introduction To Microbiology

Paper code: MICRO1201

Question Bank

One Mark Questions

1. Define: Atom, Molecule, Ion
2. Define pH.
3. The bond present between atoms in H₂O molecule are _____.
4. The bond present between H₂O molecules are _____.
5. Define Metabolism.
6. Define Isotopes.
7. What is Avogadro's number?
8. Phospholipids are made up of _____.
9. Define Molarity.
10. Define Normality.
11. Define Buffer.
12. Define Monosaccharides.
13. Define Disaccharides.
14. Give any two examples of polysaccharides.
15. Carbohydrates are _____.
 - a) Polyhydroxy aldehydes
 - b) Ketone
 - c) Both
 - d) None
16. The DNA model structure was proposed by _____.
 - a) Edward and Watson
 - b) Watson and Crick
 - c) Both
 - d) None.

17. State True or False

- a) Lipids are esters of fatty acids.
- b) DNA contains Ribose sugar while RNA contains Deoxyribose sugar.
- c) Metachromatic granules are also called as volutin.

Two Marks Questions

1. Define Proteins.
2. Explain covalent bond formation in CO₂ molecule.
3. Explain ionic bond formation in NaCl molecule.
4. Explain hydrogen bond formation with suitable example.
5. What is the function of Haemoglobin molecule?
6. Which are the two units of starch?
7. Match the following:

Nucleic acid	Sugars
Protein	Fatty acids
Lipid	Amino acids
Carbohydrate	Nucleotides
8. Which of the following is disaccharide?
a) Glucose b) Fructose c) Sucrose d) Galactose
9. Write any four example of endospore forming bacteria.
10. Give any two examples of capsulated bacteria.
11. Which protein is present in basal body of the flagellum?
12. Define Lipids.
13. Define Immunoglobulin.
14. Define Endospore.

Four Marks Questions

1. Write a brief note on bacterial flagella.
2. What are carbohydrates? Describe various classes of carbohydrates with suitable examples.
3. Describe structure and functions of proteins.
4. Describe the structure and functions of nucleic acids.
5. Describe different classes of lipids.
6. Write a short note on redox potential.
7. Give the composition of Peptidoglycan.
8. Write a short note on Hemoglobin.
9. Draw the structure of typical Bacterial cell.
10. Differentiate between Gram positive and Gram negative bacteria.
11. Enlist various functions of capsule.
12. Enlist functions of bacterial cell wall.
13. What are the different arrangements of flagella in bacteria?
14. Write a short note on bacterial pili.
15. Explain the role of pili in conjugation.
16. Write a note on Nucleoid.
17. Write the function of Cytoskeletal proteins.

Six Marks Questions

1. Describe the difference between Gram negative and Gram positive bacterial cell wall.
2. Describe the structure and functions of cell membrane of bacteria.
3. Write the significance of endospore production in bacteria.
4. Describe the process of sporulation in bacteria.
5. Explain the composition and function of ribosomes in bacteria.
6. Describe the structure and functions of bacterial capsule.
7. What is the composition of bacterial capsule?
8. Explain the structure of flagella in Gram positive and Gram negative bacteria.
9. Explain the role of plasmids in bacteria.
10. Explain the structure and function of hemoglobin and antibody molecule.
11. Explain the structure and function of triglycerides and phospholipids.
12. Diagrammatically describe the structure of Immunoglobulin.
13. Describe the composition and functions of inclusion bodies in bacterial cell.

Twelve Marks Questions

1. Describe Carbohydrates and add a note on their classification
2. What are Lipids ? Give their classification.
3. What are proteins? Explain different structures of them and add a note on their biological functions.
4. Describe the process of sporulation and germination in bacteria.
5. Explain the structure of flagella in Gram positive and Gram negative bacteria.
6. Explain the structure and function of hemoglobin and antibody molecule.
7. Describe the composition and functions of inclusion bodies in bacterial cell.