

- All questions are compulsory.
- Draw diagram wherever necessary.
- Figures to right indicate marks.

Q. I A. EXPLAIN ANY FOUR OF THE FOLLOWING TERMS (08)

- | | | |
|-------------------|-------------------|--------------------------|
| 1. Covalent bonds | 2. pH | 3. Nucleotides |
| 4. tRNA | 5. Hydrogen bonds | 6. Acid- Base indicators |
| 7. Phospholipids | 8. Lipids | |

Q. I B. EXPLAIN ANY TWO OF THE FOLLOWING QUESTIONS (12)

1. Structure and properties of water.
2. Buffers and buffering action.
3. Types and Properties of DNA.
4. Classification of Lipids.

Q. II A. DO AS DIRECTED ANY FOUR (08)

1. Explain the term – Nucleoid.
2. Give any two functions of cell wall.
3. What are teichoic acids?
4. Two sugar derivatives in peptidoglycan.
5. Lipid raft is enriched in _____ and _____.
6. Give any two functions of microtubules.
7. Correct the statement if false- Endoplasmic reticulum with ribosomes on outer surface is smooth endoplasmic reticulum.
8. Two types of chromatin.

CONTD 2/...

Q. II B. DISCUSS ANY TWO OF THE FOLLOWING QUESTIONS

(12)

CH

1. Differences between prokaryotic and eukaryotic cell.
2. Cell wall of Gram positive bacteria.
3. Mitochondria of a eukaryotic cell.
4. Inclusion bodies in a prokaryotic cell.

Q. III A. NAME ANY TWO OF THE FOLLOWING

(04)

I

P

A

E

C

Pr

N

1. Carbon and energy source of photoautotrophs.
2. Two enzymes that protect aerobic and facultative organisms against toxic forms of oxygen.
3. Two selective media.
4. Two Cryopreservative agents.

Q. III B. FILL IN THE BLANKS ANY TWO

(02)

1. _____ is needed for synthesis of substances like amino acids, cysteine and methionine.
2. An organism which is able to grow in presence of atmospheric oxygen is called _____.
3. Rock eaters are also known as _____.
4. Microelement _____ is a component of vitamin B 12.

Q. III C. DEFINE ANY TWO OF THE FOLLOWING TERMS

(02)

- | | | | |
|-------------------|------------------|----------------|--------------|
| 1. Culture medium | 2. Growth Factor | 3. Alkalophile | 4. Mesophile |
|-------------------|------------------|----------------|--------------|

Q. III D. ANSWER ANY TWO OF THE FOLLOWING QUESTIONS

(12)

1. Explain the various types of culture media.
2. Explain the different methods used for isolation of microorganisms.
3. Give an account of the nutritional classification of microorganisms.
4. Give a brief account on oxygen requirement and microbial growth.

CONTD 3/...

Q. IV. WRITE SHORT NOTES ON ANY THREE

(15)

1. Purines and their structures.
2. Action of Phospholipases.
3. Endoplasmic reticulum.
4. Composition and structure of peptidoglycan.
5. Preservation methods of microorganisms.
6. Nutritional requirements of microorganisms.

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