

B.Sc. (Part – I) (Semester II)(NEP) Examination Mar/Apr-2024

Balasaheb Desai College, Patan

Microbiology

Subject Code – 90230

Microbial Biochemistry (Paper –IV)

Day and Date –Friday 05/04/2024
Time -

Total Marks- 40
Period- 2 hours
Pages- 2

- Instruction -** 1) *All the questions are compulsory.*
2) *Figures to the right indicate full marks.*
3) *Draw neat labelled diagrams wherever necessary.*

Q.1 Rewrite the following sentences choosing the correct alternatives given below. 8

1. Codons are found in -----

- a) t RNA b) r RNA c) m RNA d) DNA

2. Fats and oils are -----

- a) Complex lipids b) Derived lipid c) Simple lipids d) Membrane lipids

3. Energy is utilized in ----- reaction.

- a) Anabolic b) Catabolic c) Metabolic d) Biochemical

4. ----- is the most common glycolytic pathway.

- a) HMP b) PPP c) PEP d) EMP

5. Nucleic acids are polymers of -----

- a) Amino acids b) Sugar c) Nucleotides d) Lipids

6. The term enzyme was coined by -----

- a) Watson b) Crick c) Buchner d) Pasteur

7. ----- are not polymeric substance.

- a) Lipids b) DNA c) RNA d) Proteins

8. ----- bonds connect sugar molecules.

- a) Glycosidic bond b) Phosphodiester bond c) Esters bond d) Peptide bond

Q.2. Attempt following question (Any Two)

16

1. What are enzymes ? Describe in detail constitutive and inducible enzymes.
2. Explain catabolism of Glucose with EMP.
3. Describe in detail structure and function of DNA.

Q.3. Write short notes on (Any Four)

16

1. t RNA.
2. High energy compound.
3. Peptide bond.
4. Extracellular enzymes.
5. Concept of Catabolism with example.
6. Active site of an enzyme.

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Balasaheb Desai College, Patan
Microbiology
Subject Code –90230
Bacteriology (Paper –III)
Answer Key (Set -1)

Q.1) Rewrite the following sentences by selecting correct alternative **08**

- | | |
|-------------------------|-----|
| 1. d) Agar Agar | (1) |
| 2. d) Anaerobic chamber | (1) |
| 3. b) Natural | (1) |
| 4. b) Starch agar | (1) |
| 5. a) Oxygen+hydrogen | (1) |
| 6. b) Blood Agar | (1) |
| 7. c) NaCl | (1) |
| 8. d) Iodine | (1) |

Q 2. Attempt any two **16**

1) Discuss methods for the isolation and cultivation of anaerobes by mechanical exclusion of free oxygen.

- Definition/concept (1 Mark),
- Four methods of cultivation of anaerobes (7 Marks)

2. Define nutrition. Discuss nutritional classification of organisms

- Definition (1 Marks)
- Explanation of types with examples (7 marks)

3. Describe H₂S test used for Biochemical identification of bacteria.

- Procedure (3 Mark),
- Mechanism (3 marks)
- Use and examples (2 Mark)

Q.3 Write short note on (Any four) **16**

1. Catalase test

- Mechanism (2mark), Procedure (2mark)

2. Colony characteristics of Bacteria

- Characters explanation - Per Two character (1 marks)

3. Microelements

- Concept (1Marks), Explanation (3marks)

4. Growth factor

- Concept (1 marks), three Growth factors (3 marks)

5. Natural media

- Concept (1mark), explanation (3mark)

6. Differential media

- Concept (1 mark) explanation with example (3 mark)
