

2103000205021053
EXAMINATION FEBRUARY-MARCH 2024
BACHELOR OF SCIENCE (FIFTH SEMESTER)
BIO SCIENCE (MICROBIOLOGY) PAPER - VIII
BS-503-MICROBIAL METABOLISM - LEVEL-2

[Time: As Per Schedule]

[Max. Marks: 50]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination: **BACHELOR OF SCIENCE (FIFTH SEMESTER)**
 - b. Name of the Subject: **BIO SCIENCE (MICROBIOLOGY) PAPER - VIII BS-503-MICROBIAL METABOLISM – LEVEL-2**
 - c. Subject Code No: **2103000205021053**
2. Draw neat and clean diagram wherever necessary.
 3. Figures to the right indicate full marks of the question.
 4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 Multiple choice questions (MCQs):

8

1. Which of the following is involved in anaerobic respiration?
 - a. CO₂
 - b. N₂
 - c. H₂
 - d. All

2. Which of the following is the type of fermentation?
 - a. Mix acid
 - b. Lactic acid
 - c. Alcohol
 - d. All

3. End products of EM pathway (aerobic) is _____
 - a. Oxygen
 - b. Water
 - c. Carbon dioxide
 - d. Pyruvate

4. Glycogen breakdown process is known as _____
 - a. Glycogenesis
 - b. Glycolysis
 - c. Gluconeogenesis
 - d. None

5. What is the precursor for fatty acid synthesis?
 - a. Propionyl CoA
 - b. Succinyl CoA
 - c. Acetoacetyl CoA
 - d. None

6. Which is the first step of urea cycle?
 - a. Hydration
 - b. Condensation
 - c. Oxidation
 - d. Cleavage

7. What is anabolism?
 - a. Breaking down processes
 - b. Another name for catabolic processes
 - c. Synthesis processes
 - d. Both anabolic and catabolic processes

8. Reversal pathway of glycolysis is _____
 - a. Glycogenesis
 - b. Gluconeogenesis
 - c. Glycogenolysis
 - d. None

Q.2 [A] Answer as directed: 4

1. Define: Decarboxylation
2. Give the full form of HMP, EMP
3. Which enzyme involved in first step of glycogenesis?
4. Give any two types of fermentation.

[B] Write short note on Any Two 10

1. Chemoorganotrophic fuelling.
2. Entner-Doudoroff pathway.
3. Nitrification.

Q.3 Answer the following questions. 14

1. Explain in brief stages of ETC.
2. Describe in brief fermentation.

OR

Explain in detail how glucose is oxidized. 14

Q.4 Discuss in detail how glucose is synthesized from non-carbohydrates sources? **14**

OR

Answer the following questions. **14**

1. Describe in brief transamination reaction.
2. Write a note on Urea cycle.
