

B.Sc. Semester - 5 (CBCS) Examination
Oct/Nov - 2022 (NEW COURSE)
Prokaryotic Metabolism(Core)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Q-1 (A) Answer the following questions in short 04
1. Define Bioenergetics.
 2. Give two examples of Energy rich compounds.
 3. What is Energy?
 4. What is uncompetitive Enzyme inhibition?
- Q-1 (B) Answer any one of the following questions briefly 03
1. Explain role of ATP in metabolism.
 2. Explain effect of temperature and PH on enzyme activity.
- Q-1 (C) Write a note on any one of the following topics 07
1. Michaelis menten equation.
 2. Allosteric and covalent modification in enzyme.
- Q-2 (A) Answer the following questions in short 04
1. Give a Full form of EMP and T.C.A.
 2. How many ATPs are produced during T.C.A cycle.
 3. Write down the general reaction of amino acid transamination reaction.
 4. ED pathway operates in which microorganism?
- Q-2 (B) Answer any one of the following questions briefly 03
1. Write about glyoxylate cycle.
 2. Write about stickland reaction.
- Q-2 (C) Write a note on one of the following topic 07
1. Write down about glycolysis and its regulation.
 2. Write about beta oxidation of fatty acid with example.
- Q-3 (A) Answer the following questions in short 04
1. Give the name of components of ETC.
 2. Define biochemical mutant.
 3. Draw the structure of type ATPase.
 4. Difference between aerobic and anaerobic respiration.
- Q-3 (B) Answer any one of the following questions briefly 03
1. Write about p type ATPase.
 2. Write about Q cycle.
- Q-3 (C) Write a note on one of the following topic 07
1. Write about bacterial photosynthesis.
 2. Write about E.T.C.

Q-4 (A) Answer the following questions in short	04
1. Give examples of nitrifying bacteria.	
2. What is siderophore?	
3. What is methanogens?	
4. Give examples of hydrogen bacteria?	
Q-4 (B) Answer any one of the following questions briefly	03
1. Write about iron bacteria.	
2. Write about homo fermentative pathway of LB.	
Q-4 (C) Write a note on one of the following topic	07
1. Write about heterofermentative pathway in lactic acid bacteria.	
2. Write about carbon assimilation in methanogens.	
Q-5 (A) Answer the following questions in short	04
1. Define active transport.	
2. Define quorumones.	
3. Define antiport and symport.	
4. What is mechanosensitive channels.	
Q-5 (B) Answer any one of the following questions briefly	03
1. Explain passive transport.	
2. Explain Quorum sensing.	
Q-5 (C) Write a note on one of the following topic	07
1. Fluid mosaic model.	
2. Signal transduction.	
