

B.Sc. Semester - 5 (CBCS) Examination
Oct/Nov. - 2022(Old Course)
PROCARYOTIC 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) Write a note on any one of the following topics 07
1. Michaelis menten equation.
 2. Write about role of Precursor metabolite in metabolism.
- Q-1 (B) Answer the following questions in short 04
1. Define free energy.
 2. Define Entropy.
 3. What is metabolism?
 4. What is feedback inhibition?
- Q-1 (C) Answer any one of the following questions briefly 03
1. Explain role of Reducing Power in metabolism.
 2. Write the properties of Regulatory Enzymes.
- Q-2 (A) Write a note on one of the following topic 07
1. Write down about T.C.A cycle and its regulation.
 2. Write about glycolysis.
- Q-2 (B) Answer the following questions in short 04
1. Who Discover a Glycolysis pathway?
 2. Howmany ATPs are produced during degration of palmitate?
 3. Write down the general reaction of amino acid deamination reaction.
 4. ED pathway operates in which microorganism?
- Q-2 (C) Answer any one of the following questions briefly 03
1. Write ED pathway.
 2. Write only chart of PPP pathway.
- Q-3 (A) Write a note on one of the following topic 07
1. Write about use of isotope labeling in studying Biosynthetic pathway.
 2. Write about E.T.C.
- Q-3 (B) Answer the following questions in short 04
1. Define photosynthesis.
 2. Give the example of energy rich compounds.
 3. Draw the structure of p type ATPase.
 4. Difference between aerobic and anaerobic respiration.
- Q-3 (C) Answer any one of the following questions briefly 03
1. What is ATPase and write about any one type of it?
 2. Write about Q cycle.

- Q-4 (A) Write a note on one of the following topic 07
1. Write about photophosphorylation in halobacteria.
 2. Write about carbon assimilation in methanogens.
- Q-4 (B) Answer the following questions in short 04
1. Give examples of iron bacteria.
 2. What is sulphur oxidizer and its example?
 3. What is role of winogradsky in microbiology?
 4. Give examples of methanogens?
- Q-4 (C) Answer any one of the following questions briefly 03
1. Write about nitrogen cycle.
 2. Write about sulphur cycle.
- Q-5 (A) Write a note on one of the following topic 07
1. Explain in detail about structure of membrane.
 2. Explain Chemiosmotic driven transport.
- Q-5 (B) Answer the following questions in short 04
1. Define passive transport.
 2. Define quorum sensing.
 3. Define signal transduction.
 4. What is PTS system.
- Q-5 (C) Answer any one of the following questions briefly 03
1. Explain Active Transport.
 2. Explain Quorum sensing.
