

B.Sc. Semester - 5 (Remedial) (CBCS) Examination
Feb/Mar. -2021 (NEW COURSE)
Prokaryotic Metabolism (Core)

Time: 1:30 Hours**Marks: 42****Instructions:**

1. Figures to the right indicate marks.
 2. There are five questions in the question paper.
 3. Answer any three of the following questions.
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Q.1 (A) Answer the following**04**

1. Define Apo Enzyme.
2. Define Hydrogen Bond
3. Define: Precursor metabolites
4. Full form of NAD and NADP

Q.1 (B) Answer in Detail (Any ONE)**03**

1. What is Michalis menten equation?
2. Explain energy rich molecules

Q.1 (C) Write a note on (Any ONE)**07**

1. State laws of thermodynamics, Explain concept of free energy and write about energy rich compounds.
2. Explain importance of conformational changes in regulatory enzymes

Q.2 (A) Answer the following**04**

1. What is Catabolism?
2. Name regulatory enzymes of Glycolysis.
3. Name the reaction of amino acid metabolism under aerobic condition.
4. What is Fatty acid?

Q.2 (B) Answer in Detail (Any ONE)**03**

1. Discuss in detail Stickland reaction?
2. Discuss in detail Beta Oxidation of fatty acids.

Q.2 (C) Write a note on (Any ONE)**07**

1. TCA in detail.
2. HMP shunt.

Q.3 (A) Answer the following**04**

1. Define Photosynthesis.
2. What is ETC?
3. Which is the photosynthetic structure of bacteria?
4. What are Quinones?

Q.3 (B) Answer in Detail (Any ONE)	03
1. Discuss substrate level phosphorylation with examples.	
2. Discuss in detail different modes of ATP generation.	
Q.3 (C) Write a note on (Any ONE)	07
1. Bacterial Electron Transport Chain.	
2. Bacterial photosynthesis.	
Q.4 (A) Answer the following	04
1. Define Mixotrophs.	
2. What do you mean by Archaeobacteria?	
3. Give example of Hydrogen bacteria.	
4. Give two examples of Sulfur Oxidizers.	
Q.4 (B) Answer in Detail (Any ONE)	03
1. Discuss Photophosphorylation in Halobacterium.	
2. Explain Methanogens.	
Q.4 (C) Write a note on (Any ONE)	07
1. Discuss in detail enterobacteriaceae family and its fermentative pattern.	
2. Discuss in detail patterns of Carbohydrate fermentation in lactic acid bacteria.	
Q.5 (A) Answer the following	04
1. Define Flip flop movement.	
2. Define Endocytosis.	
3. What do you mean by Diffusion?	
4. What is the function of Na ⁺ K ⁺ ATPase enzyme?	
Q.5 (B) Answer in Detail (Any ONE)	03
1. Explain Chemiosmotic driven transport.	
2. Explain Simple diffusion.	
Q.5 (C) Write a note on (Any ONE)	07
1. Write a note on quorum sensing.	
2. Fluid Mosaic model in detail.	
