

B.Sc. Semester - 5 (Remedial) (CBCS) Examination
March/April-2023 (NEW COURSE)
Prokaryotic Metabolism(Core)

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

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

Q.1**(A) Give specific answers. (04)**

1. Define: ATP
2. Enzyme is not necessary for metabolic reaction. (True/False).
3. Law of thermodynamics which states that the energy of the universe remains the same is _____. (First, Second, Third).
4. Explain: Metabolic activity.

(B) Answer in Brief. (Any one out of two) (03)

1. Short note on: Energy rich compounds.
2. Role of reducing power in metabolism.

(C) Write a Note on. (Any one out of two) (07)

1. Regulation of enzyme action.
2. Various types of enzyme inhibition.

Q.2**(A) Give specific answers. (04)**

1. How many pyruvates are synthesized via glycolysis of a single molecule of glucose?
2. Glucose level is increased by Insulin. (True/False)
3. Lipid is made up of _____.
4. Write full form of PEP.

(B) Answer in Brief. (Any one out of two) (03)

1. General reactions of amino acids catabolism.
2. Oxidation of Fatty Acids.

(C) Write a Note on. (Any one out of two) (07)

1. Short note on: TCA cycle and its regulation.
2. Explain: The Glyoxylate cycle.

Q.3**(A) Give specific answers. (04)**

1. Full form of ETC.
2. Where ETC processed take place in Eukaryotic cell?
3. Name any two of photosynthetic bacteria.
4. Pyruvate is directly involved in ETC. (True/False)

(B) Answer in Brief. (Any one out of two) (03)

1. Write the basic mechanisms of Bacterial photosynthesis.
2. How to use of Biochemical Mutants for studying biosynthesis.

(C) Write a Note on. (Any one out of two) (07)

1. Detail notes on: Use of Isotopic Labelling for studying biosynthesis.
2. Short note on: Components and energy yield of ETC.

Q.4**(A) Give specific answers.****(04)**

1. Define: Chemotrophs.
2. Example of any two sulfur oxidizers bacteria?
3. Define: Denitrification
4. Explain: Halobacterium.

(B) Answer in Brief. (Any one out of two)**(03)**

1. How Iron bacteria involve in metabolism?
2. Give in brief: The lactic acid bacteria.

(C) Write a Note on. (Any one out of two)**(07)**

1. Write short note on: Nitrogen fixing Bacteria
2. Explain: Fermentative patterns of gram-negative Eubacteria.

Q.5**(A) Give specific answers.****(04)**

1. Define: Uniport
2. Assisting in chromosome segregation is main function of plasma membrane (True/False)
3. Explain: Active Transport
4. GLUT 1 transport system is example of _____.

(B) Answer in Brief. (Any one out of two)**(03)**

1. Explain: Chemiosmotic-driven transport.
2. Passive transport with example.

(C) Write a Note on. (Any one out of two)**(07)**

1. Structure of membrane and membrane components.
2. Write short note on signal transduction.
