

S.Y.B.SC. SEM – III (CBCS - 2016 COURSE) : WINTER - 2017

SUBJECT : MICROBIOLOGY: MB-31, MICROBIAL METABOLISM

Day Thursday
Date 02/11/2017

Time: 11.00 A.M. TO 02.00 PM

W-2017-0574

Max. Marks: 60

N. B. :

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
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- Q.1** Attempt **ANY TWO** of the following: (12)
- a) What are enzymes? Explain biological role of enzymes.
 - b) Discuss 'Anaplerotic reactions of Tricarboxylic Acid cycle' and mention the significance of the cycle in bacteria.
 - c) Define the term 'Active site' and explain the investigation by 'Trapping of Enzyme Substrate Complex'.
- Q.2** Answer **ANY TWO** of the following: (12)
- a) Discuss the properties of ATP which regulates release of free energy.
 - b) Explain generation of ATP through 'Electron Transport Chain'.
 - c) Giving suitable examples, explain 'Enzyme specificity'.
- Q.3** Attempt **ANY TWO** of the following: (12)
- a) Explain 'Bacterial Photosynthesis'.
 - b) Give an outline of EMP pathway and discuss the properties of phosphofructokinase.
 - c) Draw a neat labeled diagram of 'ATPase' enzyme and discuss its structure.
- Q.4** Write notes on **ANY THREE** of the following: (12)
- a) Allosteric Enzymes.
 - b) Induced Fit Hypothesis.
 - c) Cytochromes.
 - d) Proximation effect.
- Q.5** Attempt **ANY FOUR** of the following: (12)
- a) Explain 'Pauling concept of strain'.
 - b) What is IUB? Give its contribution to 'Enzymology'.
 - c) Discuss the effect of pH on enzyme activity.
 - d) What are 'Quinones'? Give their significance.
 - e) Give the difference between 'Fermentative pathway' and 'Oxidative pathway'.
 - f) Describe 'Passive Diffusion' in bacteria.

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