

**S.Y.B.SC. SEM – III (2014 COURSE) : WINTER - 2017**

**SUBJECT: MICROBIOLOGY: MICROBIAL METABOLISM (MB – 31)**

Day : Thursday  
Date : 26/10/2017

Time: 12.00 NOON TO 02.00 PM

Max. Marks: 40

**W-2017-0615**

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**N.B.:**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Draw neat and labeled diagrams **WHEREVER** necessary.
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**Q.1** Attempt **ANY TWO** of the following: [10]

- a) Describe the properties of allosteric enzymes.
- b) Explain the significance of NAD and NADP in bacterial metabolism.
- c) Discuss the use of substrate analogues for investigation of active site of an enzyme.

**Q.2** Answer **ANY TWO** of the following: [10]

- a) Comment on 'Covalent catalysis'.
- b) Give an outline of 'TCA cycle'.
- c) Describe 'Cyclic photophosphorylation'.

**Q.3** Write short notes on **ANY TWO** of the following: [10]

- a) Induced Fit Hypothesis
- b) Cytochromes
- c) Substrate level phosphorylation

**Q.4** Attempt **ANY FIVE** of the following: [10]

- a) Mention the types of quinones.
- b) Give the role of purple membrane in *Halobacterium*.
- c) Write any two examples of enzymes preferring acidic pH for catalysis.
- d) Enlist 'Iron Sulphur proteins'.
- e) Give any two examples of organisms which uses sulphate as terminal electron acceptor.
- f) Draw the chemical structure of ATP.
- g) What is IUB? Give its role in enzymology.

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