

**S.Y.B.SC. SEM – III (CBCS - 2016 Course) : WINTER - 2018**

**SUBJECT: MICROBIOLOGY: MICROBIAL METABOLISM**

Day : Friday  
Date : 19/10/2018

Time: 11.00 A.M. To 02.00 P.M.  
Max. Marks: 60

**W-2018-0713**

**N. B.:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.

**Q.1** Attempt **Any Two** of the following: (12)

- a) Discuss the energy production by aerobic bacteria through 'Tricarboxylic acid cycle'.
- b) Discuss the investigation of active site using 'substrate analogues'.
- c) Define the term enzyme and explain nomenclature of enzymes.

**Q.2** Attempt **Any Two** of the following: (12)

- a) Explain generation of ATP through 'Substrate level photophosphorylation'.
- b) Comment on 'Algal photosynthesis'.
- c) Giving suitable examples explain biological role of enzymes.

**Q.3** Attempt **Any Two** of the following: (12)

- a) Enlist physicochemical properties of enzymes.
- b) Explain the role of 'ATP in bacterial metabolism'.
- c) Give an outline of 'EMP pathway'.

**Q.4** Write short notes on **Any Three** of the following: (12)

- a) Induced Fit Hypothesis.
- b) Electron carriers.
- c) Photosynthesis in *Halobacterium*.
- d) Active transport.

**Q.5** Attempt **Any Four** of the following: (12)

- a) What are 'Flavoproteins'? Give their significance.
- b) Giving suitable examples explain optical specificity and geometrical specificity.
- c) Which compound serves as a reducing power for bacteria? Give their significance in bacterial metabolism.
- d) Discuss the effect of temperature on enzyme activity.
- e) Comment on 'Bacterial photosynthesis'.

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