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BACHELOR OF SCIENCE (CBCS-2018 COURSE)
T. Y. B. Sc. Sem-VI : WINTER- 2022
SUBJECT : MICROBIOLOGY : MICROBIAL METABOLISM & BIOCHEMICAL
EVOLUTION

Day : Wednesday

Time : 10:00 AM-01:00 PM

Date : 14-12-2022

W-18490-2022

Max. Marks : 60

N.B.

- 1) All Questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw well labelled diagrams **WHEREVER** necessary.
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- Q. 1** Attempt any **TWO** of the following: (12)
- a) Discuss with a proper diagrams the following
 - i) Diffusion
 - ii) Osmosis
 - iii) Facilitated transport
 - b) Explain the role of the components in TCA cycle
 - c) Describe the biochemistry bioluminescence and the factors affecting the process of bioluminescence
- Q. 2** Attempt any **TWO** of the following: (12)
- a) What are the different ways of assimilation of Ammonia
 - b) Explain with a proper diagram the active transport system in bacteria
 - c) What is oxidative phosphorylation? Discuss the role of electron carriers in RETC
- Q. 3** Attempt any **TWO** of the following: (12)
- a) What are High energy compounds? Explain the structure of ATP
 - b) Discuss the various steps involved in protein biosynthesis
 - c) Draw the structure and describe the pathway for the synthesis of peptidoglycan
- Q. 4** Attempt **ANY THREE** of the following: (12)
- a) Explain the mechanism of group translocation of sugars in bacteria
 - b) Discuss the mechanism of stickland reaction
 - c) Diagrammatically explain the nitrogenase complex system
 - d) Comment on – “Fate of acetyl CoA
- Q. 5** Write short notes on **ANY FOUR** of the following: (12)
- a) Enthalpy and entropy
 - b) Amphibolism
 - c) Co-acervate droplets
 - d) Daniell and Davson model of cell membrane
 - e) Periodic formation of polypeptides

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