

- (d) Activation and transport of fatty acid to mitochondrial matrix for its oxidation occurs by special mechanism.
- (e) The first stage of protein synthesis is amino acid activation.
- 3** Write an essay on : **12**
"Experimental proof of DNA as genetic material"
- OR**
- "Bacterial Photosynthesis"
- 4** Attempt any two of the following : **14**
- (a) What is meant by gene probe? Discuss various types of cloning vectors in r-DNA technology.
- (b) How does breakdown of glucose occur to pyruvate by pentose phosphate pathway? Give its significance.
- (c) Give the significance of sequence analysis of DNA. Explain how sequence analysis is carried out by any suitable method.
- (d) Explain structure and organization of bacterial and phage genome.
- 5** Write short notes on any **three** of the following : **15**
- (a) Regulation of protein metabolism in procaryotes
- (b) Phenotypic classes of mutants
- (c) Transformation in procaryotes
- (d) PCR technique
- (e) Odd carbon fatty acid degradation by oxidation.
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