6 SEM TDC BOTH (CBCS) C 13

2023

(May/June)

BOTANY

(Core)

Paper : C–13

(Plant Metabolism)

Full Marks : 53
Pass Marks : 21

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Choose the correct answer of the following : 1×5=5

(a) In CAM plants, CO_2 uptake takes place mainly during daytime/night in dark/ evening/noon.

(b) Receptors are primary effectors/signal transducers/secondary messengers/ ligands.

(c) The end product of gluconeogenesis is glucose/acetyl CoA/pyruvate/glycerol.

(d) For producing nodules, the *nif* genes are present in which part of the bacteria? Ribosome/Bacterial genome/ Plasmid/Mesosome

(e) The conformational coupling theory was proposed by Peter Mitchell/Slater/ Boyer *et al.*/Mahler and Cordes.

2. Write short notes on any *three* of the following : 4×3=12

(a) Isozymes

(b) Accessory pigments

(c) Cyanide-resistant respiration

(d) Photolysis of water

(e) IAA

3. Write explanatory notes on any *two* of the following : 6×2=12

(a) β-oxidation of fatty acids

(b) Biological nitrogen fixation

(c) Allosteric inhibition

(d) Nitric oxide signalling in plants

4. What is photophosphorylation? Give an account of cyclic and non-cyclic electron transports in photosynthesis. 2+(5+5)=12

Or

What is C_2 cycle? Summarize the various steps involved in the process and mention its significance. 2+(8+2)=12

5. Describe the citric acid cycle in plants. Explain how ATP molecules are generated in plants. 9+3=12

Or

What is glyoxylate cycle? Where does this cycle occur and how is the accumulation of sugars in fatty seeds accomplished through this cycle? 2+10=12

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