



HDY-1603120602030300 Seat No. _____

M. Sc. (Biochemistry) (Sem. III) (CBCS) Examination

November / December – 2017

EBC-3 : Plant Biochemistry

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

1 Answer briefly any seven of the following questions : **14**

- (a) Explain the term Phytohormones.
- (b) Explain plasmolysis.
- (c) What is Water potential?
- (d) Define Guttation and Transpiration.
- (e) Explain Cell plate.
- (f) Give significance of CO₂ fixation in plants.
- (g) Short note on importance of vacuoles.
- (h) Describe plasmodesmata.
- (i) Difference between Cutin and Waxes
- (j) What are alkaloids? Give its examples.

2 Answer any two of the following questions : **14**

- (a) Discuss the strategy of Glycine betaine act as a osmoprotectant.
- (b) During stress condition, which phytohormones play a role? Discuss their plan of work.
- (c) Explain types of metabolism. Explain in detail secondary metabolism in plants by giving its types and functions with example.

3 (a) Describe Bioreactors for the production of secondary metabolites production in plants. Explain instrumentation and enlist types of bioreactors. **7**

(b) Explain in detail the characteristics of meristematic cells. **7**

OR

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- 3** (a) Explain in detail the Calvin cycle. **7**
- (b) Explain the signal mechanism related to its gene function during salinity tolerance. **7**
- 4** Answer the following questions : **14**
- (a) Explain photosynthesis in detail.
- (b) Differentiate among C3, C4 and CAM plants.
- 5** Answer the following questions : (any **two**) **14**
- (a) Explain in detail cell wall and its synthesis.
- (b) Explain the strategy of phytohormones during growth and development of plant.
- (c) Discuss in detail Acetate and Shikimate pathways of secondary metabolite production of plants?
- (d) Explain the role of water in plants and how it is mechanized.
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