U.G. 4th Semester Examination - 2020

BOTANY

[PROGRAMME]

Course Code : BOT(G)CC-T-04

Full Marks : 40 Time : $2\frac{1}{2}$ Hours

The figures in the right-hand margin indicate marks.
Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **five** of the following : 2×5=10

   a) How many molecules of ATP are produced from one molecule of glucose in glycolysis?

   b) Mention two symptoms of magnesium deficiency in plant body.

   c) Name one gaseous plant growth regulator. State its one function.

   d) What is Emerson's effect?

   e) What are nodulins?

   f) Write down the general chemical structure of cytokinin.

   g) What is respiratory quotient?

   h) Define devernalization.

2. Answer any **two** of the following : 5×2=10

   a) State the mechanism of enzyme catalysis.

   b) With proper labelling schematically represent TCA cycle.

   c) Briefly describe Soil Plant Atmosphere Continuum concept.

   d) Describe the role of ABA in stomatal closure and root gravitropism.

3. Answer any **two** of the following : 10×2=20

   a) Describe the process of photorespiration. State the significance in plants. 7+3

   b) Name one natural and synthetic auxin. State the acid growth theory of auxin action. Describe the physiological role of auxin in apical dominance. 2+4+4

   c) Write a critical account of nitrogen fixation as brought about by symbiotic organisms. 10

   d) What are CAM plants? Describe the organic acid metabolic pathway in CAM plants. 2+8

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