



M 27065

Reg. No. :

Name :

**IV Semester M.A./M.Sc./M.Com. Degree (Reg./Sup./Imp.)
Examination, March 2015
BOTANY**

Paper – BX : Plant Physiology, Biochemistry and Biophysics

Time : 3 Hours

Max. Marks : 80

I. Answer **any two** of the following :

- 1) Write an account on biological nitrogen fixation.
- 2) Discuss on the photosynthetic efficiencies of C_3 and C_4 plants.
- 3) Explain the physiological role of Auxins.
- 4) Give an account on the plant responses to water stress. Add a note on stress tolerance. (2×10=20)

II. Answer **any one** of the following :

- 5) Give an account on classification of amino acids.
- 6) Write on the structure and functions of immunoglobulins. (1×10=10)

III. Answer **any four** of the following :

- 7) Comment on Gibb's free energy concept.
- 8) Write on membrane channels.
- 9) How ATP is synthesised in chloroplast ?
- 10) Derive Henderson – Hasselbach equation.
- 11) Describe tertiary structure of protein.
- 12) Vitamins as coenzymes – Substantiate. (4×5=20)

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IV. Answer **any six** of the following :

- 13) Water potential
- 14) Calmodulin
- 15) Biogeo cycle
- 16) Photolysis
- 17) Senescence
- 18) Transgenic plants
- 19) Lectins
- 20) Liquid scintillation counter.

(6×3=18)

V. Answer **any six** of the following :

- 21) K⁺ channel
- 22) Apoplastic pathway
- 23) GOGAT
- 24) Aleurone cells
- 25) Fruit ripening
- 26) Isozymes
- 27) Hybridoma
- 28) XRD.

(6×2=12)