

(i) Printed Pages: 3

Roll No.

(ii) Questions : 9

Sub. Code :

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Exam. Code :

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B.Sc. (Hons.) Biotechnology 1st Semester

(2122)

LIFE SCIENCES

Paper—BIOT-103BT

Time Allowed : Three Hours]

[Maximum Marks : 67

Note :— Attempt *five* questions in all, including Question No. I, which is compulsory and selecting one question from each unit. All questions carry equal marks expect compulsory question.

I. Explain the following :

- (a) Pancreatic hormones.
- (b) Homeostasis.
- (c) Ascent of sap.
- (d) Pioneer and Climax communities.
- (e) Short day and long day plants.
- (f) Collateral and Bicollateral vascular bundle.
- (g) Food web and food chain.
- (h) Ecotone and Edge effect.

- (i) Cardiac cycle.
- (j) Diabetes mellitus and diabetes insipidus. $1.5 \times 10 = 15$

UNIT—I

- II. (a) What is Photoperiodism ? Discuss different classes of plants according to their photoperiodic responses.
- (b) Draw well labeled diagram of T.S. of monocot root. 7,6
- III. (a) Discuss Munch's mass flow hypothesis of Translocation of organic nutrients.
- (b) Describe the structure of male reproductive organ of flowering plant. 7,6

UNIT—II

- IV. (a) Define food chain. Discuss types of food chain with one example of each.
- (b) What is Ecological Succession ? Discuss process of ecological succession on bare rock. 7,6
- V. (a) Explain in brief different types of community interaction with suitable examples.
- (b) Describe various biotic and abiotic components of ecosystem. 7,6

UNIT—III

- VI. (a) Describe the structure of nerve cell with suitable diagram.
- (b) Describe the structure of human lung with suitable diagram. 7,6
- VII. (a) Explain the mechanism of protein digestion in human being.
- (b) Describe the role of B cells and T-cells to protect our body from infections. 7,6

UNIT—IV

- VIII. (a) What are the Endocrine glands ? Describe the structure of Thyroid Gland.
- (b) Describe hormones of Pituitary Gland. 7,6
- IX. (a) Describe female reproductive system of human female.
- (b) Explain the mechanism of muscle contraction. 7,6