

Total No. of printed pages = 4

3 (Sem 3) BOT M1

2015

BOTANY

(Major)

Paper : 3.1

Full Marks – 60

Time – Three hours

The figures in the margin indicate full marks for the questions.

1. Choose and write the correct answer of the following : 1×7=7
 - (a) Concept of ecological pyramid was proposed by
 - (i) Odum
 - (ii) Elton
 - (iii) Tansley
 - (iv) Huxley
 - (b) Atmospheric humidity is measured by
 - (i) Auxanometer
 - (ii) Hygrometer
 - (iii) Photometer
 - (iv) Potometer

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(c) Frog that feeds on insect is a

- (i) Primary consumer
- (ii) Secondary consumer
- (iii) Tertiary consumer
- (iv) Decomposer

(d) Maximum growth rate occurs in

- (i) Exponential phase
- (ii) Lag phase
- (iii) Senescent phase
- (iv) Stationary phase

(e) Eutrophication causes decrease in

- (i) Dissolved oxygen
- (ii) Dissolved hydrogen
- (iii) Dissolved salts
- (iv) All of these

(f) Which element is the cause of itai itai disease?

- (i) As
- (ii) Hg
- (iii) Pb
- (iv) Cd

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(g) Many of the pesticides are non-biodegradable and accumulated in the food chain, this process is called _____.

- (i) ecological efficiency
- (ii) biological magnification
- (iii) salinity problem
- (iv) biological spectrum

2. Explain any *four* of the following terms :

2×4=8

- (a) Man-made ecosystem
- (b) Stratification
- (c) Fidelity
- (d) Pedogenesis
- (e) Plankton
- (f) Radioactive waste

3. Write notes on any *three* of the following :

5×3=15

- (a) Characteristics of energy flow in an ecosystem
- (b) Ecological amplitude and its importance
- (c) Ecosystem services

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(d) Causes of endemism

(e) Terrestrial biomes of the world

4. Answer any *two* of the following : $10 \times 2 = 20$

(a) Explain the effect of any two climatic factors on the structure and distribution of plants.

(b) Enumerate the ecological characters of hydrophytes citing the examples of local flora.

(c) Write an account on quantitative characteristics of plant communities.

(d) Describe the process of ecological succession on a pond.

(e) Discuss the causes and effect of global warming. Expound measures need to be taken for global warming.

5. (a) Elaborately describe the mechanism of evolution. What is the role of isolation in evolution ? $8 + 2 = 10$

Or

(b) How does Darwin's theory explain the appearance of new forms of life ? Define Neo-Darwinism. $8 + 2 = 10$