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5 SEM TDC BOT M 7

2014

(November)

BOTANY

(Major)

Course : 507

(Plant Ecology, Phytogeography and Evolution)

Full Marks : 48

Pass Marks : 19

Time : 2 hours

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

1. Fill in the blanks : 1×5=5
- (a) — regarded as father of ecosystem ecology.
- (b) The functional role of an organism in the ecological system is referred to as —.
- (c) Lawrence's principle is related with — phytography.

- (d) — possess CAM pathway of photosynthesis.
- (e) The end product of Miller-Urey experiment was —.

2. Answer precisely the following :

- (a) Compare and contrast between point and non-point source of water pollution. 3
- (b) Give two hypotheses for explaining why trophics show greatest level of species richness. 2
- (c) What do you mean by evil quarlet and how can it be prevented? 2
- (d) Define phytogeography with reference to ecological and historical phyto-geography. 2

3. What is Y-shaped energy-flow model and how is it more realistic than single-channel model? Discuss critically how ecosystem ecology emphasizes energy flow and nutrient cycling. 4+8=12

Or

Distinguish between opportunist (r-species) and equilibrium (k-species). Elaborate the concept of species interactions seen among biotic community with examples. 2+2+8=12

4. Correlate CBD and biodiversity. What are the objectives and commitment of CBD? Mention the criteria used for qualifying biodiversity 'hot spot'. Give a note on biodiversity of North-Eastern India. 1+3+2+6=12

Or

Why is 'greenhouse effect' important as well as problematic? What are the present and possible impacts of global warming? Who are the IPCC and what is their role towards global warming threat? Explain. 2+5+5=12

5. Answer *either* [(a) and (b)] or [(c) and (d)] :

- (a) Give a brief outline on phytogeographical regions of India as suggested by Chatterjee (1961). 5
- (b) Write on scientific hypothesis of chemical evolution of life. 5
- (c) Differentiate between static and dynamic phytogeography. 5
- (d) Differentiate between divergent and convergent evolution. 5
