

M.Sc. Examination, 2016

Semester – III

Environmental Science

Paper – MEC-32

(Ecology)

Time: 3 Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer question No. 1 and any four from the rest

1. Write short note on **any four** of the following : 4×2=8
 - a) Scope of ecology
 - b) Ecological footprint
 - c) Leibing's Law of Minimum
 - d) Pyramids of numbers
 - e) Allelopathy
 - f) Survivorship curves
 2. Write short notes on the following : 3+5=8
 - a) The Gaia Hypothesis
 - b) Ecotone and edge effect
 3. a) Establish a linkage between grazing and detritus food chain based on Y-shaped energy model. 5+3=8
b) Explain how does acid rain affect the food web?
 4. a) Discuss different trophic structure of an ecosystem. 3+5=8
b) State and explain different gradients of a fresh water ecosystem.
 5. a) What is character displacement? 3+5=8
b) Explain Lotka-Volterra competition equation with suitable example.
 6. Define succession. Discuss succession of a pond ecosystem or hydrosere. 2+6=8
 7. a) What do you mean by 'biogeochemical cycle'? 1+5+2=8
b) Draw a schematic diagram and give a general description of the phosphorous cycle.
c) Briefly explain the impact of human activities on nitrogen cycle.
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