

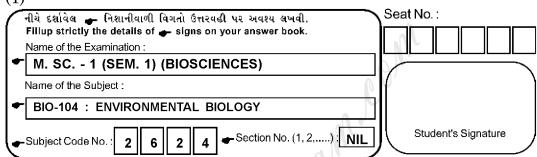
S-2624

M. Sc. - I (Sem. I) (Biosciences) Examination March/April - 2011

Bio-104: Environmental Biology

Time: 3 Hours] [Total Marks: 70

Instructions:
(1)



- (2) Marks are indicated against each question.
- 1 Attempt any two of the following:

18

- (1) Discuss the basic themes of ecology viz.interdependence energy and material flow.
- (2) Explain the ecosystem from structural and functional aspects.
- (3) What is homeostasis? Explain it with relavent examples how it operates in an ecosystem.
- 2 Attempt any two of the following:

18

- (1) State the laws of limiting factors and discuss how they can be treated as regulatory mechanisms in an ecosystem.
- (2) Diagrammatically show flow of energy in an ecosystem with the emphasis on grazing as well as detritus flow.
- (3) Explain the methods of estimating primary production.
- 3 Attempt any two of the following:

18

(1) Classify the geochemical cycles based on reservoir pools and discuss why nitrogen cycle is considered as perfect as well as complex cycle?

S-2624] 1 [Contd...

- (2) Explain the difference between maximum natality and ecological natality with suitable examples. Give the mathematical expression of Absolute natality rate and specific natality rate.
- (3) Derive the mathematical expression of biotic potential and discuss how it changes with changing conditions.
- 4 Attempt any two of the following:

16

- (1) What is the basic principle of remote sensing? How this technique can be used to monitor the environment?
- (2) Explain what is photochemical smog and its adverse effects.
- (3) Explain the importance of conservation of biodiversity?

