



S-2624

M. Sc. - I (Sem. I) (Biosciences) Examination
March / April - 2011
Bio-104 : Environmental Biology

Time : 3 Hours]

[Total Marks : 70

Instructions :

(1)

नीचे दृष्टावित \leftarrow निशानीवाणी विगतो उत्तरवडी पर अवश्य कभवी. Fillup strictly the details of \leftarrow signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
\leftarrow M. SC. - 1 (SEM. 1) (BIOSCIENCES)	<input type="text"/>
Name of the Subject :	<input type="text"/>
\leftarrow BIO-104 : ENVIRONMENTAL BIOLOGY	<input type="text"/>
\leftarrow Subject Code No. : <input type="text" value="2"/> <input type="text" value="6"/> <input type="text" value="2"/> <input type="text" value="4"/>	<input type="text"/>
\leftarrow Section No. (1, 2,.....) : <input type="text" value="NIL"/>	<input type="text"/>
	Student's Signature

(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 ?

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[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 ?
