



**MAL-003-001511** Seat No. \_\_\_\_\_

**B. Sc. (Sem. V) (CBCS) Examination**

**October / November – 2016**

**Botany : Paper - B - 503**

*(Ecology) (New Course)*

**Faculty Code : 003**

**Subject Code : 001511**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

- Instructions :** (1) Write answers of all questions in main answer book.  
(2) Draw neat and labelled diagrams wherever necessary..  
(3) Figures to the right side indicate full marks for the question.

**1 Answer in very short : 20**

- (1) Which organisms kill and eat producers as well as consumers as their food ?
- (2) The standing water habitat is called \_\_\_\_\_.
- (3) Loss of energy from one trophic level to next higher trophic level (in percentage) is \_\_\_\_\_.
- (4) Total energy fixed by an ecosystem is \_\_\_\_\_.
- (5) Give the names of three horizontal zones are seen in pond or lake.
- (6) Which frequency (percentage) range is belongs to class-B in Raunkiaer (1934) frequency classes ?
- (7) Give the formula to measure abundance in plant community.
- (8) In which biome where the grasses for the dominant vegetation ?
- (9) Succession initiating on Rocks is known as \_\_\_\_\_.
- (10) Give names of different types of succession based on nutritional status of dominant organisms.
- (11) The number of deaths in the population per unit time is called \_\_\_\_\_.

- (12) Which types of ecological pyramid is always upright ?
- (13) The life cycle of plant in response to the rhythmic seasonal variations is called \_\_\_\_\_.
- (14) "The growth of an organism is dependent on the amount of food stuff that is present in minimum quantity". This was stated by \_\_\_\_\_.
- (15) What is the principle of limiting factors ?
- (16) Can two species occupy the same niche ?
- (17) What are the two types of Environment Education ?
- (18) Give the name of centre of excellence in Gujarat (Ahmedabad) established by Ministry of Environment and Forest.
- (19) When was the wild life (Protection) Act enacted ?
- (20) Name the three segment of the GPS.

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| 2 | <p>(a) Answer in short : (any three) <span style="float: right;"><b>6</b></span></p> <ol style="list-style-type: none"> <li>(1) Explain : Gross Primary Production</li> <li>(2) Describe : ecotone</li> <li>(3) Explain : Natality</li> <li>(4) Write notes on Phenology.</li> <li>(5) What are important features of wild life act ?</li> <li>(6) Explain : Invasion</li> </ol>  |
|   | <p>(b) Answer in brief : (any three) <span style="float: right;"><b>9</b></span></p> <ol style="list-style-type: none"> <li>(1) Draw a flow chart indicating types and sub types of ecosystem.</li> <li>(2) Define the density in community and give formula for calculation of density.</li> <li>(3) Discuss : Population dispersion.</li> <li>(4) Write notes on : Habitat niche</li> <li>(5) Discuss : Restrictions on civilian use of GPS.</li> <li>(6) Explain : Trends of plant succession.</li> </ol>                            |
|   | <p>(c) Describe in detail : (any two) <span style="float: right;"><b>10</b></span></p> <ol style="list-style-type: none"> <li>(1) Describe the structure of forest ecosystem.</li> <li>(2) Give an account of diversity, dominant, interdependence, ecotone and edge effect as a characteristics of a community.</li> <li>(3) Give an account of the sequential stages of a typical xerosere.</li> <li>(4) Write notes on : Biological clock.</li> <li>(5) What are the objectives and important features of wild life act ?</li> </ol> |

- 3 (a) Answer in short : (any three) 6
- (1) Explain : Ecology
  - (2) Describe : List count quadrat
  - (3) Write notes on : Ecesis
  - (4) What is Autecology ?
  - (5) Write notes on : Green peace – an environment organization.
  - (6) Define : Decomposers.
- (b) Answer in brief : (any three) 9
- (1) Discuss : Conservation as a basic concept of ecology.
  - (2) Write notes on : Vertical stratification in a forest community
  - (3) Describe : Types of plant succession on the basis of presence or absence of vegetation in the region.
  - (4) What are the limiting factors ?
  - (5) Explain : Non-formal environmental education.
  - (6) Write notes on floristic methods of community.
- (c) Describe in detail : (any two) 10
- (1) Explain : The single channel energy flow model.
  - (2) Give location, climatic factor and plant life of Tundra biome.
  - (3) Describe the pyramids of numbers in pond ecosystem and tree ecosystems
  - (4) Discuss : Shelford's law of tolerance
  - (5) Write basic concept of GPS.
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