

B.Sc. BOTANY
FOURTH SEMESTER (REPEAT)
ECOLOGY AND PHYTOGEOGRAPHY
BSB-403
[USE OMR SHEET FOR OBJECTIVE PART]

SET
A

Duration: 3 hrs.

Full Marks: 70

(Objective)

Time: 30 mins.

Marks: 20

Choose the correct answer from the following:

1 × 20 = 20

- The transfer of food energy from plant source through a series of organism forms is called:
 - Ecological pyramid
 - Food chain
 - Food web
 - Trophic level
- The loss of individuals under a given environmental condition -not a constant but varies with population and environmental conditions is termed as:
 - Realised natality
 - Realised mortality
 - Minimum mortality
 - Minimum natality
- $e = \sum(n_i/N)$ designate:
 - Shannon index of general diversity
 - Evenness index
 - Dominance index
 - Index of similarity
- Suppose in an ecosystem considering the availability of space, food and availability of minimum space requirement of an individual of species $K=100$, $N=99$. What is the carrying capacity?
 - 1
 - 0.01
 - 0
 - 0.01
- In these plants, buds are usually buried in the soil or in bulbs and rhizomes:
 - Chaemophytes
 - Hemicryptophytes
 - Cryptophytes
 - Therophytes
- Which of the following are not green house gases?
 - CO_2 , CH_4 , N_2O
 - CO_2 , Cl_2 , K
 - CO_2 , CH_4 , CFC
 - Both a and b
- Alpine Zone is characterized by:
 - Presence of tree
 - Absence of tree
 - Presence of only dicot
 - Presence of only monocot
- Which of the following is not a source of pollution in soil?
 - Transport sector
 - Agricultural sector
 - Thermal power sector
 - Hydropower plants
- Loss of biodiversity may lead to all except:
 - Decline in plant production
 - Increase resistance to environmental perturbation
 - Increased variability in water use
 - Increased variability in pest and disease cycle

10. In which approach do we protect and conserve the whole ecosystem to protect the endangered species?
- | | |
|-------------------------|--------------------------|
| a. Ex situ conservation | b. Off site conservation |
| c. No conservation | d. In-situ conservation |
11. Who coined the word niche?
- | | |
|-------------------|------------------|
| a. Joseph Grinnel | b. Charles Elton |
| c. Odum | d. Hutchinson |
12. Energy flow provides a suitable index for comparing any and all components of an ecosystem by:
- | | |
|--------|----------------------|
| a. P+R | b. R+R |
| c. P+P | d. None of the above |
13. The term used for ecological interaction between two species where one species obtains a benefit from the relationship and the second species is unaffected by it:
- | | |
|----------------------|--------------|
| a. Commensalism | b. Mutualism |
| c. Proto-cooperation | d. Symbiosis |
14. Increases rapidly in exponential or compound interest fashion and stops abruptly as environmental resistance or an other limit become effective more or less suddenly in:
- | | |
|----------------------------------|-----------------------|
| a. J shaped form of growth curve | b. Sigmoid form |
| c. Acceleration phase | d. Survivorship curve |
15. Periodic study (date, time of occurrence of events) of plants is called:
- | | |
|---------------------|----------------------|
| a. Phenology | b. Phenogram |
| c. Seed germination | d. None of the above |
16. Which is an example of restricted area endemic?
- | | |
|--------------|-----------------|
| a. Mangroove | b. Rhododendron |
| c. Orchid | d. Shirui lily |
17. *Ginkgo biloba* is an example of:
- | | |
|--------------------|---------------------|
| a. Neo endemics | b. Ancient endemics |
| c. Palaeo endemics | d. Pseudoendemics |
18. Which pollutants is the major source of marine pollution?
- | | |
|-------------------------|--------------------------|
| a. Agricultural run off | b. Industrial wastewater |
| c. Oil spill | d. Sewage |
19. When a threatened plant needs urgent measures to save it from extinction, the desirable approach is:
- | | |
|-------------------------|-------------------------|
| a. In situ conservation | b. Ex situ conservation |
| c. Cryopreservation | d. Biopreservation |
20. One out of the following is not responsible for biodiversity loss?
- | | |
|---------------------------|------------------|
| a. Alien species invasion | b. Co-extinction |
| c. Ex-situ conservation | d. Deforestation |

(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

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|---|--------|
| 1. What is Ecosystem? Discuss different characteristics of Ecosystem in brief. | 2+8=10 |
| 2. Write short notes on:
a) Soil pollution
b) Loss of biodiversity | 5+5=10 |
| 3. What are the different characteristics of population? Discuss in detail. | 2+8=10 |
| 4. What is plant migration? Describe the different barrier of plant distribution. | 2+8=10 |
| 5. Define Phytogeographical region. Write briefly on phytogeographical region of India with a suitable map. | 2+8=10 |
| 6. Write short notes on:
a) Species diversity
b) Natality | 5+5=10 |
| 7. What is habitation and niche? Discuss the different types of niches. | 4+6=10 |
| 8. Write short notes on:
a) In situ conservation
b) Ex situ conservation | 5+5=10 |

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