

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

SET
B

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

Marks: 20

(Objective)

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?
- Ex situ conservation
 - Off site conservation
 - No conservation
 - In-situ conservation
11. Who coined the word niche?
- Joseph Grinnel
 - Charles Elton
 - Odum
 - Hutchinson
12. Energy flow provides a suitable index for comparing any and all components of an ecosystem by:
- P+R
 - R+R
 - P+P
 - 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:
- Commensalism
 - Mutualism
 - Proto-cooperation
 - 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:
- J shaped form of growth curve
 - Sigmoid form
 - Acceleration phase
 - Survivorship curve
15. Periodic study (date, time of occurrence of events) of plants is called:
- Phenology
 - Phenogram
 - Seed germination
 - None of the above
16. Which is an example of restricted area endemic?
- Mangroove
 - Rhododendron
 - Orchid
 - Shirui lily
17. *Ginkgo biloba* is an example of:
- Neo endemics
 - Ancient endemics
 - Palaeo endemics
 - Pseudoendemics
18. Which pollutants is the major source of marine pollution?
- Agricultural run off
 - Industrial wastewater
 - Oil spill
 - Sewage
19. When a threatened plant needs urgent measures to save it from extinction, the desirable approach is:
- In situ conservation
 - Ex situ conservation
 - Cryopreservation
 - Biopreservation
20. One out of the following is not responsible for biodiversity loss?
- Alien species invasion
 - Co-extinction
 - Ex-situ conservation
 - Deforestation

(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

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

- | | |
|---|--------|
| 1. What is habitat and niche? Discuss the different types of niches. | 4+6=10 |
| 2. What is Ecosystem? Discuss different characteristics of Ecosystem in brief. | 2+8=10 |
| 3. What are the different characteristics of population? Discuss in detail. | 2+8=10 |
| 4. Write short notes on:
a) J -shaped growth curve
b) Natality | 5×2=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) Soil pollution
b) Loss of biodiversity | 5×2=10 |
| 7. What is plant migration? Describe the different barrier of plant distribution. | 2+8=10 |
| 8. Write short notes on:
a) In situ conservation
b) Ex situ conservation | 5×2=10 |

= = *** = =