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**SUBJECT CODE NO:- 6540**  
**FACULTY OF SCIENCE & TECHNOLOGY**  
**M.Sc. (Sem-I)**  
**Examinations March/April-2022 (To be held in June/July-2022)**  
**Zoology**  
**Ecology : Principles and Practices ZOO-103**

[Time: 3:45 Hours]

[Max. Marks: 80]

N.B

Please check whether you have got the right question paper.

1. The question paper is divided into two parts.
2. Part 'A' is compulsory.
3. Attempt any five questions from Part 'B'.
4. Draw a neat labeled diagram whenever necessary.

**Part- A**

Q.1 Multiple choice questions. (Each question carries 2 marks)

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1. Energy pyramids of an ecosystem tends to diminish at higher trophic levels due to
  - A. the organisms become smaller
  - B. energy is stored and therefore less is passed on to the next level
  - C. energy is being concentrated in fewer and larger organisms
  - D. energy is being lost from one level to the next
2. Which of the following statement is not correct
  - A. In artificial ecosystem flow of energy is not unidirectional
  - B. ecosystem is self-sustaining and dynamic structure
  - C. ecosystem is an open system
  - D. sun is the ultimate source of energy for an ecosystem
3. At which level the greatest amount of free energy is available
  - A. Tertiary consumers
  - B. secondary consumers
  - C. decomposers
  - D. producers
4. Which of the following statements is not correct
  - A. nutrient cycling time tends to increase with increasing latitude
  - B. in general the transfer of energy from one trophic level to the next is in the order of 10%
  - C. Open ocean and deserts are less productive than open land interface region
  - D. none of the above

5. Which of the following is not recycled in ecosystem
  - A. water
  - B. carbon
  - C. energy
  - D. nitrogen
  
6. Competition is most fierce between
  - A. Unrelated species in the same environment
  - B. Two or more closely related species in the same environment
  - C. Two or more closely related species in a different environment
  - D. None of the above
  
7. The bioremediation process involving the usage of plants to degrade pollutants is .
  - A. Composting
  - B. Biopile
  - C. Phytoremediation
  - D. Land farming
  
8. How many biogeographic zones are there in India?
  - A. Five
  - B. Ten
  - C. Fifteen
  - D. Eleven
  
9. Which of the following solid wastes describes the term "Municipal Solid Waste"?
  - A. Toxic
  - B. Hazardous
  - C. Non-toxic
  - D. Non-hazardous
  
10. What is an adaptation in which an organism matches its color with the surrounding to get protection from predators called?
  - A. Mimicry
  - B. Camouflage
  - C. Parasitism
  - D. Commensalism

### Part-B

Q.2 Explain any two biogeochemical cycles and their importance?

12

Q.3 What is population interaction? Explain types of interspecific and intraspecific interactions with their 12 examples?

- Q.4 Elaborate the procedure of soil formation and chemical and physical properties of soil? Explain the significance of soil fertility? 12
- Q.5 What is biome? Describe the major terrestrial biome? 12
- Q.6 Write an essay on bioremediation? 12
- Q.7 Describe biogeographical zones of India? 12
- Q.8 Write short notes (any two) 12
- Ecological pyramids
  - r and k selection
  - GIS
  - Radioisotopes of ecological importance