

**B. Sc. DEGREE EXAMINATION, NOVEMBER 2016**  
**BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY**  
**FIFTH SEMESTER**

**COURSE : MAJOR – CORE**  
**PAPER : ECOLOGY AND ENVIRONMENTAL BIOTECHNOLOGY**  
**TIME : 3 HOURS** **MAX.MARKS:100**

**SECTION –A**

**(18x1=18 marks)**

**I. CHOOSE THE CORRECT ANSWER:**

**(5x1= 5)**

1. The Numerical strength of a species in relation to a definite unit is called  
a.Frequency      b. Abundance,      c.Density      d.Dominance
2. The accumulation of DDT has decreased the population of bald head eagle because it  
a. Killed all eagle      b. Decreased calcium content in egg shells  
c. Stopped synthesis of eggs      d. Interfered Ca metabolism
3. Plant - Insect – Grasshopper – Snake is an example of  
a. Parasitic food chain      b. Grazer food chain  
c. Detritus food chain      d. Predator food chain
4. The plant which has a capacity to absorb heavy metals in their roots are called  
a. Phytoaccumulator      b. Rhizoaccumulator      c. Bioaccumulator      d.Phycoaccumulator
5. One of the countries which banned DDT as early as in 1940 is  
a.USA      b.UK      c.Russia      d.Australia

**II. FILL IN THE BLANKS**

**(5x1= 5)**

6. \_\_\_\_\_ coined the term ecosystem.
7. \_\_\_\_\_ refers to the super imposed layers of vegetation.
8. A \_\_\_\_\_ is a foreign chemical substance found within an organism that is not normally produced within the organism.
9. The quadrat method is also known as\_\_\_\_\_.
10. \_\_\_\_\_ are the first trophic level in an ecosystem.

**III. TRUE/FALSE**

**(4x1=4)**

11. Autotrophs and heterotrophs are functional components in an ecosystem.
12. The density and frequency of a grassland ecosystem cannot be measured using point method.
13. Increase in concentration of toxic chemical substance in the food chain is called bioremediation .
14. The use of ecological pyramids was first advanced by Elton.

**IV. MATCH THE FOLLOWING****(4x1=4)**

- |   |   |                               |
|---|---|-------------------------------|
| 15. BioLeaching                             | – | Periodicity                   |
| 16. Density                                 | – | Insoluble ores                |
| 17. Phenological Changes in plant community | – | Endocrine disrupting activity |
| 18. DDT                                     | – | Individuals per square meter. |

**V. ANSWER ANY SIX IN 50 WORDS:****(6 x 3=18)**

19. Y-Shaped Energy flow Model
20. Frequency percentage
21. Biomagnification
22. Biofilters
23. Risk Characterisation
24. Point Quadrat method
25. Xenobiotics
26. Belt transect
27. Homeostasis

**SECTION - B****VI. ANSWER ANY 4 OUT OF 6 QUESTIONS IN 200 WORDS EACH: (4 x 6=24)**

28. Define food chain. Give comparative account of grazing and detritus food chain.
29. Write short notes on biological spectrum.
30. Discuss any two methods of toxicity testing with suitable examples.
31. Give an account on environmental risk assessment.
32. Define Ecosystem. Brief the structure of an ecosystem with pond as an example.
33. Explain any types phytoremediation methods.

**SECTION - C****VII. ANSWER ANY 2 OUT OF 4 QUESTIONS IN 1000 WORDS EACH: (2 x 20=40)**

34. Define Bioremediation. Give an account on the use of microorganisms in sewage treatment process.
35. What is ecological pyramid?
36. Discuss the role of EIA in relation to developmental plants of the country.
37. How will you carry out sampling of population in forest using transect method? Explain.

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