



KERALA AGRICULTURAL UNIVERSITY  
B.Sc. (Hons.) Forestry 2016 Admission  
III Semester Final Examination-February-2018

Narm.2103

Forest Ecology (1+1)

Marks: 50  
Time: 2 hours  
(10x1=10)

I Choose the Correct Answer

- 1 All organisms are either
  - a Autotrophs or heterotrophs
  - b Photosynthetic or chemosynthetic
  - c Photosynthetic or autotrophic
  - d Herbivores or carnivores
- 2 Which district has maximum mangrove cover in Kerala
  - a Kollam
  - b Kozhikode
  - c Kannur
  - d Ernakulam
- 3 Who coined the term carrying capacity?
  - a William Godwin
  - b Eugene Odum
  - c Aldo Leopold
  - d Malthus
- 4 Which of the following is an exotic plant in India
  - a Shorea robust
  - b Mangifera indica
  - c Casuarina equisetifolia
  - d Rauwolfia serpentina
- 5 Plant communities grow and change in a predictable order. This order is known as
  - a The natural way of Life
  - b Forest succession
  - c Forest ecology
  - d Forest restoration
- 6 Forests provide many important ecosystem services including
  - a Protecting soils from erosion
  - b Improving our air quality
  - c Maintaining clean water
  - d All of the above
- 7 Autecology deals with the study of
  - a Single organism
  - b Single species
  - c Single population
  - d Single organism or individual species
- 8 Larger trees can be attributed to
  - a Taking vitamins
  - b Better soil and moisture conditions
  - c Genetics
  - d Both b and c
- 9 A pure forest stand is
  - a Never been cut
  - b No shrubs in the understory
  - c One dominant species in the upper canopy
  - d None of the above

State True or False

- 10 The rate of forest succession can vary from one part of the land to another.

P T O

**II Write Short notes on any FIVE of the following (5x2=10)**

- 1 Describe the biotic and abiotic components of a pond ecosystem.
- 2 What are ecological pyramids? Write an account on the different types of ecological pyramids.
- 3 Write down the importance of soil conservation.
- 4 What are ecological indicators? Give two examples.
- 5 Explain dry evergreen forests? State the distribution in Peninsular India
- 6 State the difference between random sampling and stratified sampling

**Define the Following**

- 7 a Association      b Community      c Population      d Stand

**III Answer any FIVE of the following. (5x4=20)**

- 1 What is climate? Describe the major climatic zones of India.
- 2 Define carrying capacity? What are the factors affecting carrying capacity in an ecosystem explain?
- 3 What is population? What are the common sampling methods for vegetation?
- 4 Explain habitat and ecological niche. What are the themes in Niche Concepts?
- 5 What are trace elements? Write the significance of six trace elements to plants' growth.
- 6 Differentiate between Net Primary Productivity and Gross Primary Productivity. Explain the methods used for estimating primary productivity.
- 7 With the help of diagram, explain energy flow in an ecosystem

**IV Write an essay on any ONE of the following (1x10=10)**

- 1 Describe the Evergreen floristic types of Western Ghats as per Pascal; what are the salient features of this classification?
- 2 Explain with the help of a flow chart, the process involved in studying a plant community.

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