KATHMANDU UNIVERSITY
End Semester Examination
January/February 2024

Level : B.Sc.
Year : III
Time : 2 hrs. 30 mins.

Course : AGES 312
Semester : I
F.M. : 40

SECTION "B"
[6Q. × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. Silvicultural practices are related to silvics. Justify the statement.

2. Describe the various types of roots found in trees with appropriate diagrams.

3. Heat and temperature are critical for vegetation growth and development, Justify in your own words.

4. Differentiate between
   a. Silviculture and agroforestry
   b. Timber and non-timber forest products

5. Elaborate on the interdependence of natural reproduction on elements like seed supply, seedbed conditions, and the surrounding environment.

6. Discuss the importance of prescribed burning as a key silvicultural treatment both in Nepal and worldwide, providing pertinent examples to support your explanation.

7. What is artificial regeneration? Describe the essential parameters to be considered for the establishment of a good crop stand.

SECTION "C"
[2Q. × 8 = 16 marks]

Attempt *ANY TWO* questions

8. Define forest stand. Elaborate on the diverse factors influencing the dynamics of a forest stand.

9. Why is urban forestry becoming an essential aspect in city areas, and what benefits does it bring to the environment, community well-being, and overall urban sustainability?

10. The application of silvicultural treatments enhances the quality of timber production. Elaborate in your own words.

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Registration No.:

Time: 30 mins.

F. M. : 10
Date : 26-Jan.

SECTION "A"

Fill in the banks. [7Q. × 0.5 = 3.5 marks]

1. A traditional method of forest management that involves periodically cutting back or harvesting trees and allowing them to regrow from their stumps or roots is known as.....

2. One of the most commonly applied silviculture systems in which individual trees are marked for commercial harvest and the remaining trees benefit from enough light is called.....

3. Undesirable branches that defect tree boles and reduce the monetary value of logs. These branches originate from dormant buds of a clean bole and are known.....

4. The horizontal branches and sub-branches forming rootlets are known as.....

5. Fungal hyphae associated with the roots of trees are Mycorrhizae. The type of association in which fungus lives in the root cortex is known as.....

6. The ability of a forest growth that is directly related to physical site factors is called as..... .....

7. The practice of forestry on lands outside the conventional forest area for the benefit of the local population and engage the local community for management of the forest is known as.....

Encircle the most appropriate alternative from each set of choices. [7Q. × 0.5 = 3.5 marks]

8. The tree species that can grow and develop its terminal bud even in a prolonged shade is known as..... species
   a. tolerant b. intolerant c. competitive d. all of above

9. Planting trees on private agricultural land for indirect economic benefits of farmers is called.....
   a. commercial forestry b. urban forestry
   c. farm forestry d. none of above

10. The establishment of a forest or stand in an area where the preceding vegetation or land use was not forest is known as .....
    a. afforestation b. reforestation c. farm forestry d. commercial forestry

11. Which of the following is not a stage of natural regeneration?
a. flowering b. storage c. germination d. mortality

12. Establishing and releasing seed or vegetative sprouts originating from sources within or adjacent to the stand being regenerated is .....
a. artificial regeneration b. artificial reproduction
c. natural regeneration d. high forest stand

13. Which forestry practice involves virtually cutting all trees in a stand, including both large and small ones, with artificial reforestation being the primary method for establishing a new stand?
a. shelter belting b. selective logging c. clear cutting d. coppicing

14. It is the percentage of seeds in a given sample that actually germinate, irrespective of time.
a. germination capacity b. site capability
c. plant percent d. all of above

Define in one sentence [3Q × 1 = 3 marks]

15. High forest system:

16. Cladoptosis:

17. Damping off: