



FIJI NATIONAL UNIVERSITY
COLLEGE OF AGRICULTURE, FISHERIES & FORESTRY
SCHOOL OF AGRICULTURAL SCIENCES & FORESTRY
TRADE DIPLOMA IN AGROFORESTRY-II
AGF 501. AGROFORESTRY TREES & SILVICULTURAL PRACTICE

Time Allowed: 3.00 hours plus (10 minutes reading time) Total Marks: 100

INSTRUCTIONS.

1. Please check to see that all your paper is complete.
2. Answer all the objective type questions, descriptive type questions and essay type questions in the Answer Booklet only.
3. No written or printed material and mobile phones are allowed in the examination hall.
4. Marks allocated for each question appears at the side of each question so allocate your time accordingly.
5. This paper is divided into three parts.
 - First part contains Objective Type Questions which is having three sections (3) – A, B and C. All the questions of this part are compulsory.
 - Second part is Descriptive Type Questions which is having five (5) questions. All questions are compulsory.
 - Third part is Essay Type Questions which is having two (2) questions. Attempt only one (1) question from this part.
6. The question paper consists of 9 pages.

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I. OBJECTIVE TYPE QUESTIONS (50 Marks)

To be answered only on the Answer Sheet.

Section A: Fill in the blanks. (20 Marks)

Section B: Multiple choice Questions. (10 Marks)

Section C: Write True or False. (20 Marks)

II. DESCRIPTIVE TYPE QUESTION (35 Marks)

There are Five (5) descriptive type questions provided, please attempt all the five (5) questions.

Answer every question from a new page to facilitate evaluation.

III. ESSAY TYPE QUESTION (15 Marks)

There are Two (2) essay type questions provided, please attempt only one (1) question only.

I. OBJECTIVE TYPE QUESTIONS

Note: Write your answers on the Answer Sheet provided.

Time: 55 Minutes

Total Marks: 50

A. Fill in the blanks.

(20x1=20 Marks)

1. Trees are frequently used to _____ cash for periodic needs in rural communities relying mainly on subsistence agriculture.
2. In broad sense, silviculture often regarded as including both _____ and its practical application.
3. Silviculture is concerned with the building and _____ of forest ecosystem.
4. Forest landowners have also used thinning as a primary method of _____ prevention over the last 100 years.
5. Removing of unwanted species carries out when there is a need to change species composition in a _____.
6. Community forestry is focus in the role of forest dependent _____ managing resources and sharing the benefits flowing from these resources.
7. Silviculture normally directs the creation and _____ of the kind of forest that will best fulfill the objectives of the owner.
8. The decision made in _____ practice are based on economic constraints and social objects as on the natural factors that govern the forest.
9. Thinning is done to remove _____ formed trees, for example, crooked, forked, basal sweep, roughly branched and the like.
10. _____ is a silvicultural operation where the main objective is to reduce the density of trees in a stand improves the quality and growth of the remaining trees and produces a saleable product.
11. _____ is a horticultural and silvicultural practice involving the selective removal of parts of a plant, such as branches, buds, or roots.
12. The chance of fires spreading to the _____ of the tree is reduced when the lower branches are removed.

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13. _____ cutting is the act of freeing a young stand of desirable trees, not past the sapling stage, from the competition of undesirable trees that threaten to suppress them.
14. _____ cuttings are made for the primary purpose of removing trees that have been or are in imminent danger of being killed or damaged by injuries other than competition between trees.
15. Natural forests are _____ mainly through this capacity to take advantage of natural disturbances.
16. _____ regeneration obtained by total replacement of the old stand through planting young trees or applying seed, which is often termed direct sowing.
17. Clearcutting, seed tree, and shelterwood are even-aged systems because they create stands in which trees are predominantly _____ age class.
18. In a _____ seed tree system, seed trees are left in the block in small patches. These patches may be arranged in irregular groups or in strips.
19. The need for forest _____ emphasizes an important difference between agriculture and forestry.
20. _____ are tender and may need shelter from heavy rains which may cause physical damage to the seedbeds, causes soil erosion on the beds.

B. Multiple choice questions. Select the correct answer. (10x1=10 Marks)

21. _____ is a system of establishing forest plantations which farmers plant the seeds or seedlings and tend the trees.
 - A. Taungya
 - B. Intercropping
 - C. Hedgerow
 - D. Alley cropping

22. Silviculture is the theory and the practice of controlling forest _____ composition, structure and growth.

- A. cover
- B. establishment
- C. crown
- D. canopy

23. The practice of silviculture does not consist of rigid _____ to any set of simple or detailed rules of procedure.

- A. outcomes
- B. incomes
- C. adherence
- D. location

24. Thinning is the operation that _____ reduces the number of trees growing in a stand.

- A. naturally
- B. automatically
- C. reversely
- D. artificially

25. _____ is done any time when dead and diseased trees are sighted.

- A. Thinning
- B. Cutting
- C. Removal
- D. Shifting

26. _____ pruning is carried out to remove the lower branches of plantation trees.

- A. Random
- B. Systematic
- C. Group
- D. Silvicultural

27. The _____ and removal of trees is conducted by logging operators who may have bought the timber or contracted to log it.
- A. planting
 - B. sowing
 - C. felling
 - D. tending
28. _____ planting can be defined as a method of establishing tree crops in lines spaced at intervals equal to slightly greater than the estimated final crop tree crown diameter.
- A. Cluster
 - B. Line
 - C. Strata
 - D. Group
29. The _____ tree system results in the growth of an even-aged or mostly even-aged stand with scattered veterans or older trees.
- A. seed
 - B. sapling
 - C. pole
 - D. seedling
30. _____ of sowing is important since seedlings must be of the right size by the start of the planting season.
- A. Type
 - B. Location
 - C. Shape
 - D. Time

C. Write 'True' or 'False'.
(20x1=20 Marks)

31.	A woodlot is called farm forests in India and tree farms in the Philippines. is any area of farmland with trees.
32.	Like the rest of the forestry itself, silviculture is an applied science that rests on the more fundamental natural and social sciences.
33.	Advance reproduction or regeneration is that which appears before any special measures are undertaken to deforested new growth.
34.	Thinning is an effective and powerful forest fire tool that promotes timber growth and restores forest health.
35.	To control species composition in a stand by removing undesirable species during the operation.
36.	The amount of natural pruning markedly affects the need of high prune.
37.	Crown thinning is a method in which thinning is primarily directed to the dominant trees in a regular crop.
38.	Evidences have shown that natural regeneration method cannot be applied successfully to all tropical forest areas.
39.	In selection systems, young trees are planted or regenerate naturally among the remaining older trees.
40.	Direct sowing is usually the simpler and cheaper method, but the seed tray/germinating bed method is more desirable under certain circumstances.
41.	Grazing in plantations visibly demonstrates multiple land use and shows that forest plantation & farming need to be exclusive land use activities.
42.	Every ecosystem is composed of three groups of living beings, producers, consumers and reducers.
43.	Silviculture is the application of knowledge of Silvics in the structure of the forest.
44.	The duties of the forester with respect to silviculture are to analyse the natural and economic factors bearing on each stand under his/her care.
45.	It is important to note that silviculture and forest management are independent and not parallel, alternative approaches to the same problem.
46.	Reproduction cutting is done to provide room for the establishment of regrown trees.

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47.	High pruning is costly and only good form trees that are likely to make the final crop, are pruned.	
48.	Seedling establishment depends on seed bed conditions which vary from forest to forest depending on species composition and age.	
49.	Single tree selection removes group trees of all size classes more or less uniformly throughout the stand to maintain an uneven-aged stand.	
50.	Production of healthy seedlings depends on an adequate supply of plant nutrients.	

II. Descriptive type Questions

Total Marks, 35

Note. Attempt All the Five (5) Questions. All carry equal SEVEN (7) marks.

1.	Discuss the uses of trees in rural development & agroforestry.	(7)
2.	Define silviculture. Justify the statement “Intensity of silviculture” .	(7)
3.	Define thinning and discuss the objectives of thinning.	(7)
4.	Justify the statement “Pruning also takes the added advantage of improving”.	(7)
5.	Write down and explain the methods of enrichment planting.	(7)

III. Essay type Questions

Total Marks, 15

Note. Attempt Any ONE (1) Question Only. Carry FIFTEEN (15) marks

1.	Define silvicultural systems. Discuss in details methods of silvicultural systems including its advantages and disadvantages.	(15)
2.	Discuss in details the major kinds of thinning.	(15)

...THE END...

