

M.Sc.4<sup>th</sup> SEMESTER EXAMINATIONS.2021

SUBJECT : BOTANY

Course Code: BOT 402 C (TH)

Course ID: 41352

Course Title:Plant Anatomy & Silviculture

Full Marks: 30

Time: 2 hours

The figures in the right side margin indicate full marks

Answer all the questions.

Group A

1. Answer *anytwo* of the following questions

1×2 = 2

- a) Define the term plastochron.
- b) Distinguish between foraminate and scalariform perforation plates in vessels.
- c) Distinguish between a tracheid and a vessel.
- d) What are dormancy callose and definitive callose?

2. Answer *any one* of the following questions

5×1 = 5

- a) Write short notes on:
  - i. 'Phylogeny of tracheid'
  - ii. 'Tunica and corpus theory of shoot apex'(2.5+2.5 =5)
- b) Write in brief :
  - i. The changes of root apex during transition of flowering.
  - ii. Role of KN1 genes in leaf morphogenesis (3+2=5)

3. Answer *anyone* of the following questions

8×1 = 8

- a) Discuss different types of Gymnosperm shoot apices with proper level and diagram. Write about the phylogeny of axial parenchyma. (5+3=8)
- b) Critically analyze the polarity, symmetry and pattern formation of plants. Write about the origin and phylogeny of sieve cells. (5+3=8)

### Group B

4. Answer any two of the following questions  $1 \times 2 = 2$

- a. What is germination capacity?
- b. What is meant by culling?
- c. Write the uses of kattha?
- d. What is forest nursery ?

5. Answer any one of the following questions:  $5 \times 1 = 5$

- a. What is farm forestry? Write the potentials of Agroforestry  $1+4 = 5$
- b. Write a brief concept on shelter wood system. What is selection system in silviculture practice?  $3+2 = 5$

6. Answer any one of the following questions:  $8 \times 1 = 8$

- a. Write the medicinal importance of *Holarhena pubescens*, *Ricinus communis*, *Atropa acuminata* and *Artemisia vulgaris*.  $4 \times 2 = 8$
- b. Write short notes on any two of the following.  $4 \times 2 = 8$ 
  - i. Sustainable forestry
  - ii. Economically important grasses
  - iii. Shellac
  - iv. Pre-sowing treatment of seeds in nursery.