

B.Sc. Semester - 5 (CBCS) Examination
Oct/Nov - 2022 (NEW COURSE)
Instrumentation, Forest and Forestry(Core)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

Q-1(A) Answer in very short: (04)

- (i) Which kind of filter is used in laminar air flow?
- (ii) What is the temperature of autoclave?
- (iii) True or false: In centrifuge, the greater the rpm (revolution per second), the greater will be the centrifugal force.
- (iv) What is thermal death point?

Q-1(B) Answer in brief (Any One): (03)

- (i) Difference between Autoclave and Oven (Dry heat sterilization).
- (ii) Difference between Vertical laminar air flow and Horizontal laminar air flow.

Q-1(C) Answer in detail (Any One): (07)

- (i) Explain: Principle and procedure to grow microbial culture in incubator.
- (ii) Discuss the design and application of centrifuge.

Q-2(A) Answer in very short: (04)

- (i) True or False: Shifting cultivation is one of the causes of Deforestation.
- (ii) Give the term: A process where new forests are planted across land without trees.
- (iii) What is forest management?
- (iv) Fill in the blank: A species that is found restricted only to a biogeographic area is called _____ species.

Q-2(B) Answer in brief (Any One): (03)

- (i) Write notes on: Significance of forests.
- (ii) Discuss Afforestation and Reforestation as forest management programmes.

Q-2(C) Answer in detail (Any One): (07)

- (i) What is Deforestation? Discuss the cause of deforestation.
- (ii) What is endemism? Explain forces operating for the formation of endemic plant.

Q-3(A) Answer in very short: (04)

- (i) What is the squash (microtechnique) method?
- (ii) Name the process in which the tissue or the specimens are enclosed in a supporting medium using mould.
- (iii) What is Rotary microtome?
- (iv) True or False: During the process of dehydration, the alcohol diffuses into the tissue and the water content of the tissue diffuses out.

- Q-3(B) Answer in brief (Any One): (03)
- (i) What is chemical fixative? Explain the types of chemical fixative.
 - (ii) What is smear? Explain the smear preparation technique.
- Q-3(C) Answer in detail (Any One): (07)
- (i) What is microtomy? Discuss briefly the processing steps.
 - (ii) Explain: Techniques for preservation of lower plants.
- Q-4(A) Answer in very short: (04)
- (i) Give the scientific name of medicinal plant studied by you which belongs to Rutaceae family.
 - (ii) True or False: Conservation of medicinal plants can be accomplished by outside natural habitats is called ex-situ conservation.
 - (iii) Give the botanical name from which the gum resin is obtained and used as spice.
 - (iv) Give the scientific name of two spices obtained from Rhizomes.
- Q-4(B) Answer in brief (Any One): (03)
- (i) Name the source of clove products, mention the plant part from which they are obtained and discuss their uses.
 - (ii) Write notes on: Chemical constituents of *Tinospora cordifolia*.
- Q-4(C) Answer in detail (Any One): (07)
- (i) Explain: In-situ conservation methods of medicinal plants.
 - (ii) What is spices? Discuss the five important spices cultivated in Gujarat.
- Q-5(A) Answer in very short: (04)
- (i) Give the term: Arrangement of plotted plants with colourful foliage and attractive flowers around tree or a central large object.
 - (ii) Complete the statements: The vegetable crops are grown all the time without gap in kitchen garden, this pattern of vegetable growing is called _____.
 - (iii) What is potting on operation in indoor garden?
 - (iv) Which is quickest method of lawn making?
- Q-5(B) Answer in brief (Any One): (03)
- (i) Write notes on: 'Bromeliad Trees' in indoor garden as important component.
 - (ii) Define monotony. How do you break monotony in lawn?
- Q-5(C) Answer in detail (Any One): (07)
- (i) What do you mean by kitchen garden? Discuss about layout of kitchen garden.
 - (ii) Write a detailed account of designing a garden.
