

B.Sc. Semester - 6 (CBCS) Examination**March/April-2023 (OLD COURSE)****INSTRU.,AD.TECH.,FORESTRY, MEDI PLANT AND ECO. BOT(CORE)****Time: 2:30 Hours****Marks: 70****Instructions:**

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

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- Q.1(A) Answer the following questions. (Any One) (07)**
1. Discuss the structure of centrifuge and its application.
 2. Explain: Principal and uses of spectrophotometer.
- Q.1(B) Answer the following questions. (Any One) (04)**
1. Difference between hot air Oven and Autoclave.
 2. **Explain:** Procedure to grow microbial culture in incubator.
- Q.1(C) Answer the following question. (Any Three) (03)**
1. **Fill in the blank:** In Incubator, _____ is used to set the desired temperature.
 2. Which component or part is present on the lid of the autoclave to indicate the pressure created in the autoclave during sterilization
 3. Rearrange the following component in a correct sequence of a Spectrophotometer:
Lamp→Cuvette→Galvanometer→Photocell→Amplifier→Condenser lens→Filter
 4. **True or False:** In Centrifuge, the longer the radius of rotation, the greater will be the centrifugal force.
 5. **Complete the statement:** In Oven, the minimum time taken to kill all the microorganisms at a specific temperature is called
- Q.2(A) Answer the following questions. (Any One) (07)**
1. What is paper Electrophoresis? Discuss the separation of amino acids in paper Electrophoresis.
 2. **Explain:** Slide preparation and procedure of pigment separation by TLC.
- Q.2(B) Answer the following questions. (Any One) (04)**
1. Difference between normal phase HPLC and reverse phase HPLC.
 2. Discuss the procedure steps in PCR.
- Q.2(C) Answer the following question. (Any Three) (03)**
1. Give the formula for calculation of R_f in Chromatography.
 2. **True or False:** In HPLC, sample is no need to vaporise the sample.
 3. **Fill in the blank:** In GC, an inert gas is used as ____ phase.
 4. **Complete the statements:** Polymerase used for PCR is extracted from...
 5. Name the dye which is used as a tracking dye in agarose gel wells.
- Q.3(A) Answer the following questions. (Any One) (07)**
1. What are Biosphere reserve? Discuss the zones of it.
 2. **Write notes on:** Tropical Deciduous Forest
- Q.3(B) Answer the following questions. (Any One) (04)**
1. **Explain:** Mechanical properties of wood.
 2. What is social forestry? Discuss farm forestry as a type of social forestry.

- Q.3(C) Answer the following question. (Any Three) (03)**
1. What is diffuse porous wood?
 2. **Fill in the blank:** _____ is an integrated system based on combining shrubs and trees with crops and/or livestock.
 3. **True or False:** Social forestry is a mission for ensuring ecological balance and social security in rural areas.
 4. **Give the term:** All organisms that grow or live wild in an area without being introduced by humans.
 5. Which type of forest is found in Alpine zone in India?
- Q.4(A) Answer the following questions. (Any One) (07)**
1. Discuss medicinal use of any four plant leaves studied by you.
 2. Give general account of medicinal plant 'Ashwagandha'.
- Q.4(B) Answer the following questions. (Any One) (04)**
1. Explain phytochemistry and medicinal uses of 'Tulsi'.
 2. Discuss the medicinal plant 'Bili (Bael)' in following points:
(i) Botanical name (ii) Family (iii) Distribution (iv) Uses
- Q.4(C) Answer the following question. (Any Three) (03)**
1. Give the scientific name of medicinal plant studied by you which belongs to *Myrtaceae* family.
 2. Which fruit is used for treatment of constipation?
 3. **Fill in the blank:** The drug 'Vasaka' is obtained from _____ plants of _____ family.
 4. Give scientific name of medicinal plant yielding gum.
 5. Fresh roots of which medicinal plant are used as excellent brain and nerve tonic?
- Q.5(A) Answer the following questions. (Any One) (07)**
1. Describe one oil-yielding plant in following points:
(i) Botanical name (ii) Family (iii) Part used (iv) Method of cultivation
 2. **Explain:** General account of any two pulses studied by you.
- Q.5(B) Answer the following questions. (Any One) (04)**
1. Difference between alcoholic and non-alcoholic beverages and discuss the main area of cultivation of one non-alcoholic beverage plant.
 2. **Explain:** Methods of Rice cultivation.
- Q.5(C) Answer the following question. (Any Three) (03)**
1. Which family is known as pulse family?
 2. Give the botanical name and family of the 'Tea' plant.
 3. **True or False:** Paddy seeds are sown directly in the prepared main field.
 4. Write the Botanical name and family of the plant whose flower bud is used as spices.
 5. **Fill in the blank:** Groundnut is usually raised as a _____ crop, sown from April to July.
