

B.Sc. Semester - 2 (CBCS) Examination
March/April - 2024 (As Per Syllabus Year-2016)
BOTANY (CORE)

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

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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- Que.1(A) Answer in very short. (04)
- (1) Name the ascending organ of the plant and is the direct prolongation of the plumule of the embryo.
 - (2) Name the stipules in which two stipules that grow along with petiole and fused with lower part of the rachis.
 - (3) In compound leaf, when incision of the leaf blade goes down to the midrib that leaf is broken up in to a number of segments, Name the segments.
 - (4) Enlist the types of habit according to the height.
- Que.1(B) Answer in short. (Any one) (02)
- (1) Give difference between simple and compound leaf.
 - (2) Explain: Sub types of opposite phyllotaxy.
- Que.1(C) Answer in brief. (Any one) (03)
- (1) Draw the only chart of different type of venation.
 - (2) Write notes on: the type of habit according to Environmental condition.
- Que.1(D) Answer in detail. (Any one) (05)
- (1) Explain: the regions of root with labelled diagram.
 - (2) Describe: the various type of pinnately compound leaf.
- Que.2(A) Answer in very short. (04)
- (1) Give the term, If tepals are bright in colour and resemble with petal.
 - (2) In which inflorescence, the numerous, small, sessile flower grow from a platform (receptacle) like structure and receptacle is surrounded by an involucre of bracts.
 - (3) In which type of aestivation, the petal lie close to each other and margins are not overlapping?
 - (4) Give the symbol of male (staminate) flower.
- Que.2(B) Answer in short. (Any one) (02)
- (1) Explain: Functions of calyx.
 - (2) Explain: solitary cyme inflorescence with its subtype.
- Que.2(C) Answer in brief. (Any one) (03)
- (1) Describe: verticillaster inflorescence with diagram and example.
 - (2) Describe: multiple fruits.
- Que.2(D) Answer in detail. (Any one) (05)
- (1) Describe: simple fleshy fruits with example.
 - (2) Give the types of flower base on position of floral organs on thalamus.
- Que.3(A) Answer in very short. (04)
- (1) What are lodicules?
 - (2) Assign the following plant to the respective family – mirabilis jalapa.
 - (3) Which family having segitate anther?
 - (4) Which family of your syllabus contain indefinite monodelphous stamens?

- Que.3(B) Answer in short. (Any one) (02)
- (1) Draw floral diagram only: Nerium indicum.
 - (2) Explain: special features of family Nyctaginaceae.
- Que.3(C) Answer in brief. (Any one) (03)
- (1) Discuss the floral characters of family poaceae.
 - (2) Classify with reason: family apocynaceae.
- Que.3(D) Answer in detail. (Any one) (05)
- (1) Write notes on: Merits of Bentham and Hooker's classification.
 - (2) Give the distinguishing features of the family malvaceae with floral formula and floral diagram.
- Que.4(A) Answer in very short. (04)
- (1) R_f means? Give formula.
 - (2) Complete the statement: The PH meter consist of a _____
 - (3) What is explant?
 - (4) The power of objective is 20X and the power of eyepiece is 15X what is the magnification of that microscope?
- Que.4(B) Answer in short. (Any one) (02)
- (1) Explain: application of colorimetry.
 - (2) Distinguish between TEM and SEM.
- Que.4(C) Answer in brief. (Any one) (03)
- (1) Write notes on: Nutrient media for tissue culture.
 - (2) Explain: measurement of pH by pH meter.
- Que.4(D) Answer in detail. (Any one) (05)
- (1) Explain: types of paper chromatography.
 - (2) Describe: structure of compound microscope and its uses.
- Que.5(A) Answer in very short. (04)
- (1) Give the genotype ratio of monohybrid cross.
 - (2) Define: Transcription.
 - (3) A pair of genes controlling the some character and located at the same locus in the homologous chromosomes are known as _____
 - (4) Which enzyme group participate in following reaction?

$$\text{Glucose-6, phosphate} \longrightarrow \text{Fructose-6, phosphate.}$$
- Que.5(B) Answer in short. (Any one) (02)
- (1) Explain: Elongation of new DNA strand in replication.
 - (2) Describe: Hydrophobic Amino acids.
- Que.5(C) Answer in brief. (Any one) (03)
- (1) Discuss: The law of dominance with explanation.
 - (2) Draw a chart only: β -oxidation of fatty acid.
- Que.5(D) Answer in detail. (Any one) (05)
- (1) Explain: Important features of Watson and crick double helical model of DNA.
 - (2) Discuss: Mechanism of Enzyme action.
