

B.Sc. Semester - 5 (CBCS) Examination
Oct/Nov. - 2021(Old Course)
BIOLOGY OF SEED PLANTS (CORE)

Time: 2:30 Hours

Marks: 70

Instructions:

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

Q-1 Answer the following questions as per instruction.**(A) Answer in very short(any three) :****(03)**

1. Name the process of fertilization which takes place by the formation of pollen tube in *Ephedra*?
2. *Cycadeoidea* stem remained covered by?
3. True or False: *Ephedra* is commonly known as joint fir.
4. **Fill in the blank:** Germination of *Gnetum* seed is of.....type.
5. **Complete the sentence:** The secondary wood of *Cordites* is constituted of.....

(B) Answer in brief (any one):**(04)**

1. Discuss with diagram: stem genera of fossil group discovered by Indian paleobotanist.
2. Describe fossils occurred in abundance in coal ball horizon of Lancashire and Yorkshire.

(C) Answer in detail (any one):**(07)**

1. Describe with diagrams: Morphological features of *Ephedra*.
2. Discuss: Internal structure of *Gnetum* stem with diagram.

Q-2 Answer the following questions as per instruction.**(A) Answer in very short (any three):****(03)**

1. Define: Taxonomic category.
2. How many volume and in which language *Genera plantarum* is written?
3. Why are the classification systems changing every now and then?
4. What will happened as we go higher from species to kingdom in taxonomic hierarchy?
5. What do you mean by Genus?

(B) Answer in brief (any one):**(04)**

1. Give conceptual understanding of taxon family.
2. What do you mean by species? Discuss the concept of species at various levels.

(C) Answer in detail (any one):**(07)**

1. Write the principal of Taxonomy.
2. Give outline chart of classification of families of your syllabus according to classification of Bentham & Hooker.

Q-3 Answer the following questions as per instruction.**(A) Answer in very short (any three):****(03)**

1. Give the technical term: Filament free and anther united.
2. Name any two scientific name of plant having Pollinium?
3. On which basis species of *Corchorus* is identified?
4. Name the family having involucre bract.
5. Give the floral formula of *Convolvulus arvensis*?

(B) Answer in brief (any one):**(04)**

1. What are the unique features of following?
(a)Gynoecium in Cyperaceae (b) Inflorescence of Asteraceae
2. Place the following Genera to their respective families and indicate their economic importance:
(a)*Digera* (b)*Lycopersicum* (c) *Crataeva* (d)*Cryptostegia*

(C) Answer in detail (any one):**(07)**

1. Exclusively on the basis of the gynoecium and androecium how would you distinguish the following families?
(a) Rosaceae from Lythraceae (b) Convolvulaceae from Asclepiadaceae
(c) Amaranthaceae from Polygonaceae
2. Enumerate the salient features of any two families listed below and discuss their systematic position: (a) Cannaceae (b) Bignoniaceae (c) Tiliaceae

Q-4 Answer the following questions as per instruction.

(A) Answer in very short (any three):

(03)

1. In which series Apetalous families are included?
2. Which type of fruit is observed in Henna?
3. In which plant both androphore and gynophore are present?
4. Give the floral formula of *Canna indica*?
5. Which family is commonly known as 'Sedge' family?

(B) Answer in brief (any one):

(04)

1. State the distinguishing characters of Rosaceae and mention five scientific and local names of fruit plants of the family.
2. Write an account of floral structure of Solanaceae family.

(C) Answer in detail (any one):

(07)

1. Give distinguishing features of family of *Tacomagenus* and give its floral formula and floral diagram.
2. Give systematic position, salient features, and scientific name of two plants of family *Polygonaceae*.

Q-5. Answer the following questions as per instruction.

(A) Answer in very short (any three):

(03)

1. Name the types of endosperm based on the nature of food materials.
2. The study of pollen grain is called?
3. State the role of suspensor in embryo development.
4. Who produces male gametes?
5. In which plant cellular endosperm is common?

(B) Answer in brief (any one):

(04)

1. Draw a chart showing the fate of cells of a Monocot embryo development.
2. Explain the structure of pollen grain in angiosperm plants.

(C) Answer in detail (any one):

(07)

1. What is endosperm? State the types of endosperm and explain nuclear endosperm with suitable diagrams.
2. Describe with diagrams: Development of embryo in plant of *Brassicaceae* family.
