

B.Sc. Semester - 5 (CBCS) Examination

Oct/Nov. – 2019

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 Give the answer of following questions. (14)**(A) Answer any one question in detail (07)**

- (1) Describe female cone of *Gnetum* and mature female gametophyte.
- (2) Describe male cone of *Ephedra* and mature male gametophyte.

(B) Shortly answer any one question (04)

- (1) Explain mature structure of microsporangium in *Gnetum*.
- (2) Describe the T. S. of *Ephedra* young stem.

(C) Answer the following question very shortly (Answer any three) (03)

- (1) State two types of shoot and leaf morphology in *Gnetum*.
- (2) *Gnetum* stem cortex is differentiated in to how many layers? State its name
- (3) Which species of *Ephedra* is exists in dry region of our country.
- (4) Endosperm in *Gnetum* and *Ephedra* is triploid - True or False?
- (5) Give the name of fossil plant which stem was covered by persistent leaf base as we find in *Cycas*.

Q – 2 Give the answer of following questions. (14)**(A) Answer any one question in detail (07)**

- (1) What is taxonomic hierarchy? Explain the concept of “Species”
- (2) Describe the Bentham and Hooker’s classification system in detail.

(B) Shortly answer any one question (04)

- (1) Describe merits of Bentham and Hooker’s classification system.
- (2) Describe demerits of Bentham and Hooker’s classification system.

(C) Answer the following question very shortly (Answer any three) (03)

- (1) Who is known as father of taxonomy?
- (2) Who was the first to give concept of species?
- (3) Taxonomic group belonging to any one of the taxonomic categories is known as taxon - True or False?
- (4) _____ is the one specimen or other element designated by the author as the nomenclature type.
- (5) Define taxonomy.

Q – 3 Give the answer of following questions. (14)**(A) Answer any one question in detail (07)**

- (1) Describe Convolvaceae family characteristics with floral diagram, floral formula and two examples of plants.
- (2) Describe Bignoniaceae family characteristics with floral diagram, floral formula and two examples of plants.

(B) Shortly answer any one question (04)

- (1) Describe distinguishing characters of Rosaceae family.
- (2) Describe distinguishing characters of Tiliaceae family.

- (C) **Answer the following question very shortly (Answer any three)** (03)
- (1) Explain the unique structure of androecium in Asclepidaceae.
 - (2) How many carpels and ovules present in Capparidaceae?
 - (3) Give the name of family which you studied and come under Calyciflorae series.
 - (4) State the types of inflorescence in Asteraceae family.
 - (5) Give the scientific name of Zippo plant.
- Q – 4 Give the answer of following questions.** (14)
- (A) **Answer any one question in detail** (07)
- (1) Describe Polygonaceae family characteristics with floral diagram, floral formula and two examples of plants.
 - (2) Describe Solanaceae family characteristics with floral diagram, floral formula and two examples of plants.
- (B) **Shortly answer any one question** (04)
- (1) Describe distinguishing characters of Amaranthaceae family.
 - (2) Describe distinguishing characters of Cypraceae family.
- (C) **Answer the following question very shortly (Answer any three)** (03)
- (1) The sepals of Solanaceae family is _____.
 - (2) Give the floral formula of Asclepidaceae.
 - (3) Give the series and order name of Amaranthaceae family.
 - (4) Explain parianth with reference to Cannaceae family.
 - (5) Give the Botanical name of Kantado dabho.
- Q – 5 Give the answer of following questions.** (14)
- (A) **Answer any one question in detail** (07)
- (1) Describe in detail - Embryogeny of Dicots.
 - (2) Describe in detail - Embryogeny of Monocots.
- (B) **Shortly answer any one question** (04)
- (1) State the functions of endosperm.
 - (2) State the characters of pollen grain.
- (C) **Answer the following question very shortly (Answer any three)** (03)
- (1) As the consequence of triple fusion, a male gamete fuses with the secondary nucleus, a triploid structure shortly called PEMC, give full form of PEMC.
 - (2) Define nuclear endosperm.
 - (3) In angiosperm, each pollen grain produces two male cells. What do these sperms do in the fertilization?
 - (4) What is aleurone tissue?
 - (5) Give only names of any two factors affecting pollen grain germination.
