

SEAT No. _____

SARDAR PATEL UNIVERSITY
M. Sc. (II Semester) Examination
BOTANY

PS02CBOT22: Taxonomy and Diversity of Seed Plants

WEDNESDAY, 20th March 2019

Marks: 70

Time: 10:00 a.m. to 1:00 p.m.

Q 1. Select appropriate answer for the following.

(08)

- 1.1. Which member of Gymnosperms exhibit anomalous secondary growth?
(a) Ephedra (b) Gingko
(c) Gnetum (d) Pinus
- 1.2. Ecto- and endo-micorrhiza are associated with the roots of:
(a) Cycads (b) Gingkoales
(c) Ephedrales (d) Coniferales
- 1.3. Winged pollen is the unique feature of:
(a) Pinaceae (b) Gnetaceae
(c) Gingkoaceae (d) Cycadaceae
- 1.4. Which of the following do you keep in Linnaeus' "Tetradrindia" group?
(a) Acanthaceae (b) Brassicaceae
(c) Malvaceae (d) Rubiaceae
- 1.5. 'ICBN' is amended as 'ICN' since the IBC congress held in:
(a) United States 1999 (b) Austria 2005
(c) Australia 2011 (d) China 2017
- 1.6. Unipinnate, bipinnate and simple leaves are found in:
(a) Bignoniaceae (b) Caesalpinaceae
(c) Mimosaceae (d) Rutaceae
- 1.7. Which of the following pairs bears same collection number?
(a) Holotype and isotype (b) Paratype and lectotype
(c) Isotype and paratype (d) Lectotype and isotype
- 1.8. Which of the following statements is incorrect?
(a) Bignoniaceae do not represent any paripinnate leaves.
(b) Brassicaceae do not represent any tree forms.
(c) Nymphaeaceae represent only aquatic forms.
(d) Orchidaceae represent only epiphytic forms.

①

(PTO)

Q.2. Write brief answers (not exceeding ten lines) to ANY SEVEN of the following: (14)

- 2.1. Giving salient features justify that Cycads are most primitive among Gymnosperms.
- 2.2. Justify the placement of Ginkgo between cycads and conifers.
- 2.3. Justify with reasons that Gnetales is the most advanced group among Gymnosperms.
- 2.4. Why are reproductive characters preferred to vegetative characters in plant classification systems?
- 2.5. What are tendrils? Name any four examples from different plant families where tendrils are found.
- 2.6. What are comose seeds? Where are they found? How are they different from winged seeds?
- 2.7. Are the names of infraspecific categories binomial or polynomial? justify your answer with examples.
- 2.8. How androecia in Mimosaceae, Caesalpiaceae and Papilionaceae are different?
- 2.9. What are autonyms? Citing any one example, state whether they are to be accepted or rejected?

Q.3 (a) With the help of ample examples, describe the general characteristic features of Gymnosperms. (6)
(b) Explain the male gametophyte development in Coniferales. (6)

OR

(b) Write an elaborative account to justify that Ginkgo is considered a living fossil. (6)

Q.4 (a) Describe the general characteristic features and salient reproductive features of Ephedrales. (6)
(b) Describe the origin of various Gymnosperms in the geological time scale. (6)

OR

(b) With the help of suitable examples, enumerate various salient features of primitive angiosperms. (6)

Q.5 (a) Selecting one from each family, list botanical names of any 6 trees you encountered during your botanical tour. Arrange them in Bentham and Hooker's system of classification. (6)

(b) Describe the six principles of ICN. Give examples, wherever necessary. (6)

OR

(b) "Taxonomy is a synthetic discipline and it depends on various disciplines for the data". Justify. (6)

Q. 6 (a) What are alternative names? Are they be accepted or rejected as per the recent plant nomenclature code? Give reasons. (6)

(b) What are the important steps involved in naming a new taxon? (6)

OR

(b) Write short notes on: (6)

- (i) Author citation
- (ii) Rejection of names