2022

BOTANY

(Honours)

Paper Code : IV - A & B

(New Syllabus)

Full Marks : 70

Time : Three Hours

Paper Code : IV - A

(Marks : 14)

Choose the correct answer.

Each question carries 1 Mark.

1. Phyllotaxy is the arrangement of —

    (A) Flowers

    (B) Leaves

    (C) Stipules

    (D) Branches

2. Cyathium is a type of —

    (A) Flower

    (B) Fruit

    (C) Inflorescence

    (D) Seed

3. The principles of Numerical taxonomy were developed by —

    (A) Bentham and Hooker

    (B) Engler and Prantl

    (C) Sneath and Sokal

    (D) Takhtajan

4. An unisexual pendulous type of inflorescence is —

    (A) Raceme

    (B) Catkin

    (C) Spike

    (D) Umbel

5. Syngenesious condition of stamens is found in —

   (A) Asteraceae

   (B) Solanaceae

   (C) Lamiaceae

   (D) Fabaceae

6. Exine of pollen grains are composed of —

   (A) Sporopollenin

   (B) Myopollenin

   (C) Thydopollenin

   (D) Sapropollenin

7. Nature of fruit developing from a flower depends upon the type of —

   (A) Gynoecium

   (B) Androecium

   (C) Pollination

   (D) Fertilization

8. A fruit is developed from a condensed inflorescence is —

   (A) Composite fruit

   (B) Simple fruit

   (C) Aggregate fruit

   (D) Etaerio

9. What is the term given to a duplicate specimen of original type?

   (A) Lectotype

   (B) Neotype

   (C) Isotype

   (D) Holotype

10. Father of Plant Taxonomy in India is —

    (A) De Candolle

    (B) Hooker

    (C) Linnaeus

    (D) H. Santapau

11. "*sensu lato*" means —

   (A) Broad sense

   (B) Narrow sense

   (C) Omitted

   (D) Incorporated

12. The 19th International Botanical Congress was held in —

   (A) Vienna, Austria

   (B) Shenzhen, China

   (C) Melbourne, Australia

   (D) Tokyo, Japan

13. Type of pollen grain having longitudinal aperture in the exine.

   (A) Colpate

   (B) Porate

   (C) Colporate

   (D) Both (A) and (B)

14. Monothecous anthers are found in the family —

   (A) Orchidaceae

   (B) Malvaceae

   (C) Poaceae

   (D) Rubiaceae

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Paper Code : IV - B

(Marks : 56)

The figures in the margin indicate full marks.
Candidates are required to give their answers in their
own words as far as practicable.

Group - A

1. Write short answers of any *two* of the following :   4×2=8

   (a) Briefly describe the different types of phyllotaxy with examples.   4

   (b) Distinguish between the free central and axile placentation with the help of diagrams and examples.   2+2

   (c) Distinguish between dehiscent and indehiscent fruit with examples.   4

   (d) Briefly explain the forensic palynology.   4

2. Answer any *two* of the following :   10×2=20

   (a) What is an inflorescence ? Describe with sketches and examples the different types of racemose inflorescence.   1+9=10

   (b) Discuss the NPC system of classification of pollen grains based on the apertures and their number as proposed by Erdtman (1969).   10

   (c) Define the term "androecium". Briefly discuss with examples, the different modes of attachment of the anther to the filament in angiosperms. What is gynandrous stamen? Give example.   2+6+2

   (d) What is an ovule ? Describe with labelled diagram the structure of a typical angiospermic ovule. Name different types of ovules in angiosperm.   2+5+3=10

Group - B

3. Write short answers of any *two* of the following :   4×2=8

   (a) Write short note on herbarium techniques.   4

   (b) What is ICN? State the basic principle of ICN related to principle of priority.   1+3=4

   (c) Mention the diagnostic characters of the family Fabaceae. What is legume in Legumionsae?   3+1=4

   (d) Describe in brief the economic importance of the family Zingiberaceae.   4

4. Answer any *two* of the following :   10×2=20

   (a) Give an outline classification of angiospermic plants proposed by Bentham and Hooker upto order level. Mention its merits and demerits.   8+2=10

   (b) Discuss the conditions of Valid and Effective publication.   5+5=10

(c) Define numerical taxonomy. State the principles and methods of numerical taxonomy.

2+4+4=10

(d) Write short notes on the following :

5+5=10

  (i) Significance of cytological studies in taxonomy

  (ii) Role of Botanical garden

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