

Q.P. Code – 42538

Fifth Semester B.Sc. Degree Examination, October/November 2019

(CBCS Scheme)

Botany

Paper VI —CYTOLOGY, GENETICS, PLANT BREEDING AND EVOLUTION

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates :

- 1) Answer all Parts.
- 2) Draw diagrams wherever necessary.

PART – A

I. Answer any **TEN** of the following :

(10 × 2 = 20)

1. What is mitotic inhibitor? Mention its significance.
2. What are Racker's particles? Mention their function.
3. Differentiate between Heredity and Variation.
4. Mention any two principles of Lamarckism.
5. What is cytoplasmic male sterility? Give an example.
6. Define complementary gene interaction. Mention its ratio.
7. What is plant quarantine? Mention its significance.
8. What is Test cross? Mention its significance.
9. Define the terms Alleles and loci.
10. What is aneuploidy? Mention the types.
11. Write the functions of Endoplasmic reticulum.
12. Mention the types of chromosomes based on position of centromere.

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PART - B

II. Answer any **SIX** of the following :

(6 × 5 = 30)

13. Explain Salivary gland chromosome.
14. Give a brief account of Mendel and his work.
15. Write a note on Darwinism.
16. Explain the ultrastructure of prokaryotic cell.
17. Write a short note on Mitotic apparatus.
18. Explain the steps involved in plant breeding.
19. Explain Epistatic gene interaction.
20. In Maize the ear length 6" is controlled by genes AABB and 2" dwarf ear is controlled by genes aabb. When a cross is made between these plants, what will be the ear length of progenies in F₂ generation?

PART - C

III. Answer any **FOUR** of the following :

(4 × 10 = 40)

21. Explain the stages of Meiosis-II.
22. Describe Mendel's II law of Inheritance with an example.
23. Explain Duplication and Inversion. Add a note on their Genetic effect.
24. Explain Linkage and crossing over in maize.
25. Write a note on :
 - (a) Inheritance of plastids in *Mirabilis Jalapa*.
 - (b) Hybrid vigor.
26. Write a note on :
 - (a) Golgi apparatus
 - (b) Ribosome.

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(CBCS Scheme)

Botany

Paper V — TAXONOMY OF ANGIOSPERMS, ECONOMIC BOTANY AND ETHNOBOTANY

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates :

- 1) Answers all Parts.
- 2) Draw diagrams whenever necessary.

PART – A

I. Answer any **TEN** of the following :

(10 × 2 = 20)

1. Mention two principles of ICBN.
2. What is resupination? Give an example.
3. Name any two International Botanical gardens.
4. What is Tetradynamous stamens? Name the family where it is present.
5. Write Botanical name, part used and uses of Bengal gram.
6. What is Gynobasic style? Mention the family where it is found.
7. Differentiate between Actinomorphic and Zygomorphic flower.
8. Mention the part used and therapeutic uses of Terminalia Chebula.
9. What is Aestivation? Mention its types.
10. Write Botanical name, family, part used and uses of coir.
11. What is Pome? Give an example.
12. Mention Merits of Bentham and Hooker's system of classification.

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PART - B

II. Answer any **SIX** of the following :

(6 × 5 = 30)

13. Explain Herbarium techniques.
14. List key characteristics of Asclepiadaceae.
15. Give an account cladistics.
16. Describe Tendrils of Cucurbitaceae.
17. Give an account of Ethnobotanical importance of Rauwolfia serpentina and Hemidismus indiscus.
18. Write Botanical name, family, part used and economic importance of perfumes you have studied.
19. Explain Cyathium.
20. Write a note on effective and valid publication.

PART - C

III. Answer any **FOUR** of the following :

(4 × 10 = 40)

21. Give a comparative account of the families Magnoliaceae and Annonaceae.
22. Explain economic importance of spices and condiments.
23. Describe Engler and Prantl's system of classification.
24. Write salient features of Arecaceae and Solanaceae.
25. Give an account of :
 - (a) Flora and it's importance.
 - (b) Medicinal value of Boerhaavia diffusa and phyllanthus emblica.
26. Write a note on :
 - (a) Fruits of Rosaceae.
 - (b) Cytotaxonomy.

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Fifth Semester B.Sc. Degree Examination, November 2017

(Semester Scheme)

Botany

Paper V – TAXONOMY AND ECONOMIC BOTANY

Time : 3 Hours]

[Max. Marks : 60

Instructions to Candidates :

- 1) Answer ALL Parts.
- 2) Draw diagrams wherever necessary.
- 3) Answer should be completely in English.

I. Answer any **SIX** of the following :

(6 × 2 = 12)

1. What is placentation? Mention any two types.
2. Define cremo carp with an example.
3. What is Spadix? Give an example.
4. What are botanical gardens? Mention any two botanical gardens of India.
5. Write the botanical name of coffee and custard apple.
6. Draw a neat labeled diagram of pollinia.
7. Mention the edible parts of orange and mango fruits.
8. Differentiate Imbricate and Quincuncial aestivation.

II. Explain/Describe any **SIX** of the following :

(6 × 4 = 24)

9. Fruits of Rosaceae.
10. Write a note on any two techniques of herbarium.
11. Tendrils of cucurbitaceae.
12. Verticillaster.

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13. Numerical taxonomy.
14. Write a note on Flora.
15. Key characters of Poaceae.
16. Write the botanical name, family, parts used and uses of any **TWO** of the following :
 - (a) Pigeon pea
 - (b) Neem
 - (c) Clove
 - (d) Cotton

III. Answer any **THREE** of the following :

(3 × 8 = 24)

17. Describe Bentham and Hooker's system of classification with merits and demerits.
18. Give a comparative account of Verbenaceae and Asteraceae.
19. Give an account of the following with two examples of each type :
 - (a) Oils and fats
 - (b) Pulses
20. Write the salient features of the following families : Brassicaceae and Euphorbiaceae.
21. Describe :
 - (a) Botanical survey of India
 - (b) I.C.B.N.