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**M.Sc. (Part-I) (Semester - II) (NEP) Examination, March - 2023**

**BOTANY**

**ANGIOSPERM SYSTEMATICS (CC201)**

**Sub. Code : 90100**

**Day and Date : Friday, 16 - 06 - 2023**

**Total Marks: 100**

**Time : 10.30 a.m. to 01.30 p.m.**

- Instructions:**
- 1) All questions carry equal marks.
  - 2) Question no.7 is Compulsory.
  - 3) Attempt any four questions from the remaining
  - 4) Draw neat diagrams wherever necessary.

**Q1)** Botanical Gardens play an important role in teaching, research and conservation. Justify. [16]

**Q2)** Define biological species concept. Discuss various kinds of speciation. [16]

**Q3)** Define phenetics. Describe its principles and methodology. [16]

**Q4)** Provide diagnostic features and interrelationships of Amaranthaceae, Malpighiaceae, gentianaceae and Asteraceae. [16]

**Q5)** Explain:

a) Effective publication. [8]

b) Adaptive radiation. [8]

**Q6)** Write on:

a) APG IV [8]

b) Economic importance and characteristics features of Sapotaceae and Acanthaceae. [8]

**P.T.O.**

Q7) Write short notes on any four of the following:

- a) Important Herbaria
- b) Punctuated equilibrium
- c) Paraphyly and polyphyly
- d) Hydatellaceae
- e) Hybrid breakdown
- f) Amborellaceae



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**M.Sc. (Part - I) (Semester - II) (NEP)****Examination, March - 2023****BOTANY****CC 203 - Plant Structure Development and Reproduction****Sub. Code : 90102****Day and Date : Monday, 19 - 06 - 2023****Total Marks : 80****Time : 10.30 a.m. to 1.30 p.m.**

- Instructions :**
- 1) All question carry equal marks.
  - 2) Question number 7 is compulsory.
  - 3) Attempt any four questions from the remaining.
  - 4) Draw neat diagrams wherever necessary.

**Q1) Explain in detail development of male gametophyte. [16]**

**Q2) What are the factors favoring cross pollination. Explain with suitable examples. [16]**

**Q3) Explain organization of shoot meristem. [16]**

**Q4) Explain melissopalynology, Describe various aspects of melissopalynology and add a note on its application in crop production. [16]**

**Q5) Explain:**

a) Describe tapetal layer and its function. [8]

b) Cleistogamy. [8]

**Q6) Describe:**

a) Floral meristem. [8]

b) Techniques of microfossil recovery. [8]

**P.T.O.**

Q7) Write short notes on any four of the following:

- a) Microspore tetrads
- b) Biotic agents of cross pollination
- c) Apical cell theory
- d) Pollen viability
- e) Chalazogamy
- f) Microfossil groups

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**M.Sc. (Part - I) (Semester - II) (NEP) Examination,  
March - 2023**

**BOTANY**

**CC-204 : Cell and Molecular Biology (Paper - VII)**

**Sub. Code : 90103**

**Day and Date : Tuesday, 20 - 06 - 2023**

**Total Marks : 80**

**Time : 10.30 a.m. to 1.30 p.m.**

- Instructions :**
- 1) All questions carry equal marks.
  - 2) Question number 7 is compulsory.
  - 3) Attempt any four questions from the remaining.
  - 4) Draw neat diagrams wherever necessary.

**Q1) What are different channels and pumps in Plasma membrane? Give their Structure and functions. [16]**

**Q2) Describe the Cell cycle control system and cell cycle check points. [16]**

**Q3) Give general account on hormones and their receptors. [16]**

**Q4) What do you mean by extracellular matrix? Explain any 2 components in detail. [16]**

**Q5) Explain:**

a) Role of plasmodesmata in movement of molecules. [8]

b) Write a note microtubule and their role in movements. [8]

**Q6) Describe:**

a) Light signaling in plants. [8]

b) Gap junctions. [8]

Q7) Write short notes on any four of the following:

[16]

- a) Chloroplasts
- b) Active transport
- c) Reverse transcription
- d) Role of receptors
- e) Integrins
- f) Apoptosis

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