Roll No. : .....

Total No. of Questions : **11**] [Total No. of Printed Pages : **3**

BFMS–409

M.Sc. (Final) Examination, 2023

BOTANY

Paper - VIII (C)

(Advanced Plant Physiology-II)

*Time : **3** Hours*] [*Maximum Marks : **75***

Section–A **(Marks : 2 × 10 = 20)**

Note :– Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section–B **(Marks : 5 × 5 = 25)**

Note :– Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **5** marks.

Section–C **(Marks : 10 × 3 = 30)**

Note :– Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

Section–A

1. (i) What do you mean by apical dominance ? Which hormone is responsible for this ?

   (ii) Name the 'Precursor' of Gibberellin Biosynthesis. In which cell organelles GA-Biosynthesis takes place. ?

(iii) Name the naturally occurring plant hormone responsible for stomatal movement. Write down structural formula of this hormone.

(iv) What do you mean by 'Clematric' fruit ? How does it differ from Non-clematric fruits ?

(v) Explain *two* important effects of 'Polyamines' on plant.

(vi) Define 'Phytochrome'. Write down its two 'Photoinconvertible' forms.

(vii) What do you mean by Circadian rhythms ?

(viii) Which is 'Naturally Occurring Plant Hormone' responsible for 'Seed Dormancy', which hormone can overcome it ?

(ix) What do you mean by 'Freezing stress' ?

(x) Write down *two* mechanisms in plants for overcoming salinity stress.

Section–B

2. Explain 'Physiological effects' of ABA in plants.

Or

Write short notes on the following :

(a) Richmond Lang Effect

(b) Mode of action of GA at molecular level

3. Describe briefly 'Biosynthesis of Auxin'.

Or

Explain mode of action and history of discovery of Ethylele.

4. Explain in detail 'Physiology of flowering'.

Or

What do you mean by 'Senescence' ? How does it deffer from 'Dormancy' ?

5. Write down differences between 'Biotic' and 'Abiotic' stesses in plants.

Or

Explain 'Physiological Adaptation' in plants towards different stresses.

6. Write short notes on the following :

   (i) Hormone mutants

   (ii) Jasmonic acid

Or

Write brief account on steroids.

Section–C

7. Write notes on History of discovery of Gibberrellins and its Biosynthesis.

8. Write name of naturally occurring growth retardants in plants. Why are they important for plant ?

9. Write in detail 'Role of growth regulators in Agriculture and Horticulture'

10. What do you mean by Photoperiodism ? How does it differ from Vernalization ?

11. Explain the following :

   (i) Toxicity in plants

   (ii) Water stress in plants