

Sr.No.7057

Exam. Code: 210004

Subject Code: 4849

**M.Sc. Botany - 4th Sem.**

(2517)

**Paper- BOTC-622: Structure & Metabolism of Plant Hormones****Time allowed: 3 hrs.****Max. Marks: 50**

**Note:** The candidates are required to attempt all the **EIGHT** parts of Question No.1 from Section A; **SEVEN** parts of Question No.2 from Section B and **THREE** parts of Question No.3 from Section C. Be brief and to point in your answer.

**SECTION-A**

1. Give short answers to each of the following questions, not exceeding 4 lines:

- (i) Discuss anti-transpirant effect of ABA.
- (ii) Describe briefly Went's experiment that led to discovery of auxins.
- (iii) Which hormone is called ripening hormone? What is the commercial source of this hormone?
- (iv) Discuss the role of cytokinins in leaf senescence.
- (v) Enlist the micro-organisms that are employed to produce PGRs on a commercial scale.
- (vi) Enlist various inhibitors of GA biosynthesis.
- (vii) Expand the following: 2, 4-D; IBA; ABA; NO; AVG; PAA; NAA; TIBA.
- (viii) What are anti auxins?

8x1=8

**SECTION-B**

2. Give answers to any **SEVEN** of the following questions. Answer to any one of the following questions should not exceed two pages.

- (i) Discuss commercial applications of gibberellins.
- (ii) Jasmonates are involved in insect defense. Discuss.
- (iii) What are the characteristics of a plant hormone? How does it differ from plant growth regulators?
- (iv) What is a bioassay? Discuss its uses and limitations.
- (v) Describe ethylene effects on plant in water logged soils.
- (vi) Give immunoassay for detection of hormones.
- (vii) Write a note on role of auxins in apical dominance.
- (viii) Discuss the role of cytokinins in morphogenesis.
- (ix) Discuss gibberellin synthesis mutants and gibberellin sensitive mutants.
- (x) What is hormonal homeostasis?

7x3=21

**SECTION-C**

3. Give detailed answers to any **THREE** of the following questions. Answer to any **ONE** of the following questions should not exceed 4 pages:

- (i) Discuss the diversity and various biosynthetic pathways of auxins.
- (ii) Discuss the following:
  - a. Microbial genes involved in ABA or cytokinins biosynthesis.
  - b. Physiological roles of Brassinosteroids.

(Contd.)

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- (iii) Give a detailed account of the following:
- Ethylene biosynthetic pathway.
  - Regulation of level of ethylene or GA.
- (iv) Biology of genetic transformation by *Agrobacterium tumefaciens*.
- (v) Role of Isopentenyl Pyrophosphate (IPP) in biosynthesis of gibberellins, cytokinins and ABA.

3x7=21

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