

CS/2110

10401/NH

PAPER – X

PLANT GROWTH, DEVELOPMENT AND BIOTECHNOLOGY

B. Sc. BOTANY Semester – V

Time Allowed: 3 Hours

Max. Marks: 40

Section – A

Do any TWO

1. Describe the physiological role and agricultural applications of hormone which is fungal in origin. Give one bioassay method of it.
2. Illustrate structure of phytochrome of plant and bacteria. Describe the mechanism of action of phytochrome for shade avoidance.
3. Explain the physiology of seed germination.
4. Elucidate the role of dark period in the induction of flowering in short and long day plants giving suitable examples.

2 x 6 = 12

Section – B

Do any TWO

1. Describe the techniques used for making cDNA library.
2. Discuss in detail the methods used for making synthetic seeds. What is the advantage of synthetic seeds over natural seeds?
3. How biotechnology is used in human welfare and industry business.
4. Discuss in detail the types of restriction enzymes and their mechanism of action.

2 x 6 = 12

Section – C

All questions compulsory

1. Define seed dormancy.
2. What is molecular farming.
3. Give physiological role of cytokinins.
4. Define cryptochrome.
5. Name the types of senescence observed in plants.
6. What do you mean by phototropism? Name the hormone responsible for it.
7. Why Southern blotting is called so?
8. What is inverse PCR (iPCR)?

8 x 2 = 16