

Roll No.

(07/20-I)

5264

B. Sc. EXAMINATION

(Sixth Semester)

BOTANY

Paper I

Bio-Chemistry and Plant Bio-Technology

Time : Three Hours

Maximum Marks : 40

Note : Q. No. 1 is compulsory. Attempt *four* more questions selecting *two* questions from each Unit. All questions carry equal marks.

(Compulsory Question)

1. (a) When does a cofactor becomes a prosthetic group ?
- (b) What are bacterioids ?
- (c) Define cubin and suberin.

- (d) Name the hormone concerned with fruit ripening ?
- (e) What is an explant ?
- (f) What is cryptochrome ?
- (g) What is the site of glyoxylate cycle ?
- (h) What is electroporation ? 1×8=8

Unit I

- 2. Classify the enzymes and also explain the factors affecting the enzyme activity. 8
- 3. Write notes on the following :
 - (a) β -oxidation
 - (b) Physiological effects of gibberellin. 4+4
- 4. (a) What is the role of phytochrome in seed germination ? 4
 - (b) Draw well labelled glyoxylate cycle. 4
- 5. Describe the discovery of auxins in brief and discuss their distribution and translocation. 8

B-5264

Unit II

- 6. Write notes on the following :
 - (a) Biochemistry of nitrogen fixation
 - (b) Applications of plant tissue culture. 4+4
- 7. Discuss various gene transfer techniques to raise transgenic plants. 8
- 8. Discuss the various types of cloning vectors used in *r*-DNA technology. 8
- 9. (a) Describe the phenomenon of nitrate assimilation in plants. 4
 - (b) Describe the isolation and culture of protoplast. 4

(3-07/5) B-5264