

Exam. Code : 103205

Subject Code : 1416

B.A./B.Sc. 5th Semester

BOTANY

Paper-V (B) (Biochemistry & Biotechnology)

Time Allowed—3 Hours]

[Maximum Marks—35

Note :— There are total **NINE** questions. Question No. 1 is compulsory. Answer in 3-4 lines. From remaining **eight** questions, candidate is required to attempt any **four** questions. All questions (including Q. No. 1) have 7 marks each.

1. Write a short note on the following :

- (a) Coenzymes
- (b) Redox potential
- (c) Cellular totipotency
- (d) Leghaemoglobin
- (e) Transposable elements
- (f) Apoenzymes
- (g) Cloning vectors.

1×7=7

2. What are enzymes ? Describe their mechanism of action.

7

3. Write a detailed note on pentose phosphate pathway.

7

4. Write short notes on :

(a) Aerobic respiration

(b) Kreb's cycle.

2+5

5. Discuss various pathways by which fatty acids are broken down in a plant cell. <http://www.gnduonline.com>

7

6. Discuss salient achievements in crop biotechnology.

7

7. Define recombinant DNA technology and write a detailed account of its tools and techniques.

7

8. Write notes on :

(a) Gene mapping

(b) Chromosomal walking.

3.5+3.5

9. Discuss basic aspects of plant tissue culture.

7