

Seat No. : _____

FS(R)-08
April-2007
Vocational Biotechnology
Paper-II

Time : 3 Hours]

[Max. Marks : 70

Instructions : (1) All questions carry equal marks.
(2) Draw diagrams as and when necessary.

1. (a) Define the following with suitable example : **(06)**
1. Halophiles
 2. Psychrophils
 3. Mesophiles
 4. Barophiles
- (b) With a suitable diagram explain cell cycle. **(08)**

OR

- (a) Discuss the functions of following : **(09)**
1. Mitochondria.
 2. Lysosome.
 3. Endoplasmic reticulum.
- (b) Write a brief note on : Desmosomes. **(05)**
2. (a) Discuss the structure and functions of collagen. **(07)**
- (b) Define cell differentiation and explain with suitable example. **(07)**

OR

- (a) Write a note on biochemical changes occur during aging process. **(07)**
- (b) List the functions of carbohydrate and Lipid. **(07)**
3. (a) List the renewable sources of energy. Explain how they can be used. **(08)**
- (b) Write a brief note on : Bioleaching. **(06)**

OR

- (a) What are Biofertilizers ? Give importance of different types of Biofertilizers. **(07)**
- (b) Define Biogas. Describe biogas system & factors affecting it. **(07)**

4. (a) Describe the characters, symptoms and remedy of redroot in sugarcane. (07)
- (b) What are different types of waste lands found in India ? How are those formed ?
Discuss any two wastelands. (07)

OR

Explain the following (any **two**) : (14)

1. Biomass as fuel.
 2. Structure and functions of peptidoglycan.
 3. Transgenic plants.
 4. Treatment of industrial affluent.
 5. Secondary messenger mediated mechanism of hormone action.
5. Write short note on : (any **two**) (14)
1. Micro-organisms of Soil.
 2. "9 + 2" Arrangement.
 3. Cell locomotion.
 4. Biodegradation of pesticides.
 5. Principle and importance of MPN and MBRT.
-