

6. Explain the following :

- | | |
|--------------------|---|
| (a) Polio | 4 |
| (b) Tuberculosis | 4 |
| (c) Dermatophytes. | 4 |

OR

- | | |
|---------------------|---|
| (d) Cholera | 4 |
| (e) Active immunity | 4 |
| (f) Mycoplasma. | 4 |

7. What is Lamberts law ? Explain components, working and applications of colorimeter. 12

OR

What is radioactivity ? Describe in detail role of radioactivity in biotechnology. 12

AP-439

B.Sc. (Part-I) Semester-II Examination

2S : BIOTECHNOLOGY (R/V)

(Microbiology)

Time—Three Hours]

[Maximum Marks—80

N.B. :— (1) **ALL** questions are compulsory.

(2) Draw labelled diagrams wherever necessary.

1. (A) Fill in the blanks : 2

- (i) Cholera is caused by _____.
- (ii) Phototrophs utilize _____ as source of energy.
- (iii) Acid fast staining is used for staining of _____.
- (iv) _____ is responsible for motility of bacteria.

(B) Select correct alternative : 2

- (i) Cocci are _____.
 - (a) Rod shaped
 - (b) Spiral shaped
 - (c) Spherical shaped
 - (d) None of the above
- (ii) Cuvette is used in _____.
 - (a) Paper chromatography
 - (b) Thin layer chromatography
 - (c) Colorimeter
 - (d) Gel electrophoresis

(iii) Bacterial cell have _____ μm size.

- (a) 1-5 (b) 100-200
(c) 300-600 (d) 700-1000

(iv) _____ is required for the growth of halophiles.

- (a) High salt concentration
(b) High sugar concentration
(c) High metal concentration
(d) High agar concentration

(C) Answer in one sentence :

4

- (i) Numerical aperture
(ii) Thermophiles
(iii) Antibiotic
(iv) Chromatography.

2. Explain the following :

- (a) Endospore staining 4
(b) Negative staining 4
(c) Acid fast staining. 4

OR

- (d) Chemical methods of sterilization 4
(e) Shapes of bacteria 4
(f) Resolving power of microscope. 4

3. Explain :

- (a) Fluid mosaic model 4
(b) Gracilicutes 4
(c) Chemotrophs. 4

OR

- (d) Methanogens 4
(e) Thermophiles 4
(f) Arrangements of flagella in Bacteria. 4

4. Describe in detail photosynthesis process in Bacteria.

12

OR

Describe in detail nitrogen fixation by microbes with suitable examples. 12

5. Explain the following biofertilizers :

- (a) Azotobacter 4
(b) Rhizobium 4
(c) PSB. 4

OR

Explain in brief production of :

- (d) Streptomycin 4
(e) Amylase 4
(f) Alcohol. 4