

NRJ/KW/17/3057

Bachelor of Science (B.Sc.) Semester-II (C.B.S.) Examination

MICROBIOLOGY

(Microbial Physiology)

Compulsory Paper-1

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) **All** questions are compulsory and carry equal marks.

(2) Draw diagrams and give example wherever necessary.

1. (a) Classify the organisms on the basis of carbon and energy sources. 5
- (b) Explain selective and differential media with suitable examples. 5

OR

- (c) Differentiate between non-synthetic and synthetic media with suitable examples. 5
- (d) Differentiate between enriched and enrichment medium with suitable examples. 5
2. Describe the various phases of typical growth curve. 10

OR

- Describe any two methods to obtain continuous culture. 10
3. Explain radiation as a method of microbial control. 10

OR

- Describe the various methods of control of micro organisms using moist heat. 10
4. (a) Explain the role of formaldehyde as a disinfectant. 2½
 - (b) Write a note on alcohol as an agent in controlling growth of microorganisms. 2½
 - (c) Describe the mode of action of heavy metals. 2½
 - (d) Give the mode of action of Chlorine. 2½

OR

- (e) Write a note on chemotherapeutic agents affecting cell wall of bacteria. 2½
- (f) Explain Quaternary ammonium compounds as microbial control agents. 2½
- (g) Explain the mode of action of antimetabolites. 2½
- (h) What is oligodynamic action ? How it can be demonstrated in laboratory ? 2½

5. Solve any **ten** questions :

- (i) What are trace elements ? 1
- (ii) What is diauxic growth ? 1
- (iii) What is an axenic culture ? 1
- (iv) Give any two modes of bacterial reproduction. 1
- (v) What are alkalophiles ? 1
- (vi) What are osmotolerant organisms ? 1
- (vii) What are HEPA filters ? 1
- (viii) Define plasmolysis. 1
- (ix) Define thermal death time. 1
- (x) Define phenol coefficient. 1
- (xi) Name any two factors influencing antibiotic activity. 1
- (xii) Name any two gaseous chemosterilizers. 1