

B.Sc. Examination

Semester - III

Paper : Mi-303 – Microbial Physiology & Metabolism
Time: 2:30 Hours

Paper Code: 20671
Total Marks: 70

Instructions: (a) Figure to the right indicates total marks of respective question.
 (b) Draw neat, clean and labeled diagram wherever necessary.

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| 1.(a) | Discuss: Facilitated diffusion as mode of nutrition uptake by the cell. | 07 |
| 1.(b) | Classify bacteria based on temperature. | 07 |
| OR | | |
| 1.(a) | Classify bacteria on the basis of osmotic pressure. | 07 |
| 1.(b) | Explain: Utilization of nutrients that cannot enter the cell. | 07 |
| 2.(a) | Discuss: Factors affecting enzyme activity. | 07 |
| 2.(b) | Define an enzyme. Explain its structure. | 07 |
| OR | | |
| 2.(a) | Explain: Competitive enzyme inhibition. | 07 |
| 2.(b) | Discuss: Classification of enzymes. | 07 |
| 3.(a) | Draw the structure of ATP. How much energy is released on its breakdown. | 07 |
| 3.(b) | Explain: The importance of pyruvate as a reducing compound. | 07 |
| OR | | |
| 3.(a) | What is metabolism? Explain primary metabolism. | 07 |
| 3.(b) | Write on: Any 2 precursor metabolites useful in metabolism. | 07 |
| 4.(a) | Explain: Temperature & pH as factors affecting cell growth. | 07 |
| 4.(b) | Explain: Normal growth curve of bacteria. | 07 |
| OR | | |
| 4.(a) | Discuss: Mode of cell division & formation of a new cell. | 07 |
| 4.(b) | Write briefly on: Continuous & synchronous growth.. | 07 |
| 5.(a) | Write on: Semisynthetic antibiotics. | 07 |
| 5.(b) | Write briefly on: Antibiotics inhibiting cell wall synthesis (any 2). | 07 |
| OR | | |
| 5.(a) | Enlist the characteristics of an ideal chemotherapeutic agent. | 07 |
| 5.(b) | Write briefly on: Antibiotics inhibiting RNA synthesis. | 07 |