

B.Sc. (CBCS Pattern) Semester-I
BIO-02 - Biotechnology-II - General Microbiology

P. Pages : 2

Time : Three Hours



GUG/W/24/11563

Max. Marks : 50

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1. Describe in detail principle ray diagram and application of TEM. **10**

OR

- i) Write in detail contribution of Robert Koch with their postulates in microbiology. **2½**
- ii) Describe in detail principle and application of dark field microscope. **2½**
- iii) Describe in detail resolving power of microscope. **2½**
- iv) Discuss in detail oil immersion objective and its significance. **2½**

2. Describe in detail cell wall of Gram positive and Gram negative bacteria. **10**

OR

- i) Draw a well labelled diagram of typical bacterial cell. **2½**
- ii) Describe in detail structure of endospore. **2½**
- iii) Discuss in detail conjugative and non-conjugative plasmid. **2½**
- iv) Discuss general characteristics of archaea. **2½**

3. Describe in detail lytic and lysogenic cycle of viruses. **10**

OR

- i) Describe in detail endospore staining. **2½**
- ii) Discuss in detail different structure of viruses. **2½**
- iii) Give the account of stains and stainings. **2½**
- iv) Describe in detail flagella staining. **2½**

4. Describe in detail concept of batch and continuous culture with chemostat and turbidostat. **10**

OR

- i) Describe in detail phases of growth curve. **2½**

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| ii) Discuss in detail methods of isolation of pure. | 2½ |
| iii) Discuss in detail concept of sterilization of microbial control. | 2½ |
| iv) Discuss in detail basic nutrient requirement of microbial growth. | 2½ |

5. Solve any ten.

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| i) What is SEM. | 1 |
| ii) Write any two contribution of Lewis Posture. | 1 |
| iii) What is electron microscope. | 1 |
| iv) What is germination. | 1 |
| v) What is plasmid. | 1 |
| vi) What is Pili. | 1 |
| vii) What is capsomer. | 1 |
| viii) Define virus. | 1 |
| ix) What is dye. | 1 |
| x) What is pure culture. | 1 |
| xi) What is disinfection. | 1 |
| xii) What is Growth. | 1 |
