

Seat No. : _____

XD-126

T.Y.B.Sc.

March-2013

Biochemistry Paper-X

(Microbiology)

Time : 3 Hours]

[Max. Marks : 70

1. (a) Write a note on cell wall of Gram Negative bacteria. **6**
- (b) Discuss economic significance of bacterial capsule. **6**
- (c) Name any two diseases caused by Rickettsia. **2**

OR

- (a) Write a note on economic significance of Algae. **6**
- (b) Draw & explain the structure and types of Flagella. **6**
- (c) Give two differences between Endoscope & Vegetative cell. **2**

2. (a) Define : **4**
 - (i) Mordant
 - (ii) Compound stain
- (b) Discuss : **8**
 - (i) Sterilization by dry heat
 - (ii) Principle, mechanism & method of capsule staining
- (c) Define Resolving power of a microscope and give the formula. **2**

OR

- (a) Define : **4**
 - (i) Numerical aperture
 - (ii) Disinfection
- (b) Discuss construction, working & uses of Fluorescent microscope. **8**
- (c) What are Leuco compounds ? **2**

3. (a) Discuss mode of action, uses & limitations of Penicillin. **6**
- (b) Discuss the causative agent, pathogenesis & symptoms of typhoid. **6**
- (c) Define chemotherapy & a chemotherapeutic agent. **2**

OR

- (a) Discuss mode of action, uses & limitation of heavy metals as disinfectants. **6**
- (b) What is chemotherapeutic index ? Write a note on drug resistance. **6**
- (c) Define phenol co-efficient. **2**

4. (a) Define & give example of : **4**
- (i) Barophils
- (ii) Halophils
- (b) Write a notes on : **10**
- (i) Diauxic growth
- (ii) Lyophilisation

OR

- (a) List & explain different types of special media used for bacterial cultivation. **8**
- (b) Give the uses & advantages of a chemostat. **4**
- (c) Define TDT & TDP. **2**

5. (a) Define : **2**
- (i) MPN
- (ii) Bioassay
- (b) Write a notes on any **three** of the following : **12**
- (i) Symbiotic nitrogen fixation
- (ii) Production of Beer
- (iii) Transformation of steroids
- (iv) Secondary treatment of sewage
- (v) Pasteurisation
- (vi) Nitrogen cycle