

**2015**

**M.Sc.**

**3rd Semester Examination**

**MICROBIOLOGY**

**PAPER—MCB-302**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**Group — A**

**[Marks : 20]**

**Answer any two questions.**

1. (a) Briefly describe the  $\gamma$ -interferon release assays for detection of tuberculosis.  
(b) What is Tuberculin Unit (TU) ?  
(c) How cord-formation in acid-fast bacilli is related to Virulence? Elucidate the basic structure of cord-factor ? 3+2+5
  
2. Illustrate in detail the mode of action of Diphtheria toxin. What are the drugs generally used to combat UTI ? Name one drug along with its mode of action which can be used to treat Kala-azar ? 5+2+3

*(Turn Over)*

3. (a) Define Virulence. Enumerate the Virulonic determinants of Microbes.
- (b) What do you mean by paradoxical carrier ?
- (c) Describe the beneficial roles played by normal flora of human body.

4+1+5

**Group — B**

[Marks : 20]

Answer any *two* questions.

1. (a) What is Vaccine ? Why it is so important in present day ?
- (b) Distinguish between attenuated and killed vaccines.
- (c) What is anti-idiotypic vaccine and state its importance ? (1+2)+2+(2+3)
2. (a) What are the key marker on HIV targeted towards its diagnosis ?
- (b) Discuss briefly about present status of vaccine development against HIV. 4+6
3. Write short notes on (any *four*) :  $4 \times 2 \frac{1}{2}$
- (a) Complement fixation ;
- (b) RIA ;
- (c) Epitope designing ;
- (d) Principle of FACs ;
- (e) Application of monoclonal antibodies.