

2013

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) Distinguish between normal flora and opportunistic pathogen.
(b) How is normal flora established in our body?
(c) Describe beneficial role of intestinal flora in our body.
(d) Why treatment of hospital acquired infection is so difficult? 2+3+3+2

2. (a) Name the infective phase and the vector of *Lishmania donovani*. State how the parasite is transmitted from a post Kalazar dermal lishmaniasis patient to develop visceral lishmaniasis in a healthy human. 2+3
(b) How will you determine the concentration of malaria antigen in the serum of a patient by competitive ELISA. 5

(Turn Over)

3. Name the major causative agent and symptoms of following diseases : $2\frac{1}{2} \times 4$
- (a) meningitis ;
 - (b) leprosy ;
 - (c) urinary tract infection ;
 - (d) food poisoning.

Group — B

[Marks : 20]

Answer any two questions.

4. (a) Describe national immunization schedule along with its importance for controlling communicable diseases in India. 4
- (b) Write the preparation process of : 3×2
- (i) toxoid ;
 - (ii) peptide vaccine ;
 - (iii) Genetically engineered line attenuated vaccine.
5. (a) Why epitope designing is very important in immunodiagnosis tests ?
- (b) Write the characteristics of direct, competitive and sandwich ELISA.
- (c) State the immunohistochemical technique for detection of a marker antigen on the cell surface of a cancer patient. $3 + 4\frac{1}{2} + 2\frac{1}{2}$
6. Write notes on (any four) : $2\frac{1}{2} \times 4$
- (a) Advantages and disadvantages of killed vaccine ;
 - (b) Hazards of blood transfusion ;
 - (c) Characteristics of ABO antigens ;
 - (d) HAT media selection of hybridoma cells ;
 - (e) Agar-gel immunodiffusion technique.
 - (f) Principle of FACS.