

LMDQ/D-23

MICROBIAL PATHOGENICITY

Paper : MMB-303

Time : Three Hours]

[Maximum Marks : 80

Note : Candidates will be required to attempt *five* questions in all, selecting *one* question from each unit (I, II, III, IV) and the compulsory question 1. All questions will carry equal marks.

Compulsory Question

1. (a) What is antigenic shift and antigenic drift?
- (b) Describe TTSS.
- (c) Give examples of two extracellular enzymes which cause tissue injury.
- (d) Name some microbial factors which promote spread.
- (e) How you can describe *V. cholera* O139 as emerging pathogen?
- (f) Describe serotyping.
- (g) Explain X-MDR.
- (h) Explain the working of GeneExpert. (8×2=16)

UNIT-I

2. (a) What is virulence and pathogenicity? How you can measure the pathogenicity? (8)
- (b) Describe the role of biofilms in microbial pathogenicity with some examples. (8)
3. (a) Describe the role of following in virulence determinants :
 - (i) Two component signal transduction system
 - (ii) Coordinated regulation of virulence genes.(8)
- (b) Explain the various determinants of virulence. (8)

UNIT-II

4. (a) How microorganisms cause the direct damage in the tissue? (10)
- (b) What are the various microbial factors which promote the spread of microbes via lymphatics system? (6)
5. (a) Explain the tissue damage caused by direct and indirect damage via inflammation. (8)
- (b) Explain the various strategies used by microbes interfere with the immune response. (8)

UNIT-III

6. (a) Explain the following :
- (i) AIDS.
 - (ii) Swine flu. (8)
- (b) Describe the various mechanisms of emergence of new pathogens. (8)
7. (a) Describe the how geographical information system can be used for microbial epidemiology. (6)
- (b) Explain the following :
- (i) RAPD.
 - (ii) AFLP.
 - (iii) IS based typing. (10)

UNIT-IV

8. (a) Write about MRSA, its types, diagnosis and treatment. (8)
- (b) Explain the role of ESBL in anti microbial resistance. (8)
9. (a) What are nucleic acid amplification methods? Explain with the help of some examples. (8)
- (b) Describe the use of Vitek-2 and Gene expert in diagnosis of infections. (8)

