

**NEW**

**2015**

**MBA 3rd Semester Examination**

**BIO-PHARMA AND IMMUNOLOGY**

**(Specialisation : Pharma Management)**

**PAPER—PM-301**

*Full Marks : 100*

*Time : 3 Hours*

*The figures in the margin indicate full marks.*

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

*Illustrate the answers wherever necessary.*

1. Answer any *eight* questions : 5×8

(a) What is 'Partial Antigen'? How does it produce hypersensitivity reactions — explain with example.

1+4

(b) State the differences between cellular immunity & humoral immunity.

*(Turn Over)*

- (c) Mention the factors that influencing various type of infections with examples.
- (d) Define the term "Gene" & "Allel's". Mention various properties of genetic Code or Codon.
- (e) Describe the structure of mRNA with mentioning the function of Poly A tail. 4+1
- (f) Discuss various stages of infection. What is Quorum Sensing? 4+1
- (g) Elucidate the applications of PCR.
- (h) Explain various factors affecting drug absorption.
- (i) Discuss the advantages and disadvantages of parenteral route of drug administration. Define bioavailability of drugs. 4+1
- (j) State the objectives of bioavailability studies. What are the methods for enhancement of bioavailability of a drug? 2+3
- (k) (a) Explain the relative order of plasma protein binding to the Drugs molecule.
- (b) Give the examples of Drugs that binds with  $\alpha_1$ ,  $\alpha_2$ ,  $\beta_1$ ,  $\beta_2$  &  $\gamma$ -globulins. 2+3

- (l) Discuss the four sites on human serum albumin that have been identified for drug-binding.

2. Answer any *four* questions : 10×4

- (a) (i) Define Anaphylaxis with example.  
(ii) Explain the mechanism of Anaphylactic reaction.  
(iii) State the differences between immediate & delayed type Hypersensitivity reaction. 3+4+3
- (b) Discuss various hazards of immunization. Explain the various fates / outcomes of drug absorption. 6+4
- (c) (i) What are the objectives of Bio-availability studies.  
(ii) Explain 3 parameters for plasma-level time study which are considered to be important for Bioavailability.  
(iii) Mention various approaches in overcoming bioavailability problem. 3+3+4
- (d) (i) Describe the structure of antibody molecule.  
(ii) Write a short note on "Monoclonal antibody".  
(iii) Give example of few agglusination test. 3+4+3

- (e) Discuss about various vascular changes occurring during inflammation. Briefly explain the various factors affecting drug-protein binding. 5+5
- (f) (i) Explain the method of transmission of infection.  
(ii) State the differences between Endotoxin & Exotoxin.  
(iii) State the process of standardization storage of immunological product. 3+3+4

**[ Internal Assessment : 20 ]**

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