



NKT/KS/17/6562

B.Pharm. Semester—IV (C.B.S.) Examination**PHARMACEUTICAL MICROBIOLOGY AND IMMUNOLOGY—II****Paper—5**

Time : Three Hours]

[Maximum Marks : 80

N.B. :— (1) Question No. 1 is compulsory.(2) Solve any **FOUR** questions from remaining.

(3) Draw neat labelled diagram wherever necessary.

1. Solve any **five** questions :

(a) Define D value and Z value.

(b) Give the factors affecting disinfectant action.

(c) Differentiate between exotoxins and endotoxins.

(d) Differentiate between vaccines and sera.

(e) What are antigens ?

(f) Comment on sources of contamination in aseptic area and methods of prevention. 4×5=20

2. Explain non-specific defense mechanisms of host. 15

3. Give the applications of antigen-antibody reactions. Explain the different types of antigen antibody reactions. 15

4. (a) Discuss the different types of hypersensitivity reactions. 8

(b) Define immunity. Describe the different types of immunity. 7

5. (a) Explain the mechanism and process of moist heat sterilization. 8

(b) What are sterilization indicators ? Explain the different types of it. 7

6. (a) Explain the method of preparation of BCG vaccine or diphtheria toxoid. 8

(b) Describe the construction, working and applications of laminar air flow unit. 7

7. Write short notes on any **three** :

(a) Sterility testing of pharmaceutical products as per I.P.

(b) Design of aseptic area

(c) Tuberculin test as diagnostic agent

(d) Classification of disinfectants and ideal properties of disinfectants. 3×5=15

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