

(LK 4266)

FEBRUARY 2017

Sub. Code: 4266

**B.PHARM. EXAMINATION**  
(Common to Regulations 2004 – IV year candidates)  
**THIRD YEAR**  
**PAPER VI - PHARMACEUTICAL BIOTECHNOLOGY**

*Q.P. Code: 564266*

**Time: Three hours****Maximum: 100 Marks****I. Elaborate on:****(2 x 20 = 40)**

1. a) Discuss isolation of Bacteria.  
b) Discuss bacterial growth curve.
2. Define Toxoid. Discuss preparation of Tetanus Toxoid.

**II. Write notes on:****(8 x 5 = 40)**

1. Explain Ziehl-neelsens method.
2. What is sterility test? Discuss media and organism used in sterility test as per Indian Pharmacopoeia.
3. Discuss agar diffusion test.
4. Production of interferon by recombinant deoxyribonucleic acid technology.
5. Production of Vitamin B<sub>12</sub> by fermentation method.
6. Application of animal cell culture.
7. Methods of immobilization of enzyme.
8. Importance of aseptic technique.

**III. Short answers on:****(10 x 2 = 20)**

1. Give method of antigen-antibody reaction.
2. What is Murein?
3. Examples of gaseous sterilization.
4. Give official microbiological assay of antibiotics.
5. Define antigen.
6. Organism used in production of citric acid.
7. Define biosensor.
8. Give examples of natural media used in animal cell culture.
9. Define bacteria.
10. What is Tyndallization?

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