



H-014-003601

Seat No. _____

M.P.M. (Sem. VI) (CBCS) Examination

May / June - 2017

**Pharmaceutical Microbiology &
Biotechnology - II**

Faculty Code : 014

Subject Code : 003601

Time : **3 Hours**]

[Total Marks : **80**

Instructions :

- (1) Answer any **three** from each section.
- (2) Question **1** and **5** are compulsory.
- (3) Answer and tie up both the sections separately.
- (4) Figure to the right indicates marks.
- (5) Draw neat and clean diagrams as required.

SECTION - I

1 Answer any **7** questions out of **10**, each carry **2** marks : **7×2=14**

- (1) Enlist different types of mutation.
- (2) Enlist different application of recombinant DNA technology.
- (3) Describe different application of protoplast fusion.
- (4) Write a note on conjugation.
- (5) Describe briefly, transduction.
- (6) Describe application of activase and humulin.
- (7) Classify immunity.
- (8) Write a note on type I hypersensitivity reaction.
- (9) Write a short note on toxoid.
- (10) Enlist different media components of fermentation media.

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| 2 | (1) Write a note on different mutagenic agents with example. | 7 |
| | (2) Write a note on monoclonal antibody production. | 6 |
| 3 | (1) Write a note on gene cloning. | 7 |
| | (2) Write a note on Human growth hormone and streptokinase. | 6 |
| 4 | (1) Describe in detail different ELISA techniques. | 7 |
| | (2) Describe in detail endotoxin and exotoxin. | 6 |

SECTION – II

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| 5 | Write any two question out of three , each carry 7 marks : 2×7=14 | |
| | (1) Write a note on different techniques of vaccine preparation. | |
| | (2) Describe in detail Sera. | |
| | (3) Write a note on recovery of fermentation product. | |
| 6 | (1) Write a note on Type II and VI hypersensitivity reaction. | 7 |
| | (2) Describe in detail normal microbial flora. | 6 |
| 7 | (1) Describe in detail eukaryotic gene expression. | 7 |
| | (2) Describe in detail Principle and procedure of PCR. | 6 |
| 8 | (1) Describe in detail recombinant coagulation factors and thrombolytic agents. | 7 |
| | (2) Write a note on upstream and downstream process of fermentation. | 6 |