

Code No.

Symbol Number: _____ Invigilator's Sign: _____ Superintendent's Sign: _____

Symbol No. in Words: _____

Faculty: Medicine and Allied Health Sciences **Level: Bachelor****Year/Part :I/II****Program: Bachelor of Pharmacy**
Time : 1.5 hours**Subject: Pharmaceutical Biotechnology and pharmacogenetics(BP206)**
F.M :25
P.M: 12.5

- i. *Answers should be given by filling the Objective Answer Sheet.*
- ii. *Rough can be done in the main answer sheet*
- iii. *Maximum time of 20 minutes within the total time is given for this group*

Group A

Choose the best option to address the questions below. (5x1=5)

1. The first gene therapy was practiced by Blease and Andresco to cure
 - a. Cystic fibrosis
 - b. Hemophilia
 - c. Thalassemia
 - d. Severe combined immunodeficiency disease
2. Which of the following parameters indicates the organic pollution of water sample?
 - a. COD
 - b. Hardness
 - c. pH
 - d. Turbidity
3. The vaccines prepared through recombinant DNA technology are
 - a. First Generation Vaccines
 - b. Second Generation Vaccines
 - c. Third Generation Vaccines
 - d. None
4. Which bacterium is used in the production of insulin by genetic engineering?
 - a. *Escherichia*
 - b. *Mycobacterium*
 - c. *Rhizobium*
 - d. *Saccharomyces*
5. Which of the following is used extensively during chemotherapy of solid tumors?
 - a. Azathioprine
 - b. Dantrolene
 - c. Efavirenz
 - d. 5-Fluorouracil

Multiple Choice Questions' Answer SheetCode No.

Marks Secured: _____

Corrected Fill			
<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
Incorrected Fill			
<input checked="" type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input checked="" type="radio"/> D

In Words: _____

Examiner's Sign: _____ Date: _____

Scrutinizer's Marks: _____

In Words: _____

Scrutinizer's Sign: _____ Date: _____

1. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	6. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
2. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	7. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
3. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	8. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
4. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	9. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
5. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	10. <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D

MANMOHAN TECHNICAL UNIVERSITY

Office of the Controller of Examinations

Budhiganga-4, Morang, Province 1, Nepal

Faculty: Medicine and Allied Health Sciences

Program: Bachelor of Pharmacy

Subject: Pharmaceutical Biotechnology and
pharmacogenetics(BP206)

Level: Bachelor

Time: 3 Hours

Year/Part: I/II

F.M.: 25

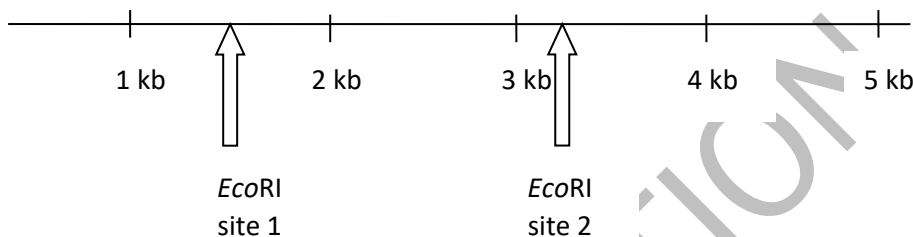
P.M.: 12.5

- ✓ Group A contains Multiple Choice Questions of 5 marks.
- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

Group B

Answer the following problem based questions in your own creative way:

1. A linear DNA piece exhibits following *EcoRI* restriction sites.



- i. The DNA fragment is treated with *EcoRI* enzyme and the product was undergone gel electrophoresis. Draw a picture of bands that will appear after the gel is stained.
- ii. How will the bands get modified if *EcoRI* site 2 gets mutated with no change in base pairs? Draw labeled diagram of the bands that will appear in such situation.
- iii. Assume that 500 base pairs have been added somewhere in between *EcoRI* site 1 and 2. Now draw the gel bands after electrophoresis and staining.

2+2+2=6

Group C

Attempt any two questions of the following.

2x4=8

1. What are the different factors affecting biodegradation? Explain.
2. What is gene cloning? Explain the steps for gene cloning along with its applications.
3. Explain different types of fermentation.

Group D

Attempt any five questions of the following:

3x2=6

1. Draw a labelled diagram of a conventional fermenter used in industrial fermentation.
2. What are the importance of microbial transformation in pharmaceutical industries?
3. Differentiate in-vivo gene therapy with ex-vivo gene therapy.
4. Illustrate the hazards of biotechnology.

THE END