	Utech
Name :	
Roll No.:	A Spran of Exercising and Explored
Invigilator's Signature :	

CS/B.Pharm/SEM-6/PT-609/2010 2010

PHARMACEUTICAL BIOTECHNOLOGY AND INDUSTRIAL MICROBIOLOGY

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

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

GROUP – A

(Multiple Choice Type Questions)

1.	Choose the correct alternatives for any ten of	of the following:
		$10 \times 1 = 1$

- i) The antibody which is associated with type 1 hypersensitivity reaction is
 - a) IgE
- b) IgG

c) IgM

- d) all of these.
- ii) Streptokinase is also termed as
 - a) Fibronolysin
- b) Catalase
- c) Coagulase
- d) Hyaluronidase.
- iii) Which part of the soil is used as the source of organism producing antibiotics?
 - a) Horizon A
- b) Horizon B
- c) Horizon C
- d) Horizon D.

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- iv) Which of the following is predominant in seromucous secretion?
 - a) IgA

b) IgM

c) IgD

- d) IgG.
- v) Aminopenicillic acid is prepared from penicillin sps. by
 - a) Acylase
 - b) Penicillin acylase
 - c) Pencillinone
 - d) None of these.
- vi) Transfer of genes from one cell to another by a bacteriophage is known as
 - a) Conjugation
- b) Transduction
- c) Transformation
- d) None of these.
- vii) Hybridoma cell is
 - a) fusion of Ab producing cell with myeloma cell
 - b) fusion of two myeloma cells
 - c) fusion of two normal cells
 - d) none of these.
- viii) c-NDA is produced from
 - a) t-RNA

b) m-RNA

c) r-RNA

- d) None of these.
- ix) ECo R1 cleaves its specific recognition site in a DNA
 - a) asymmetrically
 - b) symmetrically
 - c) producing blunt ended fragments
 - d) none of these.

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- x) Class II MHC Molecule presents antigen to
 - a) TH cell

b) T-cytotoxic cell

c) B-cell

- d) none of these.
- xi) Example of live bacterial vaccine is
 - a) Tuberculosis
- b) Smallpox
- c) Cholera
- d) Typhoid.
- xii) The main ingredient used for fermentative production of beer is
 - a) corn b)

barley

c) rice

d) wheat.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following.

 $3 \times 5 = 15$

- 2. Write briefly about gene cloning and its industrial application.
- 3. Write down the main factors required to design a fermentation process.
- 4. How will you determine the amount of an antigen present in a sample by ELISA?
- 5. What are the advantages of biotransformation over chemical transformation?
- 6. Explain, 'All immunogens are antigens but all antigens are not immunogens'.

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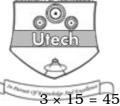
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(Long Answer Type Questions)

Answer any three of the following.



- 7. With a flow diagram, describe the fermentative production of penicillin.
- 8. a) What is recombinant DNA technology? What is a plasmid? What is a vector?
 - b) Describe the characteristics of a plasmid vector.
 - c) Write a short note on hypersensitivity reactions.

$$(1+1+1)+5+7$$

9. What is enzyme immobilization? Give the techniques of immobilization of enzymes? What are the factors affecting enzyme kinetics. Write a short note on 'streptokinase'.

$$2 + 7 + 3 + 3$$

- 10. Give the outline of manufacturing process of beer with special emphasis on raw material required for fermentative production of beer and different steps involved for fermentative beer production.
- 11. Define active and passive immunization. Outline the manufacturing process of cholera and BCG vaccines. How will you standardize vaccine formulation? What is toxoid?

$$2 + 4 + 4 + 3 + 2$$

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