	Utech
Name:	
Roll No.:	To Depart by Komboling Stad Excilinat
Invigilator's Signature :	

CS/M.PHARM/SEM-1/MPT-108(2)/2012-13 2012

ADVANCED PHARMACOLOGY

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 the following :

 $10 \times 1 = 10$

- i) Which technique is best suited for ex-vivo gene therapy?
 - a) Gene gun
 - b) Cationic lipid
 - c) Retrovirus mediated
 - d) Both (a) and (b).
- ii) Which particle is used to coat DNA in gene gun?
 - a) Gold

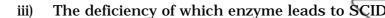
b) Silver

c) Zinc

d) None of these.

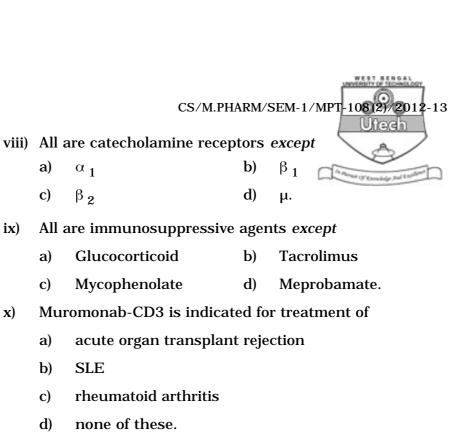
40455 Turn over

CS/M.PHARM/SEM-1/MPT-108(2)/2012-13



- a) Acyl transferase
- b) Glucose isomerase
- c) Enolase
- d) Adenosine deaminase.
- iv) What is the characteristic feature of retroviral construct with therapeutic gene?
 - a) Therapeutic gene + replication enzyme
 - b) Preservation in soil + Integrase
 - c) Therapeutic gene + Packaging enzyme
 - d) Therapeutic gene only.
- v) nNOS I is present in
 - a) Endothelium
- b) Epithelium
- c) Neural cell
- d) None of these.
- vi) Methotrexate inhibits
 - a) Folic acid synthesis
 - b) Tetrahydrofolic acid synthesis
 - c) DNA synthesis
 - d) RNA synthesis.
- vii) Angiogenesis is
 - a) formation of vasculature
 - b) degeneration of vasculature
 - c) formation of abnormal cells
 - d) formation of lymphocytes.

40455



- Sumatriptan is the selective agonist of xi)
 - 5-HT_{1D} a)

SLE

- b) 5-HT_{1A}
- 5-HT2B c)
- d) 5-HT4.
- Sufentanil is agonist of xii)
 - a) α_1

a)

c)

c)

a)

b)

c)

d)

ix)

x)

 α_1

 β_2

b) β_1

c) β_2 d) μ.

GROUP - B

(Short Answer Type Questions)

Answer any three of the following.

 $3 \times 5 = 15$

- What is Gene therapy? Write down the advantages and 2. disadvantages of gene therapy. 2 + 3
- How will you construct retroviral vector for gene therapy? 3. Write a note on Anti CD3 monoclonal antibody. 3 + 2

- 4. Explain the signal transduction mechanism of TNF- α receptor.
- 5. Write down the role of Prostaglandins in inflammatory diseases.
- 6. Discuss 'Anti-sense therapy in the management of cancer'.

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. Write notes on Glutamate receptor and Opioid receptor.

$$7\frac{1}{2} + 7\frac{1}{2}$$

- 8. Mention the producing cells, target cells and functions of the following cytokines : 5×3
 - a) IL-2
- b) IL-4
- c) IL-5

- d) IL-10
- e) IL-12.
- 9. Write in detail about the different types of adhesion molecules in the human body.
- 10. Write about the genetic basis of obesity. Write down the mechanism of action of Orlistat and Sibutramine. Write about some novel approach in the treatment of obesity.

$$5 + 5 + 5$$

11. Describe the process of tumor angiogenesis. Write short notes on VEGF and Endostatin. 5 + 5 + 5

40455