



Name :

Roll No. :

Invigilator's Signature :

CS/M.Pharm/SEM-1/MPT-105(2)/2011-12

2011

MODERN CONCEPTS OF 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 × 1 = 10

- i) Viral vector(s) involved in gene therapy is/are
 - a) Herpes virus b) Retro virus
 - c) Adeno virus d) All of these.
- ii) Nitric Oxide (NO) relaxes smooth muscle in the vessel wall by activating
 - a) cAMP b) PKc
 - c) PKG d) cGMP.
- iii) Glutamate receptor is a
 - a) kinase-lined
 - b) transmembrane
 - c) ion gated
 - d) nuclear.



- iv) Glucocorticoid belongs to the
- a) ligand gated ion channel family
 - b) G-protein coupled receptor family
 - c) tyrosine kinase family
 - d) nuclear receptor family.
- v) Nitric oxide is synthesized from
- a) L-arginine
 - b) guanine
 - c) serine
 - d) histidine.
- vi) A non-viral vector in gene therapy is
- a) liposome
 - b) transdermal
 - c) monoclonal antibody
 - d) I.V. infusion.
- vii) In coronary heart disease the ratio of which of the following is increased
- a) VLDL / LDL
 - b) LDL / HDL
 - c) HDL / LDL
 - d) HDL / VLDL.
- viii) Pathological angiogenesis is required for
- a) growth of child
 - b) growth of muscle
 - c) growth of tissue
 - d) growth of granulating tissue.
- ix) Bradykinin contains amion acids.
- a) nine
 - b) nineteen
 - c) ninety
 - d) one hundred nine.



- x) Positive regulators of the cell cycle are
- a) cyclin dependent kinases
 - b) P⁵³ gene
 - c) tumor necrosis factor
 - d) none of these.
- xi) Cancer chemotherapy finds it difficult to kill cells in the following phase of the cell cycle
- a) S
 - b) G₀
 - c) G₁
 - d) M.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. What is suicide gene ? What are the modern approaches of gene therapy in cancer ? 3 + 2
3. Write about the antisense therapy.
4. Mention the role of TNF- α and interleukin in inflammation.
5. Write a short note on transgenic animals.
6. Name the excitatory neurotransmitters in CNS. What is the role of Glutamate receptors in long term potentiation ?



GROUP - C
(Long Answer Type Questions)

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

7. What do you mean by pharmacogenetics ? How does it influence the drug responses ? Explain with examples. 7 + 8
8. Mention the physiological function of nitric oxide (NO). Write the importance of NO in pharmacotherapy of angina, erectile dysfunction and hypertension. 6 + 9
9. Write about the stem cell. What are the implications of stem cell in therapy ? 10 + 5
10. Write short notes on any *two* of the following : $2 \times 7\frac{1}{2}$
 - a) Hypertension and its management
 - b) Cardiac arrhythmias and their management
 - c) Management of epilepsy.
11.
 - a) Describe the journey of a cell through the cell cycle.
 - b) Explain “apoptosis” and its relevance to cancer $7\frac{1}{2} + 7\frac{1}{2}$

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