

Exam Date & Time: 03-Dec-2018 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.
Specialization: Pharmacology
Date: 03-12-2018

Advanced Pharmacology I [PHA-MPL102T]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) Explain the different secondary messenger systems of G-protein coupled receptors. (10)
- 2) Explain the molecular mechanism and adverse effects of digoxin. (10)
- 3) Describe cholinergic neurotransmission. List the different drugs that affect the system. (10)
- 4) Explain the molecular mechanism of morphine as analgesics (10)
- 5) Classify anti-epileptic drug based on the ion channels that are blocked. Explain the mechanism of action of any one drug used for absence seizure. (10)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Compare and contrast signal transduction mechanisms of GABA receptor subtypes (5)
- 7) Explain the synthesis of prostaglandins and explain the mechanism of action of aspirin. (5)
- 8) Describe platelet activation and aggregation following bleeding. List the different drugs that affect the processes. (5)
- 9) Explain the standard i.v plasma con-time characteristics of drugs whose elimination follow one compartment first order kinetics. (5)
- 10) Explain the pharmacological actions and uses of atropine. (5)

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& Time: 05-Dec-2018 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

Specialization: Pharmacology

Date: 05-12-2018

Pharmacological and Toxicological Screening Methods I [PHA-MPL103T]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) Describe the regulatory requirements for animal care facility as per CPCSEA. (10)
- 2) Discuss one acute and chronic animal model each to screen anti-inflammatory drugs. (10)
- 3) Explain the in vitro and in vivo methods for screening drugs for respiratory disorders. (10)
- 4) Describe the electrical and chemical methods to induce convulsions in animals. Explain the relevance of these models to clinical forms of epilepsy. (10)
- 5) List the various mice used in xenograft models and explain the advantages and disadvantages of these models. What is the significance of these models in translation research? (10)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Write a short note on principle and indications bioassay. (5)
- 7) Explain the method of non-competitive ELISA for antigen measuring system. (5)
- 8) Explain the significance of 1) Reduced total protein and albumin content with chronic alcohol administration; 2) conditioned avoidance response; 3) despair behaviour. (5)
- 9) Explain the mechanism of induction of chemical-induced animal models of Parkinson's disease. (5)
- 10) With a neat diagram, explain the principle of Langendorff preparation for the screening of drugs. (5)

Date & Time: 07-Dec-2018 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.
Specialization: Pharmacology
Date: 07-12-2018

Cellular and Molecular Pharmacology [PHA-MPL104T]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) Explain the basic equipment required for cell culture laboratory. Give its applications (10)
- 2) How does DNA damage occur? Explain the mechanisms of its repair (10)
- 3) With a neat, labelled diagram explain the fluid mosaic model of a human cell (10)
- 4) List and mention the roles of various cyclins and CDKs in regulation of cell cycle. Describe the roles of maturation promoting factor and spindle assembly check point in cell cycle progression. (10)
- 5) Briefly explain the transcription process in eukaryotes (10)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Describe the intercellular and intracellular signalling pathways with an example each (5)
- 7) Explain the different methods of cryopreservation (5)
- 8) Explain elongation of protein synthesis in translation process in eukaryotes (5)
- 9) Explain adoptive T-cell therapy in cancer management (5)
- 10) Write a note on intrinsic pathway of apoptosis (5)

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