Enrollment No……

Master of Pharmacy (Pharmacology)
First Semester Main Examination, Dec-2020
Modern Pharmaceutical Analytical Techniques
(MPL 101T)

Time: 3:00 Hrs **Max Marks 75**

Note : Attempt any five questions. All questions carry equal marks.

Q.1 **(a) Describe the principle of UV Spectrophotometers and discuss double beam Spectrophotometer with neat diagram.**
(b) Define fluorescence. Explain the principle & instrumentation of specetroflourimetry.

Q.2 **(a) Discuss various ionization techniques used in mass Spectroscopy.**
(b) Explain the terms:
i) Chemical Shift **ii) Spin-Spin Coupling**

Q.3 **(a) Explain the fragmentation rules of organic compounds by mass spectroscopy in details.**
(b) Write a note on $_{13}$C NMR.

Q.4 **(a) Discuss the principle, instrumentation and application of FTIR.**
(b) Discuss the principle, instrumentation and application of Flame Emission Spectroscopy.

Q.5 **(a) Write a brief account on TGA.**
(b) Discuss the principle, instrumentation and application of gel electrophoresis.

Q.6 **(a) Write an account on Bragg's Law and x-ray powder diffraction.**
(b) Explain the principle of high performance liquid chromatography. Write an account on detectors used in HPLC.

Q.7 **(a) Discuss the various modes of molecular vibrations. Explain the factors affecting vibrational frequencies of IR Spectroscopy.**
(b) Write a short note on Mclafferty rearrangement and its significance in structural diagnosis.

Q.8 **(a) Discuss principle of gas chromatography and explain any two detectors used in it.**
(b) Explain the principle, working and instrumentation of potentiometers.

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Master of Pharmacy (Pharmacology)
First Semester Examination, Dec-2020
Advanced Pharmacology-I (MPL-102T)

Time: 3:00 Hrs **Max Marks 75**

Note : Attempt any five questions. All questions carry equal marks.

Q.1 (a) Define Diuretics. Write the classification of diuretics. Describe in detail about Thiazide Diuretics.
(b) Draw a well labeled diagram of Nephron with sites of action. Explain in detail about furosemide.

Q.2 (a) Define Analgesics. Write classification of NSAIDs. Write pharmacokinetic, pharmacological action and adverse drug reaction of Aspirin.
(b) Write a detail note on Opioids Analgesics.

Q.3 (a) Classify Anticholinergic drugs with example of each group. Describe pharmacological and therapeutic effects and adverse effect of atropine.
(b) Write a note on Mania.

Q.4 (a) Describe Arrythemia. Classify Antiarrythemic drugs. Describe in detail about pharmacology of Quinidine.
(b) What are Cardiotonics? Write different sources of cardiac glycoside. Write pharmacological action mechanism of action of cardiac glycoside.

Q.5 (a) Define Hypertension. Classify antihypertensive drugs. Write pharmacokinetic, mechanism of action pharmacological action and therapeutic uses of anyone class of Antihypertensive.
(b) Write a detail note on Neurohumoral Transmission.

Q.6 (a) Write a detail note on Tricyclic Antidepressant.
(b) Describe in detail about different types of receptors.

Q.7 Write difference on-
(a) General Anaesthetic and local Anaesthetic.
(b) Benzodiazepine and barbiturates.

Q.8 Write short note on (any two)
(a) Parkinson Disease and its treatment.
(b) Prostaglandin.
(c) Significance of protein binding.

Enrollment No……

Master of Pharmacy (Pharmacology)

First Semester Main Examination, Dec-2020

Pharmacological & Toxicological Screening Methods-I (MPL 103T)

Time: 3:00 Hrs **Max Marks 75**

Note : Attempt any five questions. All questions carry equal marks.

Q.1 (a) Describe the CPCSEA guidelines to conduct experiments on animals.
(b) Discuss the good laboratory practice.

Q.2 (a) Discuss about anti cancer in-vitro and in-vivo screening methods.
(b) What is diabetes Enumerate various screening models for diabetes. Discuss any one method in details.

Q.3 (a) Discuss the methods involved in CNS stimulants and depressants activities.
(b) What is parkinsonism ? List out the screening models for parkinsonism and explain MPTP model in details.

Q.4 (a) Discuss about common laboratory animals.
(b) Discuss the anesthesia and euthanasia of experimental animal.

Q.5 (a) Write the preclinical screening method for antiinflammatory and antipyretic agents.
(b) Discuss the methods involved in screening a compound supposed to have antiulcer activity.

Q.6 (a) Write the screening methods for anti asthmatic drugs
(b) Enumerate anti fertility screening methods.

Q.7 (a) Brife discussion on general principal of immunoassay and write note on immunoassay for insulin.
(b) Write note on preclinical screening methods for immunomodulators activity.

Q.8 Write a note on. :-
(a) Screening methods for antidiarrheal drug activity.
(b) Screening methods for antihypertensive activity.

Enrollment No……

Master of Pharmacy (Pharmacology)
First Semester Main Examination, Dec-2020
Cellular and Molecular Pharmacology (MPL104T)

Time: 3:00 Hrs **Max Marks 75**

Note: Attempt any five questions. All questions carry equal marks.

Q.1 (a) Give application of recombinant DNA technology.
(b) What is gene mapping and cloning of dicersc gene?

Q.2 (a) Give detail about cell culture media and various types of cell cultire with general procedure.
(b) Explain the principle and application of call viability assays and gluwse uptake assay.

Q.3 (a) Write a note on apoptosis.
(b) Explain signal transducer and activators of transcription (STAT) signaliy pathway.

Q.4 (a) Write a note on intracellular signaliy pathways.

Q.5 (a) Discuss synthesis and physiological function of nitric oxide.
(b) Discuss physiology of serotenin.

Q.6 (a) Write in detail genetic variation in drug transportors.
(b) Write a note on nuclear reception

Q.7 (a) Explain transportor mechanism acnes cell membrane .
(b) Discuss signal transduction mechanism by GPCR.

Q.8 Write short note on (Any three):-
(a) Genomics
(b) Proteomics
(c) Metabolomice
(d) Functionomics
(e) Nutrigonomics