

UKA TARSADIA UNIVERSITY

M. Pharm. (Pharmacology) (2nd Semester)

040050202 - Pharmacometrics Screening Methods in Pharmacology

Duration: 3 Hours

Max. Marks: 70.

Instructions:

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.
5. Draw diagrams/figures whenever necessary.

Section-1

Q-1 (A) Do as directed:

[07]

- I) Enumerate isolated tissue preparations for the evaluation of Adrenoceptor or subtype.
- II) Give the principle of Vogel's conflict test
- III) Enlist Principles of Bioassay.
- IV) Give the principle behind force swimming test
- V) Give name of chemical used induced petit mal type of epilepsy
- VI) Enlist animal models for evaluation of local anesthetic agents.
- VII) What is 'Serotonin syndrome in rats'?

Q-1 (B) Answer the following in brief: (Any 4)

[08]

- I) Explain application of radial arm maze
- II) Explain the importance of cell line as alternatives to animal screening procedures
- III) Explain any two models for evaluation of peripheral analgesics
- IV) Describe methods of bioassay for insulin
- V) Write a note on Fourth R (Responsibility) related to animal use
- VI) Explain the methodology and aim of OECD 425

Q-2 Answer the following:

[10]

- A) Differentiate OECD 423 and OECD 425 guideline

OR

- A) Write about the evaluation techniques for nootropic drugs.
B) Classify different animal model and explain its application for screening of drugs

OR

- B) Describe any two models for evaluation of anti-psychotic drugs

Q-3 Answer the following in detail. (Any 2)

[10]

- A) Give various parameters for screening of sedative agents.
- B) Write about different techniques for microbiological assays of antibiotics.
- C) Write a note on limitation of animal tests.

Section-2

Q-4 (A) Do as directed: **[07]**

- I) Give parameters used for the characterization of receptor using radioligand binding study
- II) Enlist different in-vivo and in-vitro models for screening of beta blockers
- III) Define radioimmunoassay.
- IV) Define hapten and immunogen
- V) Enlist various parameters for screening of antiarrhythmic drug
- VI) Which parameters are evaluated for the characterization of receptor using radioligand binding study?
- VII) Give the various desirable properties candidate ligand for radiolabeling

Q-4 (B) Answer the following in brief: (Any 4) **[08]**

- I) Give the rationale of fructose-induced hypertension for screening of antihypertensives
- II) Explain the principle behind the FPIA
- III) Explain the importance transgenic animal for screening of antihypertensive agents
- IV) How will you find out possible mechanisms of action of a drug that is mast cell stabilizer?
- V) Explain the theoretical basis of radioimmunoassay.
- VI) Describe immunoassay formats commonly used for therapeutic drug monitoring

Q-5 Answer the following: **[10]**

- A) Write down any two screening methods for anti-anginal drugs.

OR

- A) Describe various methods for evaluation of cytoprotective activity for drugs used in peptic ulcer
- B) Describe advantages and disadvantages of immunoassay for screening of drugs

OR

- B) Describe various methods for induction of dyslipidemia

Q-6 Answer the following in detail. (Any 2) **[10]**

- A) Differentiate between competitive and non-competitive immunoassay (With one example)
- B) Describe the principle and application of radio ligand binding assays
- C) Write briefly about models for inflammatory bowel disease.