

3.1 PHARMACOLOGY – II (PRACTICAL)

Practical : 3 Hrs./Week

List of Experiments:

1. Study of laboratory animals and their handling (a. Frogs, b. Mice, c. Rats, d. Guinea pigs, e. Rabbits).
2. Study of physiological salt solutions used in experimental pharmacology.
3. Study of laboratory appliances used in experimental pharmacology.
4. Study of use of anesthetics in laboratory animals.
5. To record the dose response curve of Ach using isolated ileum/rectus abdominis muscle preparation.
6. To carry out bioassay of Ach using isolated ileum/rectus abdominis muscle preparation by interpolation method.
7. To carry out bioassay of Ach using isolated ileum/rectus abdominis muscle preparation by three point method.
8. To record the dose response curve of Histamine using isolated guinea-pig ileum preparation.
9. Study of agonistic and antagonistic effects of drugs using isolated guinea-pig ileum preparation.
10. To carry out bioassay of Histamine using isolated guinea-pig ileum preparation by interpolation method.
11. To carry out bioassay of Histamine using guinea-pig ileum preparation by three point method.
12. To study the routes of administration of drugs in animals (Rats, Mice, Rabbits).
13. Study of theory, principle, procedure involved and interpretation of given results for the following experiments:
 - a) Analgesic property of drug using analgesiometer.
 - b) Antiinflammatory effect of drugs using rat-paw edema method.
 - c) Anticonvulsant activity of drugs using maximal electroshock and pentylene tetrazole methods.
 - d) Antidepressant activity of drugs using pole climbing apparatus and pentobarbitone induced sleeping time methods.
 - e) Locomotor activity evaluation of drugs using actophotometer and rotorod.
 - f) Cardiotonic activity of drugs using isolated frog heart and mammalian heart preparations.

Scheme of Practical Examination:

| | Sessionals | Annual |
|--|-------------|-------------|
| Identification | 02 | 10 |
| Synopsis | 04 | 10 |
| Major Experiment (Bioassay) | 08 | 30 |
| Minor Experiment (Interpretation of given Graph or simulated experiment) | 04 | 10 |
| Viva | 02 | 10 |
| Max Marks | 20 | 70 |
| Duration | 3hrs | 4hrs |

Note : Total sessional marks is 30 (20 for practical sessional plus 10 marks for regularity, promptness, viva-voce and record maintenance).

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Practicals**Title of the Experiment:**

- 1 Study of agonistic and antagonistic effects of drugs using Guinea-pig ileum preparation.**
- 2 To study the effects of drugs on intestinal motility using frog's esophagus model*
- 3 To study the effects of drugs using rat uterus preparation.**
- 4 To study the anticonvulsant property of drugs (any one model).*
- 5 To study antihistaminic property of drug using histamine induced anaphylactic reaction in guinea pigs.
- 6 To study the apomorphine-induced compulsive behaviour (stereotypy) in mice.*
- 7 To study the muscle relaxant property of diazepam in mice using rotarod apparatus.*
- 8 To study the antiinflammatory property of indomethacin against carrageenan-induced paw oedema.**
- 9 To study the anxiolytic effect of diazepam in mice using mirrored-chamber apparatus.**
- 10 To demonstrate the effect of various drugs on the blood pressure and respiration of anaesthetized dog.
- 11 To study the effect of anthelmintics on earthworms.
- 12 To study the taming effect of chlorpromazine.*
- 13 To study the effects of drugs on vas deferens of the male rat.**
- 14 To study the effect of drugs on pesticide toxicity using rats as model.
- 15 To study the effect of drugs on heavy metal toxicity.

** indicate major experiment & * indicate minor experiment

Scheme of Practical Examination:

| | Sessionals | Annual |
|------------------|-------------------|---------------|
| Synopsis | 05 | 15 |
| Major Experiment | 10 | 25 |
| Minor Experiment | 03 | 15 |
| Viva | 02 | 15 |
| Max Marks | 20 | 70 |
| Duration | 03hrs | 04hrs |

Note : Total sessional marks is 30 (20 for practical sessional plus 10 marks for regularity, promptness, viva-voce and record maintenance).

2.4 PHARMACOLOGY- I (PRACTICAL)

1. Introduction to commonly used instruments in experimental pharmacology.
2. Care and handling of common laboratory animals, animal welfare and introduction of CPCSEA and its guidelines, OECD guidelines.
3. Introduction to animal physiology with their biochemical reference values in various Animal species.
4. Study of various routes of drug administration
5. Study of various anesthetics employed to anesthetize laboratory animals.
6. Introduction to the techniques of Euthanasia
7. Study of physiological salt solutions, drug solution and use of molar solution in various animal experiments.
8. Study of various methods for collection of blood, body fluids and urine from Experimental animals.
9. Computer simulations of following experiments through computerized simulated Software programme using software such as Ex-Pharm, X-cology etc.
 - a. To record Concentration Response Curves (CRC) of Acetylcholine using suitable isolated tissue preparations
 - b. Study of the miotic and mydriatic effect of drugs using rabbit eyes.
10. To record Concentration Response Curves (CRC) of Acetylcholine using suitable Isolated tissue preparations
11. To record Concentration Response Curves (CRC) of Histamine using suitable Isolated tissue preparations
12. To Study of analgesic activity of drugs using Eddy's hot plate analgesiometer/ tail flick analgesiometer in mice
13. To Study of locomotor activity of drug using actophotometer in mice
14. To Study of muscle relaxant property of drug using rotarod in mice

Myel

3.1 PHARMACOLOGY - II (PRACTICAL)"

1. To record the effect of Atropine on Concentration Response Curves (CRC) of Acetylcholine using suitable isolated tissue preparations (Antagonism).
2. Determination of unknown concentration of Acetylcholine using suitable isolated
3. tissue preparations by matching bioassay method
4. Determination of unknown concentration of Histamine using suitable isolated tissue preparations by matching bioassay method
5. Determination of unknown concentration of Acetylcholine using suitable isolated tissue preparations by Interpolation bioassay method
6. Determination of unknown concentration of Histamine using suitable isolated tissue preparations by Interpolation bioassay method
7. Determination of unknown concentration of Acetylcholine using suitable isolated tissue preparations by three point bioassay method
8. Determination of unknown concentration of Histamine using suitable isolated tissue preparations by three point bioassay method
9. To study the anticonvulsant property of drugs (any one model).
10. To study the anxiolytic effect of diazepam in mice using mirrored-chamber apparatus.
11. To Study effect of different drugs on isolated frog's heart.
12. To Study of analgesic activity of drugs using Eddy's hot plate analgesiometer / tail flick analgesiometer in mice
13. To study the effects of drugs on intestinal motility using frog's esophagus model.
14. To demonstrate the effect of various drugs on the blood pressure and respiration of anaesthetized dog.