

MAY 2011

[KY 351]

Sub. Code: 2912

M.PHARM. DEGREE EXAMINATION

(Regulations 2010)

(Candidates admitted from 2010-2011 onwards)

FIRST YEAR

BRANCH IV – PHARMACOLOGY

PAPER III – BIOLOGICAL STANDARDISATION

AND PHARMACOLOGICAL SCREENING METHODS

Q.P. Code : 262912

Time : Three hours

Maximum : 100 marks

Answer All questions

I. Essay Questions :

(6 x 10 = 60)

1. Discuss about CPCSEA guidelines for the usage of animals for experimental purpose.
2. List out screening methods for gastric ulcer. Explain in detail about pyrolic ligation induced ulcer and NSAID's induced ulcer.
3. What is Diabetes? Screening models for Diabetes. Discuss any one method in detail.
4. Detail the principle of Immunoassay and explain about the separation techniques.
5. Discuss about the screening methods available for anti inflammatory drugs. Explain in detail about the Freund's Complete Adjuvant induced arthritis.
6. What is Parkinsonism? List out the screening models for Parkinsonism and explain MPTP model in detail.

II. Write Short Notes :

(8 x 5 = 40)

1. Note on Transgenic animals.
2. Discuss the different methods of blood collection.
3. Write note on invitro anti cancer activity.
4. Enumerate the different screening models anti-fertility agents and describe any one.
5. Different models in diarrhoea and laxatives. Explain any one model from diarrhoea.
6. Note on Euthanasia.
7. Define Toxicity? Explain about acute, subacute and chronic toxicity studies.
8. Paired -t- test, wilcoxon test and student t- test.

October 2011

[KZ 351]

Sub. Code: 2912

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH IV – PHARMACOLOGY

PAPER III – BIOLOGICAL STANDARDISATION AND

PHARMACOLOGICAL SCREENING METHODS

Q.P. Code : 262912

Time : 3 hours
(180 Min)

Maximum : 100 marks

Answer ALL questions in the same order.

I. Elaborate on :

	Pages (Max.)	Time (Max.)	Marks (Max.)
1. Explain the OECD guidelines for the conduct of acute, sub-acute and chronic toxicity studies.	17	40	20
2. Discuss the various methods employed in the screening of antiarrhythmic drugs.	17	40	20

II. Write notes on :

1. Optimization of immunoassays.	4	10	6
2. Use of knock-out mouse in the preclinical evaluation of drugs.	4	10	6
3. Explain any one method for the bioassay of digitalis.	4	10	6
4. Conditioned avoidance test.	4	10	6
5. Explain any two methods for the screening of drugs used for Parkinson's disease.	4	10	6
6. Student's <i>t</i> test.	4	10	6
7. Carcinogenicity testing.	4	10	6
8. Randall – Selitto test.	4	10	6
9. Write a note on different human cell lines used in screening techniques.	4	10	6
10. Charcoal meal test.	4	10	6

[LA 351]

MAY 2012

Sub. Code: 2912

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH IV – PHARMACOLOGY

PAPER III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS

Q.P. Code: 262912

Time: 3 hours
(180 Min)

Maximum: 100 marks

Answer ALL questions in the same order.

I. Elaborate on:

Pages Time Marks
(Max.) (Max.) (Max.)

- | | | | |
|---|----|----|----|
| 1. a. Describe the bioassay of d-tubocurarine.
b. Describe the invitro anticancer drug screening. | 17 | 40 | 20 |
| 2. a. Explain any two invivo screening methods for antihypertensives.
b. Explain any two invivo screening methods for anticonvulsants. | 17 | 40 | 20 |

II. Write notes on:

- | | | | |
|--|---|----|---|
| 1. Explain Phrenic nerve diaphragm of rat. | 4 | 10 | 6 |
| 2. Write short notes on principles of bioassay. | 4 | 10 | 6 |
| 3. Describe the Shay rat model. | 4 | 10 | 6 |
| 4. Acute toxicity studies as per OECD guidelines. | 4 | 10 | 6 |
| 5. What are the advantages and disadvantages of alternative experimental models? | 4 | 10 | 6 |
| 6. Describe different animal cell lines used in screening. | 4 | 10 | 6 |
| 7. Despair swim test. | 4 | 10 | 6 |
| 8. Euthanasia. | 4 | 10 | 6 |
| 9. Short notes on Wilcoxon test, Paired T test. | 4 | 10 | 6 |
| 10. Explain one chronic and one acute screening model for anti-inflammatory drugs. | 4 | 10 | 6 |

[LB 351]

NOVEMBER 2012
M.PHARM. DEGREE EXAMS
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION
AND PHARMACOLOGICAL SCREENING METHODS
Q.P. Code : 262912

Sub. Code: 2912

Time : 3 hours
(180 Min)

Maximum : 100 marks

Answer ALL questions in the same order.

I. Elaborate on :

Pages Time Marks
(Max.)(Max.)(Max.)

- | | | | |
|--|----|----|----|
| 1. Explain the various models used in antihypertensive screening. | 17 | 40 | 20 |
| 2. Discuss in detail the different methods employed in the euthanasia of laboratory animals. | 17 | 40 | 20 |

II. Write Notes on :

- | | | | |
|---|---|----|---|
| 1. MES – induced seizures. | 4 | 10 | 6 |
| 2. Explain the bioassay of oxytocin by measurement of milk ejection pressure in a lactating rat. | 4 | 10 | 6 |
| 3. ANOVA. | 4 | 10 | 6 |
| 4. Maintenance of cell lines. | 4 | 10 | 6 |
| 5. Explain the role of transgenic animal models in preclinical research. | 4 | 10 | 6 |
| 6. Write a brief note on heterogenous immunoassays. | 4 | 10 | 6 |
| 7. Use of Shay rats. | 4 | 10 | 6 |
| 8. Rabbit head drop method. | 4 | 10 | 6 |
| 9. Explain any three <i>in vitro</i> methods for the screening of free radical scavenging activity. | 4 | 10 | 6 |
| 10. Principles of toxicokinetics. | 4 | 10 | 6 |

[LD 351]

OCTOBER 2013

Sub. Code: 2912

M.PHARM. DEGREE EXAMINATIONS
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION
AND PHARMACOLOGICAL SCREENING METHODS

Q.P. Code : 262912

Time: Three Hours

Maximum: 100 marks

Answer ALL questions in the same order.

I. Elaborate on :

(2 x 20 = 40)

1. a) Enumerate the screening methods of anti-diarrhoeal drugs.
b) Enumerate anesthesia and euthanasia of commonly used experimental animals.
2. a) What is catatonia? Enumerate the screening methods for anti parkinsonism drugs.
b) What are the guidelines of CPCSEA (committee for the purpose and supervision on experimental animals) to maintain the animal house.

II. Write notes on :

(10 x 6 = 60)

1. Carragenin induced paw edema
2. Eddys hot plate
3. Elevated plus maze,
4. What are the protocol preparations in immunoassay methods evaluation.
5. What are the techniques for blood collection in the laboratory animals
6. Bioassay of d-tubocurarine
7. Enumerate the screening methods for anti diabetic drugs
8. Enumerate the screening methods for free radical scavenging activity
9. Enumerate the screening methods for anti arrhythmics drugs
10. Range finding tests.

[LE 351]

APRIL 2014

Sub. Code: 2912

**M.PHARM. DEGREE EXAMS
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION
AND PHARMACOLOGICAL SCREENING METHODS**

Q.P. Code : 262912

Time : 3 hours

Maximum : 100 marks

I. Elaborate on :

(2x20=40)

1. Describe in detail the different *in vivo* models employed in the screening of anti-arrhythmic drugs.
2. Explain the bioassay of Oxytocin using rat as the experimental animal. Explain any two *in vitro* methods for the screening of free radical scavenging activity.

II. Write notes on :

(10x6=60)

1. Charcoal meal test.
2. Methods of breeding of laboratory animals.
3. One-way ANOVA.
4. Explain the optimization of immunoassays.
5. Chronic toxicity studies according to OECD guidelines.
6. Different animal cell lines used in screening techniques.
7. Irwin's test.
8. Explain any one *in vitro* method for the screening of parasympathomimetic drugs.
9. Randall-Sellito method.
10. Carcinogenicity testing.

[LF 351]

OCTOBER 2014

Sub. Code: 2912

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION AND
PHARMACOLOGICAL SCREENING METHODS**

Q.P. Code : 262912

Time : Three hours

Maximum : 100 marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Enumerate the screening methods of anti-anxiety drugs.
b) Describe different acute and chronic anti-inflammatory screening methods.
2. a) Describe the bio assay of insulin.
b) What are the methods available to induce convulsions experimentally in animals? Enumerate maximum electroshock method.

II. Write Notes on:

(10 x 6 = 60)

1. Write the screening methods for anti parkinsons disease.
2. Describe the screening methods of anti-emetic drugs.
3. Write the screening methods of analgesic drugs.
4. What are the methods of production of immunoassay agents.
5. Enumerate invitro anticancer screening methods.
6. Enumerate the methods of breeding of laboratory animals.
7. Enumerate the alternative experimental models.
8. Write short notes on mutagenesis and carcinogenesis.
9. Describe the screening methods of hepatoprotective agents.
10. Enumerate the screening methods of drugs used in alzheimers disease.

[LG 351]

APRIL 2015

Sub. Code: 2912

M.PHARM. DEGREE EXAMINATION

FIRST YEAR

BRANCH IV – PHARMACOLOGY

**PAPER III – BIOLOGICAL STANDARDISATION AND
PHARMACOLOGICAL SCREENING METHODS**

Q.P. Code : 262912

Time: Three Hours

Maximum: 100 marks

Answer ALL questions

I. Elaborate on :

(2 x 20 = 40)

1. Discuss the various methods employed in the screening of antiepileptic agents.
2. Discuss in detail the different methods employed in the euthanasia of laboratory animals.

II. Write notes on :

(10 x 6 = 60)

1. Preparation and maintenance of cell lines.
2. Shay rat.
3. Lipschitz test.
4. Any two methods used for screening of free radicals scavenging activity.
5. Digitalis bioassay using rabbit.
6. Hole board test.
7. CPCSEA guidelines.
8. Guinea pig wheal method.
9. Cotton wool granuloma pouch.
10. General principles of bioassay.

[LH 351]

OCTOBER 2015

Sub. Code: 2912

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS**

Q.P. Code : 262912

Time : Three hours

Maximum : 100 marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain the OECD guidelines for the conduct of acute, sub-acute and chronic toxicity studies.
2. Discuss the various methods employed in the screening of antihypertensive agents.

II. Write notes on:

(10 x 6 = 60)

1. Transgenic animals.
2. Various bleeding methods in laboratory animals.
3. Different Animal cell lines used in screening techniques.
4. Randall – Sellito test.
5. Langendroff's heart experiment.
6. Spinal cat.
7. Any two antiemetic screening models.
8. Morris water maze test.
9. Principles of toxicokinetics.
10. d-tubocurarine bioassay.

[LI 351]

APRIL 2016

Sub. Code: 2912

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS**

Q.P. Code : 262912

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Enumerate the screening methods of Anti-obesity drugs.
b) Describe different Antipyretics screening methods.
2. a) Common laboratory animals.
b) Elaborate screening methods of Diuretic methods.

II. Write notes on:

(10 x 6 = 60)

1. Write the screening methods for anti asthmatic drugs.
2. Enumerate anti fertility screening methods.
3. Write the screening methods of anti emetics drugs.
4. General principles of immunoassay agents.
5. Genetically prone animal models used in Pharmacological screening.
6. Carcinogenesis and Mutagenesis.
7. Enumerate the advantages of alternative experimental models.
8. Anti cancer in vitro screening methods.
9. Describe the screening methods of hypertensive agents.
10. Write the importance of one way ANOVA (Analysis of variances).

[LJ 351]

OCTOBER 2016

Sub. Code: 2912

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS**

Q.P. Code : 262912

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Discuss the principle, scope and importance of safety pharmacology.
b) Screening of free radical scavenging activity of new drugs.
2. a) Define Bioassay, different methods of bioassay and its advantage and disadvantages.
b) Describe the bioassay of Digoxin.

II. Write notes on:

(10 x 6 = 60)

1. Application of chi-square test.
2. Evaluation of screening method of hypoglycemic agent.
3. Screening of antidepressant agents.
4. Bioassay of Insulin.
5. CPCSEA guidelines.
6. Euthanasia.
7. Screening methods for anti-fertility activity.
8. Acute, sub-acute and chronic toxicity studies of new drugs (OECD guidelines).
9. Muscle relaxant activity.
10. Anti-cancer activity.

[LK 351]

MAY 2017

Sub. Code: 2912

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS**

Q.P. Code : 262912

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain in detail the CPCSEA guidelines for laboratory animal facility.
2. Discuss in detail the various methods employed in the screening of centrally acting analgesics.

II. Write notes on:

(10 x 6 = 60)

1. Bioassay of digitalis using rabbit.
2. Irwin's test.
3. Any two animal models used for the screening of antioxidant activity.
4. Maximal electro shock – induced seizure model.
5. Screening for anti-fertility activity.
6. Chronic toxicity studies.
7. Different methods employed in the euthanasia of laboratory animals.
8. Carrageenan-induced rat paw oedema model.
9. Homogenous immunoassay system.
10. Chi square test.

[LL 351]

OCTOBER 2017

Sub. Code: 2912

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS**

Q.P. Code : 262912

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain the various animal models employed in the screening of gastric anti-ulcer activity.
2. Discuss in detail the role of transgenic animal models in pre-clinical research.

II. Write notes on:

(10 x 6 = 60)

1. Guinea pig wheal method.
2. Bio-assay of insulin employing mice.
3. One - way ANOVA.
4. Randall Sellito method.
5. Methods employed in anaesthesia of laboratory animals.
6. Maze models for anxiolytic drug screening.
7. Morris water maze test.
8. Any two methods for the screening of skeletal muscle relaxant activity.
9. Heterogenous immuno assay system.
10. Two methods for the screening of sympathomimetic activity using dog as an experimental animal.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LM 351]

MAY 2018

Sub. Code: 2912

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS**

Q.P. Code : 262912

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Different blood collection techniques employed in laboratory animals.
b) Various techniques of Euthanasia.
2. Discuss the various methods employed in the screening of anti-hypertensive agents.

II. Write notes on:

(10 x 6 = 60)

1. Despair swim test.
2. Brewer's yeast-induced pyrexia.
3. Bio-assay of Oxytocin.
4. Y - maze test.
5. Two methods for the screening of anti-arrhythmic drugs.
6. Student's 't' test.
7. Acute toxicity studies.
8. Different human cell lines used in screening techniques.
9. Charcoal meal test.
10. Any two methods for the screening of Anti-hyperlipidemic activity.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LN 351]

OCTOBER 2018

Sub. Code: 2912

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS**

Q.P. Code : 262912

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. The screening methods of anti-anxiety drugs.
2. The various methods employed in the screening of anti-hypertensive agents.

II. Write notes on:

(10 x 6 = 60)

1. CPCSEA guidelines.
2. Screening methods for drugs used in Asthma.
3. Charcoal meal test.
4. Advantages of Nude mice in experimental pharmacology.
5. Mutagenesis and carcinogenesis.
6. Maintenance of cell lines.
7. Alternative to animal experimental models.
8. Bio-assay of oxytocin.
9. Principles of toxicokinetics.
10. Optimization of immunoassays.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LO 351]

MAY 2019

Sub. Code: 2912

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS**

Q.P. Code : 262912

Time : Three hours

Maximum : 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. Describe in detail the different *in vivo* models employed in the screening of anti-arrhythmic drugs.
2. *In vitro* and *In vivo* models used for screening anticancer drugs.

II. Write notes on: **(10 x 6 = 60)**

1. Various methods of breeding of laboratory animals.
2. Screening methods for drugs used in Parkinsons disease.
3. Preparation and maintenance of cell lines.
4. General principles of immunoassays.
5. Role of transgenic animal models in preclinical research.
6. Euthanasia.
7. Paired -t- test and student t- test.
8. Conditioned avoidance test.
9. Acute toxicity studies.
10. Models used in drug absorption studies.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LP 351]

OCTOBER 2019

Sub. Code: 2912

**M.PHARM. DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS**

Q.P. Code : 262912

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. The various screening methods for drugs used in gastric ulcer.
2. Explain the various models used in antihypertensive screening.

II. Write notes on:

(10 x 6 = 60)

1. One chronic and one acute screening model for inflammation.
2. Maximal electro shock (MES) – induced seizures model.
3. Invitro method for the screening of immunosuppressants.
4. Techniques for blood collection in the laboratory animals.
5. Screening methods for analgesic drugs.
6. One-way ANOVA.
7. Rabbit head drop method.
8. Animal cell lines used in screening techniques.
9. Screening methods of anti-emetic drugs.
10. Lipschitz test.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[LQ 0121]

**JANUARY 2021
(APRIL 2020 EXAM SESSION)
M.PHARMACY DEGREE EXAMINATION
FIRST YEAR**

Sub. Code: 2912

BRANCH IV – PHARMACOLOGY

PAPER III–BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Q.P. Code: 262912

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Describe different methods of blood collection in common laboratory animals. Describe anesthesia and euthanasia in experimental animals.
2. What are the methods available in induce hypertension experimentally in animals? Describe any three methods.

II. Write notes on:

(10 x 6 = 60)

1. Chronic toxicity testing according to OECD guidelines.
2. Describe the mutagenicity testing.
3. Write the screening methods of antipyretic drugs.
4. Student 't' test.
5. Preparation and maintenance of cell lines.
6. General principles of immuno assay.
7. Alternative experimental models in animals.
8. Range finding tests.
9. Describe the screening methods anti-asthmatics of agents.
10. Enumerate the screening methods of drugs used as anti-inflammatory drugs.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MPHARM 0122]

**JANUARY 2022
(APRIL 2021 EXAM SESSION)**

Sub. Code: 2912

**M.PHARMACY DEGREE EXAMINATION
FIRST YEAR
BRANCH IV – PHARMACOLOGY
PAPER III–BIOLOGICAL STANDARDISATION AND
PHARMACOLOGICAL SCREENING METHODS
*Q.P. Code: 262912***

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Enumerate the different Screening methods for anti-depressant drugs, and explain any three methods.
2. a) Explain the importance of alternative experimental models in preclinical research.
b) List the methods available to induce diabetes experimentally in Rats? Describe any one method for screening of New Anti Diabetic Compounds.

II. Write notes on:

(10 x 6 = 60)

1. Write the screening methods for Anticonvulsant drugs and brief any one.
2. Describe the acute and sub acute toxicity testing in experimental animals.
3. Write the screening methods of analgesic drugs, and explain any one.
4. Write about separation techniques involved in production of immunoassay reagents.
5. What are the experimental methods of induction of Hepatotoxicity in Rats? Brief any one.
6. Enumerate various screening methods of free radical scavenging activity.
7. Write a note on importance of bioassay in pharmacological screening.
8. Brief note on Primary cultures used in cell line studies.
9. Write a short note on anticancer screening methods.
10. Enumerate the screening methods of drugs used Alzheimer's disease.
