APRIL 2001

[KD 279]

M.Pharmacy DEGREE EXAMINATION.

(New Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. Discuss the principle, indications and limitations of Bioassay. Discuss the various methods of Bio assay.

2. Discuss the various screening methods of Antihypertensive drugs.

3. Discuss the various screening methods of Anti-fertility agents and principles involved in it.

4. Write short notes on any THREE :

   (a) Hypersensivity and Immune reactions

   (b) Toxicity studies of New drugs

   (c) Regulatory aspects of toxicology

   (d) Carcinogenesis and Mutagenesis.

5. Discuss the principles of immunoassay with an example.

6. Discuss the various screening methods of psychopharmacological agents.

APRIL 2001

[KD 300]

M.Pharmacy DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Answer ALL the questions.

All questions carry equal marks.

1. Discuss in detail the Acute, Subacute and chronic toxicity studies of New drugs. (25)

2. Discuss the various screening methods of Analgesics and Anti inflammatory drugs. (25)

3. Discuss the methods of screening of Anti Ulcer drugs. (25)

4. Write short notes on : (25)

(a) Principle involved in immunoassay.

(b) Bioassay of oxytocin.

(c) Carcinogenicity.

(d) Determination of LD_{50}.

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NOVEMBER 2001

[KE 279]

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDIZATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. Describe the bioassay of posterior pituitary. (25)

2. Write short notes on :

   (a) Designs used in bioassays

   (b) Immuno assays. (12 + 13)

3. Describe a method for the detection of the following activities of a compound.

   (a) anti–ulcer (b) muscle relaxant (c) analgesic (d) diuretic. (6 + 6 + 6 + 7)

4. Discuss the importance of the following in new drug development

   (a) placebo (b) clinical trials (c) LD_{50} (d) chronotoxicity. (6 + 6 + 6 + 7)

5. Describe the use of the following in pharmacology experiments.

   (a) Alloxan treated rabbit (b) Brewer's yeast treated rat (c) Hypodynamic heart (d) Spinal cat. (6 + 6 + 6 + 7)

6. Write briefly on :

   (a) Maintenance of laboratory animals.

   (b) Regulatory aspects of toxicology. (12 + 13)

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[KE 300] NOVEMBER 2001

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Answer ALL questions.

All questions carry equal marks.

1. Describe briefly a method for the detection of each of the following activities of a chemical compound. (25)

   (a) Anti–hypertensive

   (b) Neuroleptic

   (c) Analgesic

   (d) Anticancer.

2. Discuss the important points to be followed for maintenance and breeding of animals. (25)

3. Write short notes on : (25)

   (a) Phase I clinical trial

   (b) Ethics committee.

4. Write short notes on : (25)

   (a) Principles of toxicokinetics

   (b) Regulatory aspects of toxicology.

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[KH 279] SEPTEMBER 2002

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. Describe basic principles of Bioassays. Explain and describe the methods used in bioassay of vaccines and cardiac glycoside. (5 + 10 + 10 = 25)

2. Define what is immunoassay. Outline principals of immunoassay and describe different types of immunoassays. Write briefly on ELISA. (5 + 15 + 5 = 25)

3. Describe the screening methods used to evaluate the therapeutic activity of the following :

(a) Analgesic (8)

(b) Anti-cancer (9)

(c) immunosuppressant. (8)

4. Describe various toxicological studies carried out for assessing safety of a new drug as per regulatory authority requirements. (18)

Write briefly the experimental design to demonstrate organophosphorus poisoning and subsequently its treatment. (7)

5. Describe briefly the following :

Maintenance and breeding of laboratory animals. (10)

Drug design approaches in clinical trials spinal cat preparation and its uses. (5 + 10)

6. Write short notes : (5 × 5)

(a) Chrono-toxicity

(b) Enzyme induction

(c) Mutagenesis

(d) Muscle relaxants

(e) Experimental methods for evaluating local anesthetic activity.

SEPTEMBER 2002

[KH 300]

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Answer ALL questions.

All questions carry equal marks.

1. Write short notes on :

(a) Immuno assays. (9)

(b) Importance of LD_{50} in new drug development. (8)

(c) Enzyme induction. (8)

2. Describe screening methods for the evaluation of the following activities of a compound.

(a) Diuretic. (8)

(b) Anti–diabetic activity. (9)

(c) Muscle relaxant. (8)

3. Describe briefly the following :

(a) Maintenance of laboratory animals. (10)

(b) Regulatory requirement of Toxicology. (15)

4. Describe the physiological and pharmacological importance of the following experiments.

(a) Brewer's yeast treated rats. (6)

(b) Spinal cat. (7)

(c) Arrhythmic heart. (6)

(d) Frog rectus abdominus muscle preparation (invitro). (6)

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[KI 300] APRIL 2003 Sub. Code : 1012

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Answer ALL questions.

All questions carry equal marks.

1. Describe the screening methods for the following classes of drugs. (12 + 13 = 25)

(a) Antihypertensive drugs

(b) Anticancer drugs.

2. Explain the following : (8 + 9 + 8 = 25)

(a) Bioassay of insulin

(b) Bioassay of digitalis

(c) Radioimmunoassay.

3. (a) Explain the importance of one–way ANOVA.

(b) Discuss the care and maintenance of laboratory animals.

(c) Discuss the acute toxicity tests.(6 + 10 + 9 = 25)

4. Write notes on : (9 + 8 + 8 = 25)

(a) Antiulcer screening

(b) Carcinogenicity tests

(c) Antifertility studies.

OCTOBER 2003

[KJ 300] **Sub. Code : 1012**

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Answer ALL questions.

All questions carry equal marks.

1. Describe the following with appropriate examples :

(a) Bio–assay methods. (12)

(b) Steps involved in the RIA of digoxin. (13)

2. (a) Discuss various steps involved in introducing a new chemical entity. (13)

(b) Explain the objectives and methods of conducting of acute and sub–acute toxicity studies. (12)

3. Describe the pre–clinical screening procedures for the following :

(a) Antihypertensive drugs. (13)

(b) Anticancer drugs. (12)

4. Write short notes on the following :

(a) Streptozotocin induced diabetes in rats. (7)

(b) Rat paw edema. (6)

(c) Condition avoidance test. (6)

(d) Writhing test in mouse. (6)

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[KK 300] APRIL 2004 Sub. Code : 1012

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

SECTION A

Long Essay : (2 × 15 = 30)

1. What is the importance of behavioural studies in screening of drugs? Design an experiment for such study.

2. Discuss various steps involved in the development of a drug. Add a note on pharmaceutical epidemiology.

SECTION B

Short notes : (10 × 5 = 50)

3. Describe two models for screening of local anesthetics.

4. Define false positives and false negatives. Explain their importance in drug screening.

5. Explain any one method of bioassay of (a) Adrenaline (b) Oxytocin.

6. Describe a technique to screen a drug acting at Neuro muscular junction.

7. Write short notes on (a) Paired *t* test (b) Wilcoxon test.

8. Discuss the principles of immuno assay.

9. Explain how you will elicit data about a potential teratogenic agent.

10. Write a note on Acute Toxicity Studies.

11. Describe the objectives, prerequisites and conclusions to be drawn in Phase III clinical trails .

12. Write a note on Inbred Animals.

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AUGUST 2004

[KL 300] **Sub. Code : 1012**

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

SECTION A — (2 × 15 = 30 marks)

1. Describe the bioassays of digitalis and Vitamin B12.

2. What are the basic approaches in the development new bioassay methods?

SECTION B — (10 × 5 = 50 marks)

Write short notes on the following :

3. ELISA.

4. Describe preparation of reagents required for invitro receptor assay.

5. Maintenance of laboratory animals.

6. Drug design for clinical trials.

7. What are the paradigmas for the evaluation of immuno assays?

8. Importance of inhalation Toxicity.

Describe and explain the use of the following in experimental pharmacology.

9. Brewers yeast treated rats.

10. Pentylene tetrazol or picrotoxin or strychnine injected mice.

11. Streptozotacin treated rats.

12. Chronic administration of phenobarbstone (smaller dose) to rats.

FEBRUARY 2005

[KM 300] Sub. Code : 1012

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Sec. A & B : Two hours and forty minutes Sec. A & B : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

SECTION A — (2 × 15 = 30 marks)

Long Essay :

1. Describe toxicological and pharmacological experimental animal tests and methods used for the analysis of data during clinical evaluation of investigational drug.

2. What is biological standardisation? Write principles of bioassay and describe laboratory method used to essay of Vitamin A and peripheral skeletal muscle relaxant.

SECTION B — (10 × 5 = 50 marks)

Short notes :

3. Describe (a) Chi-square test and (b) Unpaired '*t*' test used for the data evaluation.

4. What is mutagenicity? Explain methods used to test mutagenicity of investigational drug.

5. What is the significance of LD_{50} measurements? Explain one method used to determine LD_{50} in animals.

6. Write an experimental animal models to evaluate the test drug for learning and memory.

7. What is the significance of cross over design? Explain how it is used to essay hypoglycemic activity in animals.

8. Describe factors influencing breeding and maintenance of laboratory animals.

9. Write on precision of bioassay and describe an experimental animal model to essay antiulcer activity.

10. Describe principle, objective and experimental procedure of enzyme linked immunoabsorbents essay (ELISA).

11. Write on subacute toxicity studies of investigational drug and its significance.

12. How will you screen test drug for its cardiac activity in experimental animal models?

AUGUST 2005

[KN 300] **Sub. Code : 1012**

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Long Essay : (2 × 15 = 30)

1. Define bioassay. Write the principles and indications of bioassay. Describe two official methods of bioassay of insulin.

2. Describe the steps involved in the conduct of a clinical trial.

II. Write short notes on the following : (10 × 5 = 50)

1. Principles of radio immuno assay
2. Programmed screening
3. Analysis of variance
4. Helsinky declaration.
5. Breeding of laboratory animals.
6. Methods of studying absorption of drugs.

   Describe a method to evaluate

7. Anti-fertility drugs
8. Narcotic analgesics.
9. Anti-inflammatory drugs – invitro method
10. Screening of antimicrobial agents.

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MARCH 2006

[KO 300] **Sub. Code : 1012**

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes — Theory : 80 marks

M.C.Q. : Twenty minutes — M.C.Q. : 20 marks

Answer ALL questions.

I. Long Essay : (2 × 15 = 30)

(1) Describe suitable techniques to screen anti-arrhythmic agents and antihypertensive agents.

(2) Define bioassay. What are the principles and indications of bioassay? Describe the bioassay of

(a) Posterior pituitary extract

(b) Any pressor agent

MARCH 2006

II. Short notes : (10 × 5 = 50)

(1) (a) Discuss the use of shay rat and DOCA treated rat in the pharmacological evaluation of substances.

(b) Write on simple screening.

(2) What is the significance of cross over design? How it is used to assay hypoglycemic activity in animals? Add a note on unpaired 't' test.

(3) Explain the importance of toxicity tests in drug development.

(4) Write on :

(a) Analysis of variance

(b) Chi-square test.

(5) Describe the technique involved in the screening of

(a) Anti-fertility activity

(b) Neuroleptic activity.

(6) Describe the importance and care to be taken in the breeding and maintenance of laboratory animals.

(7) How will you design clinical trial for a new drug?

(8) Explain the method for screening a drug for its teratogenic potential?

(9) What is carcinogenicity? Explain methods used to test carcinogenicity of investigational drug.

(10) Explain the principles of immunoassay. Write notes on separation techniques and antibody characteristics monitoring in immunoassay methods.

SEPTEMBER 2006

[KP 300] **Sub. Code : 2822**

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours — Maximum : 100 marks

Theory : Two hours and forty minutes — Theory : 80 marks

M.C.Q. : Twenty minutes — M.C.Q. : 20 marks

Answer ALL questions.

I. Long Essay :

1. (a) What is ANOVA? Explain its application in experimental pharmacology.

(b) Explain the role of Langendorff's heart perfusion in evaluating new drugs. (10 + 10 = 20)

2. Discuss the principles of immunoassay. Write the clinical applications of immunoassay. (15)

3. Explain the pre-clinical toxicity studies for new drugs as per OECD guidelines. (15)

II. Short notes : (6 × 5 = 30)

1. Write the evaluation of analgesic activity of opioids.

2. Explain one method of evaluation of drugs for rhematoid arthritis.

3. Describe the method used for immunomodulator activity of a new drug.

4. Explain straub-tail phenomena and its importance.

5. Write one method for screening drugs useful in petit mal epilepsy.

6. Discuss the principle involved in the bioassay of Insulin.

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MARCH 2007

[KQ 300] **Sub. Code : 2822**

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Long Essay : (20)

1. Define Bio-assay. What are the principles and indications of Bio assay? Describe the bio assay of

(a) Posterior pituitary extract

b) Any agent pressor.

2. Give the pre requisite for a new chemical to undergo phase 1. clinical trials. How you will design a toxicity studies of a new drug. (6 + 9 = 15)

3. What are analgesics? Give three important methods of screening of analgesic drugs. How you will differentiate the narcotic and non-narcotic drugs using screening techniques? Write a note on cytokines and autocoids in the mediation of inflammatory response. (1 + 7 + 3 + 4 = 15)

II. Short Essay : (6 × 5 = 30)

1. Advantages of transgenic animals in screening techniques.

2. Screening of anti asthmatic drugs.

3. Receptor binding studies and its application in drug evaluation.

4. Invitro anticancerous drug screening.

5. Give the principles involved in the screening of antidiabetic and anti hyperlipidemic drugs.

6. How you will determine the LD_{50} value?

MARCH 2007

[KQ 326] **Sub. Code : 2862**

M.Pharm. DEGREE EXAMINATION.

(Regulation 2006)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Long Essay :

1. (a) Differentiate between parameters and non–parametric tests? (10)

(b) Explain chi–square test (χ^2) tests and its application in experimental pharmacology. (10)

2. Describe the working of one mammalian model and How will you evaluate anti–hypertensive drugs? (15)

3. Explain the steps involved in pre–clinical evaluation of new compounds, as per the OECD guidelines. (15)

II. Short notes : (6 × 5 = 30)

1 Discuss the general principles of immuno–assay.

2. Describe a method to evaluate anti–cancer drugs.

3. List out the methods available to screen anti–Parkinsonism. Describe the catatonic activity.

4. (a) Standard techniques of blood collection.

(b) Euthanasia

5. Explain one method of evaluation of drugs for ulcer.

6. Discuss the various methods available to induce convulsions, experimentally and write any one screening method.

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SEPTEMBER 2007

[KR 300] **Sub. Code : 2822**

M.Pharm. DEGREE EXAMINATION.

(Revised Regulations)

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

I. Long Essay :

1. Describe the various methods of bio-assay of digoxin including official methods. (20)

2. Design the model for a new drug undergoing clinical phase III. (15)

3. A drug shows vasodilator property. Outline the various methods to study the effects. (15)

II. Short notes : (6 × 5 = 30)

1. Laboratory care of animals.

2. Screening methods for anti-depressants.

3. "Chi" square test.

4. Insulin assay.

5. Radio-immune assay.

6. PA_2.

SEPTEMBER 2007

[KR 326] **Sub. Code : 2862**

M.Pharm. DEGREE EXAMINATION.

First Year

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING

Time : Three hours | Maximum : 100 marks

Theory : Two hours and forty minutes | Theory : 80 marks

M.C.Q. : Twenty minutes | M.C.Q. : 20 marks

I. Long Essay :

Answer ALL questions.

1. What is epilepsy? List out the methods available to induce convulsions experimentally and describe the use of electrical methods in the screening of anticonvulsant agents. (20)

2. List out the methods available to induce hypertension and describe the use of one model in the screening of antihypertensive agents. (15)

3. Enumerate the methods available to induce atherosclerosis and describe a method used to evaluate inhibition of cholesterol synthesis. (15)

II. Short notes : (6 × 5 = 30)

1. Describe the Shay-rat anti-ulcer model.

2. Explain the scoring pattern in experimental catatonia and its utility.

3. Write notes on oral diabetogenic compounds.

4. Langendorff's model for isolated mammalian heart.

5. Screening of anti-inflammatory agents using in-vitro methods.

6. Acute toxicity studies as per OECD guidelines.

September 2008

[KT 326] **Sub. Code : 2862**

M.Pharm. DEGREE EXAMINATION.

First Year

(Regulation — 2006)

Branch IV — Pharmacology

Paper III — BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Q.P. Code : 262862

Time : Three hours Maximum : 100 marks

Answer ALL questions.

I. Long Essay : (3 × 20 = 60)

1. Define Bio assay. Discuss the principles involved in Bio Assay. Discuss the Bio assay of

(a) Insulin

(b) Digitalis.

2. Write in detail about OECD guidelines for the determination of LD_{50}. Add a note on toxicity studies in experimental animals.

3. How will you induce ulcer in experimental animals? Write in detail about scoring pattern, estimation of acidity in ulcer model.

II. Write short notes on : (8 × 5 = 40)

1. Breeding of animals.

2. Screening of drugs for CNS depressants.

3. Evaluation of Hepatoprotective agents.

4. Screening of Antiepileptic drugs.

5. Induction of hypertension in animal model.

6. Alternative experimental models.

7. DPPH method for antioxidant activity.

8. General principles of Immuno assay.

March 2009

[KU 326] **Sub. Code: 2862**

M.PHARM. DEGREE EXAMINATION

(Regulations 2006)

Candidates admitted from 2006-2007 onwards

FIRST YEAR

Branch IV – PHARMACOLOGY

Paper III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Q.P. Code : 262862

Time : Three hours **Maximum : 100 marks**

Answer All questions

I. Essay Questions : **(3 x 20 = 60)**

1. a) Explain the guidelines on physical, environmental and food in the animal facility.
   b) Describe the bioassay of digoxin in detail.
2. Explain the invivo and invitro screening methods for antipsychotic activity.
3. Describe the importance of following in pharmacological screening:
   a) Guinea pig ileum. b) Phrenic nerve and diaphragm of rat.
   c) Isolated rat uterus. d) Atrium of rat.

II. Write Short Notes : **(8 x 5 = 40)**

1. Explain one method of evaluation of drugs for ulcer.
2. Discuss the bioassay of d-tubocurarine.
3. Write short notes on sub acute and chronic toxicity testing.
4. Describe the principle and procedure involved in the use of eddy's hot plate.
5. Explain about amphetamine antagonism.
6. What is streptazocin? Describe its use in induction of type I and type II diabetes.
7. Write about cat Nictitating membrane in the screening of drugs.
8. Write notes on ANOVA.

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September 2009

[KV 326] **Sub. Code: 2862**

M.PHARM. DEGREE EXAMINATION

(Regulations 2006)

Candidates admitted from 2006-2007 onwards

FIRST YEAR

Branch IV – PHARMACOLOGY

Paper III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Q.P. Code : 262862

Time : Three hours **Maximum : 100 marks**

Answer All questions

I. Essay Questions : **(3 x 20 = 60)**

1. List out the methods available to induce inflammation and describe the use of one acute and one chronic model in the screening of anti-inflammatory agents.

2. What are convulsions? List out the methods available to induce convulsions experimentally and describe the use of electrical methods in the screening of drugs for anticonvulsant activity.

3. Enumerate the methods available to induce atherosclerosis and describe a method used to evaluate inhibition of cholesterol synthesis.

II. Write Short Notes : **(8 x 5 = 40)**

1. Describe the Shay-rat anti-ulcer model.
2. Explain the scoring pattern in experimental catatonia and its utility.
3. Renal hypertension model in rats.
4. How is streptozotocin used in induction of type I and type II diabetes?
5. Retrograde perfusion for isolated mammalian heart.
6. Acute toxicity studies as per OECD guidelines.
7. Describe the principles involved in the conduct of immunoassays.
8. What is an in-bred strain? Justify the use of in-bred strain in experimental pharmacology.

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March 2010

[KW 326] **Sub. Code: 2862**

M.PHARM. DEGREE EXAMINATION

(Regulations 2006)

Candidates admitted from 2006-2007 onwards

FIRST YEAR

Branch IV – PHARMACOLOGY

Paper III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Q.P. Code : 262862

Time : Three hours **Maximum : 100 marks**

Answer All questions

I. Essay Questions : **(3 x 20 = 60)**

1. Enumerate the methods available for induction of ulcers and describe the Shayrat anti-ulcer model along with the scoring pattern used.

2. List out the methods available to induce hypertension and describe the use of one model in the screening of antihypertensive agents.

3. What is diabetes? List out the methods available for induction of diabetes experimentally. How is streptozotocin used to induce type I and type II diabetes in the screening of anti diabetic agents?

II. Write Short Notes : **(8 x 5 = 40)**

1. Screening of drugs for CNS depressants.
2. Langendorff's model for isolated mammalian heart.
3. Describe a model to test conditioned avoidance response.
4. Screening of anti-inflammatory agents using in-vitro methods.
5. Explain the scoring pattern in experimental catatonia and describe its utility.
6. What is atherogenic index? Explain its calculation.
7. Describe the principles of bioassays and explain with examples.
8. Describe the principle and procedure involved in the use of Eddy's hot plate.

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September 2010

[KX 326] **Sub. Code: 2862**

M.PHARM. DEGREE EXAMINATION

(Regulations 2006)

(Candidates admitted from 2006-2007 onwards)

FIRST YEAR

Branch IV – PHARMACOLOGY

Paper III – BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Q.P. Code : 262862

Time : Three hours **Maximum : 100 marks**

Answer All questions

I. Essay Questions : **(3 x 20 = 60)**

1. Describe the principles for the bio-assay of
   a) Histamine b) Digitalis c) Oxytocin d) d-Tubocurarine.

2. Describe in detail different methods for screening of anti-inflammatory agents. Discuss their merits and demerits.

3. a) Explain any two invivo screening methods for anticonvulsant activity.
   b) Mention different invivo methods of screening for antipsychotic activity and explain any two methods indetail.

II. Write Short Notes : **(8 x 5 = 40)**

1. How streptazocin is used in induction of Type – I and Type – II diabetes?
2. Write short notes on a) Paired t-Test b) Wilcoxon Test.
3. Describe the condition avoidance Test.
4. Discuss any one method for screening of anti ulcer activity.
5. Describe a method to evaluate antifertility activity.
6. Write a note on patch clamp Technique.
7. Describe the importance and care to be taken in the breeding and maintenance of laboratory animals.
8. Describe a technique to screen a drug acting at Neuro muscular junction.

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MAY 2011

[KY 326] **Sub. Code: 2862**

M.PHARM. DEGREE EXAMINATION

(Regulations 2006)

(Candidates admitted from 2006-2007 onwards)

FIRST YEAR

BRANCH IV – PHARMACOLOGY

PAPER III – BIOLOGICAL STANDARDISATION

AND PHARMACOLOGICAL SCREENING METHODS

Q.P. Code : 262862

Time : Three hours **Maximum : 100 marks**

Answer All questions

I. Essay Questions : **(3 x 20 = 60)**

1. Write note on commonly used experimental animals. Briefly explain the housing methods and euthanasia.
2. General principles of immuno assay and explain about the procedure involved and the advantages and disadvantages.
3. Describe the screening of anti fertility agents.

II. Write Short Notes : **(8 x 5 = 40)**

1. Elevated plus maze.
2. Principles of bio-assay.
3. Screening of anti-asthmatic drugs.
4. Screening of anti-diarrhoeal drugs.
5. OECD guidelines for LD_{50} determination.
6. Screening of diuretics.
7. Immuno assay.
8. Blood collection techniques.

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