

NOVEMBER 1994

[ND 285]

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch IV -- Pharmacology

BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL SCREENING METHODS

Time : Three hours

Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. Describe how acute, subacute and chronic toxicity tests are performed for a promising new substance. What are the other tests performed to ensure safety in patients before introducing it as a drug for extensive therapeutic use?
 2. A new substance "X" has been found to be useful as a remedy for the treatment of a certain disease by clinical trials. It is to be ascertained whether "X" is superior to "Y" which is already in use for curing the same disease. Describe the design of the clinical test that may be followed.
 3. Describe how substances are screened for the muscle relaxant activity.
 4. Describe how new substances are screened for antihypertensive activity.
 5. Describe how gonadotropic hormones are biologically assayed.
 6. Describe the principles and the method of Radio-immuno assay for estimating minute quantities of a drug (say, DIGOXIN) in the blood of a patient under treatment.
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APRIL 1995

[SB 314]

M.Pharm. DEGREE EXAMINATION.

First Year

(New Regulations)

Branch IV — Pharmacology

BIOLOGICAL STANDARDISATION AND
PHARMACOLOGICAL SCREENING METHODS

Time : Three hours

Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. Describe the bioassay methods used to standardise an Injection of Posterior Pituitary Extract for its different activities.
2. Write the general principles of radioimmunoassay. Describe radioimmunoassay method to determine the concentration of insulin in a sample of blood.
3. (a) How is cardiotoxic activity evaluated for an unknown drug?
(b) How is anti-arrhythmic activity evaluated for an unknown drug?
4. (a) Describe Reed and Muench method or Litchfield and Wilcoxon method for determining quantal responses like ED_{50} and LD_{50} of drugs.

[SB 314]

(b) Write on the different Adverse Drug Reactions that are encountered in clinical practice.

5. Describe the methods used to evaluate the anti-diabetic activity of an unknown substance.
6. Write briefly on:
 - (a) Test for the absence of teratogenic activity of a new drug.
 - (b) Spontaneously hypertensive rats.
 - (c) Method of least squares.

[AK 315]

APRIL 1996

M.Pharm. DEGREE EXAMINATION.

(New Regulations)

First Year

Branch IV — Pharmacology

BIOLOGICAL STANDARDISATION AND
PHARMACOLOGICAL SCREENING METHODS

Time : Three hours

Maximum : 100 marks

Answer any FOUR questions.

All questions carry equal marks.

1. Describe a sensitive method for a bioassay of any pressor agent.
2. Write short notes on the following :
 - (a) Bilateral adrenalectomy and its importance in evaluation of a new drug.
 - (b) Radiant-beam analgesiometer.
 - (c) Behavioural studies and their importance.
 - (d) 4-point assay.
3. Describe and discuss the importance of the following techniques :
 - (a) Nerve-muscle preparation.
 - (b) Langendorff's preparation.
 - (c) Coronary ligation.
 - (d) Ganglion-perfusion preparation.

[AK 315]

4. Describe a model to investigate a new compound acting as a
 - (a) Mydriatic.
 - (b) Cardiotonic agent.
 - (c) Anti-cancer agent.
 5. (a) Describe briefly Wikoxan test and its importance in experimental pharmacology.
 - (b) Draw a protocol to determine LD50 (P.O.) of a new compound.
 - (c) Design an experiment to determine ED50 of an anti-convulsant.
 6. Write short notes on :
 - (a) The principle of bioassays.
 - (b) Antipyretic activity studies.
 - (c) Suggest some steps to minimise errors in Bioassays.
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OCTOBER 1996

M.Pharmacy Degree Examination

PK 211 (New Regulations)

Branch IV - Pharmacology
Paper II

**BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS**

Time: Three hours

Max.marks:100

Answer any FOUR Questions

All questions carry equal marks

1. Describe a sensitive method for a bio assay of a Cardiotonic agent.
2. Write short notes on the following:
 - (a) Actophotometer
 - (b) Randomisation
 - (c) Quality assurance in toxicology
 - (d) Investigational new drug application
3. Describe and discuss the importance of the following techniques:
 - (a) Bilateral vagotomy
 - (b) Ablation and lesion studies in the central nervous system
 - (c) Tracheal chain preparation of the guinea pig
 - (d) Ligation of renal arteries
4. Describe a model to investigate a new compound acting as an
 - (a) Antipsychotic
 - (b) Antimalarial
 - (c) Analgesic
 - (d) Antihypertensive
5. (a) Describe the importance of Linear Regression analysis in dose-response studies.
(b) Phase I Clinical trial : Its role in drug evaluation.
(c) Student 't' test - Its role in drug studies.
6. Write briefly on:
 - (a) New drug application
 - (b) Orphan drugs
 - (c) Recombinant DNA.

APRIL 1997

M.Pharmacy Degree Examination

MP 263

(New Regulations)

First Year

Branch IV - Pharmacology

Paper III - BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS

Time: Three hours

Max.marks:100

Answer any FOUR questions

All questions carry equal marks

1. How will you organise screening of a new substance for its analgesic and antiinflammatory activity?
2. Describe the different methods of screening tranquilizers.
3. How will you screen a new drug for its antidiabetic activity?
4. Describe in detail the maintenance and breeding of laboratory animals.
5. Discuss in detail the different methods of bioassay. What are the advantages and disadvantages of bioassay?
6. Write notes on:
 - (a) Bioassay of Vitamin B₁₂
 - (b) Teratogenicity.

OCTOBER 1997

M.Pharm. DEGREE EXAMINATION
(New Regulations)
MS 247 First Year
Branch IV - Pharmacology

Paper III - BIOLOGICAL STANDARDISATION AND PHARMACOLOGICAL
SCREENING METHODS

Time: Three hours

Max.marks:100

Answer any FOUR questions

All questions carry equal marks

1. Discuss the errors that are encountered in biological experiments. How will you minimise them by employing statistical methods.
2. Write short notes on the following:
 - (a) Conditioned Avoidance response
 - (b) Double blind cross over studies
 - (c) Electroconvulsimeter
 - (d) Intra cerebroventricular injections.
3. Discuss the importance of the following techniques:
 - (a) Sciatic nerve - Gastrocnemius muscle-nerve preparation
 - (b) Isolated frog heart
 - (c) Isolated item of the guinea pig
 - (d) Sympathectomy.
4. Describe a model to investigate a new compound acting as
 - (a) an anti-ulcer agent
 - (b) an anxiolytic
 - (c) a beta blocker
 - (d) an anti-convulsant.
5.
 - (a) Describe the importance of analysis of variance in drug studies
 - (b) Write briefly on acute toxicity studies of an oral formulation
 - (c) How do you determine the therapeutic index of a drug?
6. Write short notes on:
 - (a) Genetic engineering
 - (b) Normal distribution
 - (c) Characterisation of receptor subtypes.

[SV 279] APRIL 1998

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 the biological method of assay of Digoxin.
 2. Describe the radioimmunoassay of Insulin.
 3. Describe the different methods of screening antiulcer agents.
 4. Describe the toxicity studies to be performed in developing a new drug.
 5. How will you organise screening of an anticonvulsant drug?
 6. Write briefly on :
 - (a) Determination of LD⁵⁰
 - (b) Student 't' test.
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OCTOBER 1999

[KA 279]

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. Explain the various methods of screening of Anti psychotic drugs.
2. Describe the biological method of assay of Insulin.
3. Discuss the layout and construction and maintenance of animal house.
4. Write a note on :
 - (a) Analysis of variance
 - (b) Pathological changes observed during Inflammation.

5. Explain pharmacological actions of Barbiturates and write signs and symptoms of barbiturate poisoning and treatment.

6. Describe briefly the general principles of immunological assay.

APRIL 2000

[KB 279]

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. Discuss briefly the breeding techniques of laboratory animals.**
- 2. Explain the biological method of assay of Adrenaline.**
- 3. Describe the various methods of screening of Antiepileptic drugs.**
- 4. Explain pharmacological actions of Morphin and write the symptoms and signs of Opiod poisoning and treatment.**

5. Discuss the general methods of screening of various Antidiabetic drugs.

6. Write a note on :

- (a) Tests of validity**
- (b) Organophosphorous Poisoning**
- (c) Etheics Committee**
- (d) Determination of LD₅₀.**

[KC 279] OCTOBER 2000

M.Pharm. DEGREE EXAMINATION.

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. Write short notes on the following :
 - (a) Bioassay principle for insulin
 - (b) Principle of bioassay for tubocurarine
 - (c) Ethics Committee
 - (d) Bioassay principle for corticotrophin
 - (e) 'F' test.
2. Describe the procedure for radio immunoassay taking any drug as example.
3. How can you detect the following pharmacological activities?
 - (a) Nicotinic and muscarinic activity
 - (b) Adrenergic α and β receptor activities
 - (c) Histamine H_1 and H_2 receptor activities.

4. Describe the use of the following for detecting pharmacological activities :

- (a) Shay rat
- (b) Phrenic nerve diaphragm preparation
- (c) Isolated hypodynamic heart
- (d) Goldblatt technique.

5. Describe a method for the detection of the following pharmacological activities :

- (a) Neuroleptic
- (b) Antidiabetic
- (c) Analgesic
- (d) Antifertility.

6. How should laboratory animals be maintained? Give an account of the genetic basis of toxicity. How LD_{50} determined?
