

III B.Pharm

Pharmacology I Practical Examination Guideline

Duration 4 Hrs

Max marks 80

1. Synopsis

20 marks

Four questions related to Pharmacology practicals with 5 marks each

Example –

Dose calculation

Preparation and purpose of physiological salt solution / stock solution

Effect of autonomous drugs on rabbit eye.

Effect of drugs on frog heart

Agonistic / antagonistic effects of drugs on skeletal / smooth muscle preparation

Effect of drugs on dog BP etc.

2. Spotters

10spotters x 2.5 marks – **25 marks**

Example

Instruments in experimental pharmacology

Common lab animals

Graphs

3. Experiments

35 marks

Example –

Record CRC of Ach using suitable skeletal / smooth muscle preparation

Agonistic / antagonistic effect of drugs on isolated tissue preparation.

CRC of 5 HT of rat fundus preparation etc.

4. VIVA VOCE

20 Marks

Third Year B.Pharm Practical Examination -2013

PHARMACOGNOSY II

Time: 4 Hours

Max. Marks for Practical: 80

Max. Marks for Viva: 20

I. PRACTICAL

(80 Marks)

1. Synopsis

(10 Marks)

I. Write synopsis on any one from A and any one from B

- A.
- a) Paper chromatography
 - b) Thin layer chromatography
 - c) Column chromatography
 - d) General and specific chemical test for
 - i. Alkaloids-Atropine, quinine, caffeine
 - ii. Cardiac glycosides – Digitoxin, Digoxin
 - iii. Saponins-glycyrrhizen
 - iv. Anthraquinone glycosides- Sennosides, Aloin

B. Discuss the chemical assay (any one)

(10 Marks)

- 1) Alkaloidal assay
- 2) Aldehyde content of volatile oil
- 3) Ester value of volatile oil
- 4) Phenol content of volatile oil
- 5) Standardisation of Ayurvedic formulation (any one)

- II. Briefly describe the morphological characters of the given crude drug.
(Including Diagram) **(15 Marks)**
- III. Take out a neat transverse section of the given crude drug, stain it and submit for evaluation? Draw diagram also. **(15+5 = 20 Marks)**
- IV. Identify the given sample of powdered crude drug? Point out at least three microscopic characters of the drug. **(10 Marks)**
(Diagram not necessary)
4 marks- Identification Diagram not necessary
6 marks – Microscopic characters
- V. Spotters – Identify the drugs (5 numbers) , give the biological source, chemical constituents and uses. **(15 Marks)**

VI. VIVA VOCE

(20 Marks)

Third Year B.Pharm Practical Examination -2013

**PHARMACEUTICS IV
(PHARMACEUTICAL MICROBIOLOGY AND BIOTECHNOLOGY)**

Time: 4 Hours

Max. Marks for Practical: 80

Max. Marks for Viva: 20

I. PRACTICAL

(80 Marks)

1. Synopsis

(2 × 10 = 20)

Two questions of 7.5 marks each from the principle and/or procedure involved in the experiments mentioned in syllabus.

2. Major experiment.

(35 Marks)

Performing Gram's staining of the given pure culture (plate/slant/broth) of established Gram positive or negative bacteria and the observations and report thereof in oil immersion objective of a compound microscope.

3. Minor experiment.

(15 Marks)

Performing motility of bacteria in a given broth culture by Hanging drop method and the observations and report thereof in high-power objective of a compound microscope.

4. Minor experiment.

(10 Marks)

Performing Aseptic transfer techniques in an aseptic room/hood in any one of the following:

- a) Transfer of a loop-full of broth culture to a fresh broth.
- b) Transfer of a colony from a streak/spread/pour plate or agar slant into a fresh broth.
- c) Transfer of a loop-full of broth culture to a streak plate or agar slant for isolation of pure culture.
- d) Transfer of a sample of IV fluid to Fluid Thioglycollate medium by direct inoculation method.

SPLIT UP OF MARKS

Sl. No	Details	Major (35)	Minor (15)	Minor (10)
1.	Optical Adjustment of microscope (focusing/illumination/nature of the focused field)	10	7	-
2.	Observations including diagram of field	10	3	-
3.	Report	10	2	$\frac{1}{2}$
4.	Overall adherence to Aseptic techniques and microbiological protocols while performing the experiments.	5	3	$9\frac{1}{2}$
	TOTAL	35	15	10

II. VIVA VOCE

(20 Marks)

III B.Pharm Scheme for Practical Examination
Pharmaceutical Chemistry IV (Chemistry of Natural Products)

Time 4 Hrs

Max marks 80

1. Synopsis **(20 Marks)**
2. Estimation of any one coming under alkaloids, antibiotics and vitamins.
(25 marks)

Weighing of sample to be done. Strength of the titrant solution to be provided.

Evaluation is done based on percentage error of result.

0 – 1 % error	-	25 marks
1 – 2 % “	-	21 marks
2 – 3 % “	-	17 marks
3 – 5 %	-	12 marks
6 – 10 %	-	08 marks

Above 1% error, 4 marks to be given, provided the candidate has performed the whole experiment including the calculations correctly.

3. Determination of acid value / saponification value / Iodine value / Acetyl value / peroxide value of fixed oils. **(15 marks)**

Weighing of sample to be done. Strength of the titrant solution to be provided.

Evaluation is based on % error of result.

0 -1 % error	-	15 marks
1 – 2 %	-	13 marks
2 – 3 %	-	11 marks
3 – 5%	-	08 marks
5 – 10 %	-	05 marks

Above 10 % error, 3 marks to be given.

4. Identification of an unknown natural product by systematic qualitative analysis. (20 marks)

Report of the result should contain all positive and confirmatory tests with at least one test each for all negative results. The following compounds of natural origin may be given.

Alkaloid / Steroid / cardiac glycoside / Flavanoids

18 – 20 marks to be given if the candidate has reported and written all positive and confirmatory tests correctly. Partial marks to be given if the report is not fully correct. If the report is completely wrong, 2 marks to be given.

5. VIVA VOCE (20 marks)

Third Year B.Pharm Practical Examination -2013

PHARMACEUTICS – V
(Biopharmaceutics and Pharmacokinetics)

Time: 4 Hours

Max. Marks for Practicals: 80

Max. Marks for Viva: 20

I. PRACTICALS

(80 Marks)

1. Synopsis

(2 × 10 = 20 Marks)

Two questions of **10 mark each** from the principle and/or procedure involved in the experiments mentioned in syllabus.

2. ONE Major experiment

(35 Marks)

- Determination of partition coefficient of drug (*unknown solvent or pH may be employed*).
- Determination of flux of drug permeation across skin/artificial membrane using Franz diffusion cell.
- Determination of intestinal drug absorption using isolated organ.
- Determination of pharmacokinetic parameters of one compartment i.v. bolus model by *in vitro* study.
- Determination of flux of drug diffusion using egg/artificial membrane.
- Determination of parameter(s) of protein binding of drug by *in vitro* technique.

3. ONE Minor experiment on determination of pharmacokinetic parameters using given data.

(25 Marks)

- Determination of elimination rate constant, half life, apparent volume of distribution and plasma clearance from plasma drug concentration time profile of a drug following one compartment and first order kinetics after i.v. bolus administration.
- Determination of relative and/or absolute bioavailability from given plasma drug concentration time profile data.
- Determination of first order absorption rate constant (K_a) for a one compartment absorption model by method of residuals.
- Determination of pharmacokinetic parameters from urinary excretion data for a drug following one compartment kinetics.

SPLIT UP OF MARKS

Sl. No.	Details	Major (35)	Minor (25)
1.	Tabular column	5	-
2.	Calculations including graph	15	20
3.	Performance of the experiment	10	-
4.	Results	5	5

II. VIVA VOCE

(20 Marks)