Q.P.CODE: **Reg.No: ……**

Second Year B.Pharm Degree Examinations
Model Questions
Pharmaceutics II
(Physical Pharmacy)

Time: 3 Hrs **Max.Marks: 100**

- Answer all questions

Essay: **(3 x 10 = 30)**

- Define order of a reaction. What is shelf life? How do you calculate shelf life of a pharmaceutical product which undergoes first order degradation? Discuss the effect of temperature on reaction rate.
- Define surface tension. Describe in detail any one method for determination of surface tension.
- Explain rheology of pseudoplastic system.

Short notes: **(14 x 5 = 70)**

- Explain working of one multipoint viscometer.
- Discuss plug flow.
- Discuss the principles of controlled flocculation in the formulation of suspensions.
- Define emulsions and explain the theories of emulsification.
- Explain specific surface. Discuss the determination of surface area by air permeability method.
- Describe Fick's laws of diffusion.
- Describe drug dissolution process and add a note on sink condition.
- Describe Type -1 dissolution apparatus with a labeled diagram.
- Explain electrical properties of colloids.
- Describe derived properties of powders.
- Define thixotropy and mention its importance in pharmaceutical formulations.
- Explain complexation methods for enhancement of solubility of drugs.
- Explain the method of particle size determination using Andreason pipette.
- What is Angle of Repose? Mention its applications.

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Q.P.CODE: **Reg.No: ……**

Second Year B.Pharm Degree Examinations
Model Questions
Pathophysiology, Health Education & Community Pharmacy

Time: 3 Hrs **Max.Marks: 100**

- Answer all questions
- Write equation wherever necessary

Essay: **(3x10=30)**

- Describe the etiology, pathophysiology and clinical significance of diabetes mellitus & rheumatoid arthritis.
- List the different causes of cellular injury. Explain in detail about the morphology of irreversible cell injury.
- Define demorgraphy and explain the various methods adopted for family planning in a developing country like India.

Short notes: **(14x5=70)**

- Differentiate between metaplasia and dysplasia.
- Causes of acute inflammation.
- Steatosis
- Syphyllis
- UTIS
- Ulcerative colitis
- Etiology of leukemia
- CPR
- National immunization schedule
- Dots therapy
- Indicators of health
- Etiology, prevention and control of blindness
- Causative organism and mode of transmission of the following:

● Malaria ● Chicken pox ● Influenza ● Ascariasis ● Cholera

- Balanced diet

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Q.P.CODE: **Reg.No: ……**

Second Year B.Pharm Degree Examinations
Model Questions
Pharmaceutics III
(Pharmaceutical Technology)

Time: 3 Hrs **Max.Marks: 100**

- Answer all questions
- Write equation wherever necessary

Essay: **(3x10=30)**

- Describe the principle and construction of a centrifugal pump. Compare centrifugal pump with reciprocating pump.
- Describe the construction, working, advantages and disadvantages of a fluid energy mill.
- Explain the term multiple effect evaporation. Discuss the methods of feeding multiple effect evaporators.

Short notes: **(14x5=70)**

- State and explain Fourier's law of heat conduction
- Differentiate between film neat transfer coefficient & overall heat transfer coefficient law
- Describe the principle of pneumatic conveyor with the help of a neat sketch.
- Describe the five factors that influence size reduction.
- Discuss filter aids with suitable examples and add a note on precoat filter
- List five pharmaceutical applications of industrial centrifuges and describe the theory of centrifugation.
- Describe the principle of steam distillation.
- Describe the construction and working of any one type of film evaporator.
- Explain the principles of Humidification operation and use of humidity chest
- Discuss the principle of freeze drying and mentionits advantages.
- List the reasons for vortex formation. Drawbacks of vortex and to suggest solutions for this problem.
- List the possible industrial hazards and how can it be prevented.
- Explain the importance of stainless steel in pharmaceutical industry.
- Define – absolute humidity, percentage humidity, dew point, wet bulb temperature.

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Q.P.CODE: **Reg.No: ……**

Second Year B.Pharm Degree Examinations
Model Questions
Applied Biochemistry and Molecular Biology

Time: 3 Hrs **Max.Marks: 100**

- Answer all questions
- Write equation wherever necessary

Essay: **(3x10=30)**

- Describe the metabolism of sulphur containing amino acids with their metabolic disorders
- Classify lipids and discuss in detail with their structure
- Explain Protein Biosynthesis in detail

Short notes: **(14x5=70)**

- Briefly explain the urea cycle.
- Discuss enzymes and classify it.
- Classify amino acids.
- Enumerate the TCA cycle with its energetic.
- What is heme? Describe metabolism of heme
- Describe the biosynthesis of heme.
- Explain: ● Transamination ● Deamination
- Molecular methods of disease diagnosis
- Explain the mechanism of oxidative phosphorylation.
- Discuss briefly the de novo synthesis of purine nucleotides
- Elaborate on beta oxidation of fatty acids.
- DNA replication
- Describe polymerase chain reaction with its applications
- Various factors affecting enzyme action.

SECOND YEAR B PHARM

SCHEME OF PRACTICAL EXAMINATION

& SCHEME OF VALUATION

(From 2012 admission onwards)

Pharmaceutical Chemistry – III

(Advanced Organic Chemistry)

(Time: 4 hrs, Max Marks for Practical: 80, Max. Marks for Viva: 20 marks)

- Synopsis - (**20 marks)**

  Four questions of 5 marks each.

  - Any one principle for preparation 5 marks
  - Any one principle behind the estimation 5 marks
  - Use of stereo model 5 marks
  - Any one named reaction 5 marks

- Major experiment **(40 marks)**

  - Standardization (10 marks)

    - Weighing of sample 5 marks
    - Normality determination 5 marks

  - Estimation (30 marks)

    Five different ranges for percentage error should be calculated

    Evaluation of assay done based on percentage error of result

0%	-	1% error	-	30 marks
1%	-	2% error	-	25 marks
2%	-	3% error	-	22 marks
3%	-	5% error	-	18 marks
5%	-	10% error	-	12 marks

    Above 10% error, 8 marks to be given provided candidate has performed experiment correctly.

- Minor experiment – Preparation **(20 marks)**

Mark distribution
Colour-2
Odour-2
Dryness-2
Texture-4
Yield-10

- Viva voce **(20 marks)**

Pharmaceutical Analysis – I

(Time: 4 hrs, Max. Marks for Practical: 80, Max.Marks for Viva: 20 marks)

- **Synopsis** **(20 marks)**

Four questions carrying 5 marks each.

Principle involved in the experiments mentioned in the syllabus

- **Major experiment** **(40 marks)**

- STANDARDIZATION 15 marks

General presentation such as observation columns, calculations 3 marks

Evaluation of result

0%	-	1% error	-	12 marks
1%	-	2% error	-	10 marks
2%	-	3% error	-	8 marks
3%	-	5% error	-	6 marks
5%	-	10% error	-	4 marks

Above 10% error, 2 marks to be given provided candidate has performed experiment correctly.

- ASSAY 25 marks

General presentation such as observation columns, calculations 4 marks

Evaluation of result

0%	-	1% error	-	21 marks
1%	-	2% error	-	18 marks
2%	-	3% error	-	15 marks
3%	-	5% error	-	12 marks
5%	-	10% error	-	9 marks

Above 10% error, 6marks to be given provided candidate has performed experiment correctly

(III) Minor experiment

ESTIMATION (**20 marks)**

Strength of the titrant solution to be provided

General presentation such as observation columns, calculations 4 marks

Evaluation of result

0%	-	1% error	-	16 marks
1%	-	2% error	-	14 marks
2%	-	3% error	-	11marks
3%	-	5% error	-	9 marks
5%	-	10% error	-	7 marks

Above 10% error, 6 marks to be given provided candidate has performed experiment correctly.

IV. Viva voce (**20 marks)**

Pharmaceutics II

(Physical Pharmacy)

(Time 4 hrs, Max marks for practicals :80, Max marks for viva : 20)

- **Synopsis (10 marks each)**

Principle and procedure of any two experiements **(20 marks)**

- **Major experiement (One) (35 marks)**

Include

- Determination of rates of reaction
- Preparation of emulsion and globule size analysis
- Effect of glidants and lubricants on angle of repose

- **Minor experiment (One) (25 marks)**

Include

- Determination of Viscosity
- Determination of Surface Tension
- Determination of Angle of Repose

SPLIT UP OF MARKS

Sl.No.		Major (35)	Minor (25)
1.	Procedure with tabular column	10	5
2.	Calculation including graph	10	5
3.	Performance of the experiment	10	10
4.	Report	5	5
	Total	35	25

- **Viva voce (20 marks)**

Pharmaceutics III

(Pharmaceutical Technology)

(Time 4 hrs, Max marks for practicals :80, Max marks for viva : 20)

- **Synopsis (10 marks each)**

Principle and procedure of any two experiements **(20 marks)**

- **Major experiement (One) (35 marks)**

Include

- Particle size distribution determination using sieve method
- Determination of drying rate
- Effect of filter aids on rate of filtration
- Determination of size distribution of particles by sedimentation and decantation
- **Minor experiment (25 marks)**

Include

- Particle size distribution using microscope
- Dtermination of atmospheric humidity by Psychometric method
- Determination of atmospheric humidity by Dew point method

SPLIT UP OF MARKS

Sl.No.		Major (35)	Minor (25)
1.	Procedure with tabular column	10	5
2.	Calculation including graph	10	5
3.	Performance of the experiment	10	10
4.	Report	5	5
	Total	35	25

- **Viva voce (20 marks)**

Applied Biochemistry & Molecular Biology

(Time 4 hrs, Max marks for practicals :80, Max marks for viva : 20)

- **Synopsis** **(20 marks)**

Four questions carrying 5 marks each.

Principle involved in the experiments mentioned in the syllabus – Qualitative tests and Quantitative estimations.

- **Major experiment** **(35 marks)**

Any one of the quantitative estimations mentioned in the syllabus.

General presentation such as brief procedure, observation columns and calculations 5 marks

Evaluation of result

0%	-	1% error	-	30 marks
1%	-	2% error	-	25 marks
2%	-	3% error	-	20 marks
3%	-	5% error	-	15 marks
5%	-	10% error	-	10 marks

Above 10% error, 5 marks to be given provided candidate has performed experiment correctly.

- **Minor experiment** **(25 marks)**

Any one of the systematic qualitative analysis mentioned in syllabus.

- Identification of unknown sample
- Detection of abnormal constituents of urine

General presentation of observation columns	2 marks
Identification test	2 marks
Other characteristic tests	8 marks
Confirmation test/s	8 marks

4.Viva voce **(20 marks)**