



Faculty of Pharmacy

End Semester Examination May 2025

PY3CO15 Physical Pharmaceutics -II

Programme	: B.Pharm.	Branch/Specialisation	: -
Duration	: 3 hours	Maximum Marks	: 75

Note: All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Section 1 (Answer all question(s))

Marks CO BL

Q1. Define colloids. Give two applications of colloidal particles.

2 1 2

Rubric	Marks
Definition	1
two applications (0.5 marks each)	1

Q2. Name two elctro-kinetic properties of solid particles.

2 1 1

Rubric	Marks
each property (1 mark)	2

Q3. States newton law of flow with equation.

2 2 1

Rubric	Marks
Law	1
Equation	1

Q4. Define viscosity. Give its two importance.

2 2 1

Rubric	Marks
Definition	1
Importance	1

Q5. Define suspension and name its types.

2 3 1

Rubric	Marks
Definition	1
Types	1

Q6. Name four stability problem of emulsion dosage form.

2 3 1

Rubric	Marks
0.5 each	2

Q7. Give the formula of compressibility index and angle of response.

2 4 1

Rubric	Marks
1 for each	2

Q8. List four importance of particle size and shape in pharma application.

2 4 1

Rubric	Marks
0.5 each	2

Q9. Define shelf life. Name two factors affect shelf life of drug product.

2 5 1

Rubric	Marks
Definition	1
0.5 each for each factor	1

Q10. What is accelerated stability study? Give its temperature and humidity condition.

2 5 1

Rubric	Marks
Accelerated stability	1
Condition	1

Section 2 (Answer any 2 question(s))

Marks CO BL

Q11. Describe the concept, classification and application of coarse dispersion system and properties of colloidal particles.

10 1 2

Rubric	Marks
Concept 3 marks classification of dispersion: 2 marks application 3 marks properties of colloidal particles 2 marks	10

Q12. Differentiate between Newtonian and non-Newtonian fluid with discussion of types and properties of fluids.

10 2 2

Rubric	Marks
Difference 5 marks Types 3 marks Properties 2 marks	10

Q13. Write a short note on optical, kinetic and electrical properties of colloids. Discuss the deformation of solid with suitable equations and examples.

10 2 2

Rubric	Marks
Optical 2 mark kinetic 2 mark electrical 1 mark	5
Deformation 3 Marks equations 1 mark examples 1 mark	5

Section 3 (Answer any 2 question(s))

Marks CO BL

Q14. Differentiate between flocculated and deflocculated suspension.

5 3 2

Rubric	Marks
5 difference 1 mark each	5

Q15. Discuss the method of composition and method of preparation of suspension.

5 3 2

Rubric	Marks
Composition 2 marks Method 3 marks	5

Q16. Illustrate the theory of emulsification and stability problems of emulsion dosage form.

5 3 2

Rubric	Marks
Theory 2 Marks stability problems 3 Marks	5

Section 4 (Answer any 2 question(s))

Marks CO BL

Q17. Discuss the process of determination of mean particle size and particle size distribution.

5 4 2

Rubric	Marks
Mean particle size 3 marks distribution 2 marks	5

Q18. Explain the method of determining surface area and its application.

5 4 2

Rubric	Marks
method 4 marks application 1 marks	5

Q19. Discuss the powder bulk characterization and flow properties.

5 4 2

Rubric	Marks
Bulk characterization 3 marks flow properties 2 marks	5

Section 5 (Answer all question(s))

Marks CO BL

Q20. Describe the rate of reaction and its relation to drug stability.

5 5 2

Rubric	Marks
Rate of reaction 3 marks Relation 2 marks	5

Q21. Explain physical and chemical factors affecting drug degradation.

5 5 2

Rubric	Marks
Physical 2 marks Chemical 3 marks Oxidation Hydrolysis Photolysis	5

Q22. Discuss different types of stability studies with accounts to photostability of drug product.

5 5 2

Rubric	Marks
Types and explanation 3 marks Photostability 2 marks ICH STABILITY	5
