Graphic Era HILL UNIVERSITY
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End Term (Even) Semester Examination June 2025

Roll no.....

Name of the Course: **B.PHARM**
Semester: **IV**
Name of the Paper: **PHYSICAL PHARMACEUTICS-II**
Paper Code: **BP403T**
Time: 3 hours **Maximum Marks: 75**

Note:
(i) This question paper contains three sections.
(ii) All the sections are compulsory.

Section-A

Multiple Choice Question **20 X 1 = 20 MARKS**

S.No.	CONTENTS	
1.	Which of the following types of colloidal systems are dispersed solid in a gas? a) Sol b) Foam c) Aerosol d) Gel	CO 1
2.	The Tyndall effect is associated with: a) Transparent solutions b) True solutions c) Colloidal dispersions d) Suspensions	
3.	Gold number is associated with: a) Particle size b) Surface charge c) Coagulation d) Protective power of a colloid	
4.	Dispersion of acacia in water gives the colloid of type: a) Association b) Negative c) Neutral d) Positive	
5.	A Bingham plastic behaves like: a) Newtonian fluid at all shear rates b) Solid at all shear rates c) Newtonian fluid after a yield stress is exceeded d) Pseudoplastic fluid under all conditions	CO 2
6.	Which of the following flow types does not obey Newton's law of viscosity? a) Newtonian flow b) Pseudoplastic flow c) Dilatant flow	

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	d) Both b and c	
7.	What is the effect of temperature on the viscosity of most liquids? a) Viscosity increases with temperature b) Viscosity remains unchanged c) Viscosity decreases with temperature d) Viscosity becomes zero at high temperature	
8.	Which type of flow exhibits an increase in viscosity with an increase in shear rate? a) Newtonian b) Pseudoplastic c) Dilatant d) Thixotropic	
9.	Which phenomenon occurs when dispersed droplets merge to form larger droplets? a) Creaming b) Coalescence c) Breaking d) Flocculation	
10.	Flocculated suspensions are preferred over deflocculated ones because: a) They settle faster b) They form a hard cake c) They can be easily redispersed d) They contain smaller particles	CO 3
11.	Which of the following surfactant types is generally used in O/W emulsions? a) Anionic surfactants b) Nonionic surfactants c) Surfactants with HLB > 10 d) Surfactants with HLB < 10	
12.	Structured vehicles are used in suspensions to: a) Break the emulsion b) Reduce flocculation c) Decrease viscosity d) Maintain uniformity and stability	
13.	Which of the following is **NOT** a property studied under micromeritics? a) Particle size b) Particle shape c) Surface area d) Molecular weight	
14.	A powder with a high angle of repose will typically have: a) Poor flow properties b) Excellent flow properties c) High density d) Low surface area	CO 4
15.	Helium pycnometer is used to determine: a) Size b) True density	

	c) Sedimentation rate d) Surface area	
16.	Which property is described as the ratio of the weight of powder to its bulk volume? a) Bulk density b) True density c) Tapped density d) Porosity	
17.	The term 'shelf life' of a drug refers to: a) The time required for a drug to reach 50% of its maximum concentration b) The time after which a drug becomes ineffective c) The duration over which a drug retains its intended potency under specified conditions d) The time required for a drug to degrade to 90% of its original concentration	CO 5
18.	Photostability studies of a drug are primarily concerned with: a) The degradation of the drug due to temperature fluctuations b) The effect of light on the stability of the drug c) The interaction of the drug with excipients d) The solubility of the drug	
19.	The Arrhenius equation is used to study: a) The solubility of drugs b) The pH of drug formulations c) The effect of temperature on degradation rate d) The osmotic pressure of solutions	
20.	The ICH guidelines for stability testing include all of the following parameters **EXCEPT**: a) Temperature b) Humidity c) Packaging material d) Solubility	

Section-B

Short Questions: Attempt any seven questions. **7X 5 = 35 MARKS**

S.No.	QUESTIONS	CO's
1.	What are association colloids? Give the mechanism of formation of micelles.	CO 1
2.	Write a note on coacervation and peptization of colloids.	
3.	Draw the flow curves for Newtonian and non-Newtonian types of flow with suitable example.	CO 2
4.	Discuss cup and bob viscometer with a labelled diagram.	
5.	Write the importance of Stokes' law of sedimentation in suspension.	CO 3

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6.	Differentiate between creaming and cracking of an emulsion.	
7.	Write a note on angle of repose. Mention its importance in formulation.	CO 4
8.	Highlight the role of accelerated stability testing in expiration dating of pharmaceutical dosage forms.	CO 5
9.	Discuss photolytic degradation and its prevention.	

Section-C

Long Questions: Attempt any two questions. **2 X 10 = 20 MARKS**

S.No.	QUESTIONS	CO's
1.	Explain the optical properties exhibited by colloidal systems.	CO 1
2.	Discuss in detail the theories of emulsification.	CO 3
3.	Enumerate the derived properties. How they can be evaluated?	CO 4