

Name:

Enrolment No:



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, May 2022**

**Course: Physical Pharmaceutics II**

**Program: B. Pharm.**

**Course Code: BP403T**

**Instructions: All the sections are compulsory.**

**Semester: IV**

**Time: 03 hrs.**

**Max. Marks: 75**

**SECTION A**

S. No.	CO		Marks
		<b>Answer all the questions.</b>	<b>20</b>
1.	CO1	Which of the following type of colloids can not easily be precipitated by addition of small amount of electrolyte? A. Lyophilic B. Lyophobic C. Association D. Hydrophilic	1
2.	CO1	Which of the following properties of colloids does not depend on the charge on particles. A. Tyndall effect B. Electrophoresis C. Coagulation D. Electro-osmosis	1
3.	CO1	Electrophoresis of the colloids is employed to determine _____ of the particles. A. Charge B. Mass C. Density D. Size	1
4.	CO1	If the concentration of surfactant molecules increases above the critical micelle concentration (CMC), then they _____. A. Dissociate B. Become soluble C. Associate D. Decompose	1
5.	CO2	Hook's law is used to describe _____. A. Linear elastic deformation B. Mobility C. Plasticity D. Elasticity	1
6.	CO2	Reduction in cross sectional area is known as _____ in stress-strain curve. A. Necking region B. Young's modulus C. Strain hardening region D. Plastic region	1
7.	CO2	Units of tensile stress is _____. (Select all possible answers) A. Pascal B. Joule C. $m / s^2$ D. $N / m^2$	1
8.	CO2	For non-Newtonian systems, shearing stress is _____ to shearing stress. A. Inversely B. Independent C. Directly D. None of the above	1
9.	CO3	In Stokes's relationship, a parameter that do not changes the velocity of settling is: A. Viscosity of medium B. Density of dispersed particles	1

		C. Radius of the particle	D. Texture of particle	
10.	CO3	For an ideal suspension, the sedimentation volume should be _____.		1
		A. Zero	B. Less than one	
		C. Greater than one	D. Equal to one	
11.	CO3	HLB range of an emulsifier employed in the preparation of O/W emulsion is _____.		1
		A. 0 to 3	B. 3 to 6	
		C. 6 to 9	D. more than 15	
12.	CO3	Which type of following instability involves formation of crystals in suspension?		1
		A. Ostwald's ripening	B. Phase separation	
		C. Coalescence	D. Phase inversion	C
13.	CO4	Granular volume includes _____. (Select all possible answers).		1
		A. True volume	B. Interparticulate spaces	
		C. Intraparticulate voids	D. All of the above	
14.	CO4	Define projected diameter.		1
15.	CO4	Which of the following comment is true for flow properties of material if the angle of repose is 25°.		1
		A. Excellent	B. Fair	
		C. Passable	D. Poor	
16.	CO4	Materials having Hausner ratio 1.38 are said to have good flow character.		1
		A. True	B. False	
17.	CO5	ICH stands for_____.		1
		A. Indian council on harmonisation	B. Inter Cranial Healer	
		C. International Conference On Harmonisation	D. None of the above	
18.	CO5	Which of the following equation is used for determination of effect of temperature on rate of reaction?		1
		A. Stoke's law equation	B. Hook's law equation	
		C. First order kinetics equation	D. Arrhenius equation	
19.	CO5	Dielectric constant is used to estimate_____.		1
		A. Polarity of molecule	B. Viscosity of fluids	
		C. Temperature of fluids	D. Flowability of solvent	
20.	CO5	Climatic zone II is Subtropical and Mediterranean climate.		1
		A. True	B. False	

<b>SECTION B</b>			
<b>Answer any two questions of the following.</b>			<b>20</b>
1.	<b>CO5</b>	Write a short note on accelerated stability studies.	<b>5+5</b>
2.	<b>CO3</b>	Describe the instabilities observed in suspensions.	<b>10</b>
3.	<b>CO2</b>	Draw a well labelled stress-strain diagram and explain its all parts in detail with respect to plastic deformation.	<b>4+6</b>
<b>SECTION C</b>			
<b>Answer any seven questions of the following.</b>			<b>35</b>
1.	<b>CO1</b>	Enlist any five salient features of molecular dispersion.	<b>5</b>
2.	<b>CO4</b>	Define angle of repose and explain any one method for its determination.	<b>1+4</b>
3.	<b>CO1</b>	What are hydrophobic colloids? Describe any one of the preparation methods.	<b>5</b>
4.	<b>CO4</b>	Explain the packing properties of particles with respect to micrometrics.	<b>5</b>
5.	<b>CO1</b>	Discuss the dialysis method for purification of colloids.	<b>5</b>
6.	<b>CO3</b>	Describe any one theory of emulsion.	<b>5</b>
7.	<b>CO2</b>	Explain the principle of Ostwald's viscometer with figure.	<b>5</b>
8.	<b>CO4</b>	The flow property of the particles depend on particle size and added excipients. Explain the statement with example.	<b>5</b>
9.	<b>CO5</b>	Describe various remedies to check photolytic degradation.	<b>5</b>
		<b>Total</b>	<b>75</b>