

SET - 1

## II B. Pharmacy I Semester Supplementary Examinations, Oct/Nov - 2020 PHYSICAL PHARMACEUTICS-I

Note: 1. Question paper consists of three parts ( <b>Part-I</b> , <b>Part-II</b> & <b>Part-III</b> 2. Answer ALL (Multiple Choice) Questions from <b>Part-I</b> 3. Answer any TWO Questions from <b>Part-II</b> 4. Answer any SEVEN Questions from <b>Part-IIPART -I</b> 1. (i) Slightly soluble indicates the solubility of one part in(a) 100 to 1000 parts of solvent(b) More than 10,000 parts of solvent(c) 1000 to 10,000 parts of solvent(d) 10 to 30 parts of solvent(ii) The dielectric constant of water is(a) 80 (b) 50 (c) 30 (d) 20(iii) Complete miscibility is not existing in between(a) Water and alcohol(b) Benzene and CCL4(c) Glycerol and alcohol(d) Benzene and Mater(iv) Raoult's law is expressed as:(ii) The dielectric constant of water is(a) apie $P_1^0 \times i$ (b) $P_1^0 = P_1^i$ (c) $P_1 = P_1^0 + x_i$ (d) $P_1 = \frac{P_1^0}{x_i}$ (v) Raoult's law is expressed as:(iii) Collectric index 'n' is expressed as(c) Slifternt Solubilities (d) None of above(vi) Refractive index 'n' is expressed as(d) $\frac{\sin i}{\sin r}$ (b) $\sin i + \sin r$ (c) $\sin i \times \sin r$ (d) None of above(vii) Permanent dipole is due to(a) Ratio of capacitances of a material and that of a references(b) Oscillamatry (c) DSC (d) Polarimetry(xi) No interface is passible in between(a) Gas-Liquid (b) Liquid-Liquid (c) Gas-Gas (d) Liquid-Slid(x) Surface tension is measured by(a) a facto of capacitances of a material and that of a references(b) Oscillamatry (c) DSC (d) Polarimetry <td< th=""><th colspan="6">Time: 3 hours Max. Ma</th></td<>	Time: 3 hours Max. Ma					
PART – 1         1. (i) Slightly soluble indicates the solubility of one part in       (I)         (a) 100 to 1000 parts of solvent       (b) More than 10,000 parts of solvent         (c) 1000 to 10,000 parts of solvent       (d) 10 to 30 parts of solvent         (ii) The dielectric constant of water is       (I)         (a) 80 (b) 50 (c) 30 (d) 20       (I)         (iii) Complete miscibility is not existing in between       (I)         (a) Water and alcohol       (b) Benzene and CCL <sub>4</sub> (c) Glyeerol and alcohol         (iv) Raoult's law is expressed as:       (I)         (a) Pi $\stackrel{o}{P_i}$ ix       (c) Pi $\stackrel{o}{P_i}$ +xi       (d) Pi $\stackrel{o}{=} \stackrel{P_i}{xi}$ (v) All polymorphs of a drug have       (I)       (I)         (a) Same solubilities       (b) Same melting points       (c) Different Solubilities       (d) None of above         (vi) Refractive index 'n' is expressed as       (I)       (A)       (A)       (B) sin <i>i</i> +sin <i>r</i> (c) sini xsin <i>r</i> (d) None of above         (vii) Permanent dipole is due to       (A)       (A) eage-itances of charged regions (c) ionization of a molecule       (D)         (b) Non existence of charged regions       (c) laquid-Slid       (I)         (viii) Dielectric constant is not related to       (I)       (A)       (A) Capaillamatry       (C) C) Gas-Gas			<ul> <li>Note: 1. Question paper consists of three parts (Part-I, Part-II &amp; Part-III)</li> <li>2. Answer ALL (Multiple Choice) Questions from Part-I</li> <li>3. Answer any TWO Questions from Part-II</li> <li>4. Answer any SEVEN Questions from Part-III</li> </ul>			
1. (i)       Slightly soluble indicates the solubility of one part in       (1)         (a)       100 to 1000 parts of solvent       (b) More than 10,000 parts of solvent       (c)         (ii)       The dielectric constant of water is       (a)       (a)       (a)       (a)       (b)       50       (c)       (a)       (a)       (b)       50       (c)       (c) <th></th> <th></th> <th><u>PART –I</u></th> <th></th>			<u>PART –I</u>			
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	(xiii)	HLB value of polyhydria (a) 20-S/A (b) 20 (1-S/	c alcohol fatty acid ester can be A) (c) 20 (1-A/S) (d) None of abov	e	(1M)	
	(xiv)	Clathrate is a kind of (a) Inclusion complex (c) Metal ion complex	<ul><li>(b) Organic molecular complex</li><li>(d) None of above</li></ul>		(1M)	
(xv)		Major protein involved in protein binding of a drug (a) $\alpha_1$ -acid glycoprotein (b) Albumin (c) Immunoglobutin (d) fibrinogen				
	(xvi)	Drug-protein binding can be studied with help of (a) Ultrafiltration (b) Dynamic dialysis (c) Equilibrium (d) All of above				
	(xvii) Select the cyclodextrin with the smallest cavity (a) $\beta$ -CD (b) $\gamma$ -CD (c) $\alpha$ -CD (d) None of above					
	<ul> <li>(xviii) Buffer capacity is</li> <li>(a) The magnitude of the resistance of a buffer to pH changes</li> <li>(b) The magnitude of the resistance of an acid to pH changes</li> <li>(c) The magnitude of the resistance of a base to pH changes</li> <li>(d) None of above</li> </ul>				(1M)	
	(xix)	Pharmaceutical buffer is (a) Weak acid and a salt (b) Weak acid and a salt (c) Weak base and a salt (d) Strong acid and strong	o prepared from of strong base of weak base of weak acid ng base		(1M)	
	<ul><li>(xx) Select the non indicator for pH determination</li><li>(a) Phenolphthalein (b) Methyl red (c) Methyl orange (d) Iodine</li></ul>		odine	(1M)		
			<u>PART –II</u>			
2.	Define polymorphism; give examples of drugs that exhibit polymorphism. Write about the properties and detection of polymorphs of a drug.					
3.	Write briefly about pH, pH indicators, buffer and buffer equation. Describe the preparation f any one buffer.					
4.	Write a detailed note on Protein binding of drug and its determination and biological effects of protein binding.					
			<u>PART –III</u>			
5.	Write about the solubility of gases in liquids and Henry's law.					
6.	Describe the calculation of RHLB (required HLB) of oil for making O/W emulsion by taking suitable example.				(5M)	
7.	Write about refractive index and its determination.					
8.	Write a note on dipole moment and its determination.				(5M)	
9.	Explain 'inclusion complex'. Give three examples and describe the importance of each of them.				(5M)	

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- 10. Explain 'Complexation'. Classify different complexes with examples. Add notes (5M) on the analysis by distribution method.
- 11. Define 'diffusion'. Write about the Fick's laws of diffusion and importance in (5M) pharmacy.
- 12. Write about the pH determination by electrometric method. Add notes on (5M) applications of buffers.
- 13. Write a note on buffered isotonic solutions and tonicity calculation by Lisa (5M) volume.

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