

Write the following information in the first page of Answer Script before starting answer

ODD SEMESTER EXAMINATION: 2020-21

Exam ID Number _____

Course _____ Semester _____

Paper Code _____ Paper Title _____

Type of Exam: _____ (Regular/Back/Improvement)

Important Instruction for students:

1. Student should write objective and descriptive answer on plain white paper.
2. Give page number in each page starting from 1st page.
3. After completion of examination, Scan all pages, convert into a single PDF, rename the file with Class Roll No. **(2019MBA15)** and upload to the Google classroom as attachment.
4. Exam timing from 10am – 1pm (for morning shift).
5. Question Paper will be uploaded before 10 mins from the schedule time.
6. Additional 20 mins time will be given for scanning and uploading the single PDF file.
7. Student will be marked as ABSENT if failed to upload the PDF answer script due to any reason.

B.PHARM.
THIRD SEMESTER
PHYSICAL PHARMACEUTICS-I
BP-302 T

Duration : 3 hrs.

Full Marks : 75

(**PART-A : Objective**)

Time : 20 min.

Marks : 20

Choose the correct answer from the following:

1X20=20

1. In which state of matter, the particles are farthest?
 - a. Solid
 - b. Liquid
 - c. Gas
 - d. All of the above
2. The change of state from solid directly to gas is known as:
 - a. Fusion
 - b. Boiling
 - c. Sublimation
 - d. Evaporation
3. _____ is a solution that contains maximum amount of solute at a definite temperature.
 - a. Unsaturated solution
 - b. Saturated Solution
 - c. Subsaturated solution
 - d. None of the above
4. _____ solution contains more of the solute than it would normally contain in a saturated solution at a definite temperature.
 - a. Unsaturated solution
 - b. Saturated solution
 - c. Supersaturated solution
 - d. None of the above
5. 10-30 parts of solvent is required for 1 part of solute in case of:
 - a. Freely soluble
 - b. Sparingly soluble
 - c. Soluble
 - d. Slightly soluble
6. The solubility of substance depends on:
 - a. Solvent
 - b. Temperature
 - c. Pressure
 - d. All of the above
7. The relationship between pH, pKa and extent of ionization is described by:
 - a. Charle's law
 - b. Boyle's Law
 - c. Henderson Hasselbach equation
 - d. None of the above
8. As a light wave enters from one medium to another, the bending of the light wave is due to the phenomenon:
 - a. Partition coefficient
 - b. Optical Rotation
 - c. Refraction
 - d. Reflection
9. The temperature above which a gas cannot be liquefied, is known as:
 - a. Melting point
 - b. Critical temperature
 - c. Boiling point
 - d. None of the above

10. The phenomenon in which the compound exist in more than one crystalline or amorphous form is known as:
- Isotropism
 - Anisotropism
 - Polymorphism
 - None of the above
11. Cryoscopic method for adjusting tonicity and pH comes under:
- Class I method
 - Class II method
 - Class III method
 - Class IV method
12. The solution having an osmotic pressure greater than that of 0.9% w/v sodium chloride is called:
- Hypertonic solution
 - Hypotonic solution
 - Isotonic solution
 - None of the above
13. The pH of Pharmaceutical buffer system can be calculated by using:
- pH Partition theory
 - Michaelis menten equation
 - Henderson Hasselbach equation
 - Noyes Whitney equation
14. Surfactants are substances having:
- Hydrophilic part only
 - Hydrophobic part only
 - Both Hydrophilic and hydrophobic part
 - None of the above
15. HLB value of detergents is:
- 9- 12
 - 13-16
 - 6-9
 - 14-16
16. Interfacial tension are invariably _____ surface tension.
- Less than
 - Equal to
 - More than
 - Double than
17. Interfacial tension is applied on:
- Miscible Liquids
 - Immiscible liquids
 - Both a and b
 - None of the above
18. Adhesive force > cohesive force, then _____ occurs.
- Wetting
 - Spreading
 - Capillary rise
 - All of these
19. The level of water rises up in a capillary tube because:
- Adhesive force > Cohesive force
 - Adhesive force < Cohesive force
 - Adhesive force = Cohesive force
 - None of the above
20. In inorganic metal complexes, coordination number means the number of:
- Ionic bonds that a metal can form with another metal
 - Ionic bond that a ligand can form with a metal
 - Non- ionic bond that a metal can form with ligands
 - Ionic bonds that a metal can form with ligands

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(PART-B : Descriptive)

Time : 2 hrs. 40 min.

Marks : 35

[Answer any seven (7) questions]

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|--|---|
| 1. How is a solution real or ideal according to Raoult's law? | 5 |
| 2. Write short note on HLB scale. | 5 |
| 3. Classify different types of Complexes. | 5 |
| 4. What is Polymorphism? Write the Pharmaceutical Importance. | 5 |
| 5. Write a note on Partition Coefficient. | 5 |
| 6. Define Surface Tension and Interfacial Tension. | 5 |
| 7. Write about Buffer and its Pharmaceutical application. | 5 |
| 8. What is spreading coefficient and how it is important. | 5 |
| 9. Differentiate between crystalline and amorphous solid with suitable examples. | 5 |

(PART-C : Long type questions)

[Answer any two (2) questions]

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|---|--------|
| 1. What is an isotonic solution? Mention the methods of adjustment of tonicity. | 10 |
| 2. Describe the methods for determination of surface tension of liquid. | 10 |
| 3. Define the following: (any 5) | 2×5=10 |
| a) Refractive Index | |
| b) Optical Rotation | |
| c) Dielectric Constant | |
| d) Dipole Moment | |
| e) Dissociation Constant | |
| f) Eutectic Mixture | |

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