

B. PHARM.
FOURTH SEMESTER
PHYSICAL PHARMACEUTICS II
BP403T
[USE OMR SHEET FOR OBJECTIVE PART]

SET
B

Duration : 3 hrs.

Full Marks : 75

[PART-A: Objective]

Time : 30 min.

Marks : 20

Choose the correct answer from the following:

1×20=20

- The ratio of the ultimate volume of sediment to the actual volume of sediment before settling is called
 - Sedimentation volume
 - Degree of flocculation
 - Emulsification volume
 - Phase volume ratio
- In the reaction, $H_2 + I_2 = 2HI$, the order of the reaction is
 - 1+1=2
 - 2+2=4
 - 1+2=3
 - None of the above
- The HLB system is used classify
 - Flavours
 - Colours
 - Surfactants
 - Perfumes
- Emulsion is
 - Stable preparation
 - Thermodynamically unstable preparation
 - Biphasic system
 - b& c
- The angle of repose values is utilized to:
 - Measure the movement of granules from hopper to the table of tableting/ capsule machine
 - Select proper containers for capsules of a given mass of powders
 - Study the absorption of drugs
 - Understand dissolution of medicament
- Porosity of a porous powder is defined as:
 - Bulk volume/ void volume
 - Void volume/ bulk volume
 - Void volume/ true volume
 - True volume/ bulk volume
- Chemical kinetics is the study of the
 - Rate of chemical reactions
 - Particle size
 - Rheological property
 - Interfacial tension
- The expiry date for a tablet is not mentioned on the label. It means that the expiry time in years is:
 - Five years
 - nil
 - Three years
 - Two years

9. The storage directions on a parenteral solution specify 'store in a cool place'. This may be stored in:
 - a. An air- conditioned area at 10° C
 - b. A refrigerator at 15°C
 - c. A place whose temperature is set at 5°C
 - d. Room temperature, at 25°C
10. When a beam of light is pass through a colloidal solution, the path of light gets illuminated. This phenomenon is known as
 - a. Brownian movement
 - b. Diffusion
 - c. Tyndall effect
 - d. Donnan effect
11. The protective ability of colloids is measured as
 - a. Zeta potential
 - b. Streaming potential
 - c. Gold number
 - d. None of the above
12. The systems that undergo gel-to-sol transformation is known
 - a. elastic
 - b. permanent deformation
 - c. shear thickening
 - d. shear thinning
13. For an ideal suspension, the sedimentation volume should be:
 - a. equal to one
 - b. less than one
 - c. more than one
 - d. zero
14. For oral administration of a suspension to a patient, which one of the factors is the most important?
 - a. Acceptable color and odour
 - b. Polymorphism
 - c. Specific surface area
 - d. viscosity
15. An emulsifier is considered to be ideal, if it is soluble in
 - a. Aqueous phase
 - b. Oily phase
 - c. A& B
 - d. None of the above
16. Which of the following surfactants is the most suitable one to prepare an O/W emulsion?
 - a. HLB 2.1
 - b. HLB 3.4
 - c. HLB 13.5
 - d. HLB 20.0
17. is the alteration in the shape and the size of the body owing applied external forces and internal forces
 - a. deformation
 - b. formation
 - c. conjugation
 - d. None of the above
18. Coulter counter is used to determine
 - a. Particle volume
 - b. Particle number
 - c. Particle interaction
 - d. viscosity
19. The term rheology was invented by
 - a. Bingham
 - b. Newton
 - c. Michaelis and Menten
 - d. Watson and Crick
20. Stability study is conducted to find out
 - a. The rate of degradation reaction
 - b. The order of degradation reaction
 - c. All of the above
 - d. None of the above

(PART-B :Descriptive)

Time : 2 hrs. 30 min.

Marks : 35

[Answer any seven (7) questions]

1. With the help of a neat labelled diagram explain methods for purification of colloids. 5
2. Define viscosity? With the help of a neat diagram explain the principle and working of Ostwald's Viscometer. 1+4=5
3. What is meant by sedimentation parameter? How are they evaluated. 5
4. Describe the Accelerated stability study with the equation and graph. 5
5. What is angle of repose? How does it help in formulation development. 1+4=5
6. Derive the half- life of a Zero and first order reaction. 5
7. Explain the challenges commonly occurred in stabilization of pharmaceutical products. 5
8. Briefly write down different methods used to prepare an emulsion 5
9. Difference between flocculated and de- flocculated suspensions 5

(PART-C: Long type questions)

[Answer any two (2) questions]

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| 1. Define the Newton's law of flow? Explain Newtonian and Non-Newtonian fluids | 10 |
| 2. Explain in detail about effect of electrolyte on colloidal dispersions | 10 |
| 3. Discuss the various methods used to determine the particle size distribution | 10 |

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