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

SET
C

Duration : 3 hrs.

Full Marks : 75

(PART-A: Objective)

Time : 30 min.

Marks : 20

Choose the correct answer from the following:

$1 \times 20 = 20$

1. The angle of repose values is utilized to:
   a. Measure the movement of granules from hopper to the table of tabletting/ capsule machine
   b. Select proper containers for capsules of a given mass of powders
   c. Study the absorption of drugs
   d. Understand dissolution of medicament

2. Porosity of a porous powder is defined as:
   a. Bulk volume/ void volume
   b. Void volume/ bulk volume
   c. Void volume/ true volume
   d. True volume/ bulk volume

3. Chemical kinetics is the study of the
   a. Rate of chemical reactions
   b. Particle size
   c. Rheological property
   d. Interfacial tension

4. 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

5. Emulsion is
   a. Stable preparation
   b. Thermodynamically unstable preparation
   c. Biphasic system
   d. b& c

6. The HLB system is used classify
   a. Flavours
   b. Colours
   c. Surfactants
   d. Perfumes

7. In the reaction, $H_2 + I_2 = 2HI$, the order of the reaction is ....
   a. $1+1=2$
   b. $2+2=4$
   c. $1+2=3$
   d. None of the above

8. The ratio of the ultimate volume of sediment to the actual volume of sediment before settling is called
   a. Sedimentation volume
   b. Degree of flocculation
   c. Emulsification volume
   d. Phase volume ratio

9. 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

10. The expiry date for a tablet is not mentioned on the label. It means that the expiry time in years is:
    a. Five years
    b. nil
    c. Three years
    d. Two years

11. The term rheology was invented by
    a. Bingham
    b. Newton
    c. Michaelis and Menten
    d. Watson and Crick

12. Coulter counter is used to determine
    a. Particle volume
    b. Particle number
    c. Particle interaction
    d. viscosity

13. ...... 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

14. 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

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. 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

17. For an ideal suspension, the sedimentation volume should be:
    a. equal to one
    b. less than one
    c. more than one
    d. zero

18. The systems that undergo gel-to-sol transformation is known
    a. elastic
    b. permanent deformation
    c. shear thickening
    d. shear thinning

19. The protective ability of colloids is measured as
    a. Zeta potential
    b. Streaming potential
    c. Gold number
    d. None of the above

20. 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

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(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]

1. Define the Newton's law of flow? Explain Newtonian and 10
   Non- Newtonian fluids

2. Explain in detail about effect of electrolyte on colloidal 10
   dispersions

3. Discuss the various methods used to determine the particle 10
   size distribution

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