CLASS: BPHARM   SEMESTER : VII
BRANCH: PHARMACY   SESSION : MO/19

SUBJECT: PS7401 INDUSTRIAL PHARMACY-II

TIME: 3:00 HOURS   FULL MARKS: 60

INSTRUCTIONS:
1. The question paper contains 7 questions each of 12 marks and total 84 marks.
2. Candidates may attempt any 5 questions maximum of 60 marks.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a)   Explain what is cosolvency technique? Mention two each aqueous and nonaqueous cosolvents used   [2]
         for oral liquid preparation.
Q.1(b)   Express and deduce the equations for maintaining the pH of a drug to remain in unionized state in   [4]
         acidic and alkaline pH.
Q.1(c)   Explain the importance of the following parameters in the formulations of clear oral liquids: [6]
             a.   Dielectric Constant
             b.   Solubilizers
             c.   Hydrotrophy

Q.2(a)   Discuss the rational of the following excipients used in the formulation of oral liquids along with   [2]
         examples for each category:
             a.   Viscosity Enhancers
             b.   Wetting agents
Q.2(b)   Compute and predict the appropriate nomenclature for the following propellants: [4]
         (i) Dichlorodifluoromethane (ii) Dichlorotetrafluoroethane   (iii) Dichloromonofluromethane
         (iv) Tetrafluoroethane
Q.2(c)   Explain the different packaging of oral liquids. Discuss the physical and chemical stability   [6]
         parameters for oral liquid preparation.

Q.3(a)   Distinguish between Flocculated and deflocculated suspension.   [2]
Q.3(b)   Explain the following: [4]
             a.   Wet Point
             b.   Flow point
             c.   Sedimentation volume
             d.   Ostwald ripening
Q.3(c)   Discuss the following: [6]
             a.   Suspension formulation
             b.   Particle interactions and behavior in suspension

Q.4(a)   Compute the degree of flocculation, for two different suspension, where the volume of the original   [2]
         sediment of the flocculated and deflocculated suspension are 20ml and 50ml respectively and the
         volume of the original suspension in both flocculated and deflocculated suspension is 100 ml.
Q.4(b)   Discuss the evaluation of suspension.   [4]
Q.4(c)   Explain the DLVO theory w.r.t the formulation of suspension.   [6]

Q.5(a)   Differentiate between creaming and cracking.   [2]
Q.5(b)   Write short notes on the following: [4]
             a.   Low energy emulsification
             b.   Phase inversion temperature
Q.5(c)   Estimate the total vapour pressure of a 70:30 mixture of Propane and Isobutane.   [6]

Compound	Molecular Weight	Boiling Point(^{0}C)	Vapour Pressure(Psig)
Isobutane	58.1	10.9	30.4
Propane	44.1	-43.7	110

Q.6(a)   Discuss the foam based aerosol system.   [2]
Q.6(b)   Discuss the aerosol valve systems in details.   [4]
Q.6(c)   Discuss the evaluation of aerosols.   [6]

Q.7(a)   Write about Primary & Secondary packaging.   [2]
Q.7(b)   Discuss the drug plastic interactions   [4]
Q.7(c)   Write short notes on the following: [3+3=6]
          a.   Tamper proof packaging and Types of Glass containers used for packaging
          b.   Child resistant packaging and Closures used for packaging

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