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Total No. of printed pages = 4

**BP 502 T**

Roll No. of candidate

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2023

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**B.Pharm. 5<sup>th</sup> Semester End-Term Examination**

**(Regular)**

**INDUSTRIAL PHARMACY - I**

Full Marks – 75

Time – Three hours

The figures in the margin indicate full marks  
for the questions.

1. Multiple choice questions (MCQ) (Answer *all* questions) : (20 × 1 = 20)
- (i) The ratio of void volume to bulk volume is known as \_\_\_\_\_.
- (a) Bulk density                      (b) Tapped density  
(c) Porosity                          (d) Granule volume
- (ii) Hausner Ratio is \_\_\_\_\_
- (a) Tapped density / Bulk density  
(b) Bulk density / Tapped density  
(c) Bulk volume / Void volume  
(d) Void volume / Bulk volume
- (iii) According to Bio-pharmaceutics Classification System (BCS), Class II drugs have
- (a) High solubility/High permeability  
(b) Low solubility High permeability  
(c) High solubility /Low permeability  
(d) Low solubility /Low permeability
- (iv) Which of the following tablet are formulated to prevent drug release in stomach?
- (a) Enteric coated tablet              (b) Film coated tablet  
(c) Sugar Coated tablet              (d) Chewable tablet

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- (v) Which of the following tablet is also called as ball's-eye tablet \_\_\_\_\_
- (a) Sugar coated tablet      (b) Chewable tablet  
(c) Inlay Tablet                (d) Lozenges
- (vi) Which of the following is not used as diluents?
- (a) Lactose                        (b) Microcrystalline cellulose  
(c) Calcium Carbonate        (d) Poly Vinyl Pyrrolidone
- (vii) Adhesion of tablet material to die wall is called \_\_\_\_\_
- (a) Mottling                      (b) Sticking  
(c) Picking                        (d) Capping
- (viii) To assess the resistant of tablet to abrasion, the test performed is known as
- (a) Hardness test                (b) Disintegration test  
(c) Friability test                (d) None of the above
- (ix) Cam tracks are used in tablet for
- (a) Feeding the granules  
(b) Adjusting shape  
(c) Guiding movement of punches  
(d) Compress the granules
- (x) On commercial scale emulsion is prepared by which technique
- (a) Homogenization            (b) Dialysis  
(c) Freezing                        (d) Centrifugation
- (xi) In Dry gum method, 4:2:1 consist of \_\_\_\_\_
- (a) 4 parts oil, 2 parts water, and 1 part emulsifier  
(b) 4 parts water, 2 parts oil, and 1 part emulsifier  
(c) 4 parts emulsifier, 2 parts water, and 1 part emulsifier  
(d) 4 parts oil, 2 parts emulsifier and 1 part water
- (xii) Sulphur dioxide is used in gelatine preparation \_\_\_\_\_
- (a) As colouring agent        (b) To prevent decomposition  
(c) To reduce bitterness        (d) All of the above
- (xiii) Thiomersal is used in parenteral products as \_\_\_\_\_
- (a) Buffer                          (b) Antimicrobial agent  
(c) Antioxidant                  (d) Chelating agent
- (xiv) The pyrogenic activity of pyrogens is associated with \_\_\_\_\_
- (a) O-antigenic side chain      (b) Lipid A portion  
(c) Central polysaccharide      (d) All of the above

- (xv) Which concentration of Benzalkonium chloride is used as preservative in eye drops?
- (a) 10% w/v (b) 0.05% w/v  
(c) 0.01% w/v (d) 1% w/v
- (xvi) Which of the following mainly contain Titanium dioxide \_\_\_\_\_
- (a) Cold cream (b) Sunscreen cream  
(c) Moisturizing cream (d) All of the above
- (xvii) Which of the following in the vanishing cream is used for its emollient effect
- (a) Stearic acid (b) KOH  
(c) Glycerin (d) Cetyl alcohol
- (xviii) Which of the following propellant used for topical pharmaceutical aerosols?
- (a) Trichloro monofluoro methane  
(b) Propane  
(c) Dichloro difluoro methane  
(d) Dichloro tetra fluoro ethane
- (xix) Vapour pressure of propellant for aerosol are calculated from
- (a) Boyal's law (b) Fick's law  
(c) Stoke's law (d) Dalon's law
- (xx) Type III glass is also known as \_\_\_\_\_
- (a) Soda lime glass (b) General purpose soda lime glass  
(c) Borosilicate glass (d) Treated Soda Lime glass

2. Short answers (Answer seven) (7 × 5 = 35)

- (a) Discuss dry granulation technique and list out advantages and disadvantages.
- (b) Describe the importance of partition co-efficient in the drug design with suitable examples.
- (c) What are the sources of contamination in parenteral production and write methods to overcome
- (d) Explain two filling methods in manufacturing of pharmaceutical aerosols.
- (e) What are the factors to be considered for formulation of eye lotion?
- (f) Describe quality control tests for tablets.
- (g) Write the BCS classification of drug and its significant.
- (h) Enlist the methods of enhancing the solubility of drugs.
- (i) Write the formulation and manufacturing consideration of elixirs.

3. Long answer (Answer any *two*) (2 × 10 = 20)

- (a) Explain pre-formulation studies involved in development of tablet dosage forms. Give a detailed account of the different excipients and their functions used in the tablets. (5+5)
  - (b) Explain the steps involved in manufacturing of hard gelatin capsules shells. Explain the quality control tests of capsules. (5 + 5)
  - (c) Explain the formulation of eye drops. Write a short note on containers used for packaging ophthalmic preparations. (5 + 5)
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