

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BPHARM
BRANCH: PHARMACY**

SUBJECT: BP502T INDUSTRIAL PHARMACY-I

**SEMESTER: Vth
SESSION: MO/23**

TIME: 3.00 Hours

FULL MARK: 75

INSTRUCTIONS:

1. The missing data, if any, may be assumed suitably.
 2. Before attempting the question paper, be sure that you have got the correct question paper.
 3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
 4. This question paper consists of (03) three parts. Read the part wise instructions before attempting the questions.
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PART-I

Objective types questions (Instruction: Answer all questions)

Q1. (10 x 2 = 20 Marks)

- A. Chemically Sweetener Aspartame is_____. Write the BCS classification of drugs. [CO2]
- B. State reasons for capping & orange peel effect. [CO1]
- C. State true or false: [CO1]
 - i. Multi-station Presses are termed rotary because the head that hold the upper punch, dies and lower punches in place rotates
 - ii. The use of Cam Track in tablet punching machine is for Guiding the movement of the turntable
- D. The solubility of weak electrolytes and nonpolar molecules can be increased by addition of water miscible solvents in which the drug has good solubility and this process is known as_____. [CO2]
- E. What do you understand by the term critical micelle concentration? [CO2]
- F. Discuss cap Locking. What do you understand by Polishing technique in oral liquids? [CO2]
- G. Highlight significant differences between Sterile water for injection and Water for Injection [CO4]
- H. Illustrate some significant identification test for emulsion types. [CO2]
- I. What do you understand by Wet Point and Flow point of solids for suspension? [CO2]
- J. The formula for % Friability is _____. What is acceptable official limit for % friability for tablets? [CO1]
- K. Minim Per Gram factor is defined as_____ and also mention its importance in capsule formulation. [CO1]

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PART-II
Short Answers
(Instruction: Answer seven out of nine questions)

(7 x 5 = 35 Marks)

- Q2. Discuss the theory of Emulsification. [CO1]
Q3. Calculate the Vapour Pressure at 70°F of propellant blend consisting of 12/11 (70:30) using the informations from the table below: [CO3]

| Propellant | Molecular Weight | Partial Pressure (psia) |
|------------|------------------|-------------------------|
| 11 | 137.38 | 13.4 |
| 12 | 120.93 | 84.9 |

- Q4. Discuss the different components in continuous spray valve system for aerosol in details. [CO3]
Q5. Derive the equation for both acidic and alkaline pH to be maintained for oral liquid preparation.[CO2]
Q6. Write short notes : [CO2]
 a. Hydrotrophy
 b. Preservatives
 c. Sweetener
 d. Solubilizers
Q7. Discuss the preparation of empty hard gelatin capsule shells. [CO1]
Q8. Discuss the Solution based system and Foam based system used for Aerosol preparation
Q9. Discuss the following in short : [CO4]
 i. Pyrogen test
 ii. Tonicity contributors in sterile preparations
 iii. Bromofluorescein in Lipstick
 iv. Bloom strength
 v. Drug-Plastic Interactions
Q10. Write the mechanism of Physical and Chemical sunscreen agent provided with examples for each. Define SPF. Which UV radiation is most harmful for skin damage? [CO5]

PART-III
Long Answers
(Instruction: Answer two out of three questions)

(2 x 10 = 20 marks)

- Q11. Discuss the evaluation of Aerosols in details. Discuss the types of actuators. [CO3]
Q12. Discuss the film defects of tablets with remedies. [CO1]
Q13. Discuss the evaluation of emulsion along with theory of emulsification. What do you understand by Phase Inversion Temperature. [CO2]

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