

**DOCTOR OF PHARMACY**  
**Third Year Pharm. D. : SUMMER : 2022**  
**SUBJECT : PHARMACEUTICAL FORMULATIONS**

Day : Wednesday  
Date : 18-05-2022

**S-5742-2022**

Time : 10:00 AM-01:00 PM  
Max. Marks : 70

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**N. B. :**

- 1) **Question ONE** and **Question FIVE** are **COMPULSORY**. Out of remaining answer any **TWO** questions from each section.
  - 2) Answer to both the sections should be written in **SEPARATE** answer book.
  - 3) Figures to the **RIGHT** indicate **FULL** marks.
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**SECTION I**

- Q.1 a)** Answer any **FOUR** questions **(08)**
- i) Suggest suitable organoleptic additives with justification to improve acceptance of oral liquid for digestive disorders.
  - ii) Write importance of log P value of drug molecule to formulate its dosage forms.
  - iii) Write mechanism of action of primary antioxidants with its examples.
  - iv) Differentiate between ointments and topical gels.
  - v) Write method to evaluate re-dispersion ability of suspensions.
- b)** Explain the terms – store in cold place, store in cool place, store in dry place and protect from light. Write the justification for each storage condition. **(03)**
- Q.2** Discuss process and equipments for large scale manufacturing of emulsions. **(12)**
- Q.3 a)** Discuss various approaches to improve aqueous solubility of drug to formulate its oral solution. **(07)**
- b)** A water insoluble active pharmaceutical ingredient with log P value 0.8 and density 0.9 g/cm<sup>3</sup> is to be formulated as liquid oral. Suggest suitable formulation. **(05)**
- Q.4** Write short notes on **(ANY THREE)** **(12)**
- a)** Therapeutic concept of formulation design.
  - b)** Preservatives used in oral syrups.
  - c)** Method to determine uniformity of content of liquid orals.
  - d)** Mechanism of percutaneous absorption of drug.

P.T.O.

## SECTION II

- Q.5** a) Answer any **FOUR** questions (08)
- i) Write the rationale for film coating of tablets.
  - ii) Differentiate between large volume parenterals and small volume parenterals.
  - iii) Write various types of capsule numbers with capacities.
  - iv) Oral controlled release tablets produce steady state plasma concentration-justify.
  - v) Write merits and demerits of capsules over tablet as dosage form.
- b) A weak acidic drug has gastric degradation property. Suggest suitable (03) tablet formulation with patient counselling.
- Q.6** Describe in details production and filling of soft gelatin capsule and quality control test for it. (12)
- Q.7** a) A drug has better absorption from duodenum and degradation at and above neutral pH. Suggest suitable solid novel drug delivery system. (07)
- b) Discuss in detail various excipients used in dispersible tablets formulation. (05)
- Q.8** Write short note (ANY THREE) (12)
- a) Implants
  - b) Quality control test for coated tablets
  - c) Containers used for injections.
  - d) Liposomes.

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