

Time: 2 Hours

Marks: 40

- N. B.: (1) All questions are compulsory.  
 (2) Figures to the right indicate full marks.  
 (3) Draw neat labelled diagram wherever necessary.

- Q1**
- (a) Give any two examples of tests performed for characterization of excipients **1**
  - (b) Mention the roles/functions of the following excipients **1**
    - 1) Glycerol
    - 2) Lactose
  - (c) Give two examples of artificial flavours **1**
  - (d) Enlist any two excipients used for enhancing solubility of active pharmaceutical ingredient **1**
  - (e) Explain with suitable examples the advantages of co-processed excipients **2**
  - (f) Give the classification of polymers used in controlled release oral dosage forms. **2**
  - (g) Illustrate with suitable examples the role of excipients **2**

- Q2**
- (a) Discuss in brief safety aspects of excipients used for parenteral dosage forms **2**
  - (b) Enlist different permeation enhancers and mention in brief the mechanism of action of any one permeation enhancer. **2**
  - (c) Discuss sweeteners used in pharmaceutical products **2**

- Q3**
- (a) Explain in brief with suitable examples the need for appropriate storage conditions to maintain functional properties of excipients. **3**
  - (b) Mention specific characterization tests performed on co-processed excipients **3**

- Q4**
- (a) Mention in brief the significance of selecting appropriate excipients to avoid interaction with active pharmaceutical ingredients. **3**

OR

- (a) Mention in brief the significance of selection of packaging material with respect to interaction with excipients **3**
- (b) Mention in detail the functions, mechanism of action and examples of preservative agents. **3**

- Q5**
- (a) Write a note on Starch with respect to its source, physicochemical properties, manufacturing and safety aspects **3**

OR

- (a) Write a note on Talc with respect to its source, physicochemical properties, manufacturing and safety aspects **3**
- (b) Explain the properties and role of Hydroxy Propyl Methyl Cellulose as excipient **3**

- Q6** (a) Discuss in brief the need for harmonization of standards of excipients **3**  
OR  
(a) Discuss in brief Pharmacopeial standards of excipients.  
(b) Discuss about the chemical nature, function and safety of Glyceryl monostearate. **3**
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