

Time: 2 Hrs

Total Marks: 40

N. B:

- 1) All Questions are compulsory.**
- 2) Figures to right indicate full marks.**
- 3) Draw neat labelled sketches wherever necessary.**

Q.1 Answer the following

- | | |
|---|-----|
| a) Give the classification of packaging materials. | 1 M |
| b) Discuss the chemical composition of glass. | 1 M |
| c) Describe quality control testing of plastics. | 2 M |
| d) Enlist various components of aerosol containers. | 1 M |
| e) Discuss importance of shrink wrappings in packaging. | 1 M |
| f) Enlist types of adhesives. | 1 M |
| g) Explain screw cap. | 1 M |
| h) Elaborate on paperboard. | 2 M |

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| Q.2 a) Describe quality control tests of glass in detail | 3 M |
| B) Write a note on sterilization of plastic containers | 3 M |

OR

 Explain in detail sterilization of glass containers. 3 M

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|---|-----|
| Q.3 a) Explain in detail plastic properties. | 3 M |
| b) Explain Flexographic and Planographic printing process for labels. | 3 M |

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| Q.4 a) Explain in detail steel drums and collapsible tubes. | 3 M |
| b) Describe the pharmaceutical stability testing conditions. | 3 M |

OR

b) Write a note on Packaging and the ICH guidelines 3 M

Q.5 a) Elaborate on shrink and stretch films 3 M

b) Explain child resistant strip package 3 M

OR

b) Write a note on strip packing machinery 3 M

Q.6 a) Discuss packaging recycling symbols. 2 M

OR

a) Enlist different approaches for package design. 2 M

b) Discuss in details cushioning materials in packaging 2 M

c) Elaborate on physical and chemical properties of elastomers 2 M
