

17654

21819

3 Hours / 100 Marks

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
 - (7) Abbreviations used convey usual meaning.

Marks

- 1. Attempt any FIVE of the following:** **20**
- a) What is multilayer food packaging? Write its uses.
 - b) Write four properties and applications of LLDPE in packaging.
 - c) Write any four technical characteristics of flexible packaging.
 - d) Explain the role of skin packaging in modern business.
 - e) Explain the collection system of packaging material for recycling.
 - f) Describe the process of pallet wrapping.
 - g) Describe thermal lamination process with neat figure.

P.T.O.

- 2. Attempt any FOUR of the following:** **16**
- a) Write salient features of medical regulations for plastics.
 - b) Write any four properties and application of HMW-HDPE in packaging.
 - c) Enlist various pouches used in flexible packaging. Describe any one of them.
 - d) Define blister packaging. State advantages of it in pharmaceutical business.
 - e) Describe recycling of LDPE plastics.
 - f) Describe injection moulding process for lids and caps.
- 3. Attempt any FOUR of the following:** **16**
- a) Explain the role of plastics in packaging.
 - b) Explain the use of bulk and heavy duty bags for packaging.
 - c) Why are thermo forming fill seals popular in food packaging? Explain.
 - d) Explain recycling rates for plastics packaging.
 - e) Explain principle of vacuum and gas packaging.
 - f) Explain principle of extrusion coating.
- 4. Attempt any FOUR of the following:** **16**
- a) Explain distribution hazards associated with plastic packaging.
 - b) Write any four properties and applications of PS in packaging.
 - c) Describe sealing technique used for flexible packaging.
 - d) Explain environmental effect of plastic packaging.
 - e) What do you mean by aseptic blow moulding? State advantages of aseptic packaging.
 - f) What is vacuum metallising? Why it is useful for packaging?

5. Attempt any FOUR of the following:**16**

- a) Heavy metals have to be excluded in plastic packaging. Explain why?
- b) Write any four properties and applications of EVA in packaging.
- c) Describe a method to evaluate 'seals' in flexible packaging.
- d) Explain with examples use of rigid plastic packaging for chemicals and solvents.
- e) Describe feedstock recycling.
- f) Describe injection moulding process for snap fit clouser and threaded clouser.

6. Attempt any FOUR of the following:**16**

- a) Describe hot-melt lamination process.
 - b) Enlist the care and precautions are to be taken in using recycled plastics for food packaging.
 - c) Write any four properties and applications of PVDC in packaging.
 - d) Enlist various techniques of flexible packaging for food products. Explain any one of them.
 - e) Explain the process of in mould labeling.
 - f) Write stepwise procedure to conduct 'drop test' for a container.
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