

I Fill in the Blanks

- 1 A packaging may be termed as-----, if it performs some role other than providing an inert barrier to external condition. (10x1=10)
- 2 -----exhibiting dramatic changes in permeability, by transforming a polymer matrix reversibly from a crystalline state to an amorphous state when the temperature is increased above a switch temperature.
- 3 The process of-----enables the product to lock against one another thus eliminating ratting, stuffing and breakage.
- 4 -----is not suitable for packaging very oxygen sensitive foods.
- 5 -----is the act of attaching or applying such a label to an object.
- 6 -----in roller printing the image is applied in ink using rubber of synthetic stereotypes, this method is low cost and well proven, and can cope with logos and bar codes.
- 7 Most polymer films are made by-----, in which pellets of the polymer are metered and Co-extruded under pressure as a sheet or tube.
- 8 -----in which the film is softened over a mould, and a vacuum and pressure is applied.
- 9 By knowing-----of packaging material, the initial & critical moisture content of food, and the humidity gradient between the inside & the outside of the package, the shelf-life of the product could be predicted to a fair degree.
- 10 Packaging materials of -----are required when package is made in semi-automatic or automatic pouch forming & filling machines, and to hold heavy packaged items.

II Write Short notes on any FIVE of the following

(5x2=10)

- 1 Gas Packaging
- 2 Aerosol cans
- 3 PET
- 4 Paper pulp
- 5 Barcodes
- 6 Labels for freight container
- 7 Shrink Wrapping

III Answer any FIVE of the following.

(5x4=20)

- 1 Enlist the five points on the role of packaging? Explain active packaging for fruits & vegetables.
- 2 How the internal gaseous atmosphere in pack is modified in vacuum packaging.
- 3 List the important points on interactions between packaging & foods.
- 4 Enlist the various types of labels and explain any three.
- 5 Explain various types of contact printing (any five).
- 6 Enlist the various types of packaging material and explain any three.
- 7 Enlist the advantages and disadvantages of glass containers.

IV Write an essay on any ONE of the following

(1x10=10)

- 1 Explain the aseptic packaging system for the foods.
- 2 Explain your views about the packaging for the foods is an art and an engineering.
