



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.TECH(FT)/SEP. SUPPLE/SEM-7/FT-701/2012**  
**2012**

**FOOD PACKAGING TECHNOLOGY**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) A recommended printing process for polymer packaging material is
  - a) flexography
  - b) screen
  - c) inkjet
  - d) all of these.
- ii) Cost effective version of aluminium foil is
  - a) LDPE
  - b) PP
  - c) HDPE
  - d) Metalised polyester.
- iii) Hermetic seal for heat-sterilized foods can be offered by
  - a) two piece can
  - b) three piece can
  - c) aerosol can
  - d) all of these.
- iv) Paperboard carton is an example of ..... packaging.
  - a) primary
  - b) secondary
  - c) tertiary
  - d) rigid.





- xiii) Example of an edible film is
- Polystyrene
  - Poly vinyl chloride
  - Cellulose acetate
  - Vegetable parchment paper.
- xiv) Full form of GSM value is
- gram per square metre
  - grain value per square metre
  - grammage per square mesh
  - all of these.

### GROUP – B

#### ( Short Answer Type Questions )

Answer any *three* of the following.  $3 \times 5 = 15$

- Mention importance of bar-codes for food-packaging.
- Write short note on the following any *two* :  $2 \times 2 \frac{1}{2}$ 
  - Optical test
  - Vibration test
  - Edible packaging.
- Highlight the main features of shrink packaging and active packaging.
- What is co-extrusion in making laminates ? Discuss the essential requirements for making the laminates.  $3 + 2$
- What is the basic principle of printing ? Describe two methods for printing on flexible packaging materials.  $1 + 4$

### GROUP – C

#### ( Long Answer Type Questions )

Answer any *three* of the following.  $3 \times 15 = 45$

- Mention the basic functions of packaging. What are the attributes that the food packaging materials should have ? What are the different types of food packaging materials commonly used in food industries ?  $6 + 6 + 3$



8. What are the different kind of food-packaging interactions in a food package ? Specify the related migrating substances and their adverse sequences. Comment on any three factors, which directly affect the interaction. Mention different kind of mechanical stresses for a food package during handling, storage and transport, with their specific causes. Draw a neat diagram of stress-strain curve for flexible packaging.

5 + 6 + 2 + 2

9. Write short notes on any *three* :

3 × 5

- a) Aluminium in packaging
  - b) Recycling of packaging material
  - c) Specifications by regulatory bodies regarding packaging materials
  - d) Scalping phenomenon
  - e) Glass transition temperature and melting point of a packaging film
  - f) Secondary and transport packaging
  - g) Optical tests of packaging film.
10. Describe about the packaging of milk and dairy product and bakery and confectionery items. Discuss about rigid and flexible packaging with suitable examples.
11. Comment on the general merits and demerits of a perfectly rigid container and a semirigid plastic container. Briefly discuss about different methods for the manufacture of semi-rigid plastic container. Write a short note on flexible pouches.

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