



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.Tech(FT)/SEM-7/FT-701/2009-10  
2009**

**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) Benzophenone is actually
  - a) Dibenzyl alcohol                      b) Diphenyl ketone
  - c) Propyl benzene                        d) Phenyl propane.
- ii) The principal ingredient of GLASS is
  - a) Calcium oxide                        b) Alumina
  - c) Silica                                      d) Potash alum.
- iii) An example of antioxidant is
  - a) BHT                                        b) PVC
  - c) ETP                                         d) LDPE.



- iv) The full name of PET is
- a) Polyester terephthalate
  - b) Polyester trimethylene
  - c) Polyethylene terephthalate
  - d) None of these.
- v) The unit of "Diffusion coefficient" is
- a) cm/sec
  - b)  $\text{cm}^2/\text{sec}$
  - c)  $\text{cm}^2/\text{sec}^2$
  - d) none of these.
- vi) "One volume"  $\text{CO}_2$  means
- a) 1 gm/lit. of  $\text{CO}_2$
  - b) 2 gm/lit. of  $\text{CO}_2$
  - c) 3 gm/lit. of  $\text{CO}_2$
  - d) none of these.
- vii) Inner layer of a laminate for food pouches preferably consists of
- a) LDPE
  - b) PP
  - c) Nylon film
  - d) all of these.
- viii) The most ideal packaging material for instant tea is
- a) Al foil
  - b) PET
  - c) LDPE
  - d) paper.
- ix) Gas ..... of a flexible packaging film increases with the thickness of packaging film.
- a) permeability
  - b) MVTR
  - c) gloss
  - d) gsm.



- x) An ideal shipping container for biscuit is
- Paperboard/cardboard box
  - Fleibel pouch
  - Glass jar
  - Aluminium container.
- xi) Role of nylon in laminates is basically due to
- stiffness and printability
  - strength, grease and oil resistability
  - clarity
  - low moisture permeability.

### GROUP – B

#### ( Short Answer Type Questions )

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

- "Two products of the same acidity will not necessarily be equally corrosive." Give reason(s) with suitable examples. 5
- Name four metals or metal alloys which are used for the packaging of foods. Why Aluminium foil is so important for packaging of food products ? 2 + 3
- Write a short note on "shrink films". 5
- Briefly discuss about flexible and rigid packaging.
- What is co-extrusion in making laminates ?



**GROUP – C**

**( Long Answer Type Questions )**

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

7. Describe the packaging materials used in carbonated soft drinks. What are the factors influencing the taste & odours of carbonated beverages packaged in plastic containers ?  $9 + 6$
  8. Describe the primary, secondary & tertiary packaging. Mention four main packaging functions. Describe package environment. Describe few packaging regulations.  
 $3 + 4 + 3 + 5$
  9. Explain different techniques of aseptic packaging of foods.
  10. Recommend suitable packaging material for the following food items and justify :
    - a) Bread and biscuits
    - b) Fruit beverage
    - c) Cheese and milk
    - d) Fresh apple
    - e) Black pepper powder.
  11. What is modified atmosphere packaging ( MAP ) ? What are the packaging films commonly used for MAP ? Is there any difference in Controlled atmosphere packaging and MAP ? What are the different steps involved in aseptic packaging ? Discuss the role of aluminium in packaging. How are irradiated food packed ?
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