	Utech
Name:	
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Invigilator's Signature :	•••••

2012

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:

 $10 \times 1 = 10$

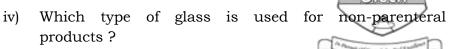
- i) PVC is used in blister packaging as
 - a) forming films
- b) lidding material
- c) both (a) and (b)
- d) none of these.
- ii) Bakelite is a type of
 - a) thermosetting polymer
 - b) elastomer
 - c) thermoplastic
 - d) none of these.
- iii) The most widely used thermoplastic material for preparing medical devices is
 - a) PV dC

b) polystyrene

c) PVC

d) PMMA.

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a) Type-I

- b) Type-II
- c) Type-III
- d) Type-IV NP.
- v) Hermetically sealed containers are impervious to
 - a) water

- b) air
- c) microbes
- d) temperature.
- vi) Water attack test of glass containers can be done by measuring
 - a) amount of alkali released in water
 - b) amount of acid released in water
 - c) silicate levels
 - d) turbidity.
- vii) Yellow colouration of glass is obtained by the incorporation of
 - a) fluorides or phosphate
 - b) chromium oxide
 - c) cadmium and sulphur
 - d) all of these.
- viii) Plasticizers are added in plastics to provide
 - a) flexibility
 - b) mechanical strength
 - c) heat stability
 - d) none of these.
- ix) Stabilizers are used in plastics
 - a) to prevent chemical degradation

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- b) to increase tensile strength
- c) to impart colour
- d) none of these.

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- x) Which of the following tests is not done over rubber closure for injectables?
 - a) Sterilisation test
- b) Leakage test
- c) Fragmentation test
- d) Self seal ability test.
- xi) The heat sealing characteristic is imparted to the cellophane by coating
 - a) PVC

b) PVP

c) PVDC

- d) polystyrene.
- xii) Ampoules and vials are produced by using
 - a) coloured glass
 - b) treated sodalime glass
 - c) general purpose glass
 - d) silicone treated glas.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following.

 $3 \times 5 = 15$

- 2. Discuss aluminium foil as a packaging material.
- 3. Write short notes on lamination on plastic tube.
- 4. Write in short about the containers used for packaging of parental and ophthalmic products.
- 5. Write note on packaging of solid oral dosage form.
- 6. Write a brief note on blister packaging.

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following.

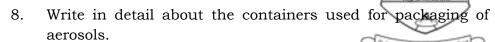
 $3 \times 15 = 45$

- 7. a) What are the different types of glasses used for pharmaceutical purpose?
 - b) Write a note on type-I and type-II glasses.
 - c) How are glass containers manufactured?
 - d) Write a short note on coloured glass used for light protection. 2+6+4+3

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- 9. Write in detail about different types of drug plastic interaction.
- 10. Write short notes on any *three* of the following: 3×5
 - a) PET as packing material
 - b) Component of CFB and its advantages as packing material
 - c) Give a brief note on packaging of transdermal devices.
 - d) Test of metal containers for eye ointments.
- 11. Write short notes on the following:

 $2 \times 7\frac{1}{2}$

- a) Bottle seals
- b) Tape seals and breakable caps.
- 12. a) What do you mean by tamper resistant packaging? Write in detail according to FDA.
 - b) What is f/f/s system? What are the types of this system? How is this system used to make different types of pouches?

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