

Total No. of printed pages = 4

FPT-504/FS&P/5th Sem/2018/M

FOOD STORAGE AND PACKAGING

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

General Instructions :

1. Illustrate your answers with suitable sketches and examples wherever necessary.
2. Make suitable assumption(s) wherever, whenever applicable.
3. Preferably, write the answers with sequential order.

PART – A

Marks – 25

1. Write full name of the packaging materials :

1×8=8

(a) PET is _____

(b) HIPS is _____

(c) LDPE is _____

(d) HDPE is _____

(e) PP is _____

(f) PVC is _____

(g) EVA is _____

(h) OPP is _____

[Turn over

2. Answer the following short questions : $1 \times 7 = 7$

- (a) What is metmyoglobin ? Why it is not desired ?
- (b) What is perishable food ?
- (c) What is shelf life of food ?
- (d) Why aseptic package integrity is evaluated ?
- (e) Why vacuum packaging is useful for flesh food ?
- (f) Why refrigerated storage of food improves shelf life ?
- (g) How plant hormone ethylene has both positive and negative effects ?

3. Match the following : $1 \times 10 = 10$

- | | |
|----------------------------------|---|
| (i) Enzymatic browning | (a) MAP, MPFVs |
| (ii) Nonenzymatic browning | (b) pigment of fresh meat |
| (iii) Clostridium botulinum | (c) lipid oxidation |
| (iv) Decay control | (d) Dairy and flesh food |
| (v) Climacteric | (e) Maillard reaction |
| (vi) Rancid flavor and fat bloom | (f) KMnO_4 with inert substrate filled in sachet to use inside package |

(vii) Vacuum packaging

(viii) Myoglobin

(ix) Packaging of
horticulture
products

(x) Ethylene adsorber

(g) Lethal food poisoning

(h) Polyphenol oxidase

(i) Fumigation

(j) Respiratory pattern.

PART - B

Marks - 45

4. Answer any *three* questions : $10 \times 3 = 30$

(a) How packaging helps in storage and transportation of food ? Briefly write about deteriorative reactions in food.

(b) Briefly write about packaging of horticulture products specifically mentioning MAP, MPFVs.

(c) Why MAP with refrigerated storage helps in better shelf life of food ? Write some important and required characteristics of a suitable packaging material.

(d) Briefly discuss about 'active packaging system' specifically mentioning oxygen scavengers, ethylene scavenger, moisturizer absorber etc.

5. Write short notes on any two : $7\frac{1}{2}+7\frac{1}{2}=15$

(a) Aseptic packaging system.

(b) Packaging of beverages like coffee, tea, fruit juice, carbonated soft drink.

(c) Important parameters for suitable packaging laminates for breakfast cereals, snacks, biscuits.