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END SEMESTER EXAMINATION, NOVEMBER-2018

Semester – 5th

Subject Code : FPT-504

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. Fill up the gaps in the following : $1 \times 10 = 10$
 - (i) Shelf life of food is _____.
 - (ii) Name of a food borne pathogen _____.

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- (iii) Refrigerated storage of food improves shelf life because _____.
- (iv) Packaging pouch of pasteurized milk is made of _____.
- (v) Suitable packaging laminate for UHT milk is _____.
- (vi) Perishable foods are _____.
- (vii) Semi-perishable foods are _____.
- (viii) Non-perishable food is _____.
- (ix) Myoglobin is _____.
- (x) Ethylene adsorber is _____.
2. Write full names of the following packaging materials : $1 \times 5 = 5$
- (i) PET is
- (ii) HIPS is
- (iii) LDPE is
- (iv) HDPE is
- (v) PP is

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

Column - 1	Column - 2
(i) Enzymatic browning	(a) Respiratory pattern
(ii) Non-enzymatic browning	(b) light, oxygen, temperature, a_w
(iii) Photo-oxidation of food	(c) Carbonated soft drink color package
(iv) Loss of food color by heat	(d) Fumigation
(v) Lipid oxidation	(e) Maillard reaction
(vi) Cause of nutritional degradation of food	(f) <i>Staphylococcus aureus</i>
(vii) Food poisoning	(g) phenolase group of enzymes
(viii) Cinnametic	(h) Destruction of hemepigment carotenoids
(ix) Decay control	(i) olive brown pheophytin from chlorophyll
(x) PET bottle	(j) Rancid off-flavor

PART - B

Marks - 45

4. Answer the following short questions (any five):
 $3 \times 5 = 15$

- (a) How plant hormone ethylene has both positive and negative effects?
 - (b) Which chemicals are used for sterilization of packaging material?
 - (c) What do you mean by mechanical integrity of package?
 - (d) Why integrity of aseptic package is tested?
 - (e) What packaging laminate is used for UHT milk?
 - (f) What packaging laminate is suitable for breakfast cereals?
 - (g) Why vacuum packaging is useful for cheese and panir?
5. Answer any four questions: $5 \times 4 = 20$
- (a) How packaging helps in storage and transportation of food? Justify your answer with examples.

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(b) Which foods are usually vacuum packaged and why?

(c) Why MAP with refrigerated storage helps in better shelf life of food?

(d) What is active packaging of "MPFBs", specifically mention oxygen scavengers, ethylene scavenger, moisture absorber etc.

(e) Write some important and required characteristics of a suitable packaging material.

(f) Write about packaging of flesh food.

6. Write about the following: (any one) 10

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

(b) Deteriorative reactions in food.

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(5)

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