Total No. of printed pages = 4

FPT-3011/H&SFP/2nd Sem/2013

HANDLING AND STORAGE OF FOOD PRODUCTS

Full Marks – 100

Pass Marks – 30

Time – Three hours

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

Instructions :

(i) Illustrate your answers with suitable sketches and examples wherever necessary.

(ii) Preferably write the answers in sequential order.

(iii) Answer any *five* questions.

1. (a) Describe a belt conveyor with a neat diagram and its application in food processing. 10

(b) The capacity of a toughered belt conveyor is 60 m^3/hr. With the help of the following table, calculate the belt width and belt speed. 10

[Turn over

Belt width (cm)	Clear margin (cm)	Cross-sectional area, m^2 for 20^o surcharge angle	Operational speed, m/min	
			Normal	Maximum
30.5	4.1	0.0072	61	122
35.6	4.3	0.0089	61	122
40.6	4.6	0.0122	61	137
45.7	4.8	0.0161	76	137
50.8	5.1	0.0204	76	152

2. (a) Define the term 'silo'. 2

(b) Write down the points to be considered during design of silo. 8

(c) Discuss different factors affecting design of silos. 10

3. (a) Explain the type of spoilage during storage. 8

(b) Define moisture content, relative humidity and vapour pressure. 6

(c) How do they influence the keeping quality of the grains ? Explain in detail. 6

4. (a) How do we control the rate of ripening immediately after harvesting ? 10

(b) What are the disadvantages due to oven ripening ? 10

5. (a) What do you mean by 'PDS' ? 5

(b) Write a brief note on 'Targeted PDS' in India. 10

(c) Discuss the different challenges in PDS. 5

6. Write short notes on : 5×4=20

(a) Post-harvest operation and losses of fruits in India

(b) Bucket elevator

(c) Towen silo

(d) Pneumatic conveyor.

7. Differentiate the following :

(a) Shallow bin and deep bin 8

(b) Screw conveyor and belt conveyor 7

(c) Drying and dehydration. 5