Total No. of printed pages = 4

FPT-402/S&MOFM/4th Sem/2017/M

SERVICING AND MAINTENANCE OF FOOD MACHINERIES

Full Marks – 70

Pass Marks – 28

Time – Three hours

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

Answer any *five* questions.

1. Briefly discuss about non-reture valve, feed check valve and safety valve, mentioning their operational strategy and diagram. 14

2. (i) How pasteurizer is designed based on heat exchanger ?

   (ii) In milk processing during homogenization how valves are operated to reduce fat globule size ? Explain with diagram. 4+10=14

[Turn over

3. Write short notes (any *four*) : 4×3.5=14

(a) Food machinery

(b) Lubrication in machinery

(c) Flanged pipe joint

(d) Hydraulic pipe joint

(e) Socket and spigot cotter joint

(f) Equipment specification for processing horticulture crops.

4. (i) Choose the correct answer : 1×5=5

(a) Magnetite is an iron ore / iron alloy.

(b) Elasticity is a physical property / mechanical property.

(c) Graphite is a good / bad conductor of heat.

(d) Copper / silver shows higher thermal conductivity.

(e) Ferrous metals / non-ferrous metals have the iron as their main constituent.

(ii) Write about the various physical properties of metals. 4

(iii) What are the factors for selection a material for engineering purposes ? 3

(iv) What are the melting point of copper and aluminium ? 2

5. (i) Write short notes (any *three*) : 4×3=12

(a) Cast iron

(b) Hardening of metal

(c) Electroplating

(d) Wrought iron

(e) Copper and its alloy

(ii) What is a steel ? 2

6. (i) What is corrosion ? What are the different types of corrosion ? Write in brief. 1+9=10

(ii) Write any one method of corrosion prevention. 4

7. (i) What is a positive displacement pump ? Write about the different types of positive displacement pumps. 1+6=7

(ii) Write about any five mechanical properties of metal. How does the mechanical property effect the selection of metals for machinery making ? 5+2=7