Total No. of printed pages = 5

FPT-402/S&MOFM/4th Sem/2018/M

SERVICING AND MAINTENANCE OF FOOD MACHINERIES

Full Marks – 70

Time – Three hours

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

PART – A

Answer *all* questions.

1. Write answer of the following questions : 10

   (i) Write Hooke's law.

   (ii) What is corrosion ?

   (iii) What is centrifugal pump ?

   (iv) What is ductility ?

   (v) What is resilience ?

   (vi) What is elasticity ?

   (vii) What is toughness ?

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(viii) What is hardness ?

(ix) What is fatigue ?

(x) What is creep ?

2. Fill up the blanks : 8

(i) Process equipment is made functional with the accessories ———.

(ii) Total mechanical load for machine operation is ———.

(iii) Carbon content in steel is ———.

(iv) Choice of suitable material of construction is based on ———.

(v) Material of construction for pressure vessel is ———.

(vi) Safety measures for fire hazard is ———.

(vii) Reciprocation pump is ———.

(viii) Peristaltic pump is ———.

3. Match the columns : 7

Column 1	Column 2
Piping	Pressure relief device
Power generating device	Iron alloyed with carbon
Unit of torque	Positive displacement type rotary pump
Stiffness and rigidity	Interlinking machine components to transfer mass and energy
Steel	Nm
Safety valve	Turbine, generator
Gear pump	Ability of material to resist deformation

PART – B

1. Answer any *one* question : 15

   (i) Write basic steps of food machinery design. How corrosion is prevented in machinery ? Why lubrication is required in machine operation ?

Or

(ii) Write importance of surface finish in food processing machinery. What are material hazard and process hazard ? Write briefly. What is absorption tower ?

2. Write short notes on any *four* : 2.5×4=10

(i) Wrought iron

(ii) Alloy cast iron

(iii) Nut and bolt

(iv) Hydraulic pipe joint

(v) Flanged pipe joint

(vi) Union joint

3. Write briefly on any *two* : 5×2=10

(i) Design stress

(ii) Heat exchanger

(iii) Shaft, agitator, coupling and bearing

(iv) Distillation column

4. Write operation of the valve with sketch (any *two*) : 5×2=10

(i) Non-rising stem gate valve

(ii) Non-return valve

(iii) Feed check valve

(iv) Safety valve.