

Total No. of printed pages = 4

END SEMESTER EXAMINATION-2019

Semester – 4th

Subject Code : FPT-402

**SERVICING AND MAINTENANCE
OF FOOD MACHINERIES**

Full Marks – 70

Time – Three hours

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

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

Answer *all* questions.

1. Answer the following questions : $1 \times 10 = 10$
 - (i) Write Hook's law.
 - (ii) Show tensile strength in adiagram.

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- (iii) Show compressive strength in a diagram.
- (iv) What is Creep ?
- (v) What is piping ?
- (vi) What is reciprocating pump ?
- (vii) Write SI unit of velocity.
- (viii) Write SI unit of acceleration.
- (ix) Write SI unit of density.
- (x) Write SI unit of mass flux.

2. Fill up the blanks :
- (i) Elasticity is _____.
- (ii) Ductility is _____.
- (iii) Toughness is _____.
- (iv) Hardness is _____.
- (v) Stiffness and rigidity are _____.
- (vi) Fatigue is _____.
- (vii) Safety measure for fire hazard is _____.
- (viii) Safety measure for pressure hazard is _____.



1×8=8

3. Match the columns :

1×7=7

Column-1	Column-2
Process hazard	Iron alloyed with carbon
Power generating device	Joule
Safety valve	Pascal
Steel	Watt
SI unit of work/energy/heat	High pressure, temperature, explosive handling etc.
SI unit of power	Pressure relief device
SI unit of pressure	Turbine, generator.

PART - B

Answer any *three* questions. 15×3=45

Write operation of the pump with sketch (any *two*):

Gear pump
Peristaltic pump
Centrifugal pump

5. Write operation of the valve with sketch (any *two*):

Non-return valve
Feed check valve
Non-rising stem gate valve

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(2)

6. Discuss with diagram wherever applicable (any two).

Heat exchanger

Nut and bolt

Flanged pipe joint

Hydraulic pipe joint

7. Why lubrication is required in machine operation ?
What are material hazard and process hazard ?
Write briefly.

