

Total No. of printed pages = 5

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

**SERVICING AND MAINTENANCE
OF FOOD MACHINERIES**

Full Marks – 70

Time – Three hours

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

Answer *all* questions.

PART – A

1. Fill in the blanks : 1×5=5
- (a) _____ is the ability of a material to resist deformation under stress.
- (b) Steel contains upto 0.25% carbon is known as _____.
- (c) Bronze is an alloy made up of _____ and _____.
- (d) For most metals corrosion penetration rate of less than _____ per year is satisfactory.

[Turn over

2. Write true or false :

1×5=5

- (a) Inorganic coating is a method of corrosion protection.
- (b) Pumps and compressor have similar working principles.
- (c) Non-metals are ductile in nature.
- (d) Silver has the highest thermal conductivity.
- (e) Material hardening is a method of heating metals at higher temperature followed by quenching in water.

3. Choose the correct answer :

1×5=5

- (a) Non-metals / metals have good corrosion resistance under atmospheric conditions.
- (b) Graphite is a good / bad conductor of heat.
- (c) Galvanic corrosion / uniform corrosion occurs when two dissimilar metals are placed in contact.
- (d) Commonly available glass has a low tensile strength / compressive strength.
- (e) Polyvinyl chloride / polyester is a type of thermoplastic material.

4. Match the column A and B : $1 \times 10 = 10$

Column - A	Column - B
(i) Pasteurizer	(a) Stainless steel
(ii) Homogenizer	(b) Non-return valve type
(iii) Lubrication	(c) Oval flanges fastened by two bolts
(iv) Flange	(d) Heat exchanger
(v) Nut	(e) Machinery
(vi) Rust resistant metal	(f) Nut, male and female end
(vii) Feed check valve	(g) Fastener
(viii) Washer	(h) Pipe joint
(ix) Hydraulic pipe joint	(i) Load distribution
(x) Pipe union joint	(j) Valve

PART - B

5. Answer the following questions : $2 \times 5 = 10$

- What are ferrous and non-ferrous metals ?
- Name any two ores of iron.

- (c) What is engineering materials ? Give example.
- (d) Write two factors considered for the selection of materials for engineering work.
- (e) What are the physical properties of metals ?

6. Answer any *one* question : $1 \times 5 = 5$

- (a) Describe the electroplating process.
- (b) Mention some important properties of copper.

7. Answer any *one* question : $1 \times 10 = 10$

- (a) Write about different mechanical properties of metals.
- (b) What is a pump ? Classify pump. Describe working principle of any two pumps.

8. Write short notes on any *two* : $5 + 5 = 10$

- (a) Lubrication in machinery
- (b) Socket and spigot cotter joint
- (c) Safety valve
- (d) Stop valve.

9. Answer any *one* question : $1 \times 10 = 10$

(a) In homogenization of milk in dairy, how valves work to reduce the size of fat globules ? Discuss with diagram.

(b) Mention equipment specifications for processing horticulture crops.