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FPT-402/S&MFM/4th Sem/2013/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. (a) How do you classify materials for engineering use ? 3
- (b) What are the factors to be considered for the selection of materials for the design of machine elements ? 3
- (c) Give the classification of steel depending upon carbon content. 3
- (d) What is a hand tool ? Give some examples of hand tool. 2+1=3
- (e) Write short notes on maintenance of hand tool. 2

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2. (a) Write about the extraction process of aluminium from bauxite with neat diagram. 7
- (b) Describe the electroplating process with a neat diagram. 7
3. (a) Write about the composition and uses of Y-alloy and Magnalium. 6
- (b) Define packaging. What are the purposes of packaging ? 3+5=8
4. (a) State some important safety tips related to maintenance actions for pump. 6
- (b) Describe any five types of mechanical properties of metals. 8
5. (a) What are the objectives of heat treatment of metals and alloys ? 4
- (b) Name the various heat treatment processes. Describe any four heat treatment processes. 10
6. (a) Discuss the various types of aluminium alloys giving their composition, properties and uses. 8

(b) Define fasteners. Why items such as rope and string not considered fasteners ? What are the important applications of a fastener ?

$$2+2+2=6$$

7. Write short notes on any *four* of the following :

$$3\frac{1}{2}\times 4=14$$

(i) Copper

(ii) Pumps

(iii) Air compressors

(iv) Effect of impurities on cast iron

(v) Lubricants

(vi) Aluminium.