

B.TECH.**THEORY EXAMINATION (SEM-II) 2016-17****MANUFACTURING SCIENCE****Time : 3 Hours****Max. Marks : 100****Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.****SECTION – A****1. Explain the following:****10 x 2 = 20**

- (a) Fatigue in metals
- (b) soldering
- (c) Casting defects
- (d) Cold working
- (e) Copper alloys
- (f) Gates
- (g) Types of core
- (h) Properties of moulding sand
- (i) Hardening
- (j) Wire drawing

SECTION – B**2. Attempt any five of the following questions:****5 x 10 = 50**

- (a) Write short note on the following: (i) plastics and their application (ii) ceramics and their application.
- (b) Explain different components of gating system and classify different types of gates.
- (c) Draw labeled diagram of lathe machine. Explain its parts and various operations performed on lathe.
- (d) Explain annealing processes with neat diagrams.
- (e) With the help of neat diagram, explain the working principle of cupola.
- (f) Give the classification of steel. What is the purpose of adding alloying elements? Name any five alloying elements along with the properties that they improve.
- (g) Describe the basic working principle of milling machine. Differentiate between up milling and down milling.
- (h) With the help of schematic sketch, describe the basic working principle and important parts of shaper machine. Also describe the difference in operation between shaper and planner.

SECTION – C**Attempt any two of the following questions:****2 x 15 = 30****3 Define the following operations with neat sketches:**

- (i) Forging
 - (ii) Rolling
 - (iii) Drawing
- 4** How will you classify the welding processes? What is the principle of gas welding? Explain different types of flames used in gas welding. How would you identify these flames? What are the specific uses of each of these flames?
- 5** What do you understand by forming? Explain extrusion process and with the help of neat sketch define all important process comes in this process.