

B.TECH.
THEORY EXAMINATION (SEM-II) 2016-17
MANUFACTURING PROCESS

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) In which process coating of highly corrosion resistant material is done by means of electrochemical reaction?
 - (b) List the operations performed on Lathe machine
 - (c) Name two alloys of aluminum with compositions.
 - (d) What do you mean by gang milling?
 - (e) Name the materials which are welded by neutral flame.
 - (f) Give the two examples of fixed position layout.
 - (g) Due to which type of loading the fatigue failure occurs?
 - (h) What is recrystallization?
 - (i) What is the function of riser in casting process?
 - (j) What is the name of product of cupola furnace?

SECTION – B

2. **Attempt any five of the following questions:** **5 x 10 = 50**
- (a) What are the main differences between a shaper and planer? Which are the drive mechanisms used in shaper? Discuss any one in brief with neat sketch.
 - (b) How is an arc obtained in arc welding? What are the different power sources used in welding? What are the advantages and limitations of each?
 - (c) Compare the following: i) Hardness and toughness, ii) Strength and stiffness.
 - (d) Compare hot working and cold working processes with suitable examples. Also discuss the advantages and disadvantages of each.
 - (e) Describe the various kinds of patterns in use. What are the allowances provided, when making a pattern? How does the pattern differ from casting required?
 - (f) Explain the different properties of metal powder suitable for powder metallurgy process. Also discuss the applications of powder metallurgy.
 - (g)
 - (i) Differentiate between Ductile fracture and brittle fracture.
 - (ii) What do you understand by creep? Discuss the creep curve.

SECTION – C

- Attempt any two of the following questions:** **2 x 15 = 30**
- 3 Differentiate between down milling and up milling. What are the various work holding devices used in milling? Explain their relative applications and disadvantages.
- 4 **Write short notes on the following:—**
- (i) High speed steel
 - (ii) Moulding sand properties
 - (iii) Deep drawing process
 - (iv) Composite materials.
- 5 What are the differences between production and productivity? Also discuss the product layout and process layout with suitable examples.