Printed Pages : 1 **Roll No.** | | | | | | | | | | | **EME201**

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 is 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.