Printed Pages : 4 EME101

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 4302 Roll No.

B.Tech

(SEM I) ODD SEMESTER THEORY EXAMINATION 2009-10

MANUFACTURING PROCESSES

Time : 2 Hours] *[Total Marks : 50*

Note : *Be precise and scientific in writing.*

SECTION - A

*Attempt **all** the questions :*

This section contains **10** questions. **All** questions carry **equal** marks. **10**

1 Energy required to rupture the material is known as _____.

2 List the alloying elements of duralumin.

3 Misrun is a metal forming defect. (True/False)

4 Write the two welding defects.

5 Brittle failure occurs when a part is subjected to

(i) compressive stress

(ii) tensile stress

(iii) fluctuating stress

(iv) uniform stress

6 Finishing is

(i) Machining Process

(ii) Welding Process

(iii) Joining Process

(iv) Metal Forming Process.

7 Hole is produced in casting with the help of _____.

8 Molding sand is called green sand because it contains

(i) bakelite

(ii) moisture

(iii) no moisture

(iv) dry sand.

9 In compound rest method of taper turning, compound rest is swilled by the angle.

(i) $\tan\alpha = \frac{d_1 - d_2}{l}$

(ii) $\tan\alpha = \frac{d_1 - d_2}{2l}$

(iii) $\tan\alpha = L \times \frac{d_1 - d_2}{l}$

(iv) $\tan\alpha = \frac{d_1 - d_2}{4l}$

10 Name the two major advantages in favour of powder metallurgy process.

SECTION - B

Attempt any **three** questions. **All** questions carry **equal** marks : **15**

1 Explain the following terms with suitable example :

(i) Ductility

(ii) Toughness

(iii) Creep

2 Explain the properties and applications of

(i) Wrought Iron

(ii) Tool Steel

(iii) Cast Iron

3 Explain with neat sketch, the basic working principle of Rolling. Describe its application in industry.

4 Differentiate between shaper and planner. With the help of neat sketch, explain the basic components of lathe machine.

5 Describe with suitable examples, plant layout and its different types and applications.

SECTION - C

Attempt any **four** questions. **Each** question carries **equal** marks. 15

1 Write short notes on Annealing and Normalizing of carbon steels.

2 Differentiate between hot and cold working of metals. Bring out the advantages and disadvantages of each of these techniques.

3 With the help of neat diagram, explain the working principle of cupola. Also write its limitations.

4 Distinguish between welding, brazing, and soldering processes. Write about the importance of fluxes being used in welding.

5 With the help of schematic sketch, describe the basic working principle of grinding process.

6 Write short notes on :
(i) Ceramics and its applications
(ii) Composite materials and their applications.