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B.E/B.TECH (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2011

MANUFACTURING ENGINEERING BRANCH

FIFTH SEMESTER

MF 9302 – METAL FORMING TECHNOLOGY

(REGULATIONS 2008)

Time: 3 Hrs Max. Marks: 100

Answer All Questions

PART – A (10 x 2 = 20 Marks)

1. Name any five important properties of a metal usable for forming processes.
2. State any four important differences between hot working and cold working.
3. State the disadvantages of open-die forging.
4. Define formability?
5. What is meant by minimum bend radius?
6. What is meant by spring back effect?
7. State the differences between conventional and high speed extrusion.
8. State the advantages and disadvantages of isothermal forming.
9. Name the methods used for producing metal powders.
10. State the advantages of preparing components by powder metallurgy.

PART – B (5 x 16 = 80 Marks)

11. Write briefly about the following with neat sketches.
    i. Forging defects (6)
    ii. Impact extrusion (6)
    iii. Economics of bulk forming (4)

12a(i). Define engineering stress, engineering strain, true stress and true strain. (10)

12a(ii). State the differences between slip and twinning? (6)

OR

12b. Describe the following with neat sketches

    i. Elastic and Plastic deformations (8)
    ii. Point and line defects (8)