

Exam.Code:0941
Sub. Code: 7056

1078
B.E. (Mechanical Engineering)
Fifth Semester
MEC-505: Manufacturing Technology –II

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Attempt the following:-
- Define powder metallurgy?
 - Define drop forging operation?
 - Draw a typical die and show all the parts on it.
 - What is the role of lubricants in powder compaction?
 - What is piercing?
 - Define degree of polymerization.
 - How does super finishing differ from honing?
 - What is honing?
 - Define 'Embossing'?
 - What is rotational moulding of plastics? (10x1)

UNIT – I

- II. a) Explain with neat sketches of upsetting and drawing operations'
- b) Washers of 10 mm inside diameter and 20 mm outside diameter are to be obtained from 1mm thick sheet metal. Sketch the tools required with justification? (10)
- III. a) Explain in detail the power driving mechanism of a power press? Also define shut height.
- b) Explain the different stages of manufacturing of powder metallurgy component? (10)
- IV. a) Write the principle and features of (i) Thread whirling (ii) Die threading (iii). Tapping
- b) Explain in detail the principles involved in design of drilling jig? (10)

P.T.O.

(2)

UNIT – II

- V. a) Differentiate between progressive and compound dies?
b) The following data from an orthogonal cutting test is available
 rake angle $\alpha = 15^\circ$: Chip thickness ratio $\gamma = 0.383$
 Uncut chip thickness $t = 0.5$ mm : Width of cut $b = 3$ mm
 Yield stress of material in shear = 280 N / mm^2
 Average coefficient of friction on tool face = 0.7
 Determine Normal and Tangential forces on tool face. (10)
- VI. a) Why is screw injection moulding machine better than a ram type injection moulding machine?
b) Discuss the processing of thermosetting plastics? (10)
- VII. a) Explain the following:-
 i) Metal spraying
 ii) Metal galvanizing
b) Explain the principle of gear shaping? Write down its advantages and limitations. (10)

x-x-x