

Sem V / CBSGS / AUTO / PP-III / M - J - 17

Q.P. Code : 600800

(3 Hours)

Total Marks : 80

Note : 1) Question No.1 is compulsory.

2) Attempt any three questions from remaining six questions

3) Assume suitable data if required.

4) Figures to the right indicate full marks

1. (a) Cooling systems used in injection molds 20
 (b) Laser Beam Machining
 (c) Indexing Mechanisms used in Jigs and Fixtures
 (d) Flexible Manufacturing System
 (e) Differentiate between Combination and Compound Die with diagram
 (f) Types of Automats
2. (a) Find the total pressure and dimensions of die & punch sets to produce a washer of 5.5 cm outside diameter with 2.5 cm diameter hole, from material 2 mm thick, having shear strength 350 N/mm². Take clearance 9% of stock thickness. 6
 (b) What is Chemical Machining process? Explain in detail with the help of diagram. 6
 (c) Discuss all sheet metal operations with help of diagrams. 8
3. (a) Write short notes on the following: 10
 (i) Six Point Location principle for Jigs and Fixtures.
 (ii) Drawing Press Tool for sheet metal.
 (b) Explain about any five types of Clamping elements with diagrams in detail. 10
4. (a) Write about different types of transfer lines using neat sketches. 10
 (b) What is agile manufacturing? Write about the components of Agile Manufacturing. 10
5. (a) Explain the following: 10
 (i) Design principles of clamping elements and any 3 types of locating elements.
 (ii) Abrasive Jet Machining.
 (b) What are the different elements of Ejection system in Injection Molds? Explain any one ejection method. 10
6. (a) Write in detail about any five types of Jigs with neat sketches. 10
 (b) Explain the following: 10
 (i) Electrochemical Machining
 (ii) Plastic Injection Mold Standardization