

T.E. Mech. V CBSEGS

5.6.17
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

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| 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/mm ² . 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 | |