



(3 Hours)

[Total Marks : 80]

- N.B.** (1) Question No. 1 is compulsory.
 (2) Attempt any **three** questions from remaining **five** questions.
 (3) Support your answer with **sketch** wherever **necessary**.
 (4) **All** questions carry **equal** marks.

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| 1. (a) | Differentiate Thermoplastics and Thermosetting polymers. | 4 |
| (b) | List various operations can be performed on Drilling Machine. | 4 |
| (c) | List and explain types of broaches in brief. | 4 |
| (d) | Write detail Classification of Milling Machines. | 4 |
| (e) | Compare Shaping and Planning machine in brief. | 4 |
| 2. (a) | Draw Single Point Cutting Tool Geometry and explain significance of angles. | 10 |
| (b) | Compare Capstan and Turret Lathe in Detail. | 10 |
| 3. (a) | What is sawing ? Explain any two sawing machines with a neat sketch. | 10 |
| (b) | How Machining Time is Calculated in Shaping Operation ? | 10 |
| 4. (a) | Draw and explain Blow Molding and Compression Molding. | 10 |
| (b) (i) | Explain Up Milling and Down Milling with neat sketch. | 10 |
| (ii) | List indexing methods and explain any one method in brief. | |
| 5. (a) | Explain geometry of twist drill with significance of all elements and angles. | 10 |
| (b) | Explain cutting speed, feed and depth of cut in Turning Operation. How machining time is calculated in Turning Operation ? | 10 |
| 6. | Write short notes on any four from the following :— | |
| (a) | Injection Molding. | 5 |
| (b) | Quick Return Mechanism. | 5 |
| (c) | Cutting Tool Materials. | 5 |
| (d) | Classification of Machine Tools. | 5 |
| (e) | Transfer Molding. | 5 |