



Q.P. Code : 559601

(3 Hours)

[Total Marks : 80

- N.B. :** (1) Question No. **ONE** 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.

1. Explain in brief :- 20
 - (a) Pultrusion process of composite manufacturing.
 - (b) Laser beam machining.
 - (c) Thread whirling process.
 - (d) Gear shaping process.

 2. (a) Explain the process of Ultrasonic Machining with its advantages, limitations and applications. 10
(b) Explain the composite manufacturing processes of filament winding and Spray- up. 10

 3. (a) Explain loading, glazing and dressing of grinding wheels. How to specify a grinding wheel? 10
(b) Briefly, explain the process of thread rolling with its advantages, limitations and applications. 10

 4. (a) Describe the capabilities and characteristics of machining centers. 10
(b) Briefly explain different types of surface grinding machines. 10

 5. (a) Explain with a neat block diagram ECM. 10
(b) State the differences between NC and CNC machine tools. 10

 6. (a) Explain in detail the process of center less grinding. 10
(b) Explain in detail gear hobbing process of gear manufacturing. 10
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