

Duration: 3 hours

Max. 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.
- Q.1. Explain in brief :- 20  
 (a) Resin transfer Moulding process of composite manufacturing.  
 (b) Abrasive jet machining.  
 (c) Thread Milling process.  
 (d) Gear shaving and Gear grinding process.
- Q2. (a) Explain the process of Electrical Discharge Machining with its advantages, limitations and applications. 10  
 (b) Explain the composite manufacturing processes of Pultrusion and Hand Lay-up. 10
- Q3. (a) Describe various abrasives and bonds used for the production of grinding wheels. How to specify a grinding wheel? 10  
 (b) Briefly explain the processes of thread chasing, thread milling and thread whirling. 10
- Q4. (a) Describe the capabilities and characteristics of machining centers. 10  
 (b) Describe the construction and working of various types of grinding machines. 10
- Q5. (a) Explain with a neat sketch LBM. 10  
 (b) State the differences between NC and CNC machine tools. 10
- Q6. (a) Explain various factors based on which grinding wheels are selected. 10  
 (b) Differentiate between gear hobbing and gear shaping methods. 10

