

Roll No.

Total Pages : 03

BT-7/M-20

37058

ADVANCED MANUFACTURING

TECHNOLOGY

Option I

ME-419E

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit.

Unit I

1. (a) Explain the various techniques used for surface cleaning and surface treatments. **10**
- (b) Explain in detail the Graphite mould coating and Vacuum mould process with suitable diagrams. **10**
2. (a) Explain Agglomerated materials and laminates in detail with their industrial applications. **10**
- (b) Explain the various processes used to fabricate the reinforced composites and laminates. **10**

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Unit II

3. (a) Explain extrusion process in detail with suitable sketches, merits, demerits and industrial applications. **10**
- (b) Explain transfer moulding and machining of plastics with the challenges faced. **10**
4. (a) Explain thread chasing and thread rolling process in detail. **10**
- (b) Explain Die threading and thread milling with suitable diagrams. **10**

Unit III

5. (a) Explain the analysis of open die forging process. Assume suitable data for doing the analysis. **10**
- (b) Explain the various forces involved in power rolling with their effect on the performance of the process. **10**
6. (a) Derive the expression for the various forces involved in drawing. **10**
- (b) Explain the analysis of Direct Extrusion Process assuming suitable data. **10**

Unit IV

7. (a) Explain the working of Hot chamber die casting machines with suitable diagrams. **10**
- (b) Explain the various factors and process involved in the design of die casting dies. **10**
8. (a) Explain the procedure involved to estimate the cost. **10**
- (b) Explain the procedure involved to calculate the machining time. Assume suitable process and data required. **10**