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B. E. (Fifth Semester) Examination,

Nov.-Dec. 2021

(New Scheme)

(Mechanical & Production Engg. Branch)

MANUFACTURING SCIENCE-II

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Part (a) of each question is compulsory.

Attempt any two parts from (b), (c) and (d) of each question.

Unit-I

1. (a) Define “friability”? 2
- (b) Explain centreless grinding and their types. What are the advantages and limitations of centreless grinding? 7

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- (c) Explain various types of surface grinding machines with respect to spindle and table movement. 7
- (d) Explain various surface finishing operations. 7

Unit-II

- 2. (a) Write the reasons for using nontraditional machining. 2
- (b) Explain USM. Write advantages and limitations of USM. 7
- (c) Explain principle, equipment and working of ECM. 7
- (d) Explain EBM. Write advantages and limitations of EBM. 7

Unit-III

- 3. (a) Define "forgeability"? What are the types of forging operations? 2
- (b) What are the different types of forging method? Explain them briefly. 7
- (c) Why flash and gutter are used? Explain different types of forging defects. 7

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- (d) What are the various types of extrusion? Explain them briefly. 7

Unit-IV

- 4. (a) Define the term "draft" used in rolling. 2
- (b) List the rolling defects and explain them briefly. 7
- (c) Explain various types of shape rolling processes? 7
- (d) Explain briefly wire and tube drawing. 7

Unit-V

- 5. (a) What is "shaving"? 2
- (b) Explain different types of shearing operation. 7
- (c) Explain briefly spinning, embossing and coining with the help of neat diagram. 7
- (d) What are the different types of dies used in sheet metal operations? Explain them briefly. 7