

337416(37)

B. E. (Fourth Semester) Examination, 2020

(Old Scheme)

(Mech. Engg. Branch)

MANUFACTURING SCIENCE-I

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) from each question is compulsory. Attempt any two parts from parts (b), (c) and (d) of each question.

Unit-I

1. (a) What are the broad classifications of the manufacturing processes? 2
- (b) List different types of pattern. Briefly write about any four types of pattern. 7

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- (c) What is Core? What are the characteristics of a good core? Illustrate different types of core with their applications. 7
- (d) Step by step describe the Moulding Procedure of "Shell Moulding". Also write advantages, disadvantages and its product applications. 7

Unit-II

2. (a) Explain principle of Welding. 2
- (b) What is the principle of resistance welding? Explain the types of welding processes of resistance welding. 7
- (c) Compare TIG and MIG welding on the basis of their parameter of selection. 7
- (d) Explain any **two** of the following : 7
- (i) Thermit welding
 - (ii) Hydrogen welding
 - (iii) Welding of Cast Iron

Unit-III

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3. (a) Name the various method by which Powders for Powder Metallurgy are obtained? 2
- (b) What are the advantages, limitations and applications of Powder Metallurgy? 7
- (c) Explain the principle of Injection Moulding. Also explain the advantage and disadvantage of Injection Moulding. 7
- (d) With the help of neat sketch, explain compression moulding. List the advantage and limitations of Compression Moulding. 7

Unit-IV

4. (a) Name basic specifications of a shaper. 2
- (b) Describe in brief the various parts of a Lathe. 7
- (c) What are the the various Work Holding devices used in Lathe, Shaper and Planer? 7
- (d) Define Indexing. Explain Simple Indexing and Compound Indexing. 7

Unit-V

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5. (a) Differentiate between Drilling and Boring. 2
- (b) Give Drill Nomenclature. 7
- (c) Explain the different types of surface finishing operations. 7
- (d) What is broaching? List types of broaching machine, sketch and describe any one broaching machine. 7