

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Supplementary End Semester Examination – Summer 2022

Course: B. Tech. Branch : Mechanical Engineering Semester : VII

Subject Code & Name: BTMEC 703- Manufacturing Processes - III

Max Marks: 60

Date: 22/08/2022

Duration: 3.45 Hrs.

Instructions to the Students:

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in the bracket in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

(Level/CO) Marks

Q. 1 Solve Any Two of the following.

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|--|------------|----------|
| A) Explain the point – to – point, linear, and contouring systems with the help of suitable examples. | CO1 | 6 |
| B) Describe recirculating ball screws w.r.t. types of thread forms, arrangements of recirculation, preloading of nuts, and advantages. | CO1 | 6 |
| C) Describe stepper motors w.r.t. principle of working, advantages, and limitations. | CO1 | 6 |

Q.2 Solve Any Two of the following.

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|---|------------|----------|
| A) Describe various tool magazine arrangements used in CNC machines. | CO2 | 6 |
| B) Explain the various designs and types of automatic pallet changer. | CO2 | 6 |
| C) Explain the use of G00, G01, G02 codes with the help of suitable examples. | CO2 | 6 |

Q. 3 Solve Any Two of the following.

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|--|------------|----------|
| A) Explain the abrasive jet machining process. | CO3 | 6 |
| B) Write in short about electron beam machining. | CO3 | 6 |
| C) Discuss the principle of working of electro-chemical machining. | CO3 | 6 |

Q.4 Solve Any Two of the following.

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|--|------------|----------|
| A) Discuss the basic principles involved in the Physical Vapour Deposition (PVD) and Chemical Vapour Deposition (CVD) Processes. | CO4 | 6 |
| B) Explain the electroplating and electroless plating processes in brief. | CO4 | 6 |
| C) Briefly describe the thermal spraying processes. | CO4 | 6 |

Q. 5 Solve Any Two of the following.

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|--|------------|----------|
| A) Define rapid prototyping and explain the subtractive and additive processes in brief. | CO5 | 6 |
| B) Explain fused deposition modeling and stereolithography processes. | CO5 | 6 |
| C) Describe the LIGA microfabrication process. | CO6 | 6 |

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