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.**		
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.**		
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.**		
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.**		
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.**		
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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