	DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE **Winter Examination – 2022** **Course: B. Tech. Branch : Mechanical Engineering Semester :VII** **Subject Code & Name: BTMEC703 Manufacturing Processes-III** **Max Marks: 60 Date: 01/02/2023 Duration: 3 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 ( ) 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.**		**12**
A)	Describe with sketch the working and construction of recirculating ball screw used in CNC machine tools.	**(CO1)**	**6**
B)	Write short note on spindle drives.	**(CO1)**	**6**
C)	State advantages and limitations of CNC machine tools.	**(CO1)**	**6**
Q.2	**Solve Any Two of the following.**		**12**
A)	Discuss work holding devices for CNC machines.	**(CO2)**	**6**
B)	Explain with neat sketch, axis designation for CNC vertical milling machine.	**(CO2)**	**6**
C)	Explain the terms: i) Rapid positioning. ii) Linear interpolation.	**(CO2)**	**6**
Q. 3	**Solve Any Two of the following.**		**12**
A)	Describe the working of LBM with neat sketch.	**(CO3)**	**6**
B)	Explain the Wire EDM with its benefits and applications.	**(CO3)**	**6**
C)	Explain the process of water jet machining.	**(CO3)**	**6**
Q.4	**Solve Any Two of the following.**		**12**
A)	Write short note on electroforming.	**(CO4)**	**6**
B)	Write advantages, disadvantages and applications of ion implantation.	**(CO4)**	**6**
C)	Describe with a neat sketch micromachining process for creating free standing structures of computer microchips.	**(CO6)**	**6**
Q. 5	**Solve Any Two of the following.**		**12**
A)	Explain the working principle, and process details of selective laser sintering with advantages and disadvantages.	**(CO5)**	**6**

B)	Explain briefly the laminated object manufacturing.	**(CO5)**	**6**
C)	What is MEMS? Explain materials used for MEMS manufacturing.	**(CO6)**	**6**
	***** End *****		

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