U.S.N.										

B. M. S. College of Engineering, Bengaluru - 560019

Autonomous Institute Affiliated to VTU

May 2023 Semester End Main Examinations

Programme: B.E. **Semester: III**
Branch: Aerospace Engineering **Duration: 3 hrs.**
Course Code: 19AE3DCMTA **Max Marks: 100**
Course: Manufacturing Technology for Aerospace Engg. **Date: 19.05.2023**

Instructions:

1. Draw figures wherever necessary.
2. Assume suitable data wherever necessary.

UNIT - I

1.	a)	Discuss the role of productivity in manufacturing.	**6**
	b)	Explain briefly the various manufacturing processes.	**6**
	c)	Write a short note on casting defects.	**8**

UNIT - II

2.	a)	Define the embossing and coining processes in the sheet metal operations.	**4**
	b)	Distinguish clearly between fusion welding and solid-state welding processes.	**6**
	c)	Explain the various roller arrangements along with their purposes.	**10**

UNIT - III

3.	a)	Write down the characteristics of a cutting tool.	**6**
	b)	Distinguish clearly between traditional and non-traditional machining techniques.	**6**
	c)	Discuss briefly the principle of the Abrasive Water Jet Machining process, along with its advantages and applications.	**8**

OR

4.	a)	Write a short note on the various types of grinding wheels.	**6**
	b)	Write a short note on cutting fluids and their functions.	**7**
	c)	Discuss the principle of USM with a neat sketch.	**7**

UNIT - IV

5.	a)	Explain the PBF process with a neat sketch.	**7**
	b)	Distinguish clearly between CNC and DNC machines.	**7**
	c)	Expand the abbreviations: DMD, SLA, FFF, DMLS, SGC, and SDM.	**6**

UNIT - V

6.	a)	Explain the manufacturing processes of the fan blades, compressor blades and discs, and exhaust system of a typical jet engine.	**8**
	b)	Define assembly line. Explain briefly the assembly of a typical jet engine.	**6**
	c)	Illustrate the gear cutting process using a hob cutter.	**6**

OR

7.	a)	State the benefits of Quality Management System in Aerospace Industry.	**6**
	b)	Explain briefly the powder metallurgy process for gear manufacturing.	**6**
	c)	Describe the materials used for manufacturing the aircraft.	**8**

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