U.S.N.										

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

Autonomous Institute Affiliated to VTU

August 2024 Supplementary Examinations

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

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.			**UNIT - I**	
	1	a)	Explain in detail the step-by-step procedure involved in the working principle of investment casting.	**10**
		b)	Discuss the casting defects occurring due to high pouring temperature of the molten metal.	**10**
			UNIT - II	
	2	a)	Briefly explain any two types of forging operations.	**10**
		b)	Discuss compound and progressive dies with illustration. State its limitations.	**10**
			UNIT - III	
	3	a)	Differentiate between oblique cutting and orthogonal cutting.	**6**
		b)	Write a short note on single point and multi edge cutting tools.	**4**
		c)	Write a short note on laser arc machining stating its working principle, advantages and disadvantages.	**10**
			OR	
	4	a)	Which are the commonly used surface finishing processes? Discuss any two in detail.	**10**
		b)	Write a short note on electro-chemical machining stating its working principle, advantages and disadvantages.	**10**
			UNIT - IV	
	5	a)	Differentiate between Computer Numerical Control (CNC) and Direct Numerical Control (DNC).	**10**

		b)	Explain the fundamental principle behind Rapid Prototyping (RP).	**10**
			UNIT - V	
	6	a)	Write a note on gear shaping and hobbing processes for gear generation.	**10**
		b)	State the benefits of quality management system in aerospace industry.	**10**
			OR	
	7	a)	Explain how powder metallurgy processes for the manufacturing of gears.	**10**
		b)	Write the general applications of gears. List out the types of gears and their characteristics.	**10**

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