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Sr. No 020501

December 2023
B.Tech(RAI) 5th Sem
CAD/CAM (PCC-RAI-501-21)

Time: 3 Hours

Max. Marks:75

Instructions:

*It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.
Answer any four questions from Part -B in detail.
Different sub-parts of a question are to be attempted adjacent to each other.*

<u>PART -A</u>		
Q1	(a)	What is Flexibility in FMS? (1.5)
	(b)	Name any two CAD softwares. (1.5)
	(c)	How Failure analysis is done using ANSYS? (1.5)
	(d)	What is DNC? (1.5)
	(e)	What are the benefits of a Cloud manufacturing? (1.5)
	(f)	What is Reverse Engineering? (1.5)
	(g)	What is computer aided inspection? (1.5)
	(h)	What is the main difference between CAD and manual designing? (1.5)
	(i)	Mention three applications of a Robot in Manufacturing? (1.5)
	(j)	What is utility of an Automated Guided Vehicle? (1.5)
<u>PART -B</u>		
Q2	(a)	Explain the process of CAD for generating optimal designs. (10)
	(b)	Briefly explain various transformations and their matrices used in CAD. (5)
Q3	(a)	What are the advantages CNC machines over NC machines? (5)
	(b)	Explain need and process of 3D Printing with applications. (10)
Q4		What is the need of an FMS? Specify its parts and advantages with examples. (15)
Q5	(a)	What is a Retrieval type CAPP? Explain with examples. (5)
	(b)	Explain parts and working of an Industry 4.0 with live examples. (10)
Q6	(a)	Mention the procedure of Finite Element Analysis. (5)
	(b)	What are the main parts of a Robot? Specify various Sensors installed and used in Robots. (10)
Q7		Explain the Solid Modeling techniques with examples and neat sketches. (15)

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