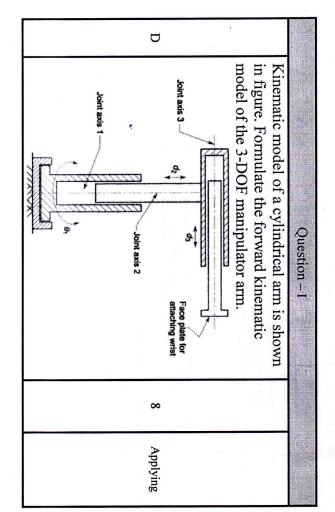
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For the 3-DOF 1 in figure obtain the solution of the solution	An Articulated a figure. Obtain the point.	Explain Denavit-			:- Part A of each u	Code-D037811(037)	Sem- 8 <sup>th</sup>	Class Test – II	DEPARTM	SHANKARACHARYA
For the 3-DOF roll-pitch-yaw (RPY) wrist shown in figure obtain the direct kinematic model.  Joint 1  Joint 2  Joint 3  Tool point Pitch Pitch Vaw	An Articulated arm kinematic model is shown in figure. Obtain the transformation matrix for the end point.	Explain Denavit-Hartenberg notation	Question – I	Questions	Note:- Part A of each unit is compulsory and attempt any 2 from B,C,D	Time Allowed: 2 hrs	Subject – ROBOTICS	Session- Jan to June, 2023	DEPARTMENT OF MECHANICAL EI	SHRI SHANKARACHARYA INSTITUTE OF PROFESSIONAL MANAGEMENT AND TECHNOLOGY
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in figure obtain the Joint 1	An Articulated an figure. Obtain the point.	Explain Denavit-	i i	:- Part A of each u	Code-D037811(037)	Sem- 8 <sup>th</sup>	Class Test – II	DEPARTM	SHANKARACHARYA
For the 3-DOF roll-pitch-yaw (RPY) wrist showin figure obtain the direct kinematic model.  Joint 2  Joint 3  Arm and Roll  Plich  Yaw	An Articulated arm kinematic model is shown in figure. Obtain the transformation matrix for the end point.	Explain Denavit-Hartenberg notation		Note:- Part A of each unit is compulsory and attempt any 2 from B,C,D	Time Allowed: 2 hrs	Subject - ROBOTICS	Session- Jan to June, 2023	DEPARTMENT OF MECHANICAL ENGINEERING	SHRI SHANKARACHARYA INSTITUTE OF PROFESSIONAL MANAGEMENT AND TECHNOLOGY
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1111111111	Kinematic model of a cylindrical arm is shown in figure. Formulate the forward kinematic model of the 3-DOF manipulator arm.  Joint axis 3  Joint axis 2  Joint axis 2	Question – I
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	Applying	

Applying	8	Explain the inspection application of Robots	D
Understandi ng	8	What are industrial applications of Vision Controlled Robotic systems?	С
Understandi ng	8	Classify different types of Robotic Sensors	В
Understandi ng	4	Explain Optical Encoders.	Α
		Question-II	



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Explain the inspection application of Robots	What are industrial applications of Vision Controlled Robotic systems?	Classify different types of Robotic Sensors	Explain Optical Encoders.	Question—II
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Applying	Understandi ng	Understandi ng	Understandi ng	

## SHRI SHANKARACHARYA INSTITUTE OF PROFESSIONAL MANAGEMENT AND **TECHNOLOGY** DEPARTMENT OF MECHANICAL ENGINEERING Class Test: II Session: January-June, 2023 Month: April, 2023 Semester: 8th Subject: Industrial Engineering and Management Code: D000802(076) **Time Allowed: 2 Hours** Note: - Part A of Question 1 and Question 2 is compulsory, from other parts B, C and D of Question 1 and Question 2, attempt any TWO parts. Ignore the column of Level of Bloom's taxonomy and CO. Levels of Q. Questions Marks $\mathbf{CO}$ Bloom's No taxonomy **Question 1** Explain the meaning of the term 'Human Resource 1.A 4 Remember 4 Management' Explain the features, advantages and limitations of (i) job 1.B 8 **Apply** 4 enrichment and (ii) job enlargement. Analyze the needs and types of motivation. 1.C 8 4 Analyze Explain the nature, objectives and importance of Human 1.**D** 8 Understand 4 Resource Management.

	Question 2			
2.A	Explain the meaning of 'Marketing Mix'.	4	Understand	5
2.B	Explain in detail 'Break Even Analysis' with example.	8	Apply	5
2.C	Explain 'Capital Budgeting' in detail.	8	Understand	5
2.D	Explain the meaning, objectives, functions and 5Ms of advertising.	8	Apply	5

## SHRI SHANKARACHARYA INSTITUTE OF PROFESSIONAL MANAGEMENT & **TECHNOLOGY, RAIPUR** DEPARTMENT OF MECHANICAL ENGINEERING Class Test: II Session: January-June, 2023 Month: April, 2023 Semester: VIII **Subject: Product Design and Development** Code: D037833(037) **Time Allowed: 2 Hours** Max Marks: 40 Note: - Part A of Question 1 and Question 2 is compulsory. Attempt any Two Parts out of B, C and D in Question 1 and Question 2. Levels of Q. Questions Marks Bloom's CO No **Taxonomy** Question 1 1.A Explain the meaning of Product Architecture. 4 **CO1** Understanding 1.B Explain six phases (steps) of product development process. 8 **Applying CO1** 1.C Explain the steps involved in establishing target specifications. 8 **Applying** CO<sub>1</sub> 1.D Explain in detail five steps of concept generation method. 8 Applying **CO1**

	Question 2			
2.A	Define Design for Manufacturing (DFM).	4	Remembering	CO3
2.B	How is the manufacturing cost estimated? Explain in detail different elements of manufacturing cost analysis.	8	Applying	CO3
2.C	Explain in detail principle of prototyping.	8	Applying	CO3
2.D	Differentiate between Design for Manufacturing (DFM) and Design for Assembly (DFA). Analyze the impact of Design for Manufacturing (DFM) decisions on product development and process cost.	8	Analyzing	CO3