SHRI SHANKARACHARYA INSTITUTE OF PROFESSIONAL MANAGEMENT AND TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

Class Test – I	Session- Jan – June 2023	Month- March
Sem- 8th	Subject- Robotics	
Code - D037811(037)	Time Allowed: 2 hrs	Max Marks: 40

Note: - 1. Students are Required to focus on question and marks columns only.
2. Support your answers with neat sketches.
3. In Unit I & II, Question A is compulsory and attempt any two from B, C & D.

Q. No	Questions	Marks	Levels of Bloom's taxonomy	CO
Unit – I				
1.A	Explain "Degree of Freedom" for a Robotic Manipulator.	4	Understanding	CO1
1.B	What are the various types of robot configuration? Explain with neat sketch.	8	Understanding	CO1
1.C	Derive the fundamental rotation matrix with the help of coordinate frame.	8	Applying	CO1
1.D	Consider a point P in space. Determine the new location of this point after rotating it by an angle 45° about z- axis and then translating it by -1 unit along x-axis and -2 unit z-axis. Pictorially show the transformation of the vector. What will be the equivalent frame transformation for this vector transformation? Show the transformation of frames.	8	Analyzing	CO1
Unit – II				
2.A	Explain mapping between rotated frames.	4	Understanding	CO2
2.B	The two coordinate frames {1} and {2} are initially coincident. Frame {2} is rotated by 45^0 about a vector $k = [0.5\ 0.866\ 0.707]^T$ passing through the origin. Determine the new description of the frame {2}.	8	Applying	CO2
2.C	Explain the D-H notation in detail.	8	Applying	CO2
2.D	Determine the rotation matrix for a rotation of 450 about y-axis, followed by a rotation of 1200 about z-axis, and a final rotation of 900 about x-axis.	8	Analyzing	CO2

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Class Test – I	Session- Jan – June 2023		Month- March
Sem- 8th	Subject- Industrial Engineering Management		
Code – D000802(076)	Time Allowed: 2 hrs		Max Marks: 40

Note: - 1. Students are Required to focus on question and marks columns only.
2. In Unit I & II, Question A is compulsory and attempt any two from B, C & D.

Q. No	Questions	Marks	Levels of Bloom's taxonomy	CO
	Unit – I			
1.A	Explain the place of industrial engineering in an organization with diagram.	4	Understanding	CO1
1.B	Explain contributions to industrial engineering by Adam smith, Frederick Taylor, Charles Babbage and Henry L. Gantt.	8	Understanding	CO1
1.C	Write down objectives of plant layout and explain principals of plant layout.	8	Understanding	CO1
1.D	Explain contributions to industrial engineering by Adam smith, Frederick Taylor, Charles Babbage and Henry L. Gantt.	8	Understanding	CO1

Q. No	Questions	Marks	Levels of Bloom's taxonomy	CO
	Unit – II			
2.A	Define work study. What are the component of work study?	4	Understanding	CO2
2.B	Explain the therbling with symbol and coding.	8	Understanding	CO2
2.C	Explain (a) Micro motion study. (b) Chronocycle graph.	8	Understanding	CO2
2.D	Explain basic two methods of wage payment. What are characteristics of good wages system?	8	Understanding	CO2

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Class Test – I	Session- Jan-June, 2023	Month- March, 2023
Sem- 8th	Subject- PDD	
Subject Code - D037833(037)	Time Allowed: 2hr.	Max Marks: 40

Note: - 1.first Question (A) from both unit are compulsory.
2. Solve any two from B, C, D of each unit.

Q. No	Questions	Marks	Levels of Bloom's taxonomy	CO
Unit – I				
1.A	Define Functional Analysis and write the steps for Functional Analysis	4	R	2
1.B	What is Quality function Deployment (QFD) also explain Benefits, reasons, and Problems of QFD.	8	U	2
1.C	Explain the Template' for 'House of Quality' with a neat sketch.	8	U	2
1.D	How is morphological analysis method performed? Explain in detail giving suitable diagram.	8	U	2
Unit – II				
2.A	What do you mean by Industrial Design Process?	4	R	4
2.B	Write short Notes on: (a) Aesthetic Need. (b) Ergonomic Need.	8	U	4
2.C	Briefly explain the technology driven product and user driven product.	8	U	4
2.D	Explain methodology involved in assessing the Quality of Industrial Design.	8	U	4