

Course outline

How does an NPTEL online course work?

Week 0

Week 1

- Lecture 01 - Introduction to Robotics
- Lecture 02 - Robot Joints and Work Volume
- Quiz : Assignment 1
- Week 1 - Lecture Notes
- Feedback for Week 1
- Assignment 1 Solution

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

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Assignment 1

The due date for submitting this assignment has passed.

Due on 2021-02-03, 23:59 IST.

As per our records you have not submitted this assignment.

Assignment 1

 1) What is automation? 1 point

- Replacing of wheels by legs
- Replacing of human muscular power
- Replacing of engines by motors
- Replacing machines by robots

No, the answer is incorrect.

Score: 0

 Accepted Answers:
 Replacing of human muscular power

 2) In 1921 the word 'Robot' was first used by 1 point

- Karel Kapec
- James Maxwell
- Carl Freidrich Gauss
- Peter Corke

No, the answer is incorrect.

Score: 0

 Accepted Answers:
 Karel Kapec

 3) In 1942 the word 'Robotics' was used by the science fiction writer 1 point

- Alan Burt Akers
- Daniel Adams
- Edwin Abott
- Isaac Asimov

No, the answer is incorrect.

Score: 0

 Accepted Answers:
 Isaac Asimov

 4) Industry 4.0 or Cyber Physical Systems deals with the connection between 1 point

- Computer/Machines - Humans - AI
- Wireless connection between devices
- Robotics based manufacturing
- Cloud Computing

No, the answer is incorrect.

Score: 0

 Accepted Answers:
 Computer/Machines - Humans - AI

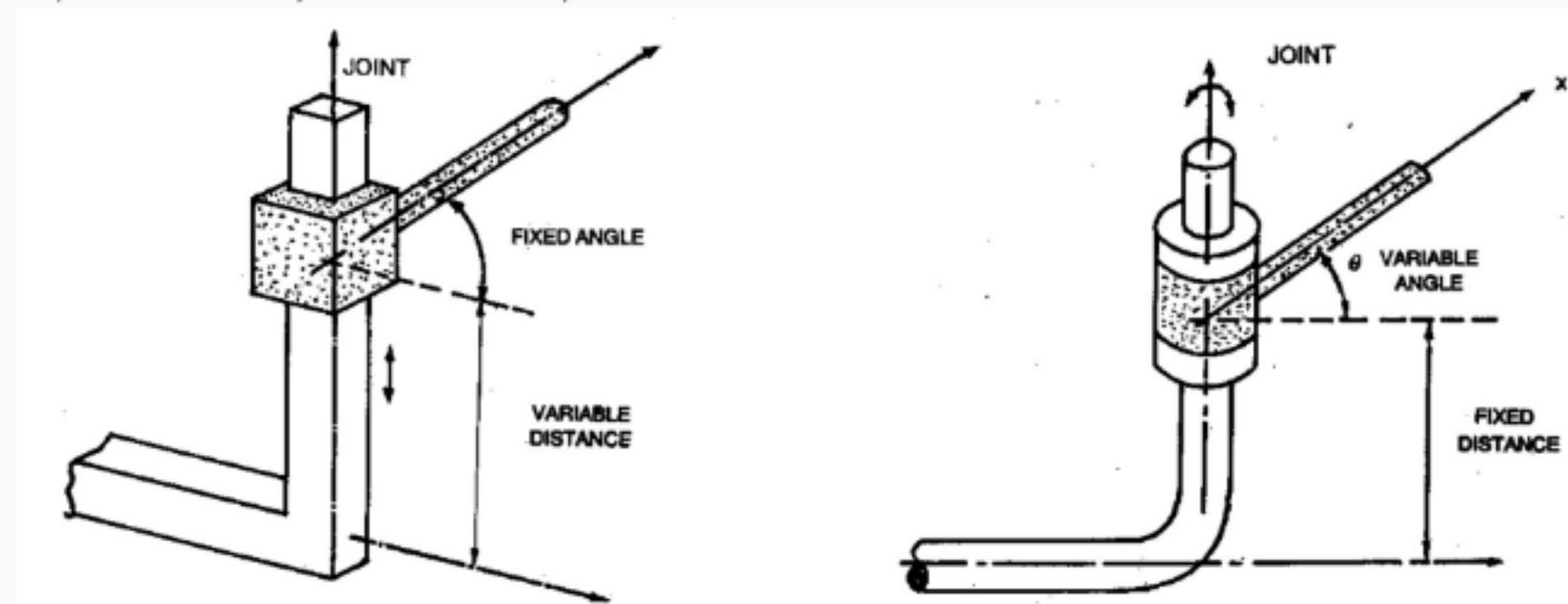
 5) To be called a robot, a system should be able to do one or all of the following: 1 point
 (Choose all the correct options)

- move around
- sense the environment
- display intelligent behaviour
- move using wheels

No, the answer is incorrect.

Score: 0

 Accepted Answers:
 move around
 sense the environment
 display intelligent behaviour
 move using wheels

 6) Name the two joints shown in the picture 1 point


- Spherical, Cylindrical
- Prismatic, Revolute
- Prismatic, Spherical
- Revolute, Spherical

No, the answer is incorrect.

Score: 0

 Accepted Answers:
 Prismatic, Revolute

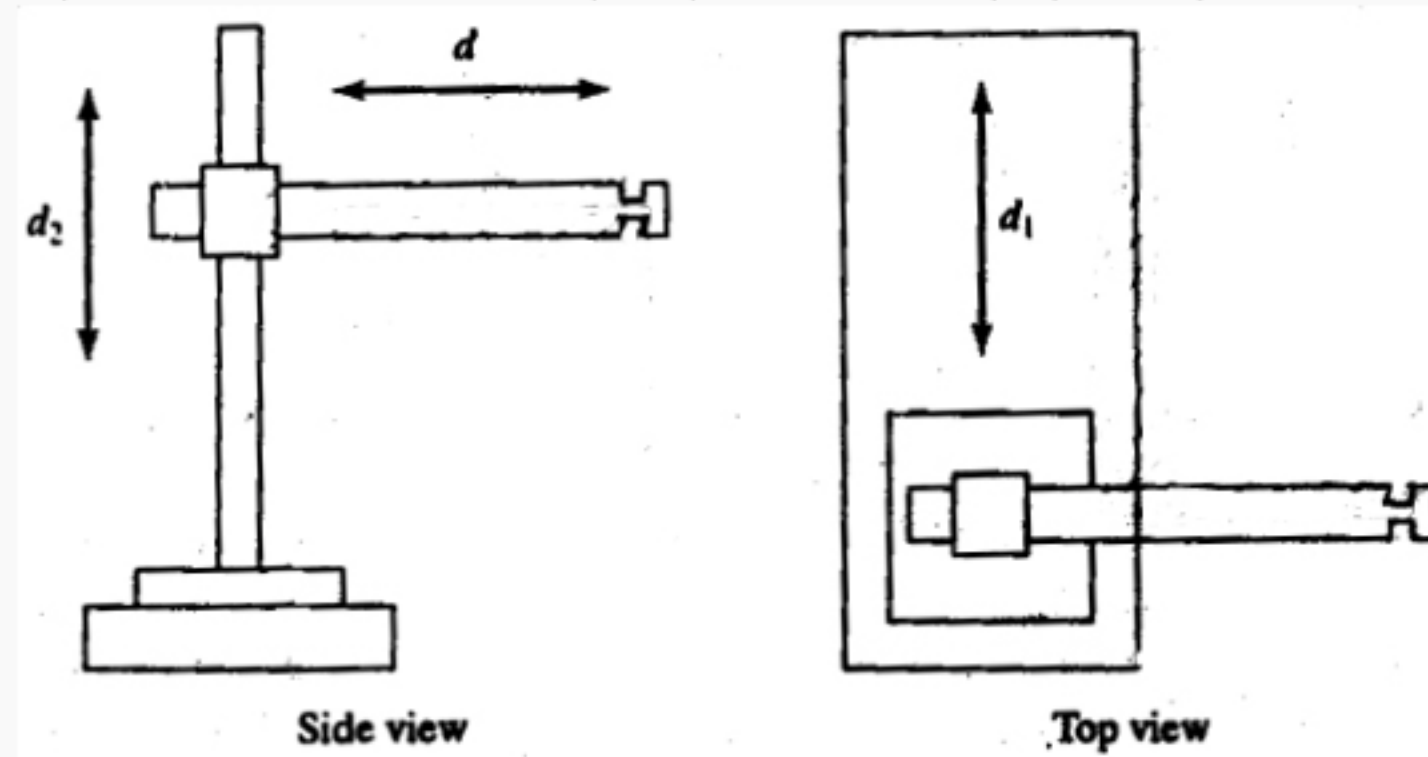
 7) Minimum DOF required to pick up a box from a table and place it at another position 1 point

- 6 DOF
- 5 DOF
- 3 DOF
- 4 DOF

No, the answer is incorrect.

Score: 0

 Accepted Answers:
 4 DOF

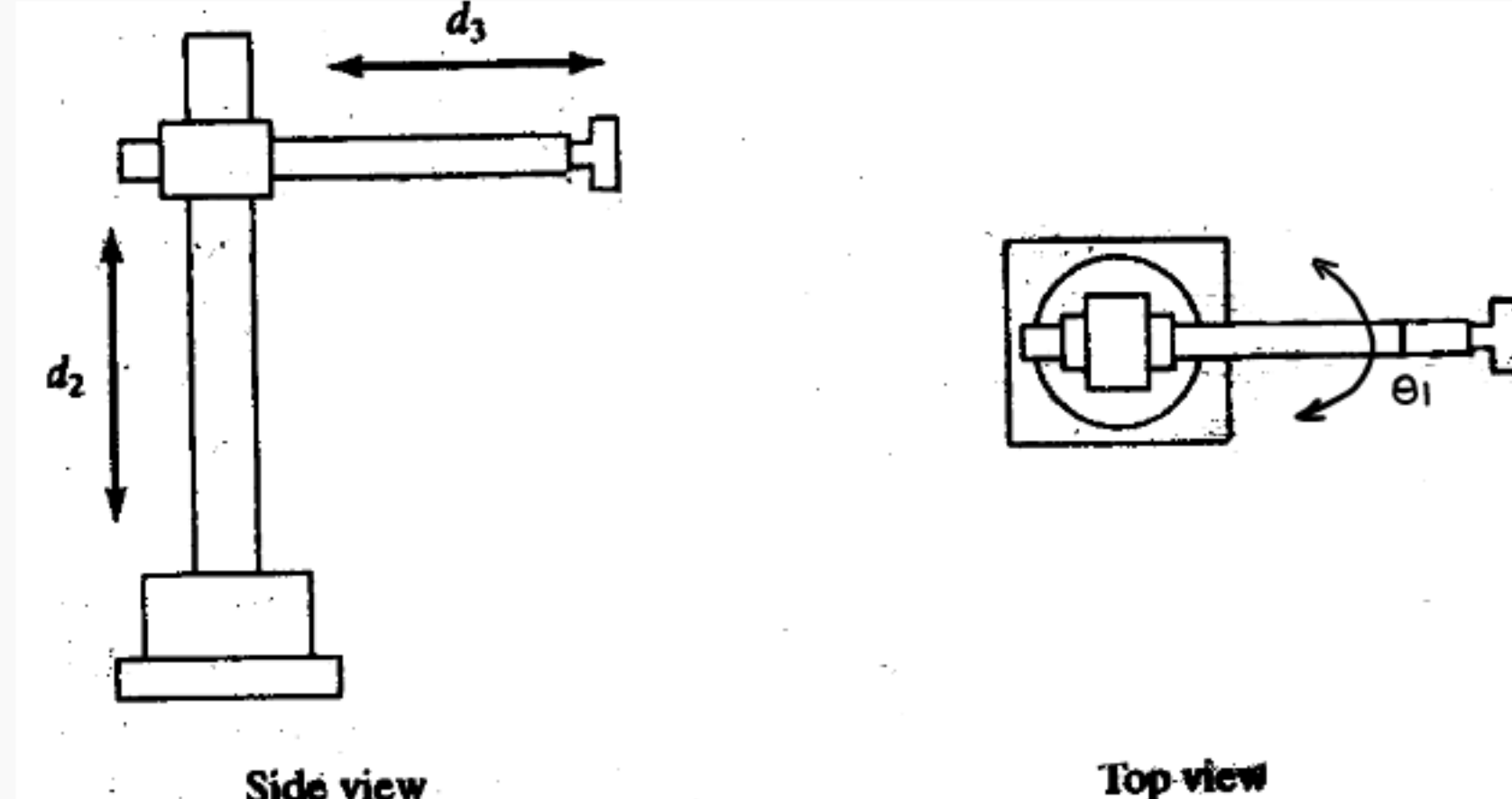
 8) The work volume of a cartesian (3 DOF) robot made of 3 equal prismatic joints is 1 point


- Sphere
- Cube
- Cylinder
- Hollow cube

No, the answer is incorrect.

Score: 0

 Accepted Answers:
 Cube

 9) The work volume of a cylindrical (3 DOF) robot having 2 prismatic and 1 revolute joint is 1 point


- Hollow Cylinder
- Hollow sphere
- Solid Cylinder
- Hollow Cube

No, the answer is incorrect.

Score: 0

 Accepted Answers:
 Hollow Cylinder

 10) The work area of a 2DOF (2R) planar arm is maximum when the ratio of the two link lengths is 1 point

- 1.5
- 0.5
- 2
- 1

No, the answer is incorrect.

Score: 0

 Accepted Answers:
 1