B. Tech. Sem - VIII (Production Engg.) (2014 COURSE) (CBCS) : SUMMER - 2019

SUBJECT: INDUSTRIAL ROBOTICS

Day: Saturday | Time: 02.30 PM TO 05.30 PM

Date: 25/05/2019 | **S-2019-2925** | Max. Marks: 60

N.B:

1) All questions are **COMUPSORY.**
2) Figures to the right indicate **FULL** marks.
3) Neat diagram must be drawn **WHEREVER** necessary.
4) Assume suitable data if necessary.

Q.1 How would you define a robot? Describe Automation and Robotics in brief. **(10)**

OR

Q.1 Classify the robots. Explain the working of Servo-Controlled robots. **(10)**

Q.2 What are the types of drive system for robots? Explain any two in detail. **(10)**

OR

Q.2 Write a note on 'Use of sensors in robotics. **(10)**

Q.3 Describe the functions of machine vision system in detail. **(10)**

OR

Q.3 Explain in detail motion interpolation of robot with suitable example. **(10)**

Q.4 What do you understand by forward, reverse and homogeneous transformations? Explain. **(10)**

OR

Q.4 Describe in detail inverse kinematics of robot. **(10)**

Q.5 Discuss Mean-Ends Analysis technique in detail. **(10)**

OR

Q.5 Write a note on 'Safety in Robotics' in detail. **(10)**

Q.6 Explain use of robots in assembly and inspection. **(10)**

OR

Q.6 Describe material transfer applications of robot with suitable example. **(10)**

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