Code No: 138AA **R16**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year II Semester Examinations, December - 2020
ACTUATORS AND ROBOT SYSTEMS
(Electronics and Communication Engineering)

Time: 2 Hours **Max.Marks:75**

Answer any Five Questions
All Questions Carry Equal Marks
- - -

1.a) Classify different types of coordinate systems and explain.
b) Write briefly about the application of robots in pick and place, gantry and arm type robots. [7+8]

2. Explain in detail the robot positioning methods and its advantages and limitations. [15]

3. Explain in detail different types of joints and its notation scheme. [15]

4. For a planar RP manipulator assuming suitable data develop the kinematic relationship using DH algorithm. [15]

5. Explain in detail the principle of resistance transducers type sensors in robotic system and write its advantages. [15]

6. How radio frequency identification (RFID) functions and write its significance in robotic system? [15]

7. What are the different types of cylinders used in hydraulic drives and explain with the help of a neat sketch. [15]

8.a) Explain in detail about robot programming and write its structure and functions.
b) Explain in detail the applications of robot in assembly and inspections. [8+7]

---ooOoo---

JnTUH Used Papers