No. of Printed Pages : 4 222833/212833
Roll No. .....

3rd Sem / Automation & Robotics

Subject : Robotics

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Robot word is derived from word (CO1)

a) Robota b) Rebota

c) Rabota d) Ribota

Q.2 How many laws robotics have (CO1)

a) 2 b) 3

c) 4 d) 5

Q.3 The 'end-efffector" of a robot: (CO2)

a) can be an actual tool

b) is the robot "hand"

c) may have a gripping action

d) All of the above

Q.22 Explain the working of robotic operation in Cartesian mode. (CO5)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain the concept of kinematic chains in robot configurations, highlighting closed and open chains. (CO2)

Q.24 Give detailed classification of Robots. (CO1)

Q.25 Describe the different types of grippers used in robotics. (CO2)

Q.4 Which aspect is typically considered when selecting an actuator? (CO3)

a) Color b) Weight

c) Force requirement d) Sound level

Q.5 What is the primary function of a vision system in robotics? (CO4)

a) Speed control b) Position sensing

c) Object recognition d) Force measurement

Q.6 What is the purpose of a teach pendant in robotics? (CO5)

a) To Control robot speed

b) To record positions

c) To classify robots

d) To select actuators

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 The_____ Actuator is characterized by the use of fluids for power transmission. (CO3)

Q.8 Industrial robots are used only for material handling. (True/False) (CO1)

Q.9 Give one example of an electric actuator. (CO3)

Q.10 An example of an internal sensor is a _____ that measures velocity. (CO4)

Q.11 Write full form of SCARA. (CO1)

Q.12 Define degree of reedom. (CO5)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 What are the applications of industrial robots? (CO2)

Q.14 Describe the functions and classifications of robotic sensors. (CO4)

Q.15 What are the advantages and disadvantages of hydraulic actuators? (CO3)

Q.16 Write a brief note on the history of robots (CO1)

Q.17 Explain Robotic subsystem. (CO2)

Q.18 Describe the concept of work volume/envelope in robotics. (CO2)

Q.19 What are the different robotic joints. (CO4)

Q.20 How does vision system works in robots. (CO4)

Q.21 Explain LVDT. (CO4)