

SECTION-C

No. of Printed Pages : 4

Roll No.

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Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 What are the different configurations of robots? Which is suitable for picking a part from a moving conveyor?
- Q.4 a) What are kinematic jacobians? Explain in detail.
b) What are applications of AGV?
- Q.5 Differentiate between RAIL & VAL robot programming language in detail.
- Q.6 What are different types of actuators used in robot? Explain in detail.
- Q.7 Write short note on :
a) Logged locomotions.
b) Assembly automation.

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5th Sem. / 6th Sem. / Mechatronics/CAD/CAM

Subject : Robotics

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1 a) What is function of sensor?
b) Expand CCD.
c) Name any type of sensor used to measure strain.
d) What is full form of VAL?
e) Draw symbol of pilot valve?
f) What is assembly automation?
g) Draw symbol of pressure relief valve?
h) What is servo motor?

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- i) Write two industrial applications of robot.
- j) What is non-servo manipulator?
- k) What is encoder?
- l) Write two basic elements of robot configuration.
- m) Define range of sensor.
- n) What is full form of AGV.
- o) What is spatial description?
- p) Name two types of actuators used in robot.
- q) What is automatic packaging?
- r) What is payload?
- iii) Write short note on working of stepper motor.
- iv) Write four applications of robots.
- v) Write short note on automatic inspection.
- vi) Discuss the working of Uni-directional valve for hydraulic valve for hydraulic circuit.
- vii) Differentiate between encoder & decoder.
- viii) Write four advantages of robot.
- ix) Explain significance of artificial intelligence.
- x) Write short note on vision ranging systems.
- xi) Explain working of hydraulic valve.
- xii) What are the different types of robotic system.
- xiii) What is position control of manipulators? Explain.
- xiv) What are characteristics of hydraulic actuator?
- xv) Write short note on remote control circuits.

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

- Q.2 i) Write four advantages of robots.
- ii) Differentiate between servo & non-servo manipulator.

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