

5/2

2112E041

BACHELOR OF VOCATION
Mechanical Manufacturing
Subject: Industrial Robotics & Material Handling System
Subject Code: RA-602
Semester: Fifth
December 2021
Theory (External): 35 Marks
Time: 03 Hours

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

Roll Number									

SECTION -A (SHORT/OBJECTIVE TYPE QUESTIONS)
(10x1=10 Marks)

- A A Robot is a
(a) Programmable (b) Multi-functional manipulator
(c) Both (A) and (B) (d) None of the above
- B The following is true for a Robot and NC Machine
(a) Similar power drive technology is used in both
(b) Different feedback systems are used in both
(c) Programming is same for both
(d) All of the above
- C Drives are also known as
(a) Actuators (b) Manipulator
(c) Controller (d) Sensors
- D Industrial Robots are generally designed to carry which of the following coordinate system(s).
(a) Cartesian coordinate systems
(b) Cylindrical coordinate system
(c) Polar coordinate systems
(d) All of the above
- E Classify types of industrial automation
- F Explain the two categories of magnetic grippers
- G Define the degree of freedom
- H Number degrees of freedom exhibited by robot wrist.....
- I What is continuous arc welding
- J The following drive is used for lighter class of Robot.
(a) Pneumatic drive (b) Hydraulic drive
(c) Electric drive (d) All of the above

SECTION -B (ESSAY TYPE QUESTIONS)
(5x5=25 Marks)

- 1 Explain different types of robot applications
- 2 Explain the degrees of freedom of a robot with sketches
- 3 Explain General considerations in gripper design.
- 4 Explain the tasks of the robot in welding operation
- 5 Discuss, why a robot is considered as a 24/7 worker
- 6 Explain in brief conventional material handling system
- 7 Explain in brief robot application in material handling system
- 8 Detect, what is the minimum number of degrees of freedom for assembling

==END OF PAPER==