

2107027

BACHELOR OF VOCATION
Tool and Die Manufacturing
Subject: Industrial Robotics & Material Handling System
Subject Code: CBME-308
Semester: Sixth
July 2021
Theory (External): 70 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 2 marks.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 10 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									

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SECTION –A (SHORT/OBJECTIVE TYPE QUESTIONS)
(10x2=20 Marks)

- A. What is the concept of material handling?
- B. Write any two applications of End Effectors.
- C. Write any two applications of Spot Welding.
- D. Define Assembly Operation.
- E. What kind of robots used for underwater applications.
- F. What software used for robotics inspection.
- G. What do you mean by visual inspection?
- H. Classify industrial robots and their uses.
- I. Differentiate machine loading and unloading.
- J. What is Robot Centered Cell.

SECTION –B (ESSAY TYPE QUESTIONS)
(5x10=50 Marks)

1. Define Load handling capacity. Give general considerations used in robotics in handling material.
2. Write short notes on:
 - (a) CNC machine tool loading
 - (b) Material Transfer
3. Explain Robotics Vision System. How can image data is compressed?
4. How image recognition can be improved. What do you mean by depth measurement?
5. What do you mean by industrial robots? Write applications of robots in continuous arc welding.
6. Explain the following terms:
 - (a) Gripper
 - (b) Degrees of freedom
7. Explain the types of End Effectors. Give their uses.
8. Explain the principle used for material handling. What are the conventional material handling System?

==END OF PAPER==