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2112E124

DIPLOMA OF VOCATION
Mechanical Manufacturing
Subject: CNC Machines and Automation
Subject Code: ME-404
Semester: Third
December 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 mark.
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

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

- A. Define the function of Automation.
- B. Discuss the limitations of DNC Machine.
- C. Discuss the importance of MCU.
- D. Discuss feedback control system.
- E. Define the function of sensor.
- F. Differentiate between encoder and decoder.
- G. Define the function of AGV.
- H. Define the Industrial application of AI.
- I. Define the function of Robotics.
- J. Discuss the concept of CAD/CAM

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

1. Discuss function of NC machine. Explain the components of NC machine with neat and clean diagram.
2. Explain the construction and working of LVDT with neat diagram along with industrial applications.
3. Explain construction, working and principle of Actuator with neat and clean diagram.
4. Differentiate between CNC and DNC machines with neat and clean diagram along with suitable applications.
5. What is FMS? Explain the components of FMS with neat diagram along with their Industrial applications.
6. Discuss the working of Transducer with neat diagram along with industrial applications.
7. Explain the concept of wear compensation with suitable example.
8. What is part programming? Explain the procedure of part programming with suitable example.

==END OF PAPER==