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200930

BACHELOR OF VOCATION
Automotive Manufacturing
Subject: Basics of Mechatronics
Subject Code: ABME-106
Semester: Second
September 2020
Theory (External): 35 Marks
Time: 03 hours

INSTRUCTIONS TO THE STUDENTS

1. Read the questions carefully and write the answers in the answer sheets.
2. Wherever necessary, the diagram drawn should be neat and properly labelled.
3. This questions paper comprises of 6 questions out of which student need to attempt any 3 questions.
4. All questions carry equal marks.
5. The time allotted will be 3 hours for examinations including time of downloading of question paper to emailing of answer books to the concerned Dean/IC.

ESSAY TYPE QUESTIONS

1. Explain the working principle of LVDT.
2. Explain the basic structure of PLC.
3. Draw the symbol and state the equivalent PLC instruction for each of the following:
 - a) NO contact
 - b) NC contact
 - c) Relay output
 - d) Timer
 - e) Counter
4. What is the main use of stepper motor? Explain the function of the brushes and commutation in a DC motor.
5. Describe the purpose of pressure sequence valve and an air receiver.
6. Compare physical components of hydraulic and pneumatic systems. Why is pressure regulation important in a fluid power system? Explain briefly.

******END OF PAPER******