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| Seat No. | |
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B.E. (Electronics & Telecommunication), (Part-IV)
(Semester - VIII) (Revised) Examination, May - 2019
MECHATRONICS (Elective-II)
Sub. Code : 67819

Day and Date : Wednesday, 22 - 05 - 2019

Total Marks : 100

Time : 10.00 a.m. to 1.00 p.m.

- Instructions :
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Assume suitable data if necessary.

SECTION-I

Q1) Solve any two [16]

- a) Explain with block diagram Programmable Logic Controllers.
- b) With block schematic explain different parameters measured in mechatronics.
- c) Explain different steps of design process in mechatronics.

Q2) Solve any two [18]

- a) Classify the actuators based on their design and principle of operation.
- b) Discuss a method for varying the speed of D.C. shunt Motor along with its example.
- c) What is value? Describe the principle of operation of solenoid valve with schematic diagram.

Q3) Solve any two [16]

- a) Describe with diagram any application of Proportional controller & Their limitations.
- b) Explain with diagram & application Gears & Gear trains.
- c) Explain with applications Pneumatic actuators & Piezoelectric actuators.

P.T.O.

SECTION-II

Q4) Attempt any two

[16]

- a) Draw & explain basic structure of PLC in detail.
- b) Differentiate between PLC & Computer.
- c) Explain any two logic functions using Ladder diagram.

Q5) Attempt any two

[16]

- a) Compare NC & CNC with conventional system.
- b) What are the basic elements of Robot? Explain them briefly.
- c) With neat diagram explain Numerical Control system.

Q6) Write short note on (Any 3)

[18]

- a) Sensors & actuators in an EMS.
- b) High speed tilting trains.
- c) Automatic car parking system.
- d) Coin counter.

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