

SV - 469

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Seat No.	
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**B.E.(Electronics & Telecommunication Engg.)**

**(Part - IV) (Revised) (Semester - VIII)**

**Examination, May - 2018**

**MECHATRONICS (Elective-II)**

**Sub. Code : 67819**

**Day and Date : Monday, 14 - 05 - 2018**

**Total Marks : 100**

**Time : 02.30 p.m. to 05.30 p.m.**

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

**SECTION -I**

**Q1) Solve any Two [16]**

- a) Explain working principle and application areas of Pneumatic actuators.
- b) What is the role of control system in mechatronics ? Explain with example.
- c) Why are bearings used in machineries? Identify types of bearings & its applications

**Q2) Solve any Two [16]**

- a) Explain with diagram & application Gears & Gear trains.
- b) Explain with block diagram principles of closed loop control system with controller
- c) Describe with diagram any application of Proportional controller & Their limitations

**P.T.O**

**Q3) Solve any three**

- a) Integral Controller
- b) Chemical actuators
- c) Principle of operation of Induction Motor
- d) PLC

[18]

**SECTION - II**

**Q4) Attempt any two**

- a) Draw & explain basic structure of PLC in detail.
- b) Explain Ladder diagram techniques with any one example.
- c) Explain I/O units of PLC.

[16]

**Q5) Attempt any two**

- a) Compare NC & CNC with conventional system.
- b) Classify Robot based on Geometric Configuration.
- c) With neat diagram explain general configuration of CNC machine.

[16]

**Q6) Write short note on (Any 3)**

- a) Sensors & actuators in an EMS
- b) Boat Autopilot
- c) ABS control system
- d) Coin counter

[18]

