

SL - 1007

Total No. of Pages : 3

Seat No.	
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**B.E. (Mechanical) (Semester - VIII) Examination, April - 2017**  
**MACHATRONICS (Revised)**

**Sub. Code : 68508**

**Day and Date : Tuesday, 25 - 04 - 2017**

**Total Marks : 100**

**Time : 02.00 p.m. to 05.00 p.m.**

- Instructions :**
- 1) All questions are compulsory.
  - 2) Answer to all questions must be written in one answer book.
  - 3) Figure to the right indicate full marks.
  - 4) Assume any data if necessary and state it clearly.
  - 5) Use of any type of calculator is not permitted.

**Q1) Solve any two of the following.**

- a) Suggest a suitable sensor for sensing following quantities; also state the transduction principle of sensor suggested by you. [8]
  - i) Force
  - ii) Temperature
  - iii) Displacement
  - iv) Sound
- b) With the help of neat sketch and suitable example, explain tactile sensors. [8]
- c) What is signal conditioning? Explain Analog to Digital converters (ADC) [8]

**Q2) Solve any two of the following.**

- a) What is protection? Explain following protection circuits. [8]
  - i) Zener diode protection circuit.
  - ii) Transistor opto - isolators
- b) Explain polling and interrupts. [8]
- c) What is Data Acquisition system? Discuss Multiplexers. [8]

**P.T.O.**



Q6) Solve any two of the following.

- a) For a PLC based traffic control light application explain. [8]
  - i) Internal relays
  - ii) Counters
  - iii) timers
- b) With the help of suitable block diagram explain part loading and unloading system. [8]
- c) Write a note on fault finding and trouble shooting. [8]

