**REG.NO:**

**SEMBODAI RUKMANI VARATHARAJAN ENGINEERING COLLEGE**

**ACADEMIC YEAR 2013-2014/ODD SEMESTER**

**CYCLE TEST – II AUG-2013**

**DEPARTMENT OF MECHANICAL ENGINEERING**

SET-B

**SUBJECT CODE/TITLE:** **ME 1402 –MECHATRONICS**

**YEAR/SEM:** IV/VII **DATE:**

**DURATION:** 90 Mins **MAX.MARKS:** 50

**PART-A 5x2=10 Marks**

1. Mention the stages in designing a mechatronic system?

2. What is meant by a “retentive timer”?

3. What are the various movements of robots?

4. What are counters?

5. Mention the stages in designing a mechatronic system?

**PART-B**

6. (a) Explain the architecture of a PLC and explain about its elements. (8)

(b) Write the specifications of a PLC. (8)

**(OR)**

7. (a) Explain the basis of ladder programming used in PLC’s **(16)**

8. (a) Draw the block diagram showing the interaction of various elements in a domestic washing machine **(8)**

(b) Explain about the basis of mechatronics system design considering vehicle engine management system as example **(8)**

**(OR)**

9. (a) What is the role of sensors in car engine management system? Explain with a block diagram. **(16)**

10.a) With necessary diagrams, Explain the car engine management system **(8)**