**REG.NO:**

**SEMBODAI RUKMANI VARATHARAJAN ENGINEERING COLLEGE**

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

**CYCLE TEST – II**

**DEPARTMENT OF MECHANICAL ENGINEERING**

SET-A

**SUBJECT CODE/TITLE:** **ME 2204 –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 are the advantages of PLC system?

3. What are shift registers? Where are they used?

4. What are counters?

5. List down PLC programming methods.

**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 automatic car parking system **(8)**