Code No: C4308 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH I SEMESTER EXAMINATIONS APRIL/MAY-2012
PROGRAMMABLE LOGIC CONTROLLERS & ITS APPLICATIONS
(POWER ELECTRONICS)

Time: 3hours **Max.Marks:60**

Answer any five questions
All questions carry equal marks
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1.a) Describe the functions of each of the major sections of a PLC CPU.
b) Briefly discuss the construction of PLC ladder programming layout.

2. There are three machines, each with its own start-stop buttons. Only one may run at a time. Construct a circuit with appropriate interlocking.

3. Explain the relation of switch contact logic (relay/PLC ladder logic) to digital logic for each gate type.

4.a) What are the characteristics of PLC registers?
b) Discuss about the following
i) Input Registers (single and group)
ii) Addressing format of Allen Bradley PLC.

5. Explain the eight major timing functions commonly used in circuits and processes.

6.a) Describe the operation of Sweep function.
b) Describe the First In – First and out (FIFO) and other stacking functions.

7. Explain in detail the controlling of two axis Robots with PLC.

8.a) Give a brief account on multi bit data processing.
b) Describe PID tuning function and methods.

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