B.TECH. SEM -VII ELECTRONICS 2014 COURSE (CBCS) :
SUMMER - 2018
SUBJECT: PROGRAMMABLE LOGIC CONTROLLERS AND APPLICATIONS

Day: **Tuesday**   **S-2018-2500**   Time: **02.30 PM   TO   05.30 PM**

Date: **22/05/2018**   Min. Marks.: 60

N.B.:

    1)   All questions are **COMPULSORY.**

    2)   Figures to the right indicate **FULL** marks.

    3)   Answers to both the section should be written in **SEPARATE** answer books.

    4)   Draw neat and labeled diagrams **WHEREVER** necessary.

    5)   Answer to both the sections should be written in **SEPARATE** answers looks.

Q.1   What is cascade controller? How is it different from PID controller?   **(10)**

<div align="center">OR</div>

    What is fixed and modular PLC? List the criteria for selection of PLC. Also justify the role of PLC in automation.

Q.2   What is meant by signal conditioning? Justify the need of signal conditioning with a practical example.   **(10)**

<div align="center">OR</div>

    Explain the following:

    i)2-wire transmitter

    ii)3-wire transmitter

    iii)Smart transmitter

Q.3   What is the difference between Shift register and Sequencer? Justify giving suitable example.   **(10)**

<div align="center">OR</div>

    Explain the following instructions with practical example:

    i)MOV ii)FRD iii) LEQ iv)MUL v)LIM

Q.4   With help of block diagram explain the HMI .Mention the applications the applications of HMI.   **(10)**

<div align="center">OR</div>

    Write note on:

    i)Soft PLC

    ii) Sequential Flow Chart and Structured text

Q5   Write in brief w.r.t. SCADA   **(10)**

    i)Elements of SCADA

    ii)Functions of MTU

    iii)Functions of RTU

    iv)Communication in SCADA

    v)Applications of SCADA

<div align="center">OR</div>

    Explain w.r.t. Distributed Control System:

        i)   Input and Output modules

        ii)   Communication modules

    Mention specifications of SCADA.

Q.6   What is networking of PLCs? Explain the following: **(10)**

        i)   Profibus   ii) deviceNet

<div align="center">OR</div>

    What is a CNC machine? Explain with a suitable example. State the avantages of CNC machine.

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