PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2017
(Fifth Semester)

Branch- ELECTRONICS

CORE ELECTIVE -1 PROGRAMMABLE LOGIC CONTROLLER

Time : Three Hours   Maximum : 75 Marks

SECTION-A (20 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (1 0 x 2 = 20)

1   List the major components of PLC.
2   What is PLA and PGA?
3   Mention any two advantages of PLC over hard wired technique.
4   What is the abbreviation of PLA and PAL?
5   What is meant by a sensor? Give an example.
6   Define analog input to PLC.
7   Which part of PLC is the decision making unit?
8   Write any two data manipulating instruction of a PLC.
9   What is firmware?
10   Define PLC scan cycle.

SECTION - B (25 Marks!)
Answer ALL Questions
ALL Questions Carry EQUAL Marks (5 x 5 = 25)

11 a With an example explain the design of a sequential network using
       programmable logic devices (PLD).
                          OR
    b Write a note on programmable gate arrays.

12 a Explain the functional block diagram of the basic PLC operation.
                          OR
    b Write a note on the analog and digital inputs to the PLC.

13 a Write a note on the mechanically operated switches and proximity switches.
                          OR
    b Explain the EXAMINE ON and EXAMINE OFF instructions.

14 a Write a note on the ON DELAY TIMER in PLC.
                          OR
    b Explain the counters in PLC.

15 a Explain briefly the application of PLC in materials handling.
                          OR
    b Write a note on process control application.

SECTION - C (30 Marks)
Answer any THREE Questions
ALL Questions Carry EQUAL Marks (3 x 1 0 = 30)

16   With suitable example and explain the deign of the sequential network using
      ROMS.

17   Explain the CPU processor memory module of PLC and mention any one
      programming device that can be used for PLC.

18   Briefly explain the ladder logic diagram.

19   Explain the data manipulating instruction and program control instructions
      of any PLC.

70 F.xnlain the bottle label detection anDlication using PLC with the block diagram.