



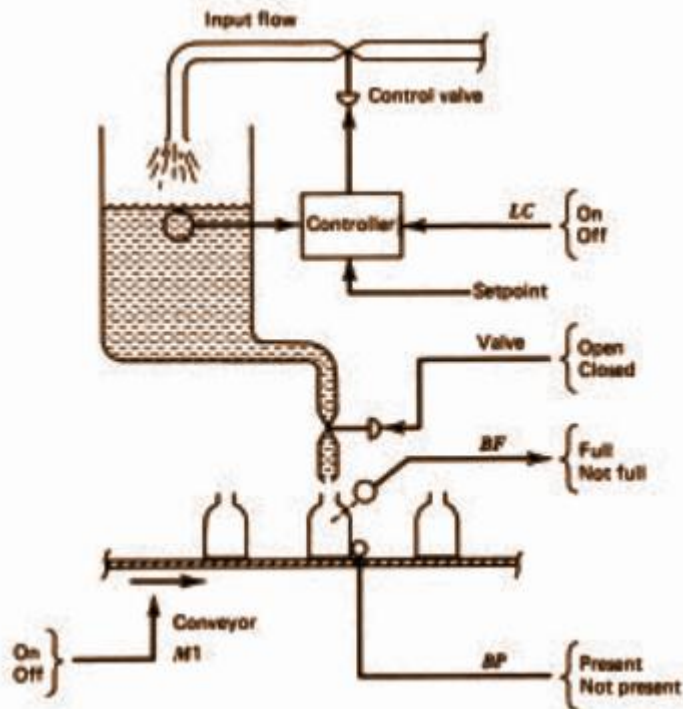
PILLAI COLLEGE OF ENGINEERING, NEW PANVEL
(Autonomous) (Accredited 'A+' by NAAC)
END SEMESTER EXAMINATION
May 2023

BRANCH: Electronics Engineering

SEM VIII

Subject:- Industrial Automation	Time: 03.00 Hours
Max. Marks: 80	Date: 02/05/2023
N.B 1. Q.1 is compulsory	Subject Code: ELC801
2. Attempt any three from the remaining four questions.	
3. Each Question carries 20 marks.	

Q.1.	Attempt any four from following	Marks
a)	Discuss Alarm management system in Industrial Automation	5
b)	Draw and explain the automation hierarchy in larger control system	5
c)	Discuss various PLC communication modules.	5
d)	What are the terms SIS, SIL and IEC61508 ? Explain briefly	5
e)	Discuss Sinking and Sourcing circuits in PLC I/O interfacing with proper diagrams.	5
Q.2.	Attempt the following	
a)	Explain the elements of the SCADA system with their respective functions.	10
b)	Draw and discuss the architecture of Programming Logic Controller.	10
Q.3.	Attempt the following	
a)	What is the importance of industry automation, discuss types of automation system	10
b)	What are the different types of DCS displays ? Elaborate each type with an example	10
Q.4.	Attempt the following	
a)	Draw a ladder logic for the given process diagram below. Write the process description and draw the table for the list of inputs and outputs.	10



b)	Compare PLC - DCS - SCADA	10
Q.5	Attempt any two from the following	
a)	Discuss an application of SCADA in detail.	10
b)	Discuss following with DCS system i) Data highway ii) DCS Programming	10
c)	Discuss the importance of Manufacturing Execution unit(MES) and Enterprise Resource Planning (ERP) in Industrial automation with example.	10