



VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
 [AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
 Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 70003

B.E / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – NOV. / DEC. 2025
 Fifth Semester
 Information Technology
 U19ECO1- BASICS OF ELECTRONICS IN AUTOMATION APPLIANCES
 (Regulation 2019)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Summarize the operation of push button switch with an example.	2	K2	CO1
2.	Show the symbols for SPST, SPDT and DPST switches on the circuit diagram.	2	K1	CO1
3.	List the need of transducer in sensor with example.	2	K1	CO2
4.	Show the block diagram of picture transmission in a television.	2	K1	CO2
5.	Infer the purpose Antilock braking system.	2	K2	CO3
6.	Recall Hydraulic Braking System in an Automobile.	2	K1	CO3
7.	Infer the purpose of IoT enabled in automation system?	2	K2	CO4
8.	Show the ISA-95 automation pyramid architecture to the Industry 4.0.	2	K1	CO4
9.	Interpret the protocol safety standards are governed by different bodies with an example.	2	K2	CO5
10.	List the objectives for products safety standards.	2	K1	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	Explain in detail about to construct a simple circuit with a switch in real time application.	13	K2	CO1

(OR)

- b) Describe the soldering and desoldering, steps to be followed in PCB board, techniques and their safety procedure. 13 K2 CO1
12. a) How does sensor work? Explain any one type of sensors with a neat diagram and their application. 13 K2 CO2
- (OR)
- b) Explain the working of PWM in motor controller and H bridge circuit by reverse polarity. 13 K2 CO2
13. a) Explain with a simple sketch, working of Antilock Braking System(ABS) with its relative merits and demerits. 13 K2 CO3
- (OR)
- b) Explain in detail about the cruise control electronics with a neat diagram. 13 K2 CO3
14. a) Describe the component based engineering methodology with an example. 13 K2 CO4
- (OR)
- b) Explain in detail about the Safety and Security engineering in IoT automation systems. 13 K2 CO4
15. a) Describe the conformity to product safety standards and its classification methods. 13 K2 CO5
- (OR)
- b) Explain in detail about the constructive aspects related to EMC. 13 K2 CO5

PART – C

(1 x 15 = 15Marks)

- | Q.No. | Questions | Marks | KL | CO |
|--------|---|-------|----|-----|
| 16. a) | Explain the classification of Air Conditioner (AC) and any one type with a suitable example. | 15 | K2 | CO2 |
| (OR) | | | | |
| b) | Describe the product safety standard developers with international, regional, national standards with an example. | 15 | K2 | CO5 |