Register Number:……..

KUMARAGURU
college of technology
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B.E DEGREE EXAMINATIONS: NOV/DEC 2024

(Regulation 2018)

Fourth Semester

ELECTRONICS AND INSTRUMENTATION ENGINEERING

U18EIT4005: Ancillary Support System

COURSE OUTCOMES

CO1: Evaluate the basic principles of EMI/EMC problem identification, design, and prevention, earthing and shielding principles, procedures and practices
CO2: Evaluate the principles of power distribution systems and system components.
CO3: Develop a wiring diagram for a control panel.
CO4: Illustrate the operation of hydraulic and pneumatic systems

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	Explain the need for shielding in PCB board.	CO1	[K_2]
2.	Summarize different types of EMC gaskets used in electronics circuits	CO1	[K_2]
3.	Describe the effects of short circuit in electronics circuit board.	CO1	[K_2]
4.	Analyze the method of measuring the value of resistance in a conductor	CO2	[K_4]
5.	Distinguish between wiring diagram and Schematic diagram with appropriate example	CO2	[K_4]
6.	Classify the electrical Cables used in control panels	CO2	[K_2]
7.	Reason out why most of the induction motors are delta connected?	CO3	[K_4]
8.	Illustrate what happens when a DC motor is connected across an AC supply?	CO3	[K_2]
9.	List the properties that hydraulic oil should pass to be used in a system	CO4	[K_4]
10.	Examine why water is not used as a medium in fluid power system?	CO4	[K_4]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	a)	Describe the effect of stray capacitance fault occurring in the electronics circuits.	8	CO1	[K_2]
	b)	What do you understand from the following terms: (a) Cable Maintenance (b) circuit noises	8	CO1	[K_2]

12.	a)	Develop a suitable electrical connection for the power distribution circuit using two and three sources single bus with bus coupler and explain	10	CO1	[K_3]
	b)	Explain the types of power cables and insulation methods used in industries	6	CO2	[K_2]
13.	a)	Analyze the electrical shock hazards and protective methods in power house	8	CO2	[K_4]
	b)	Describe the steps involved in troubleshooting in a control panel	8	CO3	[K_2]
14.	a)	Construct the power and control wiring for the DOL starter and explain it	10	CO3	[K_3]
	b)	Explain the operation of a stepper motor & characteristics output	6	CO3	[K_2]
15.	a)	Categorize the pneumatic control valve and explain its application	8	CO4	[K_4]
	b)	Classify the hydraulic motor and compare its performance to electrical motor.	8	CO4	[K_4]
16.	a)	Classify the hydraulic actuator and its applications in industries	8	CO4	[K_4]
	b)	Examine how hydraulic actuator does differ from pneumatic actuators	8	CO4	[K_4]

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