

Reg. No.:



Y7565

Name:

University of Kerala

Fourth Semester FYUGP Degree Examination, May 2026

Skill Enhancement Courses

PHYSICS

UK4SECPHY201 - Wiring and Electrical Devices

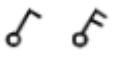
Academic Level: 200-299

2024 Admission

Time: 1 Hour

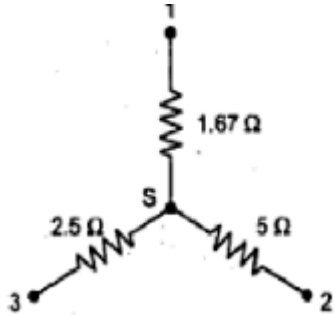
Max. Marks: 28

Part A. 4 Marks ,Time 5 Minutes (Cognitive Level :Remember(RE)/Understand(UN))Objective Type 1 mark each, Answer all questions

Qn No.	Question	CL	CO
1	Identify the cheapest internal wiring system from the following options a. cleat wiring b. conduit wiring c. C.T.S wiring d. casing-capping wiring	RE	3
2	Identify the switch component from the symbols given below. 	RE	2
3	A large number of lamps of small voltage rating are to be controlled by a single switch. Select a suitable system of connection for this situation.	UN	4
4	Differentiate between short circuit and open circuit.	UN	1

Part B. 8 Marks ,Time 15 Minutes (Cognitive Level :Understand(UN)/Apply(AP))Short Answer 2 marks each, Answer all questions

Qn No.	Question	CL	CO
5	Distinguish between a wiring diagram and a schematic diagram.	UN	4
6	Infer the reason for IE Rule 61 mandate that the neutral conductor of a 3-phase, 4-wire system be earthed at the generation station or substation?	UN	2

Qn No.	Question	CL	CO
7	Estimate the resistance values of the delta network equivalent to the given star connection. 	AP	1
8	Apply the concept of proper earthing to explain how current flows during a leakage condition	AP	3

Part C. 16 Marks ,Time 40 Minutes (Cognitive Level :Apply(AP)/Analyse(AN)/Evaluate(EV)/Long Answer 4 marks each, Answer all questions choosing among options* within each question

Qn No.	Question	CL	CO
9	A) Apply your knowledge on electric shock to chart a step by step response to the situation: A homeowner accidentally touches a live wire while trying to fix a faulty ceiling fan and receives an electric shock. OR B) Demonstrate your understanding by explaining Rule 33(Earthen terminal a consumer premises) and Rule 47(Testing of consumers installation) of Indian electrical rule	AP	2, 2
10	A) Investigate how Norton's Theorem is applied to a complex network containing current sources, voltage sources, and resistors. OR B) Compare the equivalent resistance and current flow across resistors in the case of series resistor circuit and parallel resistor circuit.	AN	1, 1
11	A) Compare the currents when a household load 2200 W is connected to a 220 V supply and a load 3300 W is connected to a 230 V supply. OR B) A house has 4 lamps of 60 W each, 2 fans of 80 W each, 6 LED bulbs of 10 W each and a TV rated 150 W. Evaluate the total connected load in units of KiloWatt	EV	3, 3
12	A)	CR	4, 4

Qn No.	Question	CL	CO
	Create the wiring diagram in Joint-Box System for three lamps and a fan connected independently. OR B) It is required to connect two lamps and a fan to control independently. Design a wiring diagram of the circuit in looping – in system.		