SHRI MATA VAISHNO DEVI UNIVERSITY, KATRA
School of Electrical Engineering
B. Tech. (Branch) Minor -II Examination (Odd) 2023-24

Entry No: | | | | | | | | | |

Total Number of Pages: [02]
Total Number of Questions:[04]

Date: 08-04-2024

Course Title: Electrical Wiring
Course Code: EEL SE 102(Common for All)

Max Marks: [20]

Time Allowed: 1.0 Hours

Instructions / NOTE

i. Attempt All Questions.
ii. Support your answer with neat freehand sketches/diagrams, wherever appropriate.
iii. Assume an appropriate data / information, wherever necessary / missing.

	Section – A(Short answer type)		
Q1.	(I) What is difference between circuit breaker and isolator?. Also function of fuse.	[02]	CO1
	(II) A circuit has a total apparent power (S) of 100 kVA with a power factor (PF) of 0.8 lagging. Calculate the real power (P) and reactive power (Q) consumed by the circuit.	[02]	CO1
	(III) What are boxes and panels in electrical wiring?	[02]	CO2
	(IV) What is electrical receptacle used for in electrical wiring?	[02]	CO4
	Section – B(Long answer type)		
Q2.	Design an electric wiring layout for a residential building with the following specifications: The building has three floors: ground floor, first floor, and second floor. Each floor has three bedrooms, one living room, one kitchen, and two bathrooms. The electrical system should include lighting, power outlets, and switches for each room. The electrical panel should be located on the ground floor. Ensure proper grounding and safety measures are implemented.	[06]	CO2
Q3.	A factory has a total apparent power (S) of 600 kVA with a power factor (PF) of 0.7 lagging. The factory wants to improve its power factor to at least 0.9 lagging. Calculate the reactive power (Q) that needs to be compensated to achieve the desired power factor improvement.	[03]	CO3
Q4.	A three-phase energy meter has a meter constant of 1200 revolutions per kWh. If the meter runs for 1 month at a load of 15 kW, calculate the total energy consumed in kWh.	[03]	CO1