

Enroll No

Q.P. Code
UT 3484

Unit Test -II (2025-26)

F.Y. B.Tech.- (H, I, J, K, L, M, N)

Course Code: SH1295

Course Name: Basic Electrical Engineering

Day & Date: Thursday, 27/11/2025

Time: 03:45 A.M to 04:45 A.M

Max Marks- 25

- Instructions:**
- 1) All questions are compulsory.
 - 2) Figures in rounded () brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.
 - 3) CO is the index number of the Course Outcome statement.
 - 4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.
 - 5) Assume suitable data if necessary.
 - 6) Use of non-programmable calculators is allowed

		Marks	BT Level	COs
Q.1	A	04	L1	CO2
	Define the following terms.			
	i. Magnetic Flux (1)			
	ii. Magnetomotive Force (mmf) (1)			
	iii. Magnetic Flux Density (1)			
	iv. Reluctance (1)			
	B	04	L2	CO2
	Compare between Magnetic Circuit and Electric Circuit (Any 4 points).			
	C	04	L3	CO2
	Determine the flux density (2) and mmf (2) required to generate a total flux of 70mWb in an air gap 0.8cm long. The cross-sectional area of the air gap is 85cm ² .			

OR

An air cored toroid coil has 1000 turns and carries a current of 2.5A. the cross-sectional area of the coil is 8cm² and the length of the magnetic circuit is 25cm. Determine the magnetic field strength (1), flux density (1) and the total flux (2) within the coil.

Q.2	A	06	L2	CO3
	Write a short note on			
	i. Miniature Circuit Breaker (MCB) (3)			
	ii. Earth Leakage Circuit Breaker (ELCB) (3)			
	B	05	L2	CO3
	Explain Single Line Diagram (2) with neat sketch (3) of residential building.			

OR

Enlist the types of Earthing (1M) and explain plate earthing (2) with neat sketch (2M).

C	If an electrical oven of 1.5kW runs for 6 hours per day and television of 600W runs for 9 hours per day. Find the total daily (1) and monthly (1) power consumption in kWh.	02	L4	CO3
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