K. K. Wagh Institute of Engineering Education and Research, Nashik

(An Autonomous Institute from A.Y. 2022-23)

(C)

Marking Scheme

End-Sem Examination-I, Winter 2025

Academic Year: 2025-2026	Semester: I
Class: F.Y. B.Tech	Program: B Tech
Branch Code: CIV/MEC/CHE	Pattern:2023
Name of Course: Basic Electrical Engineering	Course Code: 2300106A

Q. No.	Details (Question and Marking Breakdown)	Max. Marks
1a	terms - 2m dia - 2m Derivation - 2m	6
2a	6 pt - difference - 6m each 1 M.	6
3a	each Defn - 1 M crest factor - 2m	8
3b	current equn - 2m | phasor - 2m CKt dia - 2m | waveform - 2m.	8
3c	$V_L = 400$ V | $I_L = 20.67$ - 2m | P = 6.93 kW - 2m $I_{ph} = 11.93$ A - 2m | P.f = 0.447 | Z = 2m.	8
3d	each quantity 1 M | $V_{ph} = 254$V | $I_{ph} = 7.26$A | $I_L = 7.26$ A | $V_L = 440$V | P = 5525W Q = 0 S = 5525 VA	8
4a	Constn - dia - 2m Explⁿ 2m fⁿ & material - 4M	8
4b	~~Ent equ — 6 m~~ ~~terms - 2m~~ | Kitkat fuse with dia - 4 M Adv. Expⁿ — 2m — 2m	8
4c	constn - working - 4m. Dia - 2m type - 2m	8
4d	Importance of earthing - 2m method with dia - 6m	8
5a	Enlist losses - 2m. minimizⁿ - 6 m.	8

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3d	each quantity 1M | $V_{ph} = 254$V | $I_{ph} = 7.26$A | $I_L = 7.26$ A | $V_L = 440$V | P = 5525W, Q = 0, S = 5525VA	8
4a	Constrn - dia - 2m Explⁿ - 2m fⁿ & material - 4M	8
4b	~~Emf equn - 6m~~ ~~terms - 2m~~ | kitkat fuse with dia - 4M Adv. expn - 2m - 2m	8
4c	constrn - working - 4m. Dia - 2m type - 2m	8
4d	Importance of earthing - 2m method with dia - 6m	8
5a	Enlist losses - 2m. minimizⁿ - 6 m.	8

5b	terms - 3 m Derivation - 5 m	8
5c	$P_{cu} = 2800\ W$ — 2 m $\eta_{FL} = 99.77\%$ — 3 m $\eta_{HL} = 99.74\%$ — 3 m	8
5d	$P_{cu} = 180 \times 10^3\ W$ — 3 $\%.\eta_{FL} = 83\%$. $\%.\eta_{HL} = 90.4\%$.	8