



# WALCHAND COLLEGE OF ENGINEERING

(Government Aided Autonomous Institute)

Vishrambag, Sangli - 416415

First Year B.Tech. Group A & Group B

ESE, ODD SEMESTER, AY 2023-24

Basic Electrical Engineering (6EL101)



ESE

PRN: \_\_\_\_\_

Day & Date: Tuesday, 02/01/2024 Time: 10.00 am to 12 noon

Max Marks: **50**

**IMP: Verify that you have received question papers with correct course code, branch etc.**

**Instructions**

- All questions are compulsory.
- Writing question number on answer book is compulsory otherwise answers may not be assessed.
- Assume suitable data wherever necessary.
- Figures to the right of question text indicate full marks.
- Mobile phones, smart gadgets and programmable calculators are strictly prohibited.
- Except PRN anything else writing on question paper is not allowed.
- Exchange/Sharing of stationery, calculator etc. not allowed.

Text on the right of marks indicates course outcomes (Only for faculty use)

Marks

- |       |   |   |     |
|-------|---|---|-----|
| Q1 A) | Explain with diagram different types of lamps.  | 6 | CO1 |
| B)    | What is importance of earthing? Explain any one type of earthing used in detail.  | 6 | CO1 |
| Q2 A) | Explain synchronous speed of induction motor. If a 4-pole induction motor is supplied with 230 volts, 50 hz supply then obtain its synchronous speed.   | 6 | CO2 |
| B)    | With diagram explain different parts of induction motor.  | 6 | CO1 |
| Q3 A) | Elaborate different types of losses in transformer.   | 6 | CO1 |
| B)    | Explain with diagram construction of shell type and core type transformer.  | 6 | CO1 |
| Q4 A) | A DC generator with 4-poles, running at 900 rpm speed. The armature consists of 440 numbers of conductors and flux is 0.07 Wb per pole, then calculates generated emf for lap wound and wave wound. | 6 | CO2 |
| B)    | Elaborate with different graphs series RLC circuit.   | 4 | CO1 |
| C)    | Explain superposition theorem with example.   | 4 | CO1 |

..... End of question paper .....