

BACHELOR OF TECHNOLOGY (CBCS - 2023)
B. Tech. Sem-II COMPUTER SCIENCE & ENGINEERING : WINTER : 2024
SUBJECT: ELECTRICAL TECHNOLOGY

Day : Monday
Date : 25/11/2024

W-27695-2024

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Assume suitable data **WHEREVER** necessary.
- 4) Draw neat labeled diagrams **WHEREVER** necessary.

- Q.1 a) Explain Kirchhoff's voltage law with neat diagram. (05)
b) Define following terms: (05)
i) Potential Difference ii) Current iii) Resistance
- OR**
- Q.1 a) Describe the concept of dependent and independent sources. (05)
b) Explain Kirchhoff's current law with neat diagram. (05)
- Q.2 a) Explain Thevenin's theorem with neat diagram. (05)
b) Solve if 4 resistances are connected in parallel then find it's equivalent. (05)
- OR**
- Q.2 a) Explain Maximum Power Transfer Theorem with neat diagram. (05)
b) Solve if 4 resistances are connected in series, then find it's equivalent. (05)
- Q.3 a) Explain R-L series circuit with neat sketch along with pharos diagram. (05)
b) Describe series resonance in electric circuit with neat sketch. (05)
- OR**
- Q.3 a) Draw impedance triangle and explain in brief. (05)
b) Describe power factor with appropriate equations. (05)
- Q.4 a) Explain necessity of 3- phase system. (05)
b) Describe line and phase values in star connection. (05)
- OR**
- Q.4 a) Explain measurement of 3-phase power. (05)
b) Describe balanced supply and balanced load. (05)
- Q.5 a) Derive EMF equation of a transformer. (05)
b) Explain principle and operation of single phase transformer. (05)
- OR**
- Q.5 a) Explain, how to determine efficiency and regulation by direct load test. (05)
b) Write a note on different losses in transformer. (05)
- Q.6 a) List different types of earthing? Explain one in brief. (05)
b) Explain fluorescent lamp with neat diagram. (05)
- OR**
- Q.6 a) Explain necessity of earthing with neat diagram. (05)
b) List different type of wiring system, explain any one in brief. (05)
