



Dr. V.S.KRISHNA GOVERNMENT DEGREE AND PG COLLEGE
(An Autonomous Institution Affiliated to Andhra University
Reaccredited by NAAC with A Grade (3rd Cycle)
District Resource Centre and Centre for Research Studies
Maddilapalem, Visakhapatnam 530013, Andhra Pradesh



Programme: B.Sc. Honours in Electronics (Major)
w.e.f. AY 2023-24

SEMESTER II COURSE CODE 23ELEM22: CIRCUIT THEORY AND ELECTRONIC DEVICES

Theory

Credits: 3

3 hrs/week

Model Question Paper

Duration: 3Hrs

Max Marks: 60

Section A

Answer any five questions from the following (4M× 5 = 20M)

1. Write differences between Ac and DC?
2. Write definitions of current and voltage?
3. Explain superposition theorem?
4. Explain star to delta conversion?
5. Write a short note on Q factor?
6. Explain the frequency response of LCR series resonance circuit and write its resonance frequency?
7. What are hybrid parameters explain?
8. Write advantages of FET over BJT?
9. Explain the terms efficiency and ripple factors for half wave and full wave rectifiers?
10. Write a short note on LED?

Section B

Answer all the questions (8M× 5 = 50M)

11. (a) Define average value and RMS value, derive expression for RMS value of AC
(OR)
(b) Obtain phase relations for R, L, C
12. (a) State and prove maximum power transfer theorem?
(OR)
(b) State and prove Thevenin's theorem?
13. (a) Explain frequency response of RL circuit??
(OR)
(b) Discuss RC high pass filter working and explain its frequency response?
14. (a) Explain construction and working of BJT
(OR)
(b) Explain construction, working and characterises of MOSFET
15. (a) Explain construction and working of half wave rectifier?
(OR)
(b) Write a short note on LDR?