

BSc DEGREE EXAMINATION MAY 2017  
(Fifth Semester)

Branch- ELECTRONICS

CIRCUIT ANALYSIS

Time : Three Hours

Maximum : 75 Marks

SECTION-A go Marks!

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 2 = 20)

- 1 Define: Voltage. \*
- 2 What is meant by ideal voltage source?
- 3 Draw the Thevenin's equivalent circuit. .
- 4 Which is used to analyze AC circuits containing more than one source?
- 5 Define : Average value.
- 6 What is the form factor of a sine wave?
- 7 What do you-mean by apparent power?
- 8 Draw RLC series & parallel circuit.
- 9 What is line voltage?
- 10 Define transient state.

SECTION - B (25 Marks)

Answer ALL Questions

• ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a A resistor of 30  $\Omega$  has a voltage rating of 500 V; what is its power rating?  
OR
- b Give brief note of an inductance. \*
- 12 a State & explain Kirchhoff's Current Law with neat diagram.  
OR
- b Explain concept of Mesh analysis.
- 13 a Write a short note on Sine wave.  
OR -
- b Explain about RC series circuit.
- 14 a What is meant by Magnification in Resonance? Explain it.  
OR
- b Describe about the Q factor and its effects on bandwidth.
- 15 a List out the advantages of Three-Phase system.  
OR
- b Explain DC response of an R-C circuit.

SECTION - C (30 Marks!)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Discuss about the different types of resistors.
- 17 State and explain Norton's theorem, with example.
- 18 With neat diagram explain following terms of sine wave :  
(i) Instantaneous value (ii) Peak value (iii) Peak to peak value  
(iv) Peak factor (v) Form factor
- 19 Derive & explain the Q factor of parallel resonance.
- 20 Discuss about the interconnection of three-phase sources and loads.