PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain with suitable example, the colour coding of resistors.

17. Explain the following terms :

(a) 'Opens' in a series circuit and

(b) 'Short' in a series circuit.

18. State super position theorem. Explain it with a suitable example.

19. With suitable sketches, explain the measurement of period and frequency.

20. Obtain the expression for frequency of resonance in parallel resonance circuit.

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S.No. 2253 **17UELS01**

(For the candidates admitted from 2017 – 2018 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

First Semester

Electronics and Communication

SBEC – 1: APPLIED ELECTRIC CIRCUITS

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. What is power rating of a resistor?

2. Define the term : Inductance.

3. State Kirchoff's voltage law.

4. What do you mean by a voltage division rule?

5. State Thevenin's theorem.

6. State Norton's theorem.

7. Define the terms :

(a) Peak value and

(b) Peak – to – Peak value

8. What is meant by power factor?

9. What is capacitive reactance?

10. State the condition for resonance.

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Derive an expression for energy stored in a capacitor.

Or

(b) Discuss the factors governing the inductance of an inductor.

12. (a) State and explain Ohm's law.

Or

(b) Explain current division rule with suitable example.

13. (a) State and explain maximum power transfer theorem.

Or

(b) A radar antenna has a Thevenin voltage of $100\mu V$ and a Thevenin resistance of 50Ω. What should be the value of load resistance to obtain the maximum load power? What is the maximum load power?

14. (a) What is average value? Obtain its expression.

Or

(b) Explain the term : RMS Value.

15. (a) Give a brief account on RL circuit in series.

Or

(b) A 200 volt 50 cycle source supplies a series RC circuit, R=30 ohms and $C=79.5\mu f$. Find

(i) The impedance

(ii) The current

(iii) Power factor

(iv) Power.