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## SSC JE Electrical Engineering

Mock Test  
Series

UNIT – I  
Basic Concepts

Question Booklet  
Number  
TS 5

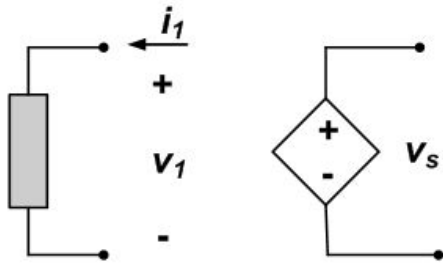
### IMPORTANT INSTRUCTIONS

- SSC JE Electrical – 2020 contains three parts: Part A - General Intelligence & Reasoning, Part B - General Awareness and Part C – Electrical Engineering.
- The Electrical Engineering part consists of Basic concepts, Circuit law, Magnetic Circuit, AC Fundamentals, Measurement and measuring instruments, Electrical Machines, Synchronous Machines, Generation, Transmission and Distribution, Estimation and costing, Utilization of Electrical Energy and Basic Electronics.
- The Test Booklet Consists of 25 questions. Each question carries one mark.
- No Negative Marks.
- Basic concepts Syllabus: Concepts of resistance, inductance, capacitance, and various factors affecting them Concepts of current, voltage, power, energy and their units.
- Mock Test answer key and detailed solutions, visit <https://testshopping.in/blog/>
- Practice more Mock Test Series. All the best for your SSC JE Examination.
- For Online Mock Test Practice, Visit <https://testshopping.in/course-cat/government-exams/>

1. Which of the following is a passive component?
  - a. Resistor
  - b. Inductor
  - c. Capacitor
  - d. All of the above
  
2. The value of temperature coefficient of resistance depends upon.
  - a. Length of the material
  - b. Cross section of the material
  - c. Volume of the materials
  - d. Nature of the materials and temperature
  
3. The internal impedance of the ideal voltage source is.
  - a. Zero
  - b. Unity
  - c. Infinity
  - d. Infinity and Unity
  
4. A practical current source is usually represented by
  - a. A resistance in series with an ideal current source
  - b. A resistance in parallel with an ideal current source
  - c. A resistance in series with an ideal voltage source
  - d. None of the above
  
5. The expression of power in the capacitance is.
  - a.  $CV \frac{di}{dt}$
  - b.  $CV \frac{dV}{dt}$
  - c.  $\frac{1}{CV} \frac{di}{dt}$
  - d.  $\frac{V}{C} \frac{dV}{dt}$
  
6. When the inductance is removed from the supply source, then
  - a. Magnetic field will collapse
  - b. No energy storage
  - c. Electric field discharge path will be provided
  - d. Both a and b
  
7. A network containing circuit elements without energy source is known as.
  - a. Bilateral element
  - b. Unilateral element
  - c. Passive element
  - d. Active element

8. Which of the following input and output expression for “voltage controlled current dependent source”?
- $I(t) = KV_1$
  - $V(t) = KI_1$
  - $I(t) = KI_2$
  - $V(t) = KV_2$
9. A component that opposes the change in the circuit current is.
- Resistance
  - Inductance
  - Capacitance
  - Susceptance
10. Which of the following statements is not correct?
- Voltage across the current depends on voltage source which is connected in parallel with it.
  - Voltage across the current depends on load resistance which is connected in parallel with it.
  - Voltage across the current is purely arbitrary.
  - All of the above
11. A 210 W and 150 W bulbs working under 220 V supply connected series. The power consumed by them is.
- 50 W
  - 65 W
  - 72 W
  - 88 W
12. A resistor of 5 Ohm is connected series with a parallel combination of a number of resistors each value of 5 Ohm. If the total resistance of the circuit is 6 Ohm, then the number of resistances in parallel is.
- 5
  - 6
  - 2
  - 8
13. The capacitance of passive network directly proportional to.
- Permittivity of free space
  - Relative permittivity of dielectric
  - Separation of plates
  - Both a and b
14. A resistor in the circuit has a value of 350 Ohm. It is desired to decrease its resistance of 300 Ohm. The resistance to be connected in parallel with it is.
- 800 Ohm
  - 1800 Ohm
  - 1600 Ohm
  - 2100 Ohm

15. The dependent source shown in fig is.



- Voltage controlled Voltage Source
- Voltage controlled Current Source
- Current controlled Voltage Source
- Current controlled Current Source

16. The law of electromagnetic Inductance – Faradays and lens law are expressed in the following equation.

- $e = iR$
- $e = L \frac{di}{dt}$
- $e = - \frac{d\Psi}{dt}$
- $e = -L \frac{di}{dt}$

17. If one of the resistors in a parallel circuit is removed, then the total resistance is.

- Decreases
- Increases
- Doubles
- Zero

18. The current in a coil of self-inductance of 4H changed from 10 A to 2 A in t seconds and the induced EMF is 40 V. The time t is.

- 0.2 S
- 0.4 S
- 0.6 S
- 0.8 S

19. An ideal constant voltage source is connected in series with an ideal constant current source. Consider together, the combination will be.

- Constant voltage source
- Constant current source
- Constant resistance circuit
- All of the above

20. A coil would behave as.

- Inductor at high frequency
- Capacitor at high frequency
- Resistor at high frequency
- Conductor at high frequency

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