1. If 1 A current flows in a circuit, the number of electrons flowing through this circuit is

A. 0.625×10^{19}

B. 1.6×10^{19}

C. 1.6×10^{-19}

D. 0.625×10^{-19}

2. The resistivity of the conductor depends on

A. area of the conductor.

B. length of the conductor.

C. type of material.

D. none of these.

3. The resistance of a conductor of diameter d and length l is R Ω. If the diameter of the conductor is halved and its length is doubled, the resistance will be

A. R Ω

B. 2R Ω

C. 4R Ω

D. 8R Ω

4. How many coulombs of charge flow through a circuit carrying a current of 10 A in 1 minute?

A. 10

B. 60

C. 600

D. 1200

5. A capacitor carries a charge of 0.1 C at 5 V. Its capacitance is

A. 0.02 F

B. 0.5 F

C. 0.05 F

D. 0.2 F

06. To obtain a high value of capacitance, the permittivity of dielectric medium should be

A. low

B. zero

C. high

D. unity

7. Four capacitors each of 40 µF are connected in parallel, the equivalent capacitance of the system will be

A. 160 µF

B. 10 µF

C. 40 µF

D. 5 µF

8. Five capacitors each of 5 µF are connected in series, the equivalent capacitance of the system will be

A.   5 µF

B.   25 µF

C.   10 µF

D.   1 µF

9. 1 F is theoretically equal to

A.   1 ohm of resistance

B.   ratio of 1 V to 1 C

C.   ratio of 1 C to 1 V

D.   none of these

10. The unit of resistivity is

A.   Ω.

B.   Ω - metre.

C.   Ω / metre.

D.   Ω / m².

11. Instantaneous power in inductor is proportional to the

A.   product of the instantaneous current and rate of change of current.

B. square of instantaneous current.

C. square of the rate of change of current.

D. temperature of the inductor.

12. The voltage induced in an inductor is represented as,

A. product of its inductance and current through it.

B. ratio of its inductance to current through it.

C. ratio of current through it to its inductance.

D. product of its inductance and rate of change of current through it.

13. Absolute permittivity of dielectric medium is represented as

A. ε_0

B. ε_r

C. $\varepsilon_r/\varepsilon_0$

D. $\varepsilon_r\varepsilon_0$

14. Magnetic flux has the unit of

A. Newton

B. Ampere turn

C. Weber

D. Tesla

15. If all the elements in a particular network are linear, then the superposition theorem would hold, when the excitation is

A.   DC only

B.   AC only

C.   Either AC or DC

D.   An Impulse

16. In balanced bridge, if the positions of detector and source are interchanged, the bridge will still remain balanced. This can be explained from which theoem

A.   Reciprocity theorem

B.   Thevinin's theorem

C.   Norton's theorem

D.   Compensation theorem

17. If P is the power of a star connected system then what will be power of an equivalent delta connected system?

A.   P

B.   3P

C.   P/3

D.   None of the above

18. Which of the followings is/are active element?

A. Voltage source

B. Current source

C. Both

D. None of these.

19. Which of the following are the passive elements?

A. Resistor

B. Bulb

C. Both

D. None of these.

20. Power dissipation in ideal inductor is

A. Maximum

B. Minimum

C. Zero

D. A finite value

21. Inductor does not allow the sudden change of

A. current

B. voltage

C. power

D.   None of the above

22. Capacitor does not allow the sudden change of

A.   current

B.   voltage

C.   power

D.   None of the above

23. Internal resistance of ideal voltage source is

A.   zero

B.   infinite

C.   finite

D.   100 ohms

24. Internal resistance of ideal current source is

A.   zero

B.   infinite

C.   finite

D.   100 ohms

25. Nodal analysis can be applied for

A. planar networks.

B. non planar networks.

C. both planar and non planar networks.

D. neither planar and non planar networks.

26. Mesh analysis is applicable for

A. planar networks.

B. non planar networks.

C. both planar and non planar networks.

D. neither planar and non planar networks..

27. Super position theorem is not applicable for

A. current calculations.

B. voltage calculations.

C. power calculations.

D. None of the above.

28. To apply reciprocity theorem response to excitation ratio is

A. Ohm.

B. Mho.

C. No units.

D.   Either Ohm or Mho.

29. Which quantity should be measured by the voltmeter ?

A.   Current

B.   Voltage

C.   Power

D.   Speed

30. Which quantity consists of a unit 1KWh ?

A.   Energy

B.   Time

C.   Power

D.   Charge

31. Which of the following has no units?

A.   Permeability

B.   Moment of a magnet

C.   Magnetic susceptibility

D.   Permittivity

32. Which of the following quantities consists of SI unit as WATT ?

A.   Force

B.   Charge

C.   Current

D.   Power

33. KCL works on the principle of which of the following

A.   law of conservation of charge.

B.   law of conservation of energy.

C.   both.

D.   None of the above.

34. KVL works on the principle of

A.   law of conservation of charge.

B.   law of conservation of energy.

C.   both.

D.   None of the above.

35. Super mesh analysis is used in case of

A.   current source branch is common for two meshes.

B.   ideal voltage source is connected between two non reference nodes.

C.   both.

D.   either 1 or 2.

36. When we use super node technique

A.   current source branch is common for two meshes.

B.   ideal voltage source is connected between two non reference nodes.

C.   ideal voltage source is connected between non reference node and reference.

D.   All of the above.

37. Rms value is defined based on which of the following?

A.   Heating effect

B.   Charge transfer

C.   Current

D.   Voltage

38. Which of the following defined the average value ?

A.   Voltage

B.   Heating effect

C.   Current

D.   Charge transfer

39. For symmetrical wave form average value of one full cycle is

A. 1

B. 1.11

C. 2.22

D. 0

40. Form factor is equal to Peak factor in case of

A. square wave.

B. triangle wave.

C. saw tooth wave.

D. all of the above.