1 Kirchhoff s current law states that

(a) net current flow at the junction is positive

(b) Algebraic sum of the currents meeting at the junction is zero

(c) no current can leave the junction without some current entering it.

(d) total sum of currents meeting at the junction is zero

Ans: b

2. Kirchhoffs current law is applicable to only

(a) junction in a network

(b) closed loops in a network

(c) electric circuits

(d) electronic circuits

Ans: a

3. Thevenin resistance Rth is found

(a) by removing voltage sources along with their internal resistances

(b) by short-circuiting the given two terminals

(c) between any two 'open' terminals

(d) between same open terminals as for Eth

Ans: d

4. An ideal voltage source should have

(a) large value of e.m.f.

(b) small value of e.m.f.

(c) zero source resistance

(d) infinite source resistance

Ans: c

5. To determine the polarity of the voltage drop across a resistor, it is necessary to know

(a) value of current through the resistor

(b) direction of current through the resistor

(c) value of resistor

(d) e.m.fs. in the circuit

Ans: b

6. Which of the following is non-linear circuit parameter?

(a) Inductance

(b) Condenser

(c) Wire wound resistor

(d) Transistor

Ans: d

7. For maximum transfer of power, internal resistance of the source should be

(a) equal to the load resistance

(b) less than the load resistance

(c) more than the load resistance

(d) none of the above

Ans: a

8. The circuit whose properties are same in either direction is known as

(a) unilateral circuit

(b) bilateral circuit

(c) irreversible circuit

(d) reversible circuit

Ans: b

9. The circuit has resistors, capacitors and semi-conductor diodes. The circuit will be known as

(a) non-linear circuit

(b) linear circuit

(c) bilateral circuit

(d) none of the above

Ans: a

10. Which of the following is not a nonlinear element?

(a) Gas diode

(b) Heater coil

(c) Tunnel diode

(d) Electric arc

Ans: b

11. Application of Norton's theorem to a circuit yield

(a) equivalent current source and impedance in series

(b) equivalent current source and impedance in parallel

(c) equivalent impedance

(d) equivalent current source

Ans: b

12. Kirchhoff's current law states that

(a) net current flow at the junction is positive

(b) Algebric sum of the currents meeting at the junction is zero

(c) no current can leave the junction without some current entering it

(d) total sum of current meeting at the junction is zero

Ans: b

13. The superposition theorem is applicable to

(a) voltage only

(b) current "only

(c) current and voltage

(d) current, voltage and power

Ans: c

14. Between the branch voltages of a loop the Kirchhoff s voltage law imposes

(a) non-linear constraints

(b) linear constraints

(c) no constraints

(d) none of the above

Ans: b

15. While calculating Rth in Thevenin's theorem

(a) all independent sources are made dead

(b) only current sources are made dead

(c) only voltage sources are made dead

(d) all voltage and current sources are made dead

Ans: a

17. The superposition theorem requires as many circuits to be solved as there are

(a) sources, nodes and meshes

(b) sources and nodes

(c) sources

(d) nodes

Ans: c

18. According to KVL, the algebraic sum of all IR drops and emf in any closed loop of a network is always

(a) negative

(b) positive

(c) determined by battery emf

(d) zero

Ans: d

19. KCL is applicable to only

(a) junction in a network

(b) closed loops in a network

(c) electric circuits

(d) electronics circuit

Ans : a

20. Superposition theorem can be applied only to circuits having

(a) resistive elements

(b) passive elements

(c) non linear elements

(d) linear bilateral elements

Ans : d

21. The concept on which superposition theorem is based on

(a) reciprocity

(b) duality

(c) non linearity

(d) linearity

22. "Maximum power output is obtained from a network when the load resistance is equal to the output resistance of the network as seen from the terminals of the load". The above statement is associated with

(a) Superposition Theorem

(b) Thevenin's Theorem

(c) Norton's Theorem

(d) MPT

23. For high efficiency of transfer of power, internal resistance of the source should be

(a) equal to the load resistance

(b) less than the load resistance $= 1/ (1+ Ri/R_L)$

(c) more than the load resistance

(d) all of the above

Ans : b

24. the circuit whose properties are same in either direction is known as

(a) Unilateral circuit

(b) Bilateral circuit

(c) irreversible circuit

(d) reversible circuit

Ans : b

25. **the circuit has resistor, capacitor, and semiconductor diodes, the circuit will be known as**

(a) non linear

(b) linear

(c) bilateral

(d) all of the above

Ans : a

26. the superposition theorem is applicable to

(a) linear, non linear, and time variant response

(b) linear and non linear resistors only

(c) linear response only

(d) none of the above

Ans : c

27. Application of Norton's theorem to a circuit yields

(a) equivalent current source and impedance in series

(b) equivalent current source and impedance in parallel

(c) equivalent voltage source and impedance in parallel

(d) equivalent current source only