

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

B.Tech I YEAR II SEMESTER(MR15)

Subject: BEEE –Question Bank

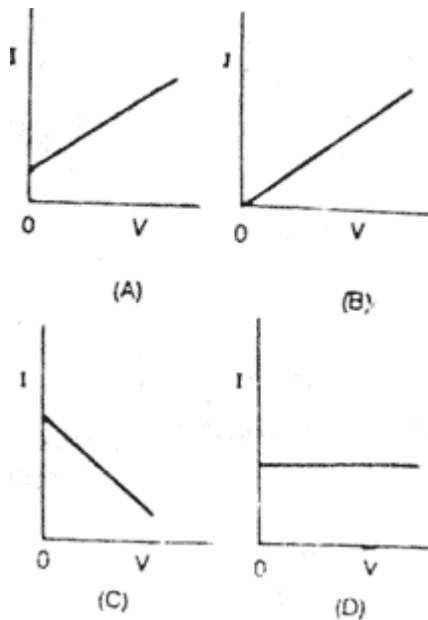
(Common for CE ME and MinE)

MODULE-I

1. What will be the resistance if 10 resistors of 10 ohm each is connected in series []
(A) 100 Ω (B) 1 Ω (C) 0.1 Ω (D) 10 Ω .
2. Resistivity of a wire depends on []
(A) length (B) material (C) cross section area (D) All of the above.
3. Which of the following is not the same as watt? []
(A) joule/sec (B) amperes/volt (C) amperes x volts (D) (amperes)² x ohm.
4. Ohm's law is not applicable to []
(A) DC circuits (B) high currents (C) small resistors (D) semi-conductors.
5. A wire of resistance R has its length and cross-section both doubled. Its resistance will become
(A) 4 R (B) 2 R (C) R (D) R / 4. []
6. The rating of fuse wire is expressed in terms of []
(A) Ohms (B) Mhos (C) Amperes (D) Watts.
7. For maximum transfer of power, internal resistance of the source should be: []
(A) Equal to load resistance (B) Less than that of the load
(C) More than that of the load (D) Zero
8. Thevenin's theorem can be applied to network containing []
(A) Passive elements only (B) Active elements only
(C) Linear elements only (D) All of these
9. Which of the following theorems helps in simplifying computations when the load across a circuit is varying? []
(A) Superposition (B) Norton's (C) Thevenin's (D) Maximum power transfer
10. When maximum power transfer takes place, the efficiency of power transfer of the circuit is
(A) 100% (B) 75% (C) 50% (D) 25% []
11. The superposition theorem requires as many circuits to be solved as there are: []
(A) Nodes (B) Sources (C) Nodes and Sources (D) Nodes, Sources and Mesh

12. An ideal voltage source should have: []
 (A) Zero source resistance (B) Infinite source resistance
 (C) Terminal voltage is proportional to current
 (D) Open-circuit voltage nearly equal to voltage of the load current

13. In which figure the relationship between voltage V and current I is in accordance with Ohm's law ? []



- (A) Figure A (B) Figure B (C) Figure C (D) Figure D.

14. A passive element in a circuit is one which []

- (A) Receives energy (B) Supplies energy (C) both supplies and receives energy (D) none

15. Unit of electric potential []

- (A) Ampere (B) Volts (C) coulomb (D) Volt-ampere

16. If a flux of Φ Weber's links with a coil of N turns, the induced voltage in the coil is given by

- (A) $N \frac{d\Phi}{dt}$ (B) $-N \frac{d\Phi}{dt}$ (C) $NBlu$ (D) none []

17. Whenever there is a relative motion of a coil & a magnetic field, a voltage is induced in the coil. Such a voltage is called []

- (A) Statically induced voltage (B) Dynamically induced voltage

- (C) Self-induced voltage (D) Mutually induced voltage

18. The polarity of the induced voltage is determined by ; []

(A) Ampere's law (B) Lenz's law (C) Kirchhoff's law (D) Right hand rule

19. Two resistors each of 4Ω and 12Ω are connected in parallel and the parallel combination is connected in series with a 2Ω resistor. If this circuit is connected across a 100V supply, the total current drawn is

(A) 50A (B) 25A (C) 20A (D) 2A []

20. The energy stored in an inductor of inductance L henry is represented by []

(A) i^2L (B) iL^2 (C) L^2/i (D) $(1/2) Li^2$

21. The voltage induced in an inductor of L henry is represented by []

(A) Li (B) L/I (C) $L di/dt$ (D) None of these

22. Which of these is not an expression for the energy stored in a capacitor? []

(A) $1/2 CV^2$ (B) $C \int v dv$ (C) $\int p dt$ (D) QV^2

23. Which of the elements in the following is not bilateral? []

(A) Resistor (B) Inductor (C) Capacitor (D) Transistor

24. A node in a network is defined as a []

(A) Closed path (B) Junction point of two or more branches

(C) Group of interconnected elements (D) All of these

25. Which of the following is not a unit of conductance? []

(A) mho (B) Siemens (C) Volt/ampere (D) Ampere/volt

26. Three capacitors, each of C microfarad are first connected in series and then in parallel. The equivalent capacitance []

(A) Is greater in the series combination (B) Is greater in the parallel combination

(C) Is the same in the two combination (D) None of these

27. Two resistances R_1 and R_2 give combined resistance of 4.5 ohms when in series and 1 ohm when in parallel. The resistances are []

(A) 3 ohms and 6 ohms (B) 3 ohms and 9 ohms

(C) 1.5 ohms and 3 ohms (D) 1.5 ohms and 0.5 ohms

28. A Material having a charge of 12 coulombs over 6 second what is current flowing through the material

A) 3 AMPS B) 2 AMPS []

C) 4 AMPS D) 10 AMPS

29. The Potential Difference between Two terminals of Resistor is 10V, Current flowing is 5A, What is the value of Resistance []

- A) 2Ω
- B) 1.5Ω
- C) 1.5Ω
- D) None Of These

30. Four resistors each of 20Ω are connected in parallel, the total resistance is []

- A) 80Ω
- B) 5Ω
- C) 5Ω
- D) None Of These

31. One Farad Is Equal To []

- A) 1Ω
- B) 1 V/C
- C) 1C/V
- D) None Of These

32. Two resistors each of 4Ω and 12Ω are connected in parallel and the parallel combination is connected in series with a 2Ω resistor. What is the Equivalent Resistance?

- A) 50Ω
- B) 5Ω
- C) 20Ω
- D) 2Ω

33. The unit of resistance is []

- A) Ohms
- B) Volts
- C) Amperes
- D) Tesla

34. Circuit is defined as []

- A) Interconnection Of Circuit Elements With Closed Path
- B) Interconnection Of Circuit Elements With Out Any Closed Path
- C) Interconnection Of With Out Circuit Elements
- D) None of these

35. In Series Connection of elements _____ Parameter is Same []

- a) Current
- b) Voltage
- c) Power
- d) None of these

36. In parallel Connection of elements _____ Parameter is Same []

- a) Current
- b) Voltage
- c) Power
- d) None of these

46. Ohm's Law is Applicable at _____ Conditions []
- a) Constant Temperature b) Constant Pressure
c) Constant Volume d) None of These
47. The unit of inductance is []
- a) ohms b) Volts
c) Amperes d) Henry
48. The unit of capacitance is []
- a) ohms b) Farads
c) Amperes d) Tesla
49. An inductor stores _____ energy []
- a)Electrical energy b) Magnetic energy
c) mechanical energy d) All
50. Magnetic flux has he unit of _____ []
- a) Newton b) Ampere turn
c) Weber d) Tesla

ANSWERS:

1.A 2.B 3.B 4.D 5.C 6.C 7.A 8.D 9.D 10.C 11.B 12.A 13.B 14. A 15.B 16. B 17.B 18.B 19.C
20.D 21.C 22.D 23D 24.B 25.C 26.B 27.C 28.B 29.A 30.C 31.C 32.B 33.A 34.A 35.A 36.A
37.A 38.A 39.C 40.A 41.A 42.B 43.B 44.D 45.A 46.A 47.D 48.B 49.B 50.C

Module –II

- 1.If $E_1 = A\sin\omega t$ and $E_2 = A\sin(\omega t - \theta)$, then []
- A)E1 & E2 are in phase B) E2 lags E1 by θ C) E1 lags E2 by θ D) E2 lags E1 by 90°
2. The equation for 25 cycles current sine wave having rms value of 30 amps, will be []
- A) $42.4\sin 50\pi t$ B) $42.4\sin 25\pi t$ C) $30\sin 25\pi t$ D) $30\sin 25\pi t$
- 3.The rms value of sinusoidal voltage wave $V = 200\sin\omega t$, is []
- A) $200/\sqrt{2}$ V B) $100/\sqrt{2}$ V C) $200\sqrt{2}$ V D) $100\sqrt{2}$ V

4. The value of supply voltage for 400 W, 4 Ω load is []
 A) 40 V B) 20 V C) 100 V D) 1600 V
5. What is represented by the hypotenuse of impedance triangle? []
 A) Impedance drop B) Resistance C) reactance D) apparent power
6. The phase angle difference between current and voltage is 90° , the power will be []
 A) zero B) maximum C) minimum D) VI
7. A series R - L - C circuit has R = 1 Ω , L = 1 H and C = 1 F connected across a voltage and line current is 1 A, find energy consumed in one hour []
 A) 36 J B) 360 J C) 3600 J D) 1 J
8. Power consumed in Resistor is []
 A) VI B) VI cos ϕ C) VI sin ϕ D) VI tan ϕ
9. In pure inductive circuit current _____ voltage by 90° []
 A) lead B) lag C) in phase with D) none
10. Power consumed by capacitor is []
 A) VI B) 0 C) VI sin ϕ D) VI cos ϕ
11. RMS Value of sinusoidal Voltage is []
 A) $V_m/\sqrt{2}$ B) 0 C) VI /sin ϕ D) VI/cos ϕ
12. Average Value of sinusoidal Voltage is []
 A) $V_m/\sqrt{2}$ B) $2V_m/\pi$ C) VI /sin ϕ D) VI/cos ϕ
13. Form factor of sinusoidal Voltage is []
 A) 1.11 B) 2 C) 3 D) 4
14. Peak factor of sinusoidal Voltage is []
 A) 1.11 B) 2 C) $\sqrt{2}$ D) 4
15. Direction of Induced EMF is given by []
 A) Flemings Right hand rule B) Flemings Left hand rule C) Faraday Law D) Lenz Law
16. The direction of magnetic field is from []
 A) North-south B) South-North C) Both D) None of these
17. Power factor Cos Φ = []
 A) ZR B) RZ C) R/Z D) Z/R

18. In symmetrical wave RMS Value is calculated for []

A) one Alternation B) Full Cycle C) Both D) None

19. For Half wave Rectifier Second alternation is []

A) ZERO B) Positive C) Negative D) None

20. 50HZ Means []

A) 1 cycle/sec B) 2 Cycles/sec C) 50 Cycles/sec D) 50 Cycles/min

21. How many cycles does a sine wave go through in 10s when its frequency is 60HZ []

(A) 10 cycles (B) 60 cycles (C) 600 cycles (D) 6 cycles

22. If the peak value of a certain sine wave voltage is 10V, what is the peak to peak value? []

(A) 20V (B) 10V (C) 5V (D) 7.07V

23. If the peak value of a sine wave voltage is 5V, then rms value is []

(A) 0.707V (B) 3.535 V (C) 5V (D) 1.17V

24. A phasor represents []

(A) Magnitude of the quantity (B) width of the quantity
(C) Magnitude & direction of the quantity (D) Phase angle of quantity

25. The form factor is the ratio of []

(A) peak value to r.m.s. value (B) r.m.s. value to average value
(C) average value to r.m.s. value (D) none

26. Two waves of the same frequency have opposite phase when the phase angle between them is []

(A) 360° (B) 180° (C) 90° (D) 0°

27. True Power is Also Called As _____ []

(A) Active Power (B) Real Power (C) Reactive Power (D) Both A & B

28. Peak Factor Gives []

(A) Peak Value To R.M.S. Value
(B) Average Value To Peak Value
(E) R.M.S. Value To Average Value
(D) R.M.S. Value To Peak Value

29. For A Frequency Of 200 Hz, The Time Period Will Be []

(A) 0.05 S (B) 0.005 S (C) 0.0005 S (D) 0.5 S

30. Power Factor Of An Electrical Circuit Is Equal To []
 (A) R/Z (B) Cosine Of Phase Angle Difference Between current And Voltage
 (C) Kw/Kva (D) Ratio Of Useful Current To Total Current i_w/I
 (E) All Above
31. The Apparent Power Drawn By An A.C. Circuit Is 10 Kva And Active Power Is 8 Kw. The Reactive Power In The Circuit Is []
 (A) 4 Kvar
 (B) 6 Kvar
 (C) 8 Kvar
 (D) 16 Kvar
32. In An A.C. Circuit Power Is Dissipated In []
 (A) Resistance Only (B) Inductance Only
 (C) Capacitance Only (D) None Of The Above
33. A Phasor Is []
 (A) A Line Which Represents The Magnitude And Phase Of An Alternating Quantity
 (B) A Line Representing The Magnitude And Direction Of An Alternating Quantity
 (C) A Coloured Tag Or Band For Distinction Between Different Phases Of A 3phase Supply
 (D) An Instrument Used For Measuring Phases Of An Unbalanced 3phase Load
34. Ohm Is Unit Of All Of The Following Except []
 (A) Inductive Reactance (B) Capacitive Reactance
 (C) Resistance (D) Capacitance
35. The Product Of Apparent Power And Cosine Of The Phase Angle Between Circuit Voltage And Current Is []
 (A) True Power (B) Reactive Power
 (C) Voltamperes (D) Instantaneous Power
36. The Product Of Apparent Power And Sine Of The Phase Angle Between Circuit Voltage And Current Is []
 (A) True Power (B) Reactive Power
 (C) Voltamperes (D) Instantaneous Power
37. Which Power Of The Following Is The Product Of Voltage And Current Is []
 (A) True Power (B) Reactive Power
 (C) Voltamperes (D) Instantaneous Power
38. The Power Factor Of A D.C. Circuit Is Always []
 (A) Less Than Unity (B) Unity
 (C) Greater Than Unity (D) Zero
39. The Safest Value Of Current The Human Body Can Carry For More Than 3 Second Is []
 (A) 4 ma (B) 9 ma (C) 15 ma (D) 25 ma
40. Power Factor Of The Following Circuit Will Be Unity []
 (A) Inductance (B) Capacitance
 (C) Resistance (D) Both (A) And (B)
41. Power Factor Of The Following Circuit Will Be Leading []

- (A) Resistance
- (B) Inductance
- (C) Capacitance
- (D) Both (B) And (C)

42. The Units For Capacitor Is []

- (A) Farads (B) Henry (C) Ohms (D) None

43 Formula For Coefficient Of Coupling Is []

A) $K = \sqrt{L_1 L_2}$

B) $K = M / \sqrt{L_1 L_2}$

C) $K = \sqrt{\frac{M}{L_1} + L_2}$

D) $K = M \sqrt{L_1 / L_2}$

44. The Units For Current Is []

- (A) Farads (B) Henry (C) Ohms (D) Ampere

45. All The Rules And Laws Of D.C. Circuit Also Apply To A.C. Circuit Containing []

- (A) Capacitance Only
- (B) Inductance Only
- (C) Resistance Only
- (D) All Above

46. Power Factor Of The System Is Kept High []

- (A) To Reduce Line Losses
- (B) To Maximise The Utilization Of The Capacities Of Generators, Lines And Transformers
- (C) To Reduce Voltage Regulation Of The Line
- (D) Due To All Above Reasons

47. The Units For Resistance Is []

- (A) Farads (B) Henry (C) Ohms (D) Voltage

48. Power Factor Of An Inductive Circuit Is Usually Improved By Connecting Capacitor to it in

- (A) Parallel []
- (B) Series
- (C) Either (A) Or (B)
- (D) None Of The Above

49. The Range Of Power Factor Value []

- (A) [1 1] (B) [-1 1] (C) [1 0] (D) [0 0.5]

50. For A Sine Wave With Peak Value I_{max} The R.M.S. Value Is []

- (A) 0.5 I_{max}
- (B) 0.707
- (C) 0.9
- (D) 1.414 I_{max}

ANSWERS

1.B 2.A 3.A 4.A 5.A 6.A 7.C 8.A 9.B 10.B 11.A 12.B 13.A 14.C 15.A 16.A 17.C 18.A 19.A
20.C 21.C 22.D 23.B 24.C 25.B 26.B 27.D 28.A 29.B 30.E 31.B 32.A 33.B 34.D 35.A 36.B
37.C 38.D 39.B 40.C 41.C 42.A 43.B 44.D 45.D 46.D 47.C 48.A 49.B 50.B

Module-III

1. The copper loss is a _____ loss []
A)Fixed B) Variable C) fixed & variable D) all of the above.
2. Core type transformer is a _____ circuit. []
A)Single B) double C) Single &double D) none of these
3. In Shell type transformers the core has _____ limbs []
A)One B) two C) three D) four
4. The transformer is a _____ converting device []
A)Voltage B) current C) frequency D) power
5. Which supply is used for the transformers []
A)DC B) AC & DC C) AC D) All of the above
6. Input to a alternator is []
A)A.C B)D.C C) both A.C &D.C D)NONE
7. E.M.F equation of alternator is []
A)2.22fφz B) 22.2fφz B C) 222fφZ D) 2.1fφz
8. Alternator working principal is []
A)electromagnetic induction B)self inductance C) mutual inductance D)back emf
9. Salient pole type is also known as []
A)projecting pole B)non-projecting pole C)cylindrical D)non- cylindrical
10. In alternator frequency $f =$ []
A)NP/120 B)NP120 C)N/120P D)1/NP120
11. Laminated insulations coated with varnish are normally used in the transformer[]
A) To reduce reluctance of magnetic path B) To reduce the effect of eddy current
C) To reduce the hysteresis effect D) To increase the reluctance of magneticpath
12. Transformer is a device which []
A) Work through on electric induction. B) Can step up or step down the level of voltage.
C) All of these D) Its Working without changing the Power.
13. The transformer turns ratio determines []

A)Zero B) Sinusoidal C) Flat top D) Negative

24. The voltage regulation of a transformer at full-load 0.8 power factor lag is 6 per cent. Its voltage regulation at full-load 0.8 power factor lead will be []

A)Zero B) Positive C) 54% D) Negative

25. Transfer of electrical power from primary to secondary in a transformer takes place []

A)Electrically B) Magnetically C)None of these D) Electromagnetically

ANSWERS:

1.B 2.B 3.C 4.A 5.C 6.C 7.A 8.A 9.A 10.A 11.B 12.B 13.D 14.D 15.B 16.C 17.C 18.C 19.A
20.A 21. A 22.A 23.C 24.D 25.D