Q. 1. When AC quantity reaches its maximum or zero value earlier than other,the AC is said to be :- (BLT-P460)

(1) Lagging (2) Leading. (3) In Phase (4) Either 1 or 2

Q. 2. When AC quantity reaches its maximum or zero value later than other,the AC is said to be :- (BLT-P460)

(1) Lagging. (2) Leading (3) In Phase (4) Either 1 or 2

Q. 3. One complete set of positive and negative values of alternating current,is known as :- (BLT-P457)

(1) Phase (2) Frequency (3) Time period (4) Cycle.

Q. 4. The Time taken by alternating quantity to complete one cycle, is called :- (BLT-P458)

(1) Phase (2) Frequency (3) Time period. (4) Cycle

Q. 5. The no of cycles per second in alternating quantity, is called: - (BLT-P458)

(1) Phase (2) Frequency. (3) Time period (4) Cycle

Q. 6. The maximum value of positive and negative of an alternating quantity, is known as: - (BLT-P458)

(1) Amplitude. (2) Frequency (3) RMS Value (4) DC

Q. 7. The phase of alternating quantity, is the fraction of time period of that alternating current which has elapsed since the current last passed thru the zero position of reference is known as :- (BLT-P459)

(1) Amplitude (2) Frequency (3) Phase (4) AC

Q. 8. The RMS value of AC is also known as: - (BLT-P461)

(1) Effective value (2) Actual value (3) True Value (4) option 1 and Virtual value

Q. 9. DC current will equal to **---------,** is the RMS value of AC: - (BLT-P461)

(1) Imax divided by root 2 (2) Imax multiplied by root 2 (3) Imax divided by 0.707 (4) option 1 and Virtual value

Q. 10. RMS value of AC is that----------which when flows thru the identical circuit produces same heat as produced by---------for the same circuit: - (BLT-P461)

(1) Steady Direct current, DC current (2) Steady Direct current ,Alternating current. (3) pulsating Direct current ,Pulsating AC current (4) Steady Direct current ,DC current

Q. 11. Average value of AC is expressed by that steady current which when flows thru the identical circuit, ---------- as is ----------for the same time: - BLT-P463)

(1) Transfer the Same charge, transferred by that AC current. (2) produces Same heat, produced by AC current (3) Transfer Same heat , transferred by DC current (4) Transfer Same charge ,transferred by DC current

Q. 12. Average value of AC is ----------: - (Grobs-Ch10-P452) (BLT P-464)

(1) 0.707 x Peak value (2) 0.707 x RMS value (3) 0.637 x Peak value. (4) 0.637 x Effective value

Q. 13. RMS value of AC is ---------- :- (Grobs-Ch10-P452)

(1) 0.707 x Peak value. (2) 0.707 x RMS value (3) 0.637 x Peak value (4) 0.637 x Effective value

Q. 14. Peak value of AC is ----------: - (Grobs-Ch10-P452)

(1) 0.707 x Peak value (2) also known as Max. value (3) 1.414 x RMS value. (4) Both 2 & 3

Q. 15. The Time period is denoted by ---------- and is ---------- :- (Grobs-Ch10-P456)

(1) T, Reciprocal of Time (2) T, Reciprocal of Frequency. (3) F, Reciprocal of Time (4) Minutes and multiplied by frequency

Q. 16. The wavelength of sine wave is :- (Grobs-Ch10-P457)

(1) Length of time (2) Distance traveled by the wave in one cycle. (3) Both 1 , 2 and distance between peak to peak (4) the Crest to crest distance

Q. 17. The wavelength is denoted by :- (Grobs-Ch10-P457)

(1) Lambda (2) Phi (3) Theeta (4) Roh

Q. 18. Below formula is applicable to :- (Grobs-Ch10-P530)

(1) Xc=1/6.28xFxC and sine wave only. (2) Xc=1/6.28xFxC and square wave only (3) Both 1 & 2 (4) Xc=1/3.14xFxC and sine wave only

Q. 19. The formula Xl= 2x3.14xFxL is applicable to ------: - (Grobs-Ch10-P530)

(1) Sine wave only. (2) DC only (3) Both 1 & 2 (4) Square wave only

Q. 20. Power factor is: - (Grobs-Ed10-P722)

(1) The ratio Resistance to the Impedance (2) Cosine of angle of lead or lag (3) The ration of power to apparent power (4) AOA.

Q. 21. MTCS for Active component: - (BLT-P510)

(1) Are in phase with applied voltage. (2) Out of phase with applied voltage (3) either 1 or 2 (4) have Low voltage drop

Q. 22. MTCS for reactive component : - (BLT-P510)

(1) Circuit current is in phase with applied voltage (2) Circuit current is out of phase with applied voltage (3) Both 2 & 4. (4) Known as wattles component

Q. 23. Apparent power is : - (BLT-P511)

(1) The product of RMS value of circuit current and applied voltage. (2) The product of RMS value of circuit current, applied voltage and power factor (3) the product of average value of circuit current and voltage (4) Known as useless power

Q. 24. Reactive power is : - (BLT-P511)

(1) The product of RMS value of circuit current and applied voltage (2) The product of RMS value of circuit current , applied voltage and sine (Phi) (3) Both 2 & 4. (4) Known as volt-ampere-reactive (VAR)

Q. 25. In a series Resonance LCR circuit, the frequency can be calculated by = to: - (BLT-P589)

(1) 1/6.28 x under root LC. (2) 1/6.28 x under root LCR (3) 1/6.28 x square root LR (4) 6.28 x under root LC

Q. 26. When Resonance occurs in series LCR circuit, the LCR circuit is reduced to: - (BLT-P541)

(1) Pure resistive circuit. (2) Inductive circuit (3) Tank circuit (4) Balanced LC circuit

Q. 27. In a parallel Resonance LCR circuit, the frequency can be calculated by = to: - (BLT-P589)

(1) 1/6.28 x under root LC. (2) 1/6.28 x under root LCR (3) 1/6.28 x square root LR (4) 6.28 x under root LC

Q. 28. MTCS In a parallel Resonance LCR circuit: - (BLT-P589)

(1) Current is maximum (2) Current is minimum (3) Rejecter circuit (4) both 2 & 3.

Q. 29. The basic advantage of using AC power for large aircrafts: -

(1) The AC system operates at lower voltage than DC, thus use more current (2) The AC system operates at high voltage than DC, thus use more current 3) The AC system operates at Low voltage than DC, thus use less current (4) The AC system operates at high voltage than DC, thus use less current

Q. 30. For AC frequency of 200 Hz the time period shall be:-

(1) 0.5 sec (2) 0.005 sec 3) 0.0005 sec (4) 0.05 sec

Q. 31. If RMS value of sine wave is 100 Volts, then it has peak value of:-

(1) 70.7 Volts (2) 141.4 Volts 3) 150 Volts (4) 182 Volts

Q. 32. Two waves of the same frequency have opposite or Anti phase difference when the phase angle between them is:-

(1) 90 degree (2) 180 degree 3) 0 degree (4) 360 degree

Q. 33. When power factor of a circuit is unity, its reactive power is:-

(1) Maximum (2) Zero 3) Always negative (4) NOA

Q. 34. Unless otherwise specified, any value given for current or voltage in an AC circuit is assumed to be:-

(1) Average value (2) Effective value 3) Instantaneous value (4) Maximum value

Q. 35. Out of these two statements: -

(A) All electrical devices that have high resistance will use more power than one with low R having same supply voltage.

(B) If one of three bulbs in a parallel lighting circuit is removed, the total resistance of the circuit becomes greater.

(1) Only B is true (2) only A is true 3) both A & B are true (4) None of the statement

Q. 36.

Q. 37. Find the current taken by a 300 watt power bulb rated for 200 volt, when bulb is connected to 200 volt AC at 50 Hz: -

(1) .05 Amp (2) 1.5 Amp (3) 0.5 Amp (4) 2.5 Amp

Q. 38. Find the Power drawn by the circuit connected to 20 KVA AC supply having power factor lagging at 0.8: -

(1) 1600 **W** (2)0.16 KW (3) 16 KW (4) 11.6 KW

Q. 39. While calculating power in reactive inductive circuit the true power is: -

(1) More than apparent power (2) Less than apparent power (3) Always have leading power factor (4) Always less than reactive power (VAR)

Q. 40. Three unequal impedances are connected in a Star connected to 3 phase system, the sum of three lines current will be: -

(1) Zero (2) Equal to each line current (3) One third of line current (4) Three time the phase current

Q. 41. When one lamp is connected to 3 phase four wire 230/440 Volt AC supply and now if the three phase Delta motor is switched ON across the same supply, the neutral current will be : -

(1) Increased (2) Decreased (3) Remained unchanged (4) cannot predict the outcome

Q. 42. In a Delta connected Load, if one of the resistor is disconnected from the circuit, the Power will become: -

(1) Zero (2) One third (3) Three times (4) Two third

Q. 43. When phase sequence at the 3 phase load is reversed: -

(1) Phase current change in Magnitude but not in phase angle (2) Phase current changes angle but not magnitude (3) Total Powers consumed is changed (4) Both 1 & 3

Q. 44. Out of these two statements:-

(A) In a three-phase system, the KVA is directly proportional to the current.

(B) When the power factor is Low current required for given power is very high.

(1) Only B is true (2) Only A is true (3) Both A & B are true (4) None of the statement is true

Q. 45. RMS value of a Half wave rectifier is: - (Module-3)

(1) 0.707 x Peak value. (2) 1.414xpeak value. (3) ½ x Maximum value of voltage. (4) Maximum value of current

Q. 46. ----------is value of current which is DC equivalent of source of heat: - (Module-3)

(1) Peak value. (2) RMS value. (3) Virtual value. (4) Both 2 & 3

Q. 47. In any circuit having resistance & inductance in series then the: - (Module-3)

(1) Current lags voltage by 90 degrees. (2) Current leads voltage by 90 degrees. (3) Current & voltage are in phase. (4) Current lags voltage by less than 90 degrees but more than 0 degrees

Q.48. RMS value of a Half wave rectifier current is: - (BLT P-467)

(1) 0.707 x Peak value. (2) 1.414xpeak value. (3) Maximum value of voltage. (4) ½ x Maximum value of current

Q.49. MTCS: -

(a) Self-induction and mutual induction is due to dynamically (b) Self-induction and mutual induction is due both statically and dynamically type (c) Self-induction due to dynamic and mutual induction due to static (d) Self-induction and mutual induction both static type

Q.50. Lenz law, law of conservation: -

(a) momentum (b) Charge (c) Angular momentum (d) Energy

Q.51. 400 Hz frequency used in aircraft: -

(a) The inductive reactance will be greater (b) As in A and the motor or generator size will be smaller (c) Capacitive reactance increases (d) All

Q.52. Direction of induced EMF

a) Lenz's law. b) Fleming right hand rule. c) Fleming left hand rule. d) Both (1) and (2).

Q.53. The magnitude of induced emf produced in a coil, when a magnet is inserted in it, does not depend upon

a) no. of turns in coil b) resistance of coil (c) magnetic moment of magnet (magnetic strength) d) speed of rotation of magnet

Q.54. Advantages of A.C. over D.C. for use on long range transmission is

a) safe and easy to generate b) it is easy to rectify A.C. c) thinners conductors are used d) all above are correct

Q.55. As per the left-hand rule for generators –

a. Forefinger point in the direction the conductor moved through the magnetic b. Thumb point in the direction of the flux c. Second finger point in the direction the electron flow in the conductor

Q.56. The capacitor is short circuited checked with ohm meter, ohm meter shows: -

(a) Zero (b) Infinite (c) between zero and infinite

Q.57. When capacitive reactance becomes equal to inductive reactance of a circuit it is called: -

a) Phase-in b) Phase-out c) Resonant d) Impedance matching

Q.58. Amount of electron that can be stored on capacitor is proportional to: -

a) Both plate area and distance between them b) Plate area and does not depend upon distance between them c) Plate area and inversely proportional to distance d) Distance between plates and inversely proportional to area

Q.59. Working voltage of capacitor should be: -

a) At least 20% higher than applied (b) At least 50% higher than applied (c) Equal to applied voltage (d) Less than 50% than applied voltage

Q.60. In capacitor charging, if key is closed and if distance R between plates is increased, then: -

a) capacitance decreases b) Capacitance increases c) P.D. increases d) P.D. decreases & stored

Q.61. In an inductor circuit, current: -

a) Lag voltage by pie/2 b) Lead voltage by pie/2 c) Not affected

Q.62. In a parallel inductor, capacitor resonant circuit: -

a) No current flows b) Max. current flow c) Voltage is small d) Zero resistance

Q.63. What is total inductance of three inductors of 2.3.4 henry: -

(1) 1.9 (series) (2) 0.9 (parallel) (3) 9.9 (4) 0.1

Q.64. Magnetic inclination is the least at the: -

(1). poles. (2). equator. (3). isoclines.

Q.65. In R.L.C. circuit: -

a) P.F. is more if XI < Xc b) P.F. is more if R < Xc c) P.F. is more if Xc < Xl

Q.66. Ferromagnetic materials can be magnetized: -

(1). below a certain temperature. (2). above a certain temperature. (3). within a band of temperatures.

Q.67. To find which end of an electromagnet is the north pole, use the: -

(1). Fleming's Left-Hand Rule. (2). Right Hand Clasp Rule. (3). Cork Screw Rule.

Q.68. The earth's magnetic field is greatest at the: -

(1). magnetic equator. (2). geographic poles. (3). magnetic poles.

Q.69. Where is the magnetic dip least?

(1). Poles. (2). Isoclinals. (3). Equator.

Q.70. When a number of ferrite pieces are grouped together, they: -

(1). are semi-permanent magnets when DC is passed through them. (2). electromagnets (3). can be used to store binary code

Q.71. Why is ferrite used in memory circuits?

(1). High reluctance. (2). Low permeability. (3). High remanence.

Q.72. Magnetic lines are flowing parallel. They will: -

(1). have no effect on each other. (2). attract each other. (3). repel each other.

Q.73. Magnetic field on a solenoid is: -

(1). the same both inside and outside the coil. (2). weakest outside the coil. (3). strongest outside the coil.

Q.74. Permanent magnets have: -

(1). high reluctance, high coercive force. (2). low reluctance, high coercive force. (3). high reluctance, low coercive force.

Q.75. A paramagnetic material has a relative permeability of: -

(1). zero. (2). less than unity. (3). greater than unity.

Q.76. A soft iron core is used in an ELECTRO magnet because: -

(1). it has LOW permeability and HIGH coercivity. (2). it has HIGH permeability and LOW coercivity.
(3). it has HIGH permeability and HIGH coercivity.

Q.77. A non-magnetic metal: -

(1). has high retentivity. (2). has no permeability. (3). is a poor conductor.

Q.78. A material with a narrow hysteresis loop: -

(1). cannot be magnetized. (2). will have high retentivity. (3). will have low retentivity.

Q.79. Storage of magnets should be: -

(1). in a non-magnetic pox (2). in pairs with keeper plates. (3). in pairs end to end.

Q.80. Copper is a: -

(1). ferromagnetic material. (2). paramagnetic materials. (3). diamagnetic material.

Q.81. The MMF of a coil fed with 2 amps and having 10 turns is: -

(1). 5 ampere turns. (2). 20 amperes / turn. (3). 20 ampere turns.

Q.82. Vibration in a magnet will cause: -

(1). flux to stay the same. (2). flux to decrease. (3). flux to increase.

Q.83. Permeability of a material can be found by: -

(1). flux density / MMF. (2) MMF * flux density. (3). MMF / flux density.

Q.84. Cobalt has a permeability: -

(1). greater than unity. (2). less than unity. (3). same as unity.

Q.85. Magnetic flux: -

(1). exist in all space around the magnet. (2). is more concentrated at the Centre of bar magnet. (3). occupies the space around the magnet with equal flux density

Q.86. The ability of a circuit to produce a magnetic flux under the influence of a MMF: -

(1). permittivity. (2). permeability. (3). permanence.

Q.87. Magnetic flux saturation takes place when: -

(1). the magnetized medium will accept no further lines of flux. (2). the magnetic field drops to zero. (3). the magnetic field starts to reduce with increased magnetizing force.

Q.88. Two inductive coils are placed in close proximity with each other at 90 degrees. The number of flux linkages is: -

(1). 0. (2). maximum negative. (3). maximum positive.

Q.89. If the rate of change of current is halved, mutual inductance will: -

(1). stay the same. (2). halve. (3). double.

Q.90. The time constant in an inductive circuit is the time required for the current to reach: -

(1). 70.7% of maximum value. (2). 63.2% of maximum value. (3). 63.7% of maximum value.

Q.91. When switching off the supply, the back EMF in a collapsing field in an inductor: -

(1). can be multiple times bigger than forward EMF. (2). never exceeds forward EMF. (3). is equal to forward EMF.

Q.92. An induced current in a coil: -

(1). opposes the EMF producing it. (2). does not affect the EMF producing it. (3). aids the EMF producing it.

Q.93. A small air gap between magnetic poles results: -

(1). in a weaker field than a large air gap, for the same magnetizing force. (2). in a stronger field than a large air gap, for the same magnetizing force. (3). in the same field as a large air gap, for the same magnetizing force.

Q.94. Convention requires that in a symmetrical 3 phase system, the: -

(1). red voltage is taken as the reference phase. (2). yellow voltage phase leads the red phase by 120 degrees. (3). red voltage phase leads the blue

Q.95. The power factor of a circuit containing an imbalance of inductive and capacitive reactance is: -

(1). greater than unity. (2). unity. (3). less than unity.

Q.96. What is the phase difference in a circuit with 100V, drawing 0.5 amps, consuming 50 Watts?

(1). 0°. (2). 45°. (3). 90°.

Q.97. A sine wave has 5 amps RMS value. What is the peak value?

(1). 7.07 amps. (2). 6.37 amps. (3). 10 amps.

Q.98. In a purely resistive AC circuit, the current vector is: -

(1). +90° out of phase with the voltage vector. (2). in phase with the voltage vector. (3). -90° out of phase with the voltage vector.

Q.99. The peak factor for a sine wave is: -

(1). 1.11. (2). 0.707. (3). 1.414.

Q.100. The Form Factor of an AC waveform can be found by: -

(1). RMS value divided by the average value. (2). average value divided by the RMS value. (3). average value times the RMS value.

Q.101. If the frequency is increased in an AC circuit of pure resistance, the effect is: -

(1). nothing. (2). decreased resistance. (3). increased resistance.

Q.102. In a capacitive circuit, if the frequency is increased: -

(1). reactance remains the same. (2). impedance increases. (3). the current increases.

Q.103. RMS value is always: - (BLT P-464)

(1). Equal to the average value. (2). Greater than average value. (3). Less than average value. (4) Depends upon the value of circuit elements values

Q.104. RMS value is always: - (BLT P- 464)

(1). Equal to the average value. (2). Greater than Peak or Max Value. (3). Less than average value. (4) Depends upon the value of circuit elements values

Q.105. Form Factor of a Half wave rectified Alternating current is: - (BLT P-467)

(1) 0.707. (2) 2. (3) 0.5 (4) 1.57

Q.106. Average value of a Half wave rectified Alternating current is: - (BLT P-467)

(1) Pie x Peak value. (2) 1.414xpeak value. (3) Maximum value of current. (4) I Max /Pie

Q.107. Crest Factor or Amplitude factor is equal to: - (BLT P-464)

(1) 1.1. (2) 1.414. (3) 0.5. (4) 1.57

Q.108. Crest Factor or Amplitude factor is the: - (BLT P-464)

(1) Ratio of Max Value to RMS Value. (2) Ratio of RMS Value to Average Value. (3) Product of Max Value & RMS Value. (4) NOA

Q.109. Power in a pure resistive circuit is: - (BLT P-489)

(1) Never zero. (2) Zero. (3) Negative. (4) NOA

Q.110. Average Power demand from supply in a pure Reactive circuit is: - (BLT P-493)

(1) Never zero. (2) Zero. (3) Negative. (4) NOA

Q.111. RMS value of a Full wave rectifier is: - (BLT P-472)

(1) 0.707 x Peak value. (2) 1.414x average value. (3) 0.584 x Maximum value of voltage. (4) ½ x Maximum value of current

Q.112. RMS value of a Full wave rectifier is: - (BLT P-472)

(1) 0.707 x Peak value. (2) 1.414x average value. (3) Maximum value of voltage/Under root 2. (4) ½ x Maximum value of current

Q.113. Ferrites are: - (Grob's, Ch21, P-656)

(1) Insulator but Nonmagnetic. (2) Insulator but magnetic. (3) Option 2 and have Low eddy current losses. (4) Option 1 & have high eddy current losses

Q.114. Rheostat are: - (Grob's, Ch2, P-69)

(1) Variable resistor. (2) Voltage divider. (3) Option 1 & used to vary the amount of current. (4) Option 2 & used to vary the voltage in a circuit

Q.115. Rheostat are: - (Grob's, Ch2, P-69)

(1) Variable resistor. (2) Are connected in series with load and supply source. (3) Option 1 & Are connected in parallel with Load. (4) Option 1,2 & used to vary the current in a circuit

Q.116. Potentiometer are: - (Grob's, Ch2, P-69)

(1) Variable resistor. (2) Are connected across supply source. (3) Both 1 & 2 and used to tap off the voltage. (4) Option 1 & 2, used to vary the current

Q.117. Resistors are generally going: - (Grob's, Ch2, P-72)

(1) . Open circuit. (2) Short circuit. (3) Never bad. (4) Never open circuit

Q.118. Sulphuric acid specific gravity is: - (Grob's, Ch2, P-69)

(1) . 1.835 times of water for same volume. (2) twice that of water. (3) 70% higher than water. (4) 30 % higher than water

Q.119. In a Lead acid battery Low temperature: - (Grob's, Ch12, P-366)

(1) . Reduces current capacity. (2) Reduces voltage output. (3) Both 1 & 2. (4) Increases life & performance

Q.120. Lead acid battery AH capacity: - (Grob's, Ch2, P-366)

(1) . Falls by 0.75% each drop of 1-degree F below Normal temperature. (2) Increases by 0.75% each drop of 1-degree F below Normal temperature. (3) Falls by 75% each drop of 1-degree F below Normal temperature. (4) Temperature fall has no effect on battery capacity

Q.120. : - (Grob's, Ch2, P-69)

(1) . Falls by 0.75% each drop of 1-degree F below Normal temperature. (2) Increases by 0.75% each drop of 1-degree F below Normal temperature. (3) Falls by 75% each drop of 1-degree F below Normal temperature. (4) Temperature fall has no effect on battery capacity

RMS stand for: the square ROOT of the MEAN of the input signal SQUARED.