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Q.No.	MULTIPLE CHOICE QUESTIONS	Answer
1.	In the case of mesh analysis, the equations in each loop is written by applying _____ KVL b. KCL c. both KCL and KVL d. None of these	a
2.	While calculating voltage using nodal analysis, it was found that the voltages at nodes V_1 and V_2 were -5V and -3V respectively. Then, the direction of current between those two nodes would be _____ a. from V_2 to V_1 b. from V_1 to V_2 none of these	a
3.	Peak factor is defined as _____ of the alternating quantity a. Maximum value/RMS value b. RMS value/Maximum value c. RMS value/Average value d. Average value/RMS value	a
4.	If the instantaneous value of current in a circuit is represented using the equation, i = 100sin120πt amperes, its RMS value is given by _____ 100 A b. 100√2 A c. 100√3 A d. 100/√2 A e. 100/√3 A	d
5.	For a certain load, if the apparent power is 195.2 VA and the reactive power is 125 VAR, then the true power is _____ a.70.2 W b. 320.2 W c. 150W d. Data is insufficient	c
6.	For a three phase, three wire system, the two Wattmeter read 4000 watts and 2000 watts respectively. Then, the power factor of the circuit is _____ a.1 b.0.5 c. 0.866 d.0.6	c
7.	In a star connected three phase AC circuit ——— a. $V_{ph}=\sqrt{3}V_L$;$I_L = I_{ph}$ b. $V_L = \sqrt{3}V_{ph}$;$I_L=I_{ph}$ c. $V_L=V_{ph}$; $I_L=\sqrt{3}I_{ph}$ d. $V_L = \sqrt{2}\ V_{ph}$; $I_L = I_{ph}$ e. $V_L = V_{ph}$; $I_L = \sqrt{2}\ I_{ph}$	b
8.	Which of the following statements is not the definition of power factor (pf)? a. pf=cos of the angle between voltage & current b. pf=resistance/impedance c. pf=active power/apparent power d. pf=apparent power/active power	d
9.	The rating of a transformer is specified in _____ a) kW b) kVAR c) HP d) Kva	d
10.	Turns ratio of the transformer is directly proportional to_____ a) Resistance ratio b) power ratio c) Voltage ratio	c

	d) Not proportional to any terms	
11.	The full-load iron loss of a transformer is 3200 W. At 75% of full load, the iron loss will be _____ a) 3200W b) 6400W c) 1800W d) 5600W	a
12.	Transformer core is generally made of _____ a) silicon steel b) aluminium c) copper d) wood	a
13.	A 4 pole, lap wound, DC generator has a useful flux of 0.07 Wb per pole. Calculate the generated e.m.f. when it is rotated at a speed of 900 r.p.m. with the help of prime mover. Armature consists of 20 slots each having 20 conductors. a. 840V b. 420V c. 210V d. 21V	b.
14.	The number of parallel paths in a 8 pole lap wound DC generator is a. 2 b. 16 c. 8 d. 4	c.
15.	A 4 pole, lap wound DC motor drawing an armature current of 20 A has 360 conductors. If the flux per pole is 0.015 Wb then the gross torque developed by the armature of motor is a. 10.23 N-m b. 15.56 N-m c. 17.17 N-m d. 19.08 N-m	c.
16.	Alternator works on the following principle. a. Self and mutual induction b. Mutual induction c. Faraday's law of electromagnetic induction d. None of the above	c
17.	Which one of the following statements is true? I. 3 phase induction motor converts direct current electrical energy into mechanical energy II. 3 phase induction motor converts alternating current electrical energy into mechanical energy III. 3 phase induction motor converts mechanical energy into alternating current electrical energy IV. 3 phase induction motor converts mechanical energy into direct current electrical energy a) (i) b) (ii) c) (iii) d) (iv)	b
18.	The part of the 3 phase induction motor which is a hollow cylindrical core having slots in its inner surface to house windings is termed as. a) stator b) rotor c) shaft d) brush	a
19.	Fusing factor is defined as the ratio between (a) maximum fusing current and rated voltage	c

	(b) maximum fusing current and rated current (c) minimum fusing current and rated current minimum fusing current and rated voltage	
20.	The objective of earthing or grounding is (a) to provide as low resistance possible to the ground (b) to provide a high resistance possible to the ground (c) to provide flow of positive, negative and zero sequence current none of the above	a
21.	In the case of nodal analysis, the equations at each node is written by applying _____ KVL b. KCL c. both KCL and KVL d. None of these	b
22.	While calculating current using mesh analysis, it was found that the current in a particular branch containing 4 Ω resistor is -2A. This means that _____ a. the 4 Ω resistor is releasing (generating) 2 A current since the current is negative b. the assumed direction of current in that resistor and the actual direction of flow of current are opposite to each other c. the 4 Ω resistor doesn't allow 2A current to flow through it none of these	b
23.	The analog electrical meters read the _____ of the quantity. a. Average value b. RMS value c. instantaneous value d. maximum value	b
24.	Form factor is defined as _____of the alternating quantity a. Maximum value/RMS value b. RMS value/Maximum value c. RMS value/Average value d. Average value/RMS value	c
25.	Read the following statements carefully: i. Power factor is the ratio of reactive power to apparent power ii. Power factor is the ratio of the resistance to the impedance of the circuit iii. Power factor is the cosine of the angle between voltage and current Now, out of the above statements, which statements are TRUE? a. Statements i and ii b. Statements ii and iii c. Statements i and iii d. All the three statements	b
26.	The power consumed by a pure resistor is _____ a.Reactive Power b. Active Powerc. Apparent Power d. None of these	b
27.	If a 100V, 50Hz, single phase AC supplies a current of 2A to a pure inductive circuit, the inductance of the circuit is _____ a.50 H b. 0.02H c. 637mH d. 0.159H	d
28.	In a balanced three phase star circuit, neutral current is ———— a. Infinity b. Zero	b

	c. One None of the above	
29.	The function of the transformer is to _____ a) Convert AC to DC b) Convert DC to AC c) Step down or up the DC voltages and currents d) Step down or up the AC voltages and currents	d
30.	A 100V, 50Hz source is connected to the primary of a transformer having 20 turns. The maximum flux density in the core is $1Wb/m^2$. The cross-sectional area of core is _____ a) $0.152m^2$ b) $0.345m^2$ c) $0.056m^2$ d) $0.0225m^2$	d
31.	A single phase transformer has 400 primary and 1000 secondary turns. The net cross sectional area of the core is 60 cm^2. If the primary is connected to a 500V, 50 Hz source what is the voltage induced in the secondary? a) 950V b) 1125V c) 840V d)1250V	d
32.	Mutual inductance between two magnetically coupled coils depends on a) Permeability of the core material b) Number of turns of the coil c) Cross sectional area of their common core All of the above	d
33.	Lap winding is suitable for _____ voltage d.c. generators applications. a. Low b. High c. Moderate d. Any	a.
34.	DC shunt motor is used in a. Cranes b. Lathes c. Hoists d. None of the these	b.
35.	Which of the following part distinguishes a DC motor from an AC motor? a. Winding b. Shaft c. Commutator d. Stator	c.
36.	Which kind of rotor is most suitable for turbo alternators which are designed to run at high speed? a. Salient pole type b. Non salient pole type c. Both (a) and (b) above d. None of the above.	b
37.	The types of rotors in 3 phase induction motor are a) Salient pole & non-salient pole b) Salient pole & slip ring c) Squirrel cage & slip ring d) Squirrel cage & smooth cylindrical	c
38.	In a 3 Phase Induction motor, which type of the rotor winding is short circuited at both ends to two copper end rings a) Squirrel cage b) Slip ring c) Squirrel cage & slip ring d) Squirrel cage & phase wound	a
39.	The fuse material must have low	b

	(a) conductivity (b) melting point (c) permittivity none of these	
40.	The most commonly used wires are (a) C.T.S (b) V.I.R (c) P.V.C Flexible	c
41.	Read the following statements carefully: i. In an electrical circuit, the terms mesh current and branch current are not one and the same. ii. In an electrical circuit, both mesh current and branch current mean the same thing. So, they could be used interchangeably. Out of the above two statements, which of them is FALSE? Statement i b. Statement ii c. Both statements i and ii d. Neither i nor ii	b
42.	SI unit of power is _____ a. joule b. tesla c. watt d. None of these	c
43.	Resistance/Impedance is equal to _____ a. Form factor b. Peak factor c. Power factor d. None of these	c
44.	A complete set of positive and negative values of an alternating quantity is known as _____ time period b. amplitude c. frequency d. a cycle	d
45.	In a balanced three phase AC circuit, the sum of all three generated voltages at any given instant is _____ a. Infinity (∞) b. Zero (0) c. One (1) d. None of the above	b
46.	Which of the following statement can be used to calculate the power in a three phase circuit ? a. $P=3V_{Ph}I_{Ph}\cos\Phi$ b.$P=\sqrt{3}V_L I_L \cos\Phi$ c. either $P=3V_{Ph} I_{Ph} \cos\Phi$ or $P=\sqrt{3} V_L I_L \cos\Phi$ d. None of The Above	c
47.	In a phasor diagram, the relationship between the voltage and its current when a pure inductive circuit is energized by an AC supply is _____ a. Voltage leads its current by 90^0 b. Voltage lags its current by 90^0 c. Voltage lags its current by angle in between 0^0 and 90^0 Voltage leads its current by angle in between 0^0 and 90^0	a
48.	In a pure inductive circuit, the ratio of voltage to current (V/I) is referred to as _____ a.Resistance b. Admittance c. Inductive Reactance d. None of these	c

49.	A transformer has 100 primary turns and 400 secondary turns if the primary voltage is 200V then the secondary voltage is _____ a) 80V b) 800V c) 1600V d) 2400V	b
50.	The efficiency of a transformer is maximum when _____ a) copper loss equals hysteresis losses b) copper loss equals iron loss c) copper loss equals eddy current losses d) hysteresis loss equals eddy current losses	b
51.	In a 50kVA transformer, the iron loss is 500W and full load copper loss is 800W. the efficiency of the transformer at full load 0.8 p.f lagging is _____ a) 92% b)89.56% c)96.85% d)79.82%	c
52.	If the number of turns of a coil is increased, its inductance is _____ a) Increased b) Decreased c) Remains same d) None of these	A
53.	The job of the commutator in DC generator is a. Converts DC to AC b. Convert AC to DC c. Increase output voltage d. Reduce sparking at brushes	b.
54.	The mechanical power developed by the armature of a DC motor is equal to a. Armature current multiplied by back e.m.f b. Power input minus losses c. Power output multiplied by efficiency d. Power output plus iron losse	a.
55.	A 220 V, DC motor draws an armature current of 20 A. Its armature resistance is 0.6 ohm. Then the back emf in the motor will be a. 195 V b. 202 V c. 208 V d. 215 V	c.
56.	The frequency of voltage generated in an alternator depends on a. number of poles b. rotative speed c. number of poles and rotative speed d. number of poles, rotative speed and type of winding.	c
57.	The rotor conductors of the 3 phase induction motor is made up of a) Iron bars b) Aluminum or copper bars c) Steel bars d) rubber bars	b
58.	In a 3 Phase Induction motor, the rotor winding can be short circuited through external variable resistance in case of a) Squirrel cage type b) slip ring type c) both d) none	b
59.	Two-way control of lamp is also called (a) staircase (b) godown	a

	(c) flexible none of the above	
60.	Which method gives full mechanical protection to the wiring system (a) cleat (b) casing-capping (c) conduit surface	c
61.	If the instantaneous value of voltage in a circuit is represented using the equation, e = 120sin50πt volts, its frequency is _____ 25 Hz b. 50 Hz c. 120 Hz d. None of these	a
62.	Form factor of a sinusoidal voltage is _____ a. 0.707 b. 1.414c. 1.11 d. None of these	c
63.	Average power consumed by a pure capacitive circuit over a complete cycle when powered by an AC supply is _____ a. Data is insufficient b. Depends on the RMS value of voltage and current c. Zero d. One watt	c
64.	Voltage drop across a certain element in a 1-ϕ circuit is given by e = 28.28 sin (100πt-10^0) V. Then the circuit could be _____ a pure resistor b. a pure inductor c. a pure capacitor d. a coil e. an R-C circuit	e
65.	Power factor of a pure inductive circuit is _____ a. 1 b. 0 c. in between 0 and 1 d. more than 1	b
66.	The Inductive reactance is measured in _____ a. henry b. farad c. ohm d. None of these	c
67.	When a pure resistive circuit is energized by an AC supply, the angle between the voltage and its current is a. 90^0 b. 0^0 c. In between 0^0 and 90^0 d. None of these	b
68.	In a series R-C circuit, to increase the phase angle above 45^0 , the following condition should exist _____ a.$R = X_c$ b. $R < X_c$ c. $R > X_c$ d. $R \geq X_c$	b
69.	The full-load copper loss of a transformer is 3200 W. At 75% of full load, the copper loss will be _____ a) 3200W b) 6400W c) 1800W d) 5600W	c
70.	A 2000/200V, 20kVA ideal transformer has 66 turns in the secondary. The number of primary turns is _____ a) 440 b) 660 c) 550	b

	d) 330	
71.	The emf induced in a coil is --------- the rate of change of magnetic flux linkages. a) Directly proportional to b) Inversely proportional to c) Independent of None of these	a
72.	The magnetic reluctance of a material _____ a) Decreases with increasing cross-sectional area of material b) Increases with increasing cross-sectional area of material c) Does not vary with increasing cross-sectional area of material d) None of the above	a
73.	A 4-pole generator having wave-wound armature winding has 50 slots, each slot containing 20 conductors. What will be the voltage generated in the machine when driven at 1500 rpm assuming the flux per pole to be 3mWb? a. 300V b. 75V c. 500V d. 150V	d.
74.	Wave winding machines are used in _____ currents applications. e. Low f. High g. Moderate h. Any	a.
75.	For the construction of the armature of a DC machine, the best suited material is a. Cast iron b. Silicon Steel c. Carbon d. All of these	b.
76.	If A is the number of parallel paths and P is the number of poles, then the number of parallel path in lap winding and in wave winding is b. A = P, A = 2 c. A = 2P, A = P d. A = 2, A = P e. A = P, A = 2P	a.
77.	When a three phase supply is given to the three windings of the stator of a 3 phase induction motor, a) A rotating magnetic field of constant magnitude and rotating with synchronous speed is produced. b) A rotating magnetic field of constant magnitude and rotating with variable speed is produced c) A stationary magnetic field of constant magnitude is produced d) Magnetic field is not be produced	a
78.	When a three phase supply is given to the three windings of the stator of a 3 phase induction motor, the magnitude of the rotating magnetic field is a) $\emptyset_m$ b) $2\ \emptyset_m$ c) $1.5\ \emptyset_m$ d) $2.5\ \emptyset_m$	c
79.	The current causing an electric shock is called (a) high current (b) leakage current (c) insulating none of these	b
80.	Electric shock is described as electrical current flowing through the (a) the ground (b) the body	b

	(c) the air (d) the water.	
81.	Peak factor of a sinusoidal current is _____ a. 0.707 b. 1.414c. 1.11 d. None of these	b
82.	If an alternating current has its RMS value 5 A, frequency 60 Hz, its instantaneous value is given by _____ a. i = 5 sin 377t A b. i = 5/√2 sin 377t A c. i = 5√2 sin 377t A d. None of these	c
83.	According to KCL as applied to junction in a network _____ a) Total sum of currents meeting at the junction is zero b) No current can leave the junction without some current entering it c) Net current flow at the junction is positive d) Algebraic sum of current meeting at the junction is zero	d
84.	The power factor of an AC circuit is given by_____ a) Cosine of the phase angle b) Tangent of the phase angle c) The ratio of R/XL d) The ratio of XL/Z	a
85.	If a 100V, 50Hz, single phase AC supplies a current of 2A to a pure capacitive circuit, the capacitance of the circuit is _____ a.50 F b. 637mF c. 63.7μF d. 0.159F	c
86.	The capacitive reactance is measured in _____ a.ohm b. farad c. henry d. None of these	a
87.	A 1.2 kΩ resistor is connected in series with a 15mH inductor and energized by a 10V, 10 kHz, 1-ϕ supply. Then, the circuit impedance is _____ a.1526 Ω b. 152.6 Ω c. 1200 Ω d. 942 Ω	a
88.	In a certain series circuit, if the impedance is (4-j6) Ω, it means that _____ a. $R = 4\ \Omega; X_L = 6\ \Omega$ b. $R = 6\ \Omega; X_L = 4\ \Omega$ c. $R = 4\ \Omega; X_C = 6\ \Omega$ d. $R = 6\ \Omega; X_C = 4\ \Omega$	c
89.	The secondary voltage of a 10kVA transformer with load current of 10A is _____ a) 10kV b)100kV c) 1kV d) none of the above	c
90.	In a given transformer for given applied voltage, which of the following losses remain constant irrespective of load changes? a) Friction and windage losses b) Copper losses c) Hysteresis and eddy current losses d) Cannot be determined	c
91.	Strength of an electromagnet can be increased by _____ a) Increasing the cross-sectional area	d

	b) Increasing the number of turns c) Increasing current supply All of the above	
92.	The magnetic reluctance of a material ____ a) Decreases with increasing cross-sectional area of material b) Increases with the increasing cross-sectional area of material c) Does not vary with the increasing cross-sectional area of material None of these	a
93.	The material used in brushes of DC generator is a. Carbon b. Copper c. Both (a) and (b) d. None of the above	a.
94.	The number of parallel paths in 8 pole wave wound DC generator is a. 2 b. 16 c. 8 d. 4	a.
95.	A machine without commutator, providing an ac emf to the external circuit is called as a. D.C. generator b. Alternator c. Synchronous motor Transformer	b
96.	The power factor of an alternator depends on a. Load b. Speed of rotor c. Core losses d. Armature losses.	a
97.	In a three phase induction motor, the synchronous speed of the rotating magnetic field is a) $N_s = 120\ f\ /p$ b) $N_s = 60\ f\ /p$ c) $N_s = 120\ p\ /f$ d) $N_s = 120\ f\ p$	a
98.	The difference between the synchronous speed Ns of the magnetic field and the actual speed of the rotor N is called as the a) Synchronous speed b) slip speed c) Asynchronous speed d) maximum speed	b
99.	The earth wire should be (a) good conductor of electricity (b) mechanically strong (c) both (a) and (b) mechanically strong but bad conductor of electricity.	a
100	Resetting is quick and simple in (a) switch (b) MCB (c) fuse none of these.	b

101	Kirchhoff Voltage law is concerned with _____ a) Resistive drop b) Battery EMF c) Junction voltages d) Both a and b	d
102	An AC current given by I = 14.14sin (wt+π/6) has an rms value of …… amperes. a) 10 b) 14.14 c) 1.96 d) 7.07	a
103	A 12 Ω resistor is connected across a 15V DC supply. Then, the energy consumed in three minutes is _____ (a)0.938 Wh (b). 93.8 Wh (c). 56.25 Wh (d). 5.625 Wh	a
104	The relationship between power and energy could be given by the equation _____ (a)power = energy * time (b). energy = power * time (c). energy = voltage * current (d). None of these	b
105	Power factor of a pure capacitive circuit is _____ a. 0 b. 1 c. in between 0 and 1 d. more than 1	a
106	A 6 kHz sinusoidal voltage is applied to a R-C series circuit. Then, the frequency of the voltage across the resistor is _____ 0 Hz b. 6 Hz c. 6 kHz d. 12 kHz	c
107	In a R-L series circuit, if the voltage drop across the resistor is 12 V(rms) and that of inductor is 14 V (rms), the peak value of the supply is _____ a.18.4 V b. 20 V c. 26 V d. None of these	c
108	In a parallel R-C circuit, current through a resistive branch is 100 mA and through the capacitive branch is also 100 mA. Then, the total current is _____ a.200 mA b. 141 mA c. 282 mA d. 100 mA	b
109	The transformer core is laminated to reduce _____ a) eddy current losses b) hysteresis losses c) copper loss d) all the above	a
110	The path of the magnetic flux in a transformer should have _____ a) high resistance b) high reluctance c) low resistance d) low reluctance	d
111	The emf induced in a coil of N turns is given by ------- a) $-N\frac{d\phi}{dt}$ b) $N\frac{d\phi}{dt}$ c) $\frac{d\phi}{dt}$	a

	d) $N\frac{dt}{d\emptyset}$	
112	The property of a material which opposes the creation of magnetic flux in it is known as _____ a) Reluctivity b) Magnetomotive force c) Permeance Reluctance	d
113	Which of the following is not a part of DC machine a. Commutator b. Slip rings c. Brushes d. Armature Core	b.
114	DC series motor is used in a. Cranes b. Lathes c. Fans d. None of the these	a.
115	If K_P and K_d are the pitch factor and distribution factor respectively then the rms value of induced emf per phase is given by a. $K_c K_d$ f ØT b. $1.414K_fK_cK_d$ f ØT c. 4.44 $K_P K_d$ f ØT $1.11K_fK_cK_d$ f ØT	c
116	A 10 pole AC generator rotates at 1200 rpm. The frequency of AC voltage in cycles per second will be a. 120 b. 110 c. 100 d. 50.	c
117	The slip of an induction motor is defined as the ratio of a) Synchronous speed to slip speed b) Slip speed to synchronous speed c) Constant speed to synchronous speed d) Synchronous speed to constant speed	b
118	When slip becomes unity in a 3 phase induction motor, the rotor speed will be a) Zero b) Synchronous speed c) Maximum speed d) infinity	a
119	Which among these are the main characteristics of a fuse element (a) low melting point (b) high conductivity (c) least deterioration due to oxidation (d) all of the above	d
120	The minimum value of the current at which the fuse melts is called (a) fusing factor (b) rated current (c) fusing current none of these	c

121	A sine wave has a frequency of 50 Hz. Its angular frequency is _____ radian/second (a) 100 π (b) 50 π (c) 25 π (d) 5 π	a
122	A heater is rated as 230V, 10 kW, AC. The value 230V refers to (a) Average voltage (b) r.m.s voltage (c) peak voltage (d) none of the above	b
123	The average value of an alternating quantity is defined based on _____ a. the amount of heat transferred b. the amount of charge transferred c. either heat transferred or charge transferred d. None of these	b
124	Kirchhoff's laws are useful in determining—— (a). Current flowing in a circuit (b). EMFs and Voltage drops in a circuit (c). Power in a circuit (d). All the above	d
125	If the voltage drop across two terminals in a given 1-ϕ circuit is given by e = 14.14 sin ($120\pi t+30^0$) V, it should be a _____ circuit. a. Pure R b. Pure L c. Pure C d. R-L series e. R-C series	d
126	In a series R-L-C circuit, resistance is 90 Ω, inductive reactance is 30 Ω and the capacitive reactance is 50 Ω. When it is powered by a 12 V, 1- ϕ AC supply, the current in the circuit is _____ a.9 mA b. 13 mA c. 90 mA d. 130 mA	d
127	In a phasor diagram, the relationship between the voltage and its current when a pure capacitive circuit is energized by an AC supply is _____ a. Voltage lags its current by 90^0 b. Voltage leads its current by 90^0 c. Voltage lags its current by angle in between 0^0 and 90^0 d. Voltage leads its current by angle in between 0^0 and 90^0	a
128	In a pure capacitive circuit, the ratio of voltage to current (V/I) is referred to as _____ a. Resistance b. Admittance c. Capacitive Reactance d. None of these	c
129	A transformer transfers electrical energy from primary to secondary usually with change in _____ a) frequency b) power c) voltage d) time period	c
130	A transformer will work on _____ a) a.c. b) d.c. c) both a.c. and d.c. d) none of the above	a
131	The magnitude of induced emf in a conductor depends upon the ----- a) Rate of change of flux linkage b) Amount of flux linkage c) Amount of flux cut Flux density of their magnetic field	a
132	The direction of magnetic lines of force external to the magnet is ____	a

	a) From north pole to south pole b) From south pole to north pole c) From one end of the magnet to another. None of these	
133	The armature of DC motor is laminated to a. Reduce eddy current loss b. Reduce hysteresis loss c. Both (a) and (b) d. None of the above	a.
134	Function of _____ is to collect current from the commutator and supply it to the external load. a. Field Magnet b. Armature core c. Brushes d. Pole core	c.
135	The frequency of voltage generated by an alternator having 8 poles and rotating at 250 rpm is a. 60 Hz b. 50 Hz c. 25 Hz d. 16.66 Hz	d
136	The number of cycles of the induced emf per second is equal to a. (No. of cycles per revolutions) x (no. of revolutions per second) b. (No. of cycles per second) x (no. of revolutions per second) c. (No. of cycles per revolutions) x (no. of revolutions per hour) (No. of cycles per revolutions) / (no. of revolutions per second)	a
137	For low values of slip, the torque/slip curve of a 1 phase induction motor is a) A straight line b) a parabola c) A Rectangular hyperbola d) exponentially rising	a
138	The starting current is limited by applying reduced voltage in case of a) Squirrel cage type induction motor b) Slip ring type induction motor c) Squirrel cage and Slip ring induction motor d) None of the above	a
139	The size of earth or ground wire is based on the (a) maximum fault current carrying through the ground wire (b) rated current carrying capacity of the service line (c) depends on the soil resistance both (a) and (c)	d
140	Ground resistance should be designed such that (a) grounding resistance should be as low as possible (b) grounding resistance should be as high as possible (c) grounding resistance should be always zero (d) none of the above	a
141	The RMS value of an alternating quantity is defined based on _____ a. the amount of heat transferred b. the amount of charge transferred c. either heat transferred or charge transferred d. None of these	a
142	What will be the phase angle between two alternating waves of equal frequency, when one wave attains maximum value, the other is at zero value ? (a) 0° (b) 45° (c) 90° (d) 180°	c
143	If a sinusoidal wave has frequency of 50 Hz with 30A r.m.s current, which of the	a

	following equation represents this wave ? (a) 42.42 sin 314t (b) 60 sin 25t (c) 30 sin 50t (d) 84.84 sin 25t	
144	SI unit of power is _____ ampere (b). watt (c). kilowatt-hour (d). volt	b
145	The capacitance is measured in _____ a.henry b. farad c. ohm d. None of these	b
146	A 47 Ω resistor and a capacitor with a capacitive reactance of 120 Ω are connected in series with a 10V, 1 kHz, 1-ϕ supply. Then, the total impedance is _____ a.167 Ω b. 129 Ω c. 12.9 Ω d. None of these	b
147	In a series R-C circuit, the voltage drop across a resistor is 12 V (rms) and that of capacitor is 15 V (rms). Then, the supply voltage is _____ a. 27 V b. 19.2 V c. 1.92 V d. None of these	b
148	Average power consumed by a R-L series circuit over a complete cycle when powered by a single phase AC supply is _____ a.Zero watts b. VI watts c. √3 VI cosϕ watts d. VI cosϕ watts	d
149	The winding of the transformer with greater number of turns is _____ a) low voltage winding b) high voltage winding c) either low or high voltage winding c) none of the above	b
150	A transformer is designed so that primary and secondary have _____ a) high leakage reactance b) large resistance c) tight magnetic coupling d) good electrical coupling	c
151	A circuit has inductance of 2H. If the circuit current changes at the rate of 10 A per sec, then self- induced emf is a) 20V b) 5V c) 10V d) 0.2V	a
152	The mutual inductance between two coil is 4H. If the current in one coil changes at the rate of 2A per sec, then emf induced in the other coil is -- a) 8V b) 2V c) 0.5V d) 5V	a
153	In a DC motor, the mechanical output power actually comes from a. Field system b. Air-gap flux c. Back e.m.f d. Electrical input power	d.
154	The current drawn by a 120V DC motor of armature resistance 0.5 Ω and back e.m.f. 110V is _____ ampere. a. 20 b. 240 c. 220 d. 5	a.
155	Salient poles are generally used on a. high speed prime movers only	d

	b. medium speed prime movers only c. low speed prime movers only d. low and medium speed prime movers.	
156	The torque developed in DC shunt motor is a. Directly proportional to the armature current b. Directly proportional to the the armature current c. Inversely proportional to the armature current d. Inversely proportional to the armature current	a.
157	The starting current is limited by increasing the impedance of the motor circuit in case of a) Squirrel cage type induction motor b) Slip ring type induction motor c) Squirrel cage and Slip ring induction motor d) None of the above	b
158	A 4 pole 50 cycles/sec Induction motor is running at 1445 rpm. The synchronous speed is 1500 rpm. Find the slip speed. a) 1500 rpm b) 1445 rpm c) 55 rpm d) 0	c
159	Wiring system depends on (a) location and consumers budget (b) durability and cost (c) safety and appearance all the above	d
160	Earthing is necessary to give protection against (a) voltage fluctuation (b) overloading (c) electric shock high temperature of the conductors	c
161	The period of a wave is _____ (a) Expressed in amperes (b) the same as frequency (c) time required to complete one cycle (d) none of the above	c
162	In a DC Circuit, Inductive reactance would be_____ (a). Equal As in AC Circuits (b). High (c). Extremely High (d). Zero	d
163	For a frequency of 200 Hz, the time period will be 0.5 s (b) 0.05 s (c) 0.005 s (d) 0.0005 s	c
164	A d.c circuit usually has _____ as the load. a) resistance b) inductance c) capacitance d) both inductance and capacitance	a
165	In a series R-L-C circuit, if R = 12 Ω, L = 10 mH and C = 80 μF and it is supplied by a 15 V, 200Hz, 1- ϕ AC source, its total impedance is _____ a.12.28 ∟ 12.34 Ω b. 12.28 ∟ -12.34Ω c. 9.95 ∟ 12.34Ω d. 9.95 ∟ -12.34 Ω	a
166	A 470 Ω resistor and an inductor having 125 Ω inductive reactance are connected in parallel and energized by a 15 V, 50Hz, 1-ϕ source. Then, the current through the	b

	inductor is _____ 12 mA b. 120 mA c. 32 mA d. None of these	
167	If a pure capacitve circuit is powered by a DC source, the current in that circuit will be _____ a. Infinity b. Zero amperes c. Data not sufficient	b
168	Power factor of a pure resistive circuit is _____ a.1 b. 0 c. in between 0 and 1 d. more than 1	a
169	The kVA rating of a transformer with secondary voltage of 5000V and load current of 50A is a) 5kVA b) 25kVA c) 50 kVA d) 250Kva	d
170	Transformer winding is generally made of _____ a) iron b) copper c) aluminium d) none of the above	b
171	The voltage per turn in the primary in a transformer is _____ the voltage per turn in the secondary. a) equal to b) greater than c) less than d) greater or equal to	a
172	A transformer is an efficient device as it is _____ a) static device b) electrically coupled c) magnetically coupled d) all the above	a
173	The direction of current in a DC Generator can be found using _____ a. Flemings Right Hand Rule b. Flemings Left Hand Rule c. Lenz law d. Faradays law	a
174	The T_a / I_a graph of a DC series motor is a a. Hyperbola b. Straight line c. Parabola d. None of these	c
175	The DC series motor should never be switched on at no load because a. The field current is zero b. The machine does not pick c. The speed becomes dangerously high d. It will take too long to accel	c.
176	What will happen, with the increase in speed of a DC shunt motor? a. Back emf increase but line current falls b. Back emf falls and lin increase c. Both back emf as well as line current increase d. Both back emf as well as li fall	a.
177	A 4 pole Induction motor is connected to a 50Hz supply and at full load, the rotor emf makes 90 complete cycles in one minute. Find the percentage slip a) 3% b) 55 % b) 8% d) 1.5 %	a
178	The rotor of the single-phase induction motor is of a) Salient pole type b) Squirrel cage type	b

	c) Smooth cylindrical type d) Non-salient pole type	
179	The resistance of the earthing wire is (a) very high (b) moderate (c) very small (d) none of the above	c
180	Which of the following material is not used as fuse element (a) silver (b) copper (c) aluminum (d) carbon	d
181	The 50Hz alternating voltage has an angular velocity _____ rad/sec. 100 π b. 50 π c. 25/π d. None of these	a
182	Average power consumed by a pure inductive circuit over a complete cycle when powered by an AC supply is _____ a. Data is insufficient b. Depends on the RMS value of voltage and current c. Zero One watt	c
183	When a bulb of 100 W continuously runs for 24 days, it consumes _____ energy. (a)57.6 kWh (b). 576 kWh (c.) 2.4 kWh (d). 24 kWh	a
184	If a 120V DC drives a current of 500mA through a 60W bulb, the resistance of the bulb is _____ (a)60 Ω (b). 240 Ω (c). 120 Ω (d). 30 Ω	b
185	Power factor may be defined as _____ a. Active Power/Apparent Power b. Apparent Power/Active Power c. Active Power/Reactive Power c. Reactive Power/Active Power	a
186	In a phasor diagram, the relationship between the voltage and its current when a pure resistive circuit is energized by an AC supply is a. Voltage lags its current by 90^0 b. Voltage leads its current by 90^0 c. Both the voltage and current are in phase d. Voltage lags its current by an angle in between 0^0 and 90^0 Voltage leads its current by an angle in between 0^0 and 90^0	c
187	In the case of AC, the ratio of voltage to current (i.e., V/I) is known as _____ a. Resistance b. Conductance c. Impedance d. Admittance	c
188	State whether the following statement is true or false? "SI unit of power factor is watt"	b

	a. True b. False	
189	In an autotransformer, the primary and secondary are _____ coupled. a) only magnetically b) only electrically c) magnetically as well as electrically d) none of the above	c
190	The basic requirement for inducing emf in a coil is that _____ a) there should be change in magnetic flux linking the coil b) magnetic flux should link the coil c) coil should form a closed loop d) none of these	a
191	The mutual inductance between two coil is ---------- reluctance of magnetic path. a) Inversely proportional to b) Directly proportional to c) Independent of d) None of these	a
192	Core of an electromagnet should have a) Low coercivity b) High susceptibility c) Both of the above None of the above	c
193	The direction of motion of a DC motor can be found using _____ a. Flemings Right Hand Rule b. Flemings Left Hand Rule c. Lenz law d. Faradays law	b
194	As the load is increased, the speed of a DC shunt motor a. Increases proportionately b. Remains constant c. Increases slightly d. Reduces slightly	d.
195	The starter in DC motor is used to limit _____ a. Inrush of high voltage b. Inrush of high speed c. Inrush of high current d. None of these	c.
196	The speed of a DC series motor is a. Directly proportional to armature current b. Inversely proportional to th current c. Directly proportional to the square of the armature current d. Inversely proportional to the the armature current	b.
197	A 3 Phase 50Hz Induction motor has synchronous speed of 750 rpm. If the full load slip is 2.5% find rotor speed. a) 750 rpm b) 731.25 rpm c) 7312 rpm d) 0	b
198	In a three phase induction motor, if f is the frequency of the stator supply and s is the slip then the frequency of the rotor induced emf is a) $f_r = s/f$ b) $f_r = s^2*f$ c) $f_r = f/s$ d) $f_r = s*f$	d
199	Factor on which soil resistance depends on (a) depth of the electrode (b) moisture (c) NaCl (d) all the above	d
200	What is the specification of GI earth plate?	b

	(a) 60 cm x 60cm x 3mm (b) 60 cm x 60cm x 6mm (c) 60 cm x 60cm x 4mm 60 cm x 60cm x 5mm	