

General Electrical Engineering

Question No.	Question	Correct Op.No.	Option 1	Option 2	Option 3	Option 4
1	A Single Phase alternator has six slots per pole. The induce EMF when all the slots are wound do E1, While that only with four slots per pole wound, the remaning being left unwound is E2. Then E1 : E2 = -----	1	1:1.3	1.3 :1	1:1	3:2
2	The wrong statement among the following is	1	A fuse can be fitted in an outlet socket	A fuse should not get overheated	The current rating of fuse should not exceed the rating of the smallest cable protected	Fuse having rating less than 3 A can be used in radio
3	The fusing current of a fuse depends on its	4	Material and its length	Length and its diameter	Material and diameter	Material, length and diameter
4	For improving the soil condition and efficiency of earthing system, the pit area around the G.I. pipe is filled with	4	Mixture of copper and nickel	Mixture of chloride and sodium	Mixture of aluminium and sulphate	Mixture of salt and coal
5	For solving parallel ac circuit, the method used is	4	Vector method	Admittance method	Symbolic or j - method	All of these
6	The net power in a series R-C circuit is	2	Zero	Positive	Negative	None of these
7	The product of rms values of current and voltage is called as	2	Real power	Apparent power	Reactive power	Polar curves
8	The power absorbed by a pure inductive circuit and pure capacitive circuit is	4	Zero and non zero	. Non zero and zero	Non zero and non zero	Zero and zero
9	The power curve for a purely resistive circuit is zero only when	3	Current is zero	Voltage is zero	Both current and voltage is zero	None of these
10	The moving system of induction type single - phase energy meter consists of	4	One pointer and two control spring	Two pointer and two control spring	Two pointer and two control spring	No pointer and no control spring
11	Efficiency of a transformer is maximum at	3	Leading power factor	Lagging power factor	Unity power factor	None of these
12	Copper losses occurs due to ohmic resistance in	3	Primary winding	Secondary winding	Both primary and secondary winding	None of these
13	The non salient pole type synchronous generator is driven by	3	Hydraulic turbines	Diesel engines	Steam engines	All of these
14	In India, the synchronous generator generates	1	11 kilo - volts	33 kV	66 kV	Either (a) or (b)
15	The synchronous generator is also called an	4	AC generator	Alternator	DC generator	Only (a) and (b)
16	From full load to no load, the change of terminal voltage is more in case of	4	Lagging power factor	Leading power factor	Unity power factor	Both lagging and leading power factor compared to unity power factor
17	The two wattmeter method is applicable for	3	Only star connected system	Only delta connected system	Both star connected and delta connected system	None of these
18	By using two wattmeter method, power can be measured in	2	3 - phase, 2 - wire system	3 - phase, 3 - wire system	3 - phase, 4 - wire system	All of these

General Electrical Engineering

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19	In delta connected system, the potential difference between line outers is	1	Equal to the phase voltage	Greater than the phase voltage	Less than the phase voltage	None of these
20	For extinguishing arc in an high voltage fuses, the element can be immersed in	4	Oil	Carbon tetrachloride	Carbon tetrafluoride	Only (a) and (b)
21	Among the following damping method, the most effective and efficient damping is	3	Air friction damping	Fluid friction damping	Eddy current damping	None of these
22	In order to bring the pointer to rest within a short time,	2	Gravity control is required	Damping control is required	Spring control is required	All of these
23	For application in electric locomotives or for traction purposes, the most suitable motor is	1	Dc series motor	Differentially compounded motor	Cumulatively compounded motor	None of these
24	If the armature current of dc series motor has become twice then the torque will become	2	Twice of the former	Four times of the former	One fourth of the former	Remains same
25	The field winding of dc series motor consists of few turns of	2	Thin wire with low resistance	Thick wire with low resistance	Thin wire with high resistance	Thick wire with high resistance
26	When the motor runs on no load, then	1	Back emf is almost equal to applied voltage	Back emf will be greater than applied voltage	Back emf will be less than applied voltage	None of these
27	If the number of turns, area and current of an ac circuit is doubled then the new inductance will be	3	Equal to the former	Twice of the former	Four times the former	Half of the former
28	The phasor current through a 200 ohm resistor assuming a voltage of 200Arms at an angle of zero degree applied across it is	1	1Arms at an angle of zero degree	1Arms at an angle of 45 degree	1Arms at an angle of 90 degree	1Arms at an angle of 180 degree
29	A vector quantity has	3	Only magnitude	Only direction	Both (a) and (b)	None of these
30	In ac circuit the maximum current required is	2	Equal to the effective current	1.414 times the effective current	Twice the effective current	1.732 times the effective current
31	The amount of work done in moving a charge from one point to another along an equipotential line or surface charge is	1	Zero	Infinity	One	Two
32	For forming an electric dipole between two point charges separated by a small distance, the two point charges are of	4	Unequal magnitude and opposite sign	Unequal magnitude but same sign	Equal magnitude and same sign	Equal magnitude but opposite sign
33	The potential difference between two points is given by	2	$V = E / Q$	$V = W / Q$	$V = Q / E$	$V = Q / W$
34	Gauss's law is applicable for	3	Only point charge	Infinite line charge	Infinite sheet of charge	All of these
35	Total electric flux through any closed surface is equal to the charge enclosed by that surface ". This is	2	Lenz's law	Gauss's law	Maxwell's law	Faraday's law
36	For a four pole two layer DC, lap winding with 20 slots and 1 conductor per layer the number of commutator bars is -----	2	80	20	40	160

General Electrical Engineering

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37	The frequency of rotor current in an induction motor is	2	slip times the frequency of stator current	slip times the frequency of supply	One by slip times the frequency of stator current	One by slip times the frequency of supply
38	Slip of an induction motor increases with	2	increase in current and decrease in torque	increase in current and torque	decrease in current and torque	decrease in current and increase in torque
39	In an induction motor, rotor speed is always	1	Less than the stator speed	More than the stator speed	Equal to the stator speed	None of these
40	The frequency of the induced emf in an induction motor is	3	Greater than the supply frequency	Lesser than the supply frequency	Same as the supply frequency	None of these
41	An SCR can be used	4	as static conductor	for power control	for speed control of dc shunt motor	All of these
42	Copper losses is proportional to	2	kVA	square of kVA	cube of kVA	none of these
43	If the transformer is loaded then the secondary terminal voltage falls for and rises for	1	P.F. of circuit is low	impedance to resistance ratio of the circuit is low	Bandwidth is zero	none of these
44	When Q factor of load is low , then	2	Leading power factor	Lagging power factor	Unity power factor	None of these
45	In an alternator voltage drops occurs in	3	Armature resistance only	Armature resistance and leakage reactance	Armature resistance, leakage reactance and armature reaction	Armature resistance, leakage reactance, armature reaction & earth connections
46	The number of cycles of the induced emf per second is equal to	1	No. of cycles per revolutions x no. of revolutions per second	No. of cycles per second x no. of revolutions per second	No. of cycles per revolutions x no. of revolutions per hour	No. of cycles per revolutions / no. of revolutions per second
47	In an alternator, at lagging p.f., the generated voltage per phase, as compared to that of unity power factor	3	must be same as terminal voltage	must be less than terminal voltage	must be more than terminal voltage	must be 1.41 time the terminal voltage
48	If the input to the prime mover of an alternator is kept constant but the excitation is changed, then the	1	reactive component of output changed	active component of output changed	Power factor of load remains constant	Power factor of load reduces
49	when two alternators are running in parallel, their RKVA load share is changed by changing their..... While their KW load share is changed by changing their.....	1	Excitation, driving torque	driving torque, Excitation,	Excitation, Excitation,	driving torque, driving torque
50	An alternator is supplying 10A to an inductive load at 220V, while running at 1000rpm. Now if the speed of the alternator is reduced to 750rpm but the field current remains unchanged, the load current will become	3	18A	13.3A	10A	7.5A
51	In a balanced 3-phase system, if one of the two wattmeter's reading is negative then the	2	Reading should be taken as it is	Reading should be taken after reversing the pressure coil	Reading should be taken after reversing the current coil	All of these

General Electrical Engineering

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52	A DC AH meter is rated for 15 AMP 250V in the meter constant is 14.4 a Sec. per revaluation. The Meter constant at rated Voltage may be Express as -----	2	3750 REV/KWH	1000 REV/KWH	3600 REV/KWH	960 REV/KWH
53	The torque developed by split phase motor is proportional to	1	Sine of angle Between I_m & I_s	Cosine of angle Between I_m & I_s	Main winding current, I_m	Auxillary winding current, I_s
54	The direction of rotation of universal motor can be reversed by	3	reversing the supply terminals	switching over from ac to dc	Interchanging the brush lead	any of the above
55	Purpose of oil in high rating transformer is i. lubrication of core. ii.insulation iii.cooling of transformer iv. Providing fuel for operation	4	only i and ii	Only ii,iii and iv	only ii	only ii and iii
56	In HRC fuses, the space within the body surrounding the element is usually filled with	3	Silver	Zinc	Quartz	Copper
57	Kirchhoffs voltage law is based on	3	Law of conservation of voltage	Law of conservation of current	Law of conservation of energy	All of the above.
58	Thevinins theorem can be applied to networks containing	4	Passive elements only	Active elements only	Linear elements only	None of these
59	The electric power from primary distribution line is delivered to distribution substations by using	3	1 phase wire	3 phase, 3 wire	3 phase, 4 wire	All of these
60	What does section 44 refer to?	1	Penalty for interference with meters	Penalty for illegal transmission or use of energy	Penalty for maliciously wasting energy	Theft of energy
61	Which section in the IE Act deals with the 'theft of energy'?	1	Section 39	Section 40	Section 43	Section 44
62	The basic difference between square wave and pulse generator is their	2	Waveforms shape	Duty cycles	Frequency range	Cost
63	The full range of audibility in audio frequency oscillator is	3	0 to 20 Hz	20 Hz to 2 kHz	20 Hz to 20 kHz	20 Hz to 20 MHz
64	A ameter has a current range of 0 to 5 AMP and its internal resistance is 0.2 OHMS in order to change the range 0 to 25 we need to add resistnace of -----	4	0.8 OHMS in series with the meter	1 OHMS in series with the meter	0.04 OHMS in parelal with the meter	0.05 OHMS in parelal with the meter
65	In light emitting diode, the available light emitting region is	2	Less than 2.5 mm	From 2.5 to 25 mm	Greater than 25 mm	Greater than 50 mm
66	Turbine meters are generally preferred for	1	Low-viscosity and high flow measurements	High viscosity and low flow measurements	High viscosity and high flow measurements	Low viscosity and low flow measurements
67	A differential relay comparator used for the protection of three phase transformers has	3	One comparator	Two comparator	Three comparator	Six comparator
68	In double delta transformation, a double delta refers to the case where there are two delta transformations in	2	Parallel	Series	Both series and parallel	Neither series nor parallel

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69	In Scott connection, the voltage across the teaser leads the mains by	3	30 degree	60 degree	90 degree	120 degree
70	Scott connection is used for the conversion of	3	Single phase to three phase	Three phase to single phase	Single phase to two phase	All of these
71	Consider three transformers connected in delta-delta fashion and supplying their rated load. Now if one of the transformer is removed then each of the remaining two transformer is overloaded. The overload on each transformer is given as	3	1	1.232	1.732	1.872
72	For large low voltage transformers, the most commonly used connections are	2	Star - star connection	Delta - delta connection	V connection	All of these
73	The phase shift in a star-star connected three phase transformer is	1	0 degree	30 degree	60 degree	120 degree
74	For the parallel operation of three phase transformers, which among the following connection is not applicable?	4	$\Delta - \Delta$ to $Y - Y$	$Y - \Delta$ to $\Delta - Y$	$Y - Y$ to $Y - Y$	None of these
75	A bank of three single phase transformer can be used for obtaining the three phase output. Three magnetic circuits produced in case of a bank of three single phase transformer and in case of single phase transformer are	2	Linked, independent	Independent, linked	Linked, linked	Both are independent
76	In a three phase transformer, the current flowing in three primaries produces three corresponding fluxes. The sum of these three fluxes at any instant is	1	Zero	Three times of any individual flux	One third of any individual flux	None of these
77	Pulse transformers are small in size. The leakage inductance and permeability of alloy used is	1	Low, high	Low, low	High, low	High, high
78	The high leakage impedance transformers are suitable for the applications of	1	Arc welding	Personal computers	Street lights	Electric lamp
79	The output voltage of constant voltage transformer contains excessive harmonics which can be filtered out by using	2	RC filter	RL filter	LC filter	None of these
80	A constant voltage transformer is fed with the sinusoidal input voltage. Its output is	2	Sinusoidal	Flat topped	Saw tooth	Zig-zag
81	A ferro resonant transformer regulation is also known as	3	Constant current transformer	Constant voltage transformer	Variable current transformer	Variable voltage transformer
82	A star connected three phase transformer is provided with tertiary delta connected winding which allows the flow of	2	Second harmonic of exciting current	Third harmonic of exciting current	Fifth harmonic of exciting current	Seventh harmonic of exciting current

General Electrical Engineering

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83	If a two winding transformer is converted into an autotransformer by applying additive polarity and subtractive polarity which results in the secondary voltages of 1840 and 1810 volts. Then the primary and secondary voltages of transformer are	4	1800V, 50V	1810V, 40V	1820V, 30V	1825V, 15V
84	Whether the given autotransformer is step up or step down, its VA rating is always	1	Greater than the two winding transformer	Equal to the two winding transformer	lesser than the two winding transformer	cannot say
85	If an autotransformer having transformation ratio equal to 0.6 is supplying a load of 8kw then its power transferred from primary to secondary is given by	2	3 kW	3.2 kW	3.4 kW	3.5 kW
86	Use of an autotransformer is economical when its transformation ratio is	1	Near unity	Much greater than unity	Much lesser than unity	None of these
87	Which of the following circuit breakers has the lowest operating voltage?	2	SF6 circuit breaker	Air break	Air blast	Minimum oil circuit breaker
88	On what factor does the operating speed of the relay depend?	4	Rate of flux built up	Armature core air gap	Spring tension	All of these
89	A 230V, 5amps, 50 HZ, single phase house service meter has a meter constant of 360 revolution per KWHR. The meter takes 50 Sec. for making 51 revolution of the disc. When connected to a 10 KW unity power factor load. The error in the reading of the meter is -----	4	0%	0.50%	20%	2%
90	What is the major cause of the failure of the circuit breaker?	4	Trip circuit open	Trip latch defective	Spring defective	All of these
91	Why are the isolators used?	3	Break abnormal current	Making under fault conditions	Breaking the circuit under no load condition	None of the above
92	The isolators used in the transmission lines are capable of breaking	3	Fault current	No current	Charging current	Load current
93	For which among the following the current ratings are not required?	1	Circuit breakers	Relays	Isolators	Load break switch
94	Why is an isolator installed?	1	To isolate one portion of the circuit from another	As an substitute for the circuit breaker	It used on either sides of the circuit breaker	Both (a) and (c)
95	A three phase circuit breaker is rated 2000 MVA, 33 kV. What will be its making current?	4	35 kA	49 kA	70 kA	89 kA
96	Which of the following circuit breaker is highly reliable and has a least maintenance?	4	Oil circuit breakers	Air blast	Vacuum circuit breakers	SF6 circuit breakers
97	With a gate cathode voltage constant at 5v, the gate current of a thyristor is observed to be 0.1 AMPS if gate pulse of duty cycle 0.7 are used the average gate power dissipated in Watts is -----	2	0.5	0.35	5	0.035

General Electrical Engineering

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98	Which of the following circuit breakers is used for the railway electrification?	1	Air blast circuit breaker	SF6 circuit breaker	Bulk oil circuit breaker	Minimum oil circuit breaker
99	A thermal protection switch provides protection against what?	1	Overload	Temperature	Short circuit	Over voltage
100	AND operation is equivalent to	3	Division	Union	Intersection	Both B and C
101	Which of these sets of logic gates are designated as universal gates?	1	NOR, NAND.	XOR, NOR, NAND.	OR, NOT, AND.	NOR, NAND, XNOR.
102	A D-flip-flop is said to be transparent when	4	the output is LOW	the output is HIGH	the output follows clock	the output follow input
103	How many entries will be in the truth table of a 3 input NAND gate ?	3	3	6	8	9
104	Which of the following memories uses one transistor and one capacitor as basic memory unit	2	SRAM	DRAM	Both SRAM and DRAM	None
105	Ohm's law in point form from field theory can be expressed as	3	$J = \sigma E.$	$V = IR.$	$J = E / \sigma.$	$R = \rho \times (l / A).$
106	The drawback of Dalton's atomic structure is that, it says	1	the atoms can neither be created nor be destroyed.	unique nature of atom.	most of the volume of an atom is empty space.	none of these.
107	Cork Screw rule is used to find	1	direction of current.	direction of magnetic field.	direction of electric field.	direction of emf.
108	Conductor is constant and field is varying then emf will induce. This principle is called	3	virtually induced emf.	dynamically induced emf.	static induced emf.	none of these
109	The right hand rule for determining the direction of the induced EMF was introduced by	3	Faraday	Lenz	Fleming	Maxwell
110	Sulphation in a lead acid battery occurs due to	4	heavy charging.	fast charging.	trickle charging.	incomplete charging
111	What is meant by ALU	4	Arithmetic logic upgrade	Arithmetic logic unsigned	Arithmetic local unsigned	Arithmetic logic unit
112	What are the constituents in speed time curve of train?	4	Coasting.	Initial acceleration.	Constant speed.	All of these.
113	Which of the following state capital is not on broad gauge track?	3	Lucknow.	Bhopal.	Jaipur.	Chandigarh.
114	The power input to a 415 V 50 HZ 6 pole 3 phase induction motor running at 975 RPM is 40 KW and Friction and windage losses total 2 KW. The efficiency of motor is	2	92.50%	90%	91%	88%
115	SCII code is a	2	5-bit code	7-bit code	8-bit code	10-bit code
116	ASCII and EBCDIC codes are	3	BCD codes	numeric codes	alphanumeric codes	error correcting codes
117	2421 code is	1	weighted self-complementing code	non-weighted self-complementing code	weighted non-self-complementing code	non-weighted and non-self-complementing code
118	The devices commonly used for making digital circuits are	4	mechanical switches	relays	contact switches	semiconductor devices

General Electrical Engineering

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119	A 3 phase squirrel cage induction motor has a starting torque of 150% and a maximum torque of 300% with respect to rated torque at rated voltage and frequency. Neglect the stator resistance and rotational losses. The Value of Slip for maximum torque is -----	4	13.48%	16.42%	18.92%	26.79%
120	The fast logic family is	1	ECL.	DRL.	TRL.	TTL.
121	Counter is a	2	combinational circuit.	sequential circuit.	both.	none.
122	If clock time period is 1ms, what is its frequency	2	1 MHz	1 kHz	1 MHz	None of these
123	A digital voltmeter has a read out range from 0 to 999 counts, the resolution is	3	1 V.	0.01 V.	1 mV.	10mV
124	A flip flop is a _____ circuit.	2	Combinational	Sequential	Both A and B	None
125	The switch which clears a flip-flop is known as	3	Reset	Clear	Both A and B	None
126	When will be the output of a NOT gate is HIGH ?	2	the input is HIGH	the input is LOW	the input is HIGH and LOW	none of these
127	Which circuit is used in between two systems having two different codes	4	Sequential	Combinational	Both A and B	Conversion
128	Why encoder is used in the digital electronics ?	1	To convert non coded information into coded form	To convert coded information into non coded form	It is used to separate address bus and data bus	None of these
129	Boolean algebra, OR is represented by	2	x	+	-	/
130	The unit of resistivity	2	Ω .	Ω - metre.	Ω / metre.	Ω / m ² .
131	How many coulombs of charge flow through a circuit carrying a current of 10 A in 1 minute?	3	10	60	600	1200
132	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	4	R Ω	2R Ω	4R Ω	8R Ω
133	The resistivity of the conductor depends on	3	Area of the conductor	Length of the conductor	Type of material	None of these.
134	If 1 A current flows in a circuit, the number of electrons flowing through this circuit is	1	0.625×10^{19}	1.6×10^{19}	1.6×10^{-19}	0.625×10^{-19}
135	A three phase, 33 kV oil circuit breaker is rated 1200 A, 2000 MVA, 3s. What is its symmetrical breaking current?	3	1200 A	3600 A	35 kA	104.8 kA
136	What is / are the main disadvantage / s of using oil as the quenching medium in the circuit breakers?	4	Need periodical replacement.	Risk of formation of explosive mixture with air.	Possibility of causing fire hazards.	All of these.
137	What is the main disadvantage of phase advancers?	1	Cannot be used for motors below 200 H.P	Produces noise	Can be used where synchronous motor is unadmissible	None of these

General Electrical Engineering

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138	A transformer costing Rs 90,000 has a useful life of 20 years. Determine the annual depreciation charge using straight line method. Assume salvage to be 15,000.	2	4000	3750	4350	3500
139	The most suitable location for the power factor improvement device is	4	Near the electrical appliance which is responsible for the poor power factor.	At the sending end.	At the receiving end in case of transmission lines.	None of these
140	Phase advancers are used for which among the following machines?	3	Transformers	Synchronous machines	Induction motors	DC machines
141	What is the advantage of the static capacitors?	4	Low losses	Easy installation	Lower maintenance	All of these
142	For which among the following consumers is penalty imposed for low power factor?	2	Residential and commercial consumers.	Industrial consumers.	Agricultural consumers.	All of these.
143	The primary reason for the low power factor is due to the installation of	1	Induction motors	DC motors	Synchronous motors	Commutator motors
144	Which among the following happens in a low power factor?	4	Large kVA rating of the equipment.	Greater conductor size.	Reduced handling capacity of the system.	All of these.
145	What is maximum value of power factor?	2	0.5	1	1.5	0.95
146	A consumer having lower power factor contributes towards which factor?	4	Semi fixed charges.	Fixed charges.	Running charges.	Penalty is imposed.
147	Why is a big consumer charged at a lower rate than the small consumer?	2	Their maximum demand is small.	It improves the load factor.	Both (a) and (b).	None of these.
148	What is the difference between two part tariff and maximum demand tariff?	2	A separate meter is used	A separate maximum demand meter is used	Semi fixed charges are also included	All of these
149	A 400V, 50 KVA .8 PF leading 3 Connected 50 HZ synchronous machine has a synchronous reactance of 2 OHMS and negligible armature resistance the friction and windage losses are 2KW and the core loss 0.8 KW. The shaft supplying 9 KW load at a power factor of 0.8 leading. The line current drawn is -----	3	12.29	16.24	21.29	36.88
150	Block rate tariff, where energy charge decreases with the increase in energy consumption,	1	Encourages the consumers for more consumption.	Discourages the consumers for more consumption.	Encourages the consumers to restrict their demand.	Encourages the consumers to improve the power factor.
151	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	4	R Ω	2R Ω	4R Ω	8R Ω
152	How many coulombs of charge flow through a circuit carrying a current of 10 A in 1 minute?	3	10	60	600	1200

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153	The drawback of Daltons atomic structure is that, it says	1	the atoms can neither be created nor be destroyed.	unique nature of atom.	most of the volume of an atom is empty space.	none of these.
154	Ohm's law in point from field theory can be expressed as	2	$J = \sigma E$.	$V = IR$.	$J = E / \sigma$.	$R = \rho \times (l / A)$.
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162	A three phase circuit breaker is rated 2000 MVA, 33 kV. What will be its making current?	4	35 kA	49 kA	70 kA	89 kA
163	What is the actuating quantity for the relays?	4	Magnitude	Frequency	Phase angle	All of these
164	If an autotransformer having transformation ratio equal to 0.6 is supplying a load of 8kw then its power transferred from primary to secondary is given by	2	3 kW	3.2 kW	3.4 kW	3.5 kW
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173	The non salient pole type synchronous generator is driven by	3	Hydraulic turbines	Diesel engines	Steam engines	All of these
174	Copper losses is proportional to	2	kVA	square of kVA	cube of kVA	none of these
175	An SCR can be used	4	as static conductor	for power control	for speed control of dc shunt motor	All of these
176	The frequency of the induced emf in an induction motor is	3	Greater than the supply frequency	Lesser than the supply frequency	Same as the supply frequency	None of these
177	The frequency of rotor current in an induction motor is	2	slip times the frequency of stator current	slip times the frequency of supply	One by slip times the frequency of stator current	One by slip times the frequency of supply
178	For forming an electric dipole between two point charges separated by a small distance, the two point charges are of	4	Unequal magnitude and opposite sign	Unequal magnitude but same sign	Equal magnitude and same sign	Equal magnitude but opposite sign
179	The phasor current through a 200 ohm resistor assuming a voltage of 200Arms at an angle of zero degree applied across it is	1	1Arms at an angle of zero degree	1Arms at an angle of 45 degree	1Arms at an angle of 90 degree	1Arms at an angle of 180 degree
180	For application in electric locomotives or for traction purposes, the most suitable motor is	1	Dc series motor	Differentially compounded motor	Cumulatively compounded motor	None of these
181	Among the following damping method, the most effective and efficient damping is	3	Air friction damping	Fluid friction damping	Eddy current damping	None of these
182	In HRC fuses, the space within the body surrounding the element is usually filled with	3	Silver	Zinc	Quartz	Copper
183	To reduce Effect it is preferable to use bundled conductor	1	Corona	Skin	Ferranti	None of the above
184	IDMT stands for Inverse DefiniteTime relay	1	minimum	Maximum	More	Miniature
185	A motor which can conveniently be operated at lagging as well as leading power factors is the-----	3	I.M	Universal	synchronous motor	D.C

General Electrical Engineering

Question No.	Question	Correct Op.No.	Option 1	Option 2	Option 3	Option 4
186	Soak pit for oil of transformer is necessary only if aggregate oil capacity exceeds ltrs.	4	100.00	500.00	1000.00	2000.00
187	The highest voltage for transmitting electrical power in India is	3	220 kV	400 kv	765 kv	800 kV
188	If a Y- connected AC generator, each phase voltage has a magnitude of 90 Vrms, what is the magnitude of each line voltage?	3	0 V	90 V	156 V	180 V
189	18) A 1:5 step-up transformer has 120V across the primary and 600 ohms resistance across the secondary. Assuming 100% efficiency, the primary current equals	2	20 Amp.	0.2 Amp.	5 Amp.	10 Amp.
190	Harmonics in transformer result in	4	Increased core losses	Increased I ² R losses	Magnetic interference with communication circuits	All of these
191	The full load copper loss of a transformer is 1600W. At half-load the copper loss will be	4	6400W	1600W	800W	400W
192	The noise resulting from vibrations of lamination set by magnetic forces is known as-----	3	Magnetostriction	Boo.	Hum.	Zoom
193	Auto transformer makes effective saving on copper and copper losses, when its transformation ratio is equal to	4	Very low	Less than one	Greater than one	Approximately one
194	If frequency is 50 Hz and speed is 500 rpm, find the number of poles of a motor	3	5	10	12	24
195	To change the direction of rotation of a motor the phase sequence required to be changed from RYB to -----	2	BYR	RBY	BRY	All of these
196	Which of the following induction motor has the highest starting torque?	2	Squirrel cage induction motor	Slip ring induction motor	Same in both induction motor	None of these
197	A 4 pole 50 Hz induction motor is running at 1470 rpm. Calculate the slip	2	0.2	0.02	0.04	0.4
198	The full-load copper loss of a transformer is 1600 W. At half-load, the copper loss will be	4	6400 W	1600 W	800 W	400 W
199	One coulomb charge is equal to the charge on	1	6.24×10^{18} electrons	6.24×10^{24} electrons	6.24×10^{18} atoms	None of the above
200	The correct relation between energy and charge is	4	Energy = Voltage / Charge	Charge = Energy * Voltage	Energy = Voltage (Charge) ^{0.5}	Energy = Voltage* Charge
201	Two capacitor each of capacitance C and breakdown voltage V are joined in series. The capacitance and breakdown voltage of the combination is	1	0.5 C & 2 V	0.5 C & 0.5V	C & V	2 C & 2 V

General Electrical Engineering

Question No.	Question	Correct Op.No.	Option 1	Option 2	Option 3	Option 4
202	Two capacitor of $1\mu\text{F}$ and $2\mu\text{F}$ capacitance are connected in parallel across a 30 V dc battery. After the capacitors have been charged, the charges across the two capacitors will be	3	$30\ \mu\text{C}$ each	$60\ \mu\text{C}$ each	$30\ \mu\text{C}$ and $60\ \mu\text{C}$ respectively	$60\ \mu\text{C}$ and $30\ \mu\text{C}$ respectively
203	Two capacitor of $1\mu\text{F}$ and $2\mu\text{F}$ capacitance are connected in series across a 30 V dc battery. After the capacitors have been charged, the charges across the two capacitors will be	2	$10\ \mu\text{C}$ each	$20\ \mu\text{C}$ each	$10\ \mu\text{C}$ and $20\ \mu\text{C}$ respectively	$20\ \mu\text{C}$ and $10\ \mu\text{C}$ respectively
204	In practical voltage source, the terminal voltage	2	Cannot be less than source voltage	Cannot be higher than source voltage	Is always less than source voltage	Is always equal to source voltage
205	An ideal current source has	1	Infinite source resistance	Zero source resistance	Large value of source resistance	Finite value of source resistance
206	Kirchhoff's laws are applicable to	4	DC only	As sinusoidal wave only	DC and AC sinusoidal waves	All wave shapes
207	When determining Thevenin's resistance of a circuit	4	All sources must be open circuited	All sources must be short circuited	All voltage sources must be open circuited and all current sources must be short circuited	All sources must be replaced by their internal resistances
208	A source is delivering maximum power to resistance through a network. The ratio of power delivered to the source power	2	Is always 0.5	May be 0.5 or less	May be 0.5 or less or more	May be 0.5 or more
209	Three resistance of 15Ω each are connectd in delta. The resistance of equivalent star will have a value of	2	12Ω	5Ω	$5/3\Omega$	45Ω
210	Two voltage are $v_1 = 100 \sin(\omega t + 15^\circ)$ and $v_2 = 60 \cos \omega t$, then	3	v_1 is leading v_2 by 15°	v_1 is leading v_2 by 75°	v_2 is leading v_1 by 75°	v_2 is leading v_1 by 15°
211	In a purely inductive circuit the current _____ the voltage by _____	3	Lags, 0°	Leads, 90°	Lags, 90°	Lags, 45°
212	In a purely capacitive circuit the current _____ the voltage by _____	2	Lags, 0°	Leads, 90°	Lags, 90°	Lags, 45°
213	A bulb rated at 60W, 120 V is used for 30 minutes. The charge associated with this	2	3600 C	900 C	7200 C	60 C
214	Which tariff is used by the small commercial consumers	2	Maximum demand tariff	Block rate tariff	Three part tariff	Tow part tariff
215	Two part tariff is charged on what vasis	4	Connected load	Units consumed	Maximum demand	Both 2 & 3
216	What is the main disadvantage of two port tariff	2	He has to pay semi fixed charges	He has to pay fixed charges	He has to pay running charges	None of the above
217	What all are included in the three part tariff	4	Fixedcharges	Running charges	Semi fixed charges	All of the above
218	Why is a big consumer charged at a lower rate than the small consumer	2	Their maximum demand is small	It improves the load factor	Both of Theses	None of the above

General Electrical Engineering

Question No.	Question	Correct Op.No.	Option 1	Option 2	Option 3	Option 4
219	What is the consequence of low power factor	3	Increases the rating of station equipments only	Only line losses increase	Both of These	None of the above
220	Which tariff is also known as the average power factor tariff	1	Sliding scale tariff	kW tariff	kVAR tariff	kVA maximum demand tariff
221	For which among the following consumers is penalty imposed for low power factor	2	Residential and commercial consumers	Industrial consumers	Agricultural consumers	All of the above
222	Thevenin's theorem cannot be applied if the network_____	2	Is Bilateral	Is Unilateral	Contains Inductor	Contains Capacitor
223	The delta connection always forms a _____	2	Open Circuit	Loop	Short Circuit	None of the above
224	When 1.6Ω resistor and 120Ω resistor are connector in parallel, the total resistance is _____	1	Less than 120 Ω but greater than 100Ω	Less than 100Ω	Greater than 1.6Ω	Less than 1.6 Ω but greater than 120Ω
225	For Kirchhoff's current law	4	The direction of incoming and outgoing currents are same	The direction of incoming and outgoing currents are different	No direction to any of the current	Total sum of current meeting at the junction is zero
226	In a series RC circuit, when the frequency and resistance are halved, the impedance _____	2	Doubled	Halved	One fourth	Cannot be determined without values
227	In order to get maximum powder transfer from a capacitive source, the load must	2	Have a capacitive reactance equal to circuit resistance	Have an impedance that is the complex conjugate of the source impedance	Be as capacitive as it is inductive	None of the above
228	The Norton's equivalen current is _____	3	The current through the load	The open current from the source	The short circuit current	None of the above
229	If Maximum power transfer theorem is applied to AC circuit, then load will receive maximum power when load impedance is complex conjugate of internal impedance of the source. This means	2	In both impedances resistances and reactance will be same	In both impedances resistances and reactance will be different	In both impedenaces resistance is same and reactance will be different	In both impedenaces resistance is different and reactance will be same
230	Which of the following is non linear circuit parameter	1	Transistor	Inductance	Capacitance	Wire wound resistor
231	In order to apply Superposition theorem, it is necessary that the network be only_____	4	Linear and Reciprocal	Time - invariant and Reciprocal	Linear and Time - invariant	Linear
232	All the voltage drops and the voltage sources added together in a series circuit is equal to _____	3	The total of voltage drops	The source voltage	Zero	The total of the source voltage and voltage drops
233	When fourth resistor is connected in series with three series resistor, the total resistance _____	1	Increases	Decreases	Increases by one fourth	Doubled
234	A 680 Ω load resistor R ₁ is connected across 1.2 A current source. The internal source resistance is 12kΩ, the load current is _____	4	0A	1.2 A	114 mA	1.14 A
235	Two resistors are connected in series 5 ohm and 10 ohm with 75V source. What is the voltage across 5 ohm resistor?	2	50 V	25 V	2.5V	5 V

General Electrical Engineering

Question No.	Question	Correct Op.No.	Option 1	Option 2	Option 3	Option 4
236	Approximately how much current flows through a circuit with a 40 V source and 6.8 k ohm of resistance?	2	4.5 mA	5.9 mA	5.5 mA	59 mA
237	If internal resistance of the voltage source is unknown, it is replaced by ____ while applying theorems.	2	Open circuit	Short circuit	Delta circuit	None of the above
238	Approximately how much current flows through a circuit with a 30 V source and 4 k ohm of resistance?	1	7.5 mA	7.2 mA	5.9 mA	2.72 mA
239	Resistance of a tungsten lamp ____ as applied voltage increases	2	Decreases	Increases	Remains same	None of the above
240	A delta circuit has each element of value R/2. The equivalent element of star circuit will be	1	R/6	R/3	2R	3R
241	Two infinite long parallel conductor in vacuum and separated 1 m between centre when a circuit of 1 A flows through each conductor produces on each other a force of	4	2×10^{-2} N/m	2×10^{-3} N/m	2×10^{-5} N/m	2×10^{-7} N/m
242	In a 3 phase system, the voltages are separated by	3	45^0	90^0	120^0	180^0
243	In a certain Y-Y system, the source phase currents each have a magnitude of 9 A. The magnitude of each load current for a balanced load condition is	3	3A	12A	9A	27A
244	A transformer core is laminated to	2	Reduce hysteresis loss	To reduce eddy current loss	To reduce copper loss	To reduce all of these losses
245	The no load current drawn by transformer is usually what ----- percent of the full load current.	2	0.2 to 0.5	2 to 5	10 to 17	23 to 35
246	The path of a magnetic flux in a transformer should have	4	High resistance	High reluctance	Low resistance	Low reluctance
247	The armature core of a D.C. generator is usually made of	1	silicon steel	copper	non-ferrous material	cast-iron
248	The size of a conductor used in power cables depends on the	3	Operating voltage.	Power factor.	Current to be carried.	type of insulation used.
249	Auto transformer makes effective saving on copper and copper losses, when its transformation ratio is equal to	4	Very low	Less than one	Greater than one	Approximately one
250	The frequency of a voltage at the secondary is	2	greater than the primary	equal to primary	less than primary	any of these
251	If frequency is 50 Hz and speed is 500 rpm, find the number of poles of a motor	3	5	10	12	24
252	To change the direction of rotation of a motor the phase sequence required to be changed from RYB to -----	2	BYR	RBY	BRY	All of these

General Electrical Engineering

Question No.	Question	Correct Op.No.	Option 1	Option 2	Option 3	Option 4
253	Which of the following induction motor has the highest starting torque?	2	Squirrel cage induction motor	Slip ring induction motor	Same in both induction motor	None of these
254	A 4 pole 50 Hz induction motor is running at 1470 rpm. Calculate the slip	2	0.2	0.02	0.04	0.4
255	The torque of an induction motor is	1	directly proportional to slip	inversely proportional to slip	proportional to the square of the slip	none of these
256	The full-load copper loss of a transformer is 1600 W. At half-load, the copper loss will be	4	6400 W	1600 W	800 W	400 W
257	A split phase motor has high starting torque.	2	True	False		
258	If 10 uF, 20 uF, 22 uF, and 100 uF capacitor are in parallel. The total capacitance is 152 uF.	1	True	False		
259	If 1 A current flows in a circuit, the number of electrons flowing through this circuit is	1	0.625×10^{19}	1.6×10^{19}	1.6×10^{-19}	0.625×10^{-19}
260	Sulphation in a lead acid battery occurs due to	4	heavy charging.	fast charging.	trickle charging.	incomplete charging
261	Cork Screw rule is used to find	1	direction of current.	direction of magnetic field.	direction of electric field.	direction of emf.
262	What is mean by ALU	4	Arithmetic logic upgrade	Arithmetic logic unsigned	Arithmetic local unsigned	Arithmetic logic unit
263	What is the difference between two part tariff and maximum demand tariff?	2	A separate meter is used	A separate maximum demand meter is used	Semi fixed charges are also included	All of these
264	Which among the following happens in a low power factor?	4	Large kVA rating of the equipment.	Greater conductor size.	Reduced handling capacity of the system.	All of the above.
265	Phase advancers are used for which among the following machines?	3	Transformers	Synchronous machines	Induction motors	DC machines
266	The most suitable location for the power factor improvement device is	4	Near the electrical appliance which is responsible for the poor power factor.	At the sending end.	At the receiving end in case of transmission lines.	None of the above
267	What is / are the main disadvantage / s of using oil as the quenching medium in the circuit breakers?	4	Need periodical replacement.	Risk of formation of explosive mixture with air.	Possibility of causing fire hazards.	All of the above.
268	Which of the following circuit breaker is highly reliable and has a least maintenance?	4	Oil circuit breakers	Air blast	Vacuum circuit breakers	SF6 circuit breakers
269	For which among the following the current ratings are not required?	1	Circuit breakers	Relays	Isolators	Load break switch
270	Why are the isolators used?	3	Break abnormal current	Making under fault conditions	Breaking the circuit under no load condition	None of the above
271	What is the major cause of the failure of the circuit breaker?	4	Trip circuit open	Trip latch defective	Spring defective	All of these
272	In Scott connection, the voltage across the teaser leads the mains by	3	30 degree	60 degree	90 degree	120 degree

General Electrical Engineering

Question No.	Question	Correct Op.No.	Option 1	Option 2	Option 3	Option 4
273	In double delta transformation, a double delta refers to the case where there are two delta transformations in	2	Parallel	Series	Both series and parallel	Neither series nor parallel
274	The fusing current of a fuse depends on its	4	Material and its length	Length and its diameter	Material and diameter	Material, length and diameter
275	In delta connected system, the potential difference between line outers is	1	Equal to the phase voltage	Greater than the phase voltage	Less than the phase voltage	None of these
276	The two wattmeter method is applicable for	3	Only star connected system	Only delta connected system	Both star connected and delta connected system	None of these
277	In a balanced 3-phase system, if one of the two wattmeter's reading is negative then the	2	Reading should be taken as it is	Reading should be taken after reversing the pressure coil	Reading should be taken after reversing the current coil	All of these
278	From full load to no load, the change of terminal voltage is more in case of	4	Lagging power factor	Leading power factor	Leading power factor	Both lagging and leading power factor compared to unity power factor
279	The synchronous generator is also called an	2	AC generator	Alternator	DC generator	Only (a) and (b)
280	Copper losses occurs due to ohmic resistance in	3	Primary winding	Secondary winding	Both primary and secondary winding	None of these
281	Slip of an induction motor increases with	2	increase in current and decrease in torque	increase in current and torque	decrease in current and torque	decrease in current and increase in torque
282	The amount of work done in moving a charge from one point to another along an equipotential line or surface charge is	1	Zero	Infinity	One	Two
283	When the motor runs on no load, then	1	Back emf is almost equal to applied voltage	Back emf will be greater than applied voltage	Back emf will be less than applied voltage	None of these
284	The field winding of dc series motor consists of few turns of	2	Thin wire with low resistance	Thick wire with low resistance	Thin wire with high resistance	Thick wire with high resistance
285	The power absorbed by a pure inductive circuit and pure capacitive circuit is	4	Zero and non zero	. Non zero and zero	Non zero and non zero	Zero and zero
286	For solving parallel ac circuit, the method used is	4	Vector method	Admittance method	Symbolic or j - method	All of these
287	The fusing current of a fuse depends on its	4	Material and its length	Length and its diameter	Material and diameter	Material, length and diameter
288	For extinguishing arc in an high voltage fuses, the element can be immersed in	4	Oil	Carbon tetrachloride	Carbon tetrafloride	Only (a) and (b)
289	In delta connected system, the potential difference between line outers is	1	Equal to the phase voltage	Greater than the phase voltage	Less than the phase voltage	None of these
290	In order to bring the pointer to rest within a short time,	2	Gravity control is required	Damping control is required	Spring control is required	All of these

General Electrical Engineering

Question No.	Question	Correct Op.No.	Option 1	Option 2	Option 3	Option 4
291	Among the following damping method, the most effective and efficient damping is	3	Air friction damping	Fluid friction damping	Eddy current damping	None of these
292	The moving system of induction type single - phase energy meter consists of	4	One pointer and two control spring	Two pointer and two control spring	Two pointer and two control spring	No pointer and no control spring
293	Total electric flux through any closed surface is equal to the charge enclosed by that surface ". This is	2	Lenz's law	Gauss's law	Maxwell's law	Faraday's law
294	Gauss's law is applicable for	3	Only point charge	Infinite line charge	Infinite sheet of charge	All of these
295	The potential difference between two points is given by	2	$V = E / Q$	$V = W / Q$	$V = Q / E$	$V = Q / W$
296	From full load to no load, the change of terminal voltage is more in case of	4	Lagging power factor	Leading power factor	Unity power factor	Both lagging and leading power factor compared to unity power factor
297	The synchronous generator is also called an	4	AC generator	Alternator	DC generator	Only (a) and (b)
298	In India, the synchronous generator generates	4	11 kilo - volts	33 kV	66 kV	Either (a) or (b)
299	The non salient pole type synchronous generator is driven by	3	Hydraulic turbines	Diesel engines	Steam engines	All of these
300	Copper losses occurs due to ohmic resistance in	3	Primary winding	Secondary winding	Both primary and secondary winding	None of these