

1.	In electrical machines the material preferred for pole shoes of electro-magnets is (A) Pure iron (B) Aluminium (C) Copper (D) Lead.
2.	The percentage of silicon in transformer stampings is usually limited to (A) 0.4% (B) 1.4% (C) 4% (D) 14%.
3.	Which variety of copper is used for overhead conductors ? (A) Hard drawn copper (B) Native copper (C) Annealed copper (D) Purest form of copper.
4.	Which property of copper enables it to be drawn into thin wires and sheets ? (A) Ductility (B) Elasticity (C) Toughness (D) Tenacity.
5.	Which of the following is the least desired property in magnetic materials for electrical engineering applications ? (A) High magnetic permeability (B) High electrical resistivity (C) Large hysteresis loop (D) All of the above.
6.	Which of the following can be worked with higher flux densities ? (A) Mild steel (B) Silicon iron (C) Cold rolled silicon steel (D) Hot rolled silicon steel.
7.	Fibre glass insulation can be used up to temperature of (A) 60°C (B) 80°C (C) 130°C (D) 180°C
8.	Pumps, blowers and fans are usually designed for (A) continuous duty (B) short time duty (C) intermittent periodic duty (D) intermittent periodic duty with starting and braking.
9.	What is the formula for the diameter of the single phase core type transformer? a) $D = \text{diameter of circumscribing circle} + \text{Width of window}$ b) $D = \text{diameter of circumscribing circle} - \text{Width of window}$ c) $D = \text{diameter of circumscribing circle} * \text{Width of window}$ d) $D = \text{diameter of circumscribing circle} / \text{Width of window}$

10.	Transformer-core laminated Stampings are made of (A) cast iron (B) wrought iron (C) silicon steel (D) cast steel.
11.	What is the formula to calculate the voltage per turn of the transformer? a) voltage per turn = space factor * square root of output power b) voltage per turn = space factor / square root of output power c) voltage per turn = space factor / square root of output power d) voltage per turn = space factor * 2*square root of output power (D) none of the above.
12.	What is window space factor? a) window space factor = copper area in the window – total window area b) window space factor = copper area in the window + total window area c) window space factor = copper area in the window * total window area d) window space factor = copper area in the window / total window area
13.	For transformer laminations (A) hot rolled silicon steel is preferred (B) cold rolled silicon steel is preferred (C) grain oriented silicon steel is preferred (D) any of the above steel can be used.
14.	The stacking factor will be least for (A) Square core (B) Cruciform core (C) Three stepped core (D) Four stepped core.
15.	Tap changing facility is generally provided on (A) high voltage transformers (B) distribution transformers (C) current transformers (D) step up transformers.
16.	The overload capacity of a transformer depends on (A) ratio of full load copper losses to its iron losses (B) size of the core (C) frequency (D) none of the above.
17.	The 'hum' in a transformer is due to (A) vibrations in cooling oil (B) vibration in laminations (C) sinusoidal voltage waveform (D) all of the above.
18.	Distribution transformers are generally designed for maximum efficiency around <hr/> a) 90% load b) zero load c) 25% load d) 50% load

19.	<p>What is the usage of the tanks with tubes?</p> <p>a) if the temperature rise with plain tank is very low b) if the temperature rise with plain tank is very high c) if the temperature rise is zero d) if the temperature rise with plain tank exceeds the specific limits</p>
20.	<p>What is the formula for height of transformer tank?</p> <p>a) height of transformer tank = Height of transformer frame + clearance height between the assembled transformer and tank b) height of transformer tank = Height of transformer frame * clearance height between the assembled transformer and tank c) height of transformer tank = Height of transformer frame/clearance height between the assembled transformer and tank d) height of transformer tank = Height of transformer frame – clearance height between the assembled transformer and tank</p>
21.	<p>In an oil filled transformer, oil is provided for</p> <p>(A) Cooling (B) Insulation (C) Lubricating (D) Both cooling and insulation (E) Preventing accumulation of dust.</p>
22.	<p>In case of air natural cooling, the cooling surface increases as the _____ of the size</p> <p>(A) inverse (B) inverse square (C) square (D) Cube.</p>
23.	<p>Oil for transformer cooling should have high</p> <p>(A) flash point (B) viscosity (C) sludging tendencies (D) Moisture content.</p>
24.	<p>How is the circulation of oil improved in tanks with tubes?</p> <p>a) it can be improved by using dissipating heat b) it can be improved by using more effective air circulation c) it can be improved by using more effect power flow d) it be improved by using more effective heads of pressure can</p>
25.	<p>What type of cooling is being made use of in transformers having a capacity of less than 11MVA?</p> <p>a) natural cooling b) forced cooling c) air blast cooling d) forced cooling and air blast cooling</p>
26.	<p>Skewing of rotor slots helps in</p> <p>(A) improving beat transfer (B) reducing noise (C) suppressing undesirable harmonics (D) all of the above.</p>

27.	Which of the following measure will not help in reducing the effect of harmonics? (A) connecting 3 phase winding in star or delta without neutral (B) use of short pitch coils or fractional slot windings (C) chamfering the pole shoes of salient pole machines (D) reducing the number of slots per pole per phase.
28.	The frequency of the induced emf in an induction motor is a. Greater than the supply frequency b. Lesser than the supply frequency c. Same as the supply frequency d. None of these
29.	What is the main motive while choosing the number of rotor slots? a) increasing the efficiency b) decreasing the losses c) no noise is produced d) high output is produced
30.	What factors are used fixing the number of stator slots? a) winding arrangement b) number of poles c) winding arrangement or number of poles d) winding arrangement and number of poles
31.	What among the following are considered for the selection of number of rotor slots? a) magnetic locking b) cusps c) magnetic locking or cusps d) magnetic locking and cusps
32.	What is the formula for the total cross section of rotor bars? a) total cross section of rotor bars = number of rotor slots * area of each bar b) total cross section of rotor bars = number of rotor slots / area of each bar c) total cross section of rotor bars = number of rotor slots + area of each bar d) total cross section of rotor bars = number of rotor slots - area of each bar
33.	What is the range of the ratio of the total cross section of rotor bars to the total stator copper section for main winding for aluminium? a) 1-1.3 b) 1-1.4 c) 1-1.6 d) 1.2-1.5
34.	What is the formula of the area of each end ring? a) area of each end ring = 0.32 * total cross section of rotor bars * number of poles b) area of each end ring = 0.32 / total cross section of rotor bars * number of poles c) area of each end ring = 0.32 * total cross section of rotor bars / number of poles d) area of each end ring = 1/0.32 * total cross section of rotor bars *

	number of poles
35.	<p>What is the relation of the total slot leakage reactance with number of stator slots?</p> <p>a) slot leakage reactance is directly proportional to the number of stator slots</p> <p>b) slot leakage reactance is indirectly proportional to the number of stator slots</p> <p>c) slot leakage reactance is directly proportional to the square of the number of stator slots</p> <p>d) slot leakage reactance is indirectly proportional to the square of the number of stator slots</p>
36.	<p>What is the relation of the stator slot leakage factor with the skew leakage reactance?</p> <p>a) skew leakage reactance is directly proportional to the stator slot leakage factor</p> <p>b) skew leakage reactance is indirectly proportional to the stator slot leakage factor</p> <p>c) skew leakage reactance is directly proportional to the square of stator slot leakage factor</p> <p>d) skew leakage reactance is indirectly proportional to the square of stator slot leakage factor</p>
37.	<p>What is the value of the stator slot leakage factor?</p> <p>a) 0.90</p> <p>b) 0.80</p> <p>c) 0.95</p> <p>d) 0.85</p>
38.	<p>What factor is the core length made equal to in theoretical conditions?</p> <p>a) pole length</p> <p>b) pole proportion</p> <p>c) pole length</p> <p>d) number of poles</p>
39.	<p>What is the value of the flux density with respect to average flux density?</p> <p>a) value of flux density = 1.67 times of average flux density</p> <p>b) value of flux density = 1.70 times of average flux density</p> <p>c) value of flux density = 1.60 times of average flux density</p> <p>d) value of flux density = 1.50 times of average flux density</p>
40.	<p>What is the formula for the saturation factor?</p> <p>a) saturation factor = total mmf required for the magnetic circuit/mmf required for air gap</p> <p>b) saturation factor = total mmf required for the magnetic circuit + mmf required for air gap</p> <p>c) saturation factor = total mmf required for the magnetic circuit - mmf required for air gap</p> <p>d) saturation factor = total mmf required for the magnetic circuit * mmf required for air gap</p>
41.	<p>What factors are considered while calculating iron loss in stator teeth and core?</p> <p>a) flux densities</p>

	b) weights c) flux densities or weights d) flux densities and weights
42.	What are the factors which result in the bearing friction and windage loss? a) ball bearings b) sleeve bearing c) ball bearing and sleeve bearing d) ball bearing or sleeve bearing
43.	How many categories can the synchronous motors be divided into? a) 4 b) 3 c) 5 d) 2
44.	Which among the following are the applications of synchronous motors? a) compressors b) blowers c) fans d) compressors, fans, blowers
45.	Why is the stator core built up of laminations? a) to reduce core loss b) to reduce copper loss c) to reduce iron loss d) to reduce eddy current loss
46.	What is the thickness of the most commonly used grade for stator laminations? a) 0.5 mm b) 1 mm c) 1.5 mm d) 2 mm
47.	How are the stator windings of all synchronous generator connected? a) star-delta connection b) star connection c) star connection with neutral earthed d) delta connected
48.	What is the use of the slot in the rotor of alternator? a) for inserting the field windings b) for inserting the armature windings c) for securing the field windings d) for inserting and securing the field windings
49.	Which type of machines have a large number of poles per phase? a) high voltage machines and machines with high value of flux per pole b) high voltage machines and machines with small value of flux per pole c) small voltage machines and machines with high value of flux per pole d) small voltage machines and machines with low value of flux per pole
50.	How is the number of armature slots associated with the armature windings?

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| <p>a) number of slots should be such that unbalanced winding is obtained</p> <p>b) number of slots should be such that balanced winding is obtained</p> <p>c) number of slots should be so low as possible</p> <p>d) number of slots should be high as possible</p> |
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