

SCIENCE STOPPERS

.....
JE | AE | PSU | GATE | IES |

PRACTICE SET :- 1

50 QUESTION TIME :- 35 MIN

PH:- 9599868775 WHATSAPP :- 9599868775 / 7503708277
FOR MORE VISIT :- <http://sciencestoppers.com/>

GMAIL :- SCIENCESTOPPERS@GMAIL.COM

WEBSITE :- SCIENCESTOPPERS.COM

.....**ADD :- HEAD OFFICE :- NOIDA**
SECTOR 15 NCR DELHI SOHNA COMPLEX

1. **Capacitor does not allow the sudden change of**
current
voltage
power
None of the above

2. **Internal resistance of ideal voltage source is**
zero
infinite
finite
100 ohms

3. **In a series R, L circuit, voltage across resistor and inductor are 3 V and 4 V respectively, then what is the applied voltage?**
7V
5V
4V
3V

4. **If a resistor is connected across the voltage source and the frequency of voltage and current wave form is 50Hz, then what is frequency of instantaneous power**
0 Hz.
100 Hz.
50 Hz.
150 Hz.

5. **In RLC series circuit, if the voltage across capacitor is greater than voltage across inductor, then power factor of the network is**
lagging.
leading.
unity.
zero.

6. **To obtain wide bandwidth, network is designed with which of the following?**
High Q factor
Low Q factor
Unity Q factor
Zero Q factor

7. Which of the following represents the resonance frequency (ω_0) with respect to lower cutoff frequency (ω_1) and higher cutoff frequency (ω_2)
- $\omega_1 + \omega_2$
 - $\omega_1 - \omega_2$
 - ω_1 / ω_2
 - $\sqrt{(\omega_1^2 + \omega_2^2)}$
8. An RC series circuit $R = 2\Omega$, $C = 2\mu\text{F}$ and 10V dc is applied. Then what is the value of current?
- 0A
 - 2A
 - 5A
 - 10A
9. Mesh analysis is preferred when loops are-----nodes
- less than
 - greater than
 - equals to
 - any of the above
10. If all the elements in a particular network are linear, then the superposition theorem would hold, when the excitation is
- DC only
 - AC only
 - Either AC or DC
 - An Impulse
11. In the circuit shown below, find the thevnin equivalent resistance.
- 6/5 Ohm.
 - 5/6 Ohm.
 - 5 Ohm.
 - 1.5 Ohm.
12. From the circuit diagram shown in above question find the Norton current.
- 2 A.
 - 2.5 A.
 - 4 A.

1 A.

13. **A piece of copper and another piece of germanium are cooled from room temperature to 80K. The resistance of**
each of them increases.
each of them decreases.
copper increases and germanium decreases.
copper decreases and germanium increases.
14. **Third pin of a 3 pin plug is thicker and longer**
for designing purpose.
for protection purpose.
all pins are of same size.
none of these.
15. **A 60 Hz frequency voltage would cause a bulb to turn on and off**
60 times per second.
120 times per second.
70 times per second.
80 times per second.
16. **A voltage source having an open circuit voltage of 100 V and internal resistance of 50 Ω is equivalent to a current source**
2 A with 50 Ω in series.
2 A with 50 Ω in parallel.
0.5 A in parallel with 50 Ω .
none of these.
17. **A star connected load has three equal impedance each of (40 + j30) Ω If the line current is 5 A then value of line voltage is**
250 V.
250 $\sqrt{3}$ V.
250 / $\sqrt{3}$ V.
200 V.
18. **Two sinusoidal emfs are given as $e_1 = A\sin(\omega t + 45)$ and $e_2 = B\sin(\omega t - 30)$. The phase difference between the two quantities in degrees is**
75.
60.
15.
105.
19. **The inductive reactance of an electric circuit is 200 Ohms. The frequency of supply becomes doubled. What is the new capacitive reactance?**

- 50 Ohms.
- 100 Ohms.
- 200 Ohms.
- 400 Ohms.

20. **Two resistors R_1 and R_2 give combined resistance of 4.5 Ohm when connected in series and 1 Ohm when in parallel, the resistances are**
- 2.2 Ohm and 2.3 Ohm.
 - 1.5 Ohm and 3 Ohm.
 - 2 Ohm and 2.5 Ohm.
 - 1.25 Ohm and 3.25 Ohm.
21. **Unit of deflection sensitivity of a CRO is**
- V / mm.
 - meter / volt.
 - mm per mV.
 - mm / V.
22. **Swamping resistance is used to compensate**
- error due to temperature true variations.
 - error due to strong magnetic field.
 - both A and B.
 - none of these.
23. **The high torque to weight ratio in an analog indicating instrument indicates**
- low friction loss.
 - high friction loss.
 - nothing related to friction loss.
 - none of these.
24. **If the applied voltage to a dc machine is 230 V, then the back emf, for maximum power developed, is**
- 115 V
 - 200 V
 - 230 V
 - 460 V
25. **A 10 kW, 230 V, dc shunt machine has four terminals brought out through four leads. For this machine**
- both the windings have thin leads
 - both the windings have thick leads
 - armature winding has thin leads whereas field winding has thick leads
 - armature winding has thick leads whereas field winding has thin leads

26. **A belt-driven cumulatively-compound dc generator is delivering power to the dc mains. If the Belt snaps then the machine will run as a**
cumulative compounded motor in the same direction
differentially compounded motor in the same direction
cumulative compounded motor in opposite direction
differentially compounded motor in the opposite direction
27. **The residual magnetism of a self-excited dc generator is lost. To build up its emf again**
the field winding must be replaced
the armature connection must be reversed
the field winding connection must be reversed
field winding must be excited by low voltage dc supply
28. **The armature mmf of a DC machine has**
triangular space distribution and rotates at the speed of armature
trapezoidal space distribution and is stationary in space
stepped distribution and rotates at the speed of armature
triangular space distribution and is stationary in space
29. **Saving of copper in auto transformer is increased as compared to two winding transformer, when transformation ratio K approaches to**
unity.
infinity.
two.
zero.
30. **Tap changer is generally provided in**
current transformer.
power transformer.
voltage transformer.
earthing transformer.
31. **Transformer cooling and insulating oil must be of**
low viscosity.
high viscosity.
low BDV.
low resistivity.
32. **The flux involved in the emf equation of a transformer has**
rms value.
maximum value.

average value.
total value.

33. **The no load current in a transformer lags the applied voltage by**
about 75°.
0°.
90°.
about 115°.
34. **Which of the following transformer insulating oil generally used in India?**
Paraffin based insulating oil.
Naphtha based insulating oil.
Aromatics based insulating oil.
Olefin based insulating oil.
35. **The overall power factor of an on load transformer**
depends on the power factor of the load.
is always lagging.
is always unity.
is always leading.
36. **To save energy during braking-----braking is used?**
dynamic
plugging
regenerative
all of the above
37. **Which of the following state capital is not on broad gauge track?**
Lucknow.
Bhopal.
Jaipur.
Chandigarh.
38. **The basic elements of a electric drive are**
electric motor.
control system.
electrical motor and control system.
none of the above.
39. **In electrical resistance welding material of electrode should have**
higher electrical conductivities.
higher thermal conductivities.

sufficient strength to sustain high pressure at elevated temperatures.
all of above.

40. **The most modern method for food processing is**

- Eddy current heating.
- Dielectric current.
- Induction heating.
- Resistance heating.

41. **On increasing the thickness of the refractory wall of the furnace**

- temperature inside the furnace will drop.
- temperature on the outer surface of furnace walls will drop.
- energy consumption will increase.
- heat loss through furnace walls will increase.

42. **Solid angle is expressed in terms of**

- radians / meter.
- radians.
- steradians.
- degree.

43. **Candela/metre square is the unit of which photometric quantity?**

- Illuminance
- Luminous flux
- Luminance
- Luminous Intensity

44. **India's largest thermal power station is located at**

- Kota.
- Sarni.
- Chandrapur.
- Neyveli.

45. **Ships are usually supplied power by**

- Hydraulic turbine.
- Steam accumulator.
- Diesel engine.
- None of above.

46. **Which of following power plants is free from environmental problem**

- Steam.
- Hydroelectric.

Nuclear.
Diesel engine.

47. **Francis, Kaplan and propeller turbines fall under the category of**

Reaction turbine.
Impulse turbine.
Impulse-reaction combined.
Axial flow.

48. **Ferranti effect will not occur in which of the following transmission lines**

long transmission lines
short transmission lines
medium transmission lines
all of the above

49. **For audio frequency applications, the popular oscillator used is**

Wien bridge oscillator
Hartley oscillator
Crystal oscillator
Phase shift oscillator

50. **A quartz crystal oscillator consists of**

only series resonant frequency.
only parallel resonant frequency.
both series and parallel frequencies.
neither series nor parallel frequency.