



भारतीय नाभिकीय विद्युत निगम लिमिटेड  
BHARATIYA NABHIKIYA VIDYUT NIGAM LIMITED  
(भारत सरकार का उद्यम / A Government of India Enterprise)

कल्पाक्कम/ Kalpakkam - 603 102

काँचीपुरम जिला (तमिलनाडु)/ Kancheepuram Dt.(TN)

**Sample Question for the Written Examination for the post of  
Scientific Assistant/B (ELECTRICAL)**

1	When 9 ohm, 6 ohm, 10 ohm resistor is connected in series. Find the power dissipated in 6 ohm resistor. a) 20 watts    b) 24 watts    c) 48 watts    d) 30 watts
2	Calculate the current and resistance of 50w, 100volt electric bulb a) $i=1$ amp, $R=200$ ohm    b) $i=0.5$ amp, $R=100$ ohm c) $i=0.5$ amp, $R=200$ ohm    d) $i=1.5$ amp, $R=200$ ohm
3	Thevenin's voltage is .56v, $R_{th}$ is 7.22, load =20 ohm find the load current. a) 0.5 amps    b) 0.7 amps    c) 0.2 amps    d) 1 amps
4	When current and voltage is in phase in the A.C circuit then what is the power factor a) 2    b) 0.8    c) 1    d) 0.7
5	In a series circuit $R=5$ ohm, $L=20$ mh, frequency=1000 hz. Then find the value of capacitance at resonance condition. a) $1.27 \times 10^{-6}$ fared    b) $0.27 \times 10^{-6}$ fared c) $2.26 \times 10^6$ fared    d) $1.27 \times 10^6$ fared
6	60 kvA single phase transformer gave the following result <b>Oc test:</b> 3000v applied to primary and power taken 430 volt <b>Sc test:</b> primary input power is 525 watt Find efficiency at half load at 0.7 power factor a) 97.77%    b) 95.55% c) 97.398%    d) 96%
7	An impedance $6+j8$ is connected across 220v, 50hz mains in parallel with another circuit having an impedance $8-6j$ ohms. Find total current taken from mains a) 30amps    b) 25 amps c) 20amps    d) 31.02 amps
8	In a pure capacitive circuit the power factor is 0 lead. What is the phase angle? a) $\cos 60^\circ$ b) $\sin 90^\circ$ c) $\cos 90^\circ$ d) $\sin 60^\circ$
9	What kvA rating is required for a transformer that must handle a maximum load current of 8 A with a secondary voltage of 2 Kv? a) 4 kvA    b) 0.25kvA    c) 16kvA    d) 8kvA
10	A $47\Omega$ resistor and a capacitor with a capacitance reactance of $120\Omega$ are in series across a AC source. What is the circuit impedance Z ? a) $129\Omega$ b) $12.9\Omega$ c) $169\Omega$ d) $73\Omega$

11	Resistors 2,3,4,5 ohms are connected in parallel. The total power absorbed by resistor is 200w. what's is the supply voltage? a) 12.5v                      b) 10.5v                      c) 15v                      d) 20v
12	A field excitation of 20A in a certain alternator results in an armature current of 400A in short circuit and a terminal voltage of 2000V on open circuit. The magnitude of the internal voltage drop within the machine at a load current of 200A is a) 1V                                      b) 10V c) 100V                                      d) 1000V
13	The DC motor, which can provide zero speed regulation at full load without any controller is a) Series                                      b) Shunt c) Cumulative Compound                      d) Differential Compound
14	The rms value of load phase voltage is a) 106.1V                                      b) 141.4V c) 212.2V                                      d) 282.8V
15	A 120Ω resistor must carry a maximum current of 25Ma.its rating should be atleast a) 4.8 watts                                      b) 150Mw c) 15Mw                                      d) 480mW