

Itemcode : AG1001	
Q1: Choose the correct statement. Capacitor type VTs are:	
A	Highly reliable for high speed relaying schemes.
B	Not have tendency to introduce harmonics in the output voltage.
C	Having an inferior transient performance as compared to electromagnetic type VTs.
D	Used for voltages up to 66kV.
Correct Ans: C	

Itemcode : AG1002	
Q2: A surge originates in the overhead line of higher surge impedance and enters into the cable of lower surge impedance. Which of the following statement is correct?	
A	Both the transmitted voltage and current in the cable increase.
B	Transmitted voltage is much reduced and transmitted current is increased in the cable.
C	Transmitted voltage increases and transmitted current is reduced in the cable.
D	There is no change in transmitted voltage and current in the cable.
Correct Ans: B	

Itemcode : AG1003	
Q3: An oil circuit breaker is rated at 1450 amps, 2000MVA, 33kV, 2 secs, 3-phase. The short time rating of breaker is :	
A	34.99 kA for 2 secs.
B	106.46 kA for 2 secs.
C	82.48 kA for 2 secs.
D	57.23 kA for 2 secs.
Correct Ans: A	

Itemcode : AG1004	
Q4: For the load flow solution the quantities specified at slack bus are:	
A	P and Q.
B	P and V.

C	Q and V.
D	V and δ.
Correct Ans: D	

Itemcode : AG1005	
Q5: In SVC devices:	
A	voltage injected into the system depends upon the system current.
B	current injected into the system depends upon the system voltage.
C	current is made perpendicular to the system voltage.
D	voltage is made perpendicular to the system current.
Correct Ans: A	

Itemcode : AG1006	
Q6: The synchronous phasor is a:	
A	GPS based phase measurement unit device.
B	surge protection device.
C	voltage regulator device.
D	tie-line power regulator.
Correct Ans: A	

Itemcode : AG1007	
Q7: The alternative magnetic flux in a conductor caused due to the current flowing in a neighbouring conductor gives rise to circulating currents which cause an apparent increase in the resistance of conductor. This phenomenon is called:	
A	Skin effect.
B	Ferranti effect.
C	Ampere's circuital law.
D	Proximity effect.
Correct Ans: D	

Itemcode : AG1008	
Q8: A generating plant of 100 MW, connected to bus 1, transmit 80 MW power to load bus, connected to bus 2. If the incremental cost of production is	
$\frac{dF_1}{dp_1} = 0.1P_1 + 6.0 \text{ Rs/ MWhr}$, then the incremental cost of received power is:	
A	Rs 5/ MWhr.
B	Rs 10/ MWhr.

C	Rs 20/ MWhr.
D	Rs 30/ MWhr.
Correct Ans: C	

Itemcode : AG1009	
Q9: The Thevenin and Norton equivalent of a network can be found:	
A	If it contains voltage source only.
B	If it contains current source only.
C	If it contains independent voltage and current sources.
D	Even if it contains dependent and independent voltage and current sources.
Correct Ans: D	

Itemcode : AG1010	
Q10: The flux paths close and around the air gap have lengths comparable to the path directly underneath the core faces of air gap. This results that the flux tends to spread some what outside the air gap. This is called:	
A	Leakage factor.
B	Magnetostriction.
C	Fringing.
D	Eddy curren flux.
Correct Ans: C	

Itemcode : AG1011	
Q11: The definite time taken by microprocessor to perform a specific task is called:	
A	instruction cycle.
B	fetch cycle.
C	clock cycle.
D	machine cycle.
Correct Ans: D	

Itemcode : AG1012	
Q12: Debugging is the process of:	
A	Writing a program for a microprocessor.
B	Executing a program for a microprocessor.
C	Copying a program from one memory location to another in a microprocessor.
D	Checking a program for identifying and removing the error.

Correct Ans: **D**

Itemcode : **AG1013**

Q13: On receiving -ve feedback in an OP-amplifier circuit, its :

- A** Gain and bandwidth both increase.
- B** Gain and bandwidth both reduce.
- C** Gain is increased but bandwidth is reduce.
- D** Gain is reduced but bandwidth is increase.

Correct Ans: **D**

Itemcode : **AG1014**

Q14: A thermistor has a resistance temperature coefficient of -6% over the temperature range 25⁰C to 45⁰C. If the resistance of thermistor is 80 ohms at 25⁰C, the resistance at 35⁰C will be:

- A** 12 ohms
- B** 22 ohms
- C** 32 ohms
- D** 42 ohms

Correct Ans: **C**

Itemcode : **AG1015**

Q15: ` The LED causes emission of light due to:

- A** Emission of electrons.
- B** Generation of electromagnetic radiation.
- C** Conversion of heat energy into light energy.
- D** The photoelectric effect.

Correct Ans: **B**

Itemcode : **AG1016**

Q16: The transistors in a push- pull power oscillator are operated in:

- A** Common base configuration.
- B** Common emitter configuration.
- C** Common collector configuration.
- D** Grounding mode.

Correct Ans: **B**

Itemcode : **AG1017**

Q17: For dielectric heating, the supply power requires:

- A** Very low frequency.
- B** Low frequency.
- C** High frequency.
- D** Very high frequency.

Correct Ans: **D**

Itemcode : **AG1018**

Q18: Welding of aluminium and magnesium products require:

- A** Very large current for long duration.
- B** Very small current for long duration.
- C** Very large current for very small duration.
- D** Very small current for very small duration.

Correct Ans: **C**

Itemcode : **AG1019**

Q19: In snubber circuit:

- A** A low value resistance is connected with high value high voltage capacitance in series.
- B** A high value resistance is connected with low value high voltage capacitance in parallel.
- C** A low value resistance is connected with low value high voltage capacitance in series.
- D** A high value resistance is connected with high value low voltage capacitance in parallel.

Correct Ans: **C**

Itemcode : **AG1020**

Q20: Field current control method is used for DC motors to achieve :

- A** Speed above normal speed.
- B** Speed below normal speed.
- C** Constant speed.
- D** Speed above and below normal speed.

Correct Ans: **A**

Itemcode : **AG1021**

Q21: The power factor of a synchronous motor can be made leading by adjusting:

- A** Speed.
- B** Excitation.

C	Supply voltage.
D	Supply frequency.
Correct Ans: B	

<u>Itemcode</u> : AG1022	
Q22: For controlling the speed of a three phase Induction motor, the scheme generally used is the:	
A	Fixed voltage and fixed frequency scheme.
B	Variable voltage and fixed frequency.
C	Variable voltage and variable frequency.
D	Fixed voltage and variable frequency scheme.
Correct Ans: C	

<u>Itemcode</u> : AG1023	
Q23: Three point starter is used for starting the:	
A	DC Series motor.
B	DC Shunt motor.
C	Compound DC motor.
D	FHP motor.
Correct Ans: B	

<u>Itemcode</u> : AG1024	
Q24: For low value of slip, the torque VS slip curve is approximately:	
A	Exponential curve.
B	Straight line.
C	Parabolic curve.
D	Hyperbolic curve.
Correct Ans: B	

<u>Itemcode</u> : AG1025	
Q25: An alternator has damper windings in rotor. During normal operation at synchronous speed, alternator damper winding carry:	
A	Current to operate it in leading power factor.
B	Current to operate it in lagging power factor.
C	Current to operate it in unity power factor.
D	No current.

Correct Ans: **D**

Itemcode : **AG1026**

Q26: In electromechanical energy conversion devices, the coupling medium employed is:

- A** Electric field.
- B** Short – pitched coil.
- C** magnetic field.
- D** High permeability – pitched coil.

Correct Ans: **C**

Itemcode : **AG1027**

Q27: A 400/ 230 V, 50Hz, single phase transformer has primary winding resistance of 0.5 Ohm and leakage reactance of 1.5 Ohm. The corresponding values of secondary winding are 0.2 Ohm and 0.6 Ohm, respectively. The primary is connected to its rated voltage and frequency. The resistance between primary and secondary windings is:

- A** Infinite.
- B** 2.5 Ohm.
- C** Zero.
- D** 12 Ohm.

Correct Ans: **A**

Itemcode : **AG1028**

Q28: In double cage squirrel type Induction motor, the starting current is:

- A** Confined to upper slots conductors.
- B** Confined to bottom slots conductors.
- C** Equal in upper slots conductors and bottom slots conductors.
- D** Confined one third in upper slots conductors and two third in bottom slots conductors.

Correct Ans: **A**

Itemcode : **AG1029**

Q29: Which of the following motor is not self starting?:

- A** AC series motor.
- B** Synchronous motor
- C** Induction motor.
- D** Shunt field DC motor.

Correct Ans: **B**

Itemcode : **AG1030**

Q30: When two Induction motors connectd in cascade connection, having 8 poles and 6 poles respectively, supplied with 60 Hz supply in cascade connection, the synchronous speed obtained is :

- A** 514.3 rpm
- B** 3600 rpm
- C** 3000 rpm
- D** 1500 rpm

Correct Ans: **A**

Itemcode : **AG1031**

Q31: A 3 \emptyset Y- Δ transformer is constructed using 3 - identical single phase transformer of rating 260 kVA, 127 kV / 11 kV transformers. The line voltage rating of Y- Δ transformer and its KVA rating is:

- A** 220 kV / 11 kV, 780 kVA, respectively.
- B** 127 kV / 11 kV, 260 kVA, respectively.
- C** 127 kV / 11 kV, 780 kVA, respectively.
- D** 220 kV / 11 kV, 260 kVA, respectively.

Correct Ans: **A**

Itemcode : **AG1032**

Q32: Name the fault which has only + ve sequence component alone:

- A** 3 \emptyset fault.
- B** L - G fault.
- C** L - L fault.
- D** 3 \emptyset - G fault.

Correct Ans: **A**

Itemcode : **AG1033**

Q33: Tunnel diodes are used for developing inverters with rating of:

- A** Very low voltage and high current.
- B** Low voltage and low current.
- C** Low voltage and high current.
- D** High voltage and high current .

Correct Ans: **A**

Itemcode : **AG1034**

Q34: If T_{ON} and T_{OFF} are switching on and off times, respectively, then Chopper frequency is given by:

A $T_{ON} + T_{OFF}$

B T_{ON} / T_{OFF}

C $1 / (T_{ON} \text{ and } T_{OFF})$

D T_{OFF} / T_{ON}

Correct Ans: **C**

Itemcode : **AG1035**

Q35: The sum of firing angles of the positive group of SCRs and that of negative group of SCRs in case of a three pulse three phase cycloconverter is always equal to:

A 90° .

B 60° .

C 120° .

D 180° .

Correct Ans: **D**

Itemcode : **AG1036**

Q36: UJT is a :

A Two terminals two junction semiconductor device.

B Three terminals two junction semiconductor device.

C Three terminals one junction semiconductor device.

D Two terminals one junction semiconductor device.

Correct Ans: **C**

Itemcode : **AG1037**

Q37: Single phase full wave fully controlled regenerative bridge uses:

A 4 SCRs

B 6SCRs

C 8SCRs

D 2SCRs

Correct Ans: **C**

Itemcode : **AG1038**

Q38: The IDMT type over current relay is used to protect a feeder through a CT of 300 / 1 A. The relay has a plug setting of 125% and time multiplier setting (= 0.3). The pick up current of relay:

A 1 A.

B 1.25 A.

C 4,12 A.

D 6.3 A.

Correct Ans: **B**

Itemcode : **AG1039**

Q39: Which is the correct statement from following? SF6 circuit breaker:

A Needs high maintenance.

B Needs high gas velocity and pressure.

C Operation is noisy.

D The SF6 gas and its decomposition products are chemically stable.

Correct Ans: **D**

Itemcode : **AG1040**

Q40: In domestic power supply system:

A Resistive ground is used.

B Arc suppression coil is used.

C Solid grounding is used.

D Zigzag grounding transformer is used.

Correct Ans: **C**

Itemcode : **AG1041**

Q41: The equivalent hexadecimal number of 35 (decimal) is:

A 16.

B 35.

C 23.

D 42.

Correct Ans: **C**

Itemcode : **AG1042**

Q42: In OSI network architecture, the routing is performed by:

A	Network lawyer.
B	Data link layer.
C	Transport layer.
D	Session layer.
Correct Ans: A	

<u>Itemcode</u> : AG1043	
Q43: The largest change of input quantity without the change being indicated by the indicator is called the:	
A	Time lag.
B	Threshold sensitivity.
C	Dead zone.
D	Zero error.
Correct Ans: C	

<u>Itemcode</u> : AG1044	
Q44: If two 300 V full scale voltmeters V1 and V2 having sensitivities of 100 k Ohms/V and 150 k Ohms/V, respectively are connected in series to measure 500 V, the:	
A	V1 and V2 will read 250 V each.
B	V1 will read 200 V and V2 will read 300 V.
C	V1 will read 300 V and V2 will read 200 V.
D	V1 and V2 will read 0 V.
Correct Ans: B	

<u>Itemcode</u> : AG1045	
Q45: In a CRO the quantity to be measured is applied across:	
A	Focusing electrodes.
B	X-plates.
C	Y- plates.
D	Cathode.
Correct Ans: C	

<u>Itemcode</u> : AG1046	
Q46: The voltage corresponding to the 1 level is 10 V and that to the '0' level is 0.25 V. The logic system is::	
A	Positive logic.

B	Negative logic.
C	Dynamic logic.
D	Zero logic.
Correct Ans: A	

<u>Itemcode</u> : AG1047	
Q47: The largest number that can be represented by 'n' bits is:	
A	2^n .
B	2^{n-1} .
C	2^{n+1} .
D	2^{2n-1} .
Correct Ans: S (S Denotes question scrapped and no credit to Candidates.)	

<u>Itemcode</u> : AG1048	
Q48: A digital ammeter has a readout range from 0 to 9999. When full scale reading is 9.999 A, the resolution of the full scale reading is:	
A	0.001
B	1000
C	3 Digit
D	1 mA
Correct Ans: D	

<u>Itemcode</u> : AG1049	
Q49: A megger, when not in operation, indicates a resistance of :	
A	Zero Ohm.
B	Infinite Ohm.
C	1000 M Ohm
D	10 Ohm.
Correct Ans: B	

<u>Itemcode</u> : AG1050	
Q50: A wattmeter having current range of 5A and voltage range of 250V gives maximum indication of 125W. The multiplication factor of wattmeter is:	
A	Two.
B	Four.
C	Eight.

D	Ten.
Correct Ans: D	

Itemcode : AG1051	
Q51: Electromagnetic wave polarization occurs due to:	
A	Refraction.
B	Reflection.
C	Longitudinal nature of electromagnetic wave.
D	Transverse nature of electromagnetic wave.
Correct Ans: D	

Itemcode : AG1052	
Q52: If the load impedance is 100 Ohm and input impedance is 25 Ohm, then the characteristic impedance of the transmission line is:	
A	70 Ohm
B	60 Ohm
C	50 Ohm
D	40 Ohm
Correct Ans: C	

Itemcode : AG1053	
Q53: Unit vector is obtained by:	
A	Multiplying vector by $e^{j\theta}$.
B	Dividing vector by $e^{j\theta}$.
C	Dividing vector by its magnitude.
D	Multiplying vector by its magnitude.
Correct Ans: C	

Itemcode : AG1054	
Q54: In pulse width modulated system, the variable which carry the signal information is :	
A	Amplitude of the pulses..
B	Combination of amplitude and pulse width.
C	Combination of amplitude and pulse polarity.
D	Combination of pulse width and the pulse polarity.
Correct Ans: D	