PROVISIONAL ANSWER KEY

Question Paper Code:	70/2023/OL
Category Code:	053/2022
Exam:	Electrical Engineer
Date of Test	07-06-2023
Department	Kerala State Cooperative Coir marketing Federation Ltd

Question1:-Energy stored in a charged capacitor of capacitance C and a potential difference of V is given by

A:-$\frac{1}{2}CV$

B:-$\frac{1}{2}CV^2$

C:-$2CV^2$

D:-$\frac{1}{2}C^2V$

Correct Answer:- Option-B

Question2:-If the frequency is more than resonance frequency, then a series RLC circuit will be

A:-Inductive

B:-Capacitive

C:-Resistive

D:-Can be inductive or capacitive

Correct Answer:- Option-A

Question3:-If an impedance is connected across a voltage source V with a source impedance of Z, then for maximum power transfer the load impedance must be equal to

A:-Real part of Z

B:-Half of Z

C:-Source impedance Z

D:-Complex conjugate of Z

Correct Answer:- Option-D

Question4:-The reactance offered by a capacitance to an AC frquency of 60 Hz is 5 ohm. If the frequency is decreased to 30 Hz, the reactance becomes

A:-1.25 ohm

B:-2.5 ohm

C:-5 ohm

D:-10 ohm

Correct Answer:- Option-D

Question5:-The resistance of 9 ohm each are connected in delta. The value of resistance in each phase of equivalent star is _____

A:-18 ohm

B:-6 ohm

C:-3 ohm

D:-4.5 ohm

Correct Answer:- Option-C

Question6:-The maximum value of mutual inductance of two inductively coupled coils with self-inductance, $L_1 = 36mH$ and $L_2 = 64mH$ is

A:-100 mH

B:-28 mH

C:-2304 mH

D:-48 mH

Correct Answer:- Option-D

Question7:-When two coils of equal self-inductance are connected in series in one way the net inductance is 12 mH, and when they are connected in the other way, the net inductance is 4 mH. The maximum value of net inductance when they are connected in parallel in a suitable way is

A:-2 mH

B:-3 mH

C:-4 mH

D:-8 mH

Correct Answer:- Option-B

Question8:-A current of 4 A flows in an AC circuit when 100 V DC is applied to it, whereas it takes 250 V AC to produce the same current the power factor of the circuit is

A:-1

B:-0.7

C:-0.85

D:-0.4

Correct Answer:- Option-D

Question9:-The voltage across R and L in a series RL circuit is found to be 20 V and 15 V respectively. The RMS value of the voltage across the series combination is

A:-20 V

B:-25 V

C:-15 V

D:-35 V

Correct Answer:- Option-B

Question10:-When an R-L circuit is switched on across a DC source of voltage V volts, the expression for the current is given by

A:-$i(t)=\frac{V}{R}\left(1-e^{-\frac{R}{L}t}\right)$

B:-$i(t)=\frac{V}{R}\left(1+e^{-\frac{R}{L}t}\right)$

C:-$i(t)=\frac{V}{R}\left(1-e^{\frac{R}{L}t}\right)$

D:-$i(t)=\frac{V}{R}\left(1+e^{\frac{R}{L}t}\right)$

Correct Answer:- Option-A

Question11:-A magnetic circuit has a m.m.f. of 80 AT and a reluctance of 4×10^5 AT/Wb. The magnetic flux in the magnetic circuit is

A:-320×10^5 wb

B:-20×10^{-5} wb

C:-40 wb

D:-5×10^{-3} wb

Correct Answer:- Option-B

Question12:-Out of the following materials, the area of hysteresis loop will be least for

A:-wrought iron

B:-hard steel

C:-silicon steel

D:-soft iron

Correct Answer:- Option-C

Question13:-Reciprocal of reluctance is

A:-Susceptance

B:-Susceptibility

C:-Permeance

D:-Permeability

Correct Answer:- Option-C

Question14:-According to lenz's law the induced EMF opposes the

A:-Flux

B:-Change in Flux

C:-Both Flux and change in flux

D:-None of the above

Correct Answer:- Option-B

Question15:-The conductor is stationary and magnetic field linked with it is varying. Then the EMF induced in the conductor is known as

A:-Statically induced EMF

B:-Dynamically induced EMF

C:-Self-induced EMF

D:-Back EMF

Correct Answer:- Option-A

Question16:-Which among the following is true about Faraday's law of Electro-magnetic induction?

A:-An EMF is induced in a conductor when the flux linked with it is constant

B:-An EMF is induced in a conductor when it moves parallel to the magnetic field

C:-An EMF is induced in a conductor when no flux is linked with it

D:-An EMF is induced in a conductor when the flux linked with it is varying

Correct Answer:- Option-D

Question17:-A 5 cm long coil has 10 turns and carries a current of 1.5 A. The magnetising force of the coil is

A:-150 AT/m

B:-600 AT/m

C:-450 AT/m

D:-300 AT/m

Correct Answer:- Option-D

Question18:-Relative permeability of free space is

A:-1

B:-10

C:-100

D:-$4\pi \times 10^{-7}$

Correct Answer:- Option-A

Question19:-Calculate the emf when a coil of 100 turns is subjected to a flux rate of 0.3 tesla/sec.

A:-3 V

B:-30 V

C:-–30 V

D:-–300 V

Correct Answer:- Option-C

Question20:-A 500 turns solenoid develops an average induced voltage of 60V. Over what time interval must a flux change of 0.06 Wb occur to produce such a voltage

A:-0.01 s

B:-0.1 s

C:-0.5 s

D:-5 s

Correct Answer:- Option-C

Question21:-The maximum efficiency occurs in a separately excited generator when the terminal voltage is 220 V and the induced EMF is 240 V. The armature resistance is 2 ohm. The stray losses of the machine is

A:-100 W

B:-200 W

C:-244 W

D:-188 W

Correct Answer:- Option-B

Question22:-The full load copper loss and iron loss of a transformer are 6400 W and 5000 W respectively. The copper loss and iron loss at half load will be, respectively

A:-1600 W and 5000 W

B:-3200 W and 2500 W

C:-1600 W and 1250 W

D:-3200 W and 5000 W

Correct Answer:- Option-A

Question23:-What is the frequency of rotor current of a 50 Hz induction motor operating at 2% slip?

A:-50 Hz

B:-25 Hz

C:-2 Hz

D:-1 Hz

Correct Answer:- Option-D

Question24:-The condition for maximum efficiency of a DC Machine

A:-Core loss = Copper loss

B:-Constant loss = Variable loss

C:-Rotational losses = Copper loss

D:-Core loss = Half of Copper loss

Correct Answer:- Option-B

Question25:-A 200 V DC shunt motor develops a torque of 54 N-m at an armature current of 10A. The torque produced when armature current is 20 A, is

A:-108 N-m

B:-54 N-m

C:-216 N-m

D:-27 N-m

Correct Answer:- Option-A

Question26:-A 400/200V, 5 KVA transformer has a core loss of 200 W and a full load copper loss of 800 W. The load at which maximum efficiency occurs is

A:-5 KVA

B:-4 KVA

C:-3.5 KVA

D:-2.5 KVA

Correct Answer:- Option-D

Question27:-The power factor of a synchronous motor

A:-is always lagging

B:-is always leading

C:-can be leading, lagging or unity

D:-can be unity and lagging

Correct Answer:- Option-C

Question28:-In lap winding, the number of brushes is always

A:-double the number of poles

B:-same as the number of poles

C:-half the number of poles

D:-two

Correct Answer:- Option-B

Question29:-The purpose of providing dummy coils in a generator is

A:-to reduce eddy current losses

B:-to enhance flux density

C:-to amplify voltage

D:-to provide mechanical balance for the rotor

Correct Answer:- Option-D

Question30:-The EMF induced in the armature of a shunt generator is 600 V. The armature resistance is 0.1 ohm. If the armature current is 200 A, the terminal voltage will be

A:-640 V

B:-620 V

C:-600 V

D:-580 V

Correct Answer:- Option-D

Question31:-The binary code of 21.125_{10} is

A:-10101.001

B:-10100.001

C:-10101.010

D:-10100.111

Correct Answer:- Option-A

Question32:-Convert BCD 000100100110 to binary

A:-1111000

B:-1111100

C:-1111110

D:-1111111

Correct Answer:- Option-C

Question33:-Binary equivalent of Gray code 0101 is

A:-1101

B:-1100

C:-1001

D:-0110

Correct Answer:- Option-D

Question34:-The logic circuit of binary adder which is used to add 4 bits of binary nos, requires _____ half adder(s) and _____ full adder(s)

A:-3, 1

B:-1, 3

C:-2, 2

D:-4, 0

Correct Answer:- Option-B

Question35:-Given two half adders, What extra two input gate is required to build a full adder?

A:-NOR gate

B:-XOR gate

C:-OR gate

D:-AND gate

Correct Answer:- Option-C

Question36:-How many select lines would be required for an 8 line to 1 line multiplexer

A:-2

B:-4

C:-8

D:-3

Correct Answer:- Option-D

Question37:-The clock frequency of an 8085 microprocessor is 5MHz. If the time required to execute an instruction is 1.4 μs. Then the no of T states needed for executing the instruction is

A:-7

B:-6

C:-4

D:-1

Correct Answer:- Option-A

Question38:-What is the length of stack pointer

A:-6 bits

B:-8 bits

C:-12 bits

D:-16 bits

Correct Answer:- Option-D

Question39:-PUSH and POP operations are performed by

A:-Program counter register

B:-Stack pointer register

C:-General purpose register

D:-Link register

Correct Answer:- Option-B

Question40:-Determine the contents of accumulator if the instruction RAL is executed twice. Assume the contents of accumulator is AAH and CY = 0.

A:-BOH

B:-ACH

C:-A3H

D:-A9H

Correct Answer:- Option-D

Question41:-A string insulator having 4 units. 33.33% of the total voltage is across the bottom most unit. Its string efficiency is

A:-25%

B:-75%

C:-66.67%

D:-33.33%

Correct Answer:- Option-B

Question42:-Bundled conductors in transmission line will

A:-Reduce line loading

B:-Improve protection of line

C:-Improve steady state stability

D:-Reduce voltage buses at two ends

Correct Answer:- Option-C

Question43:-The corona effect can be minimized by increasing

A:-The length of the conductors

B:-Spacing between conductors

C:-Diameter of conductors

D:-Both (2) and (3)

Correct Answer:- Option-D

Question44:-The SF_6 circuit breakers are preferred for substations with

A:-220 KV

B:-110 KV

C:-33 KV

D:-11 KV

Correct Answer:- Option-A

Question45:-For the protection of extra high voltage lines, protective relay used is

A:-Overcurrent with extremely inverse characteristics

B:-Percentage differential relay

C:-Reactance type distance relay

D:-Mho type distance relay

Correct Answer:- Option-D

Question46:-The power system is subjected to a fault which makes zero sequence component of current to zero. The nature of the fault is

A:-Double line to ground fault

B:-Double line fault

C:-L-G fault

D:-Three phase to ground fault

Correct Answer:- Option-B

Question47:-With the use of high speed CBs which among the following stability is increased

A:-Steady state stability

B:-Frequency stability

C:-Transient stability

D:-All of the above

Correct Answer:- Option-C

Question48:-Two identical synchronous machines with equal inertia constants are connected in parallel and oscillating simultaneously. The effective inertia constant is 4MJ/MVA. What will be the inertia constant of each machine?

A:-2 MJ/MVA

B:-4 MJ/MVA

C:-8 MJ/MVA

D:-16 MJ/MVA

Correct Answer:- Option-A

Question49:-For transient stability analysis, as long as equal area criterion is satisfied, the max angle to which rotor angle can oscillate is

A:-90°

B:-45°

C:-Greater than 90°

D:-Less than 90°

Correct Answer:- Option-C

Question50:-A 4 pole turbo generator is rated at 150 MVA, 14 KV, 60 Hz. Its inertia constant is 12 MJ/MVA. if the input of the generator is suddenly increased to 80 MW for a load of 60 MW. The magnitude of the acceleration of the rotor will be _____ (in ele deg / sec^2)

A:-132

B:-108

C:-120

D:-123

Correct Answer:- Option-C

Question51:-A step up chopper has source voltage 25 V and output voltage 50 V. If the pulse width is 10 µs, the chopping frequency will be

A:-50 kHz

B:-100 kHz

C:-5 kHz

D:-10 kHz

Correct Answer:- Option-A

Question52:-A single phase fully controlled rectifier fed DC motor can operate is :

A:-Both forward motoring and reverse

B:-Reverse motoring mode only

C:-Forward braking mode

D:-Both reverse motoring and reverse braking mode

Correct Answer:- Option-A

Question53:-An SCR has a half cycle surge current rating of 1500 A for 50 Hz supply. Its one cycle surge current rating will be

A:-1500 A

B:-2121.32 A

C:-1060.67 A

D:-750 A

Correct Answer:- Option-C

Question54:-The turn ON time of a SCR with inductive load is 25 µs. The pulse train frequency is 2 kHz with a duty cycle of 1/10, then the SCR will

A:-turn ON

B:-not turn ON

C:-turn ON if inductance is removed

D:-turn ON if pulse frequency is increased twice

Correct Answer:- Option-A

Question55:-RC triggering is preferred over R triggering circuit because it

A:-ensures lower gate dissipation

B:-provides a larger range of the triggering angle

C:-protects the device from getting damaged

D:-cause quick triggering

Correct Answer:- Option-B

Question56:-For a single phase half controlled AC voltage converter, the output voltage is 50% of maximum possible output voltage. The fixing angle is

A:-30°

B:-60°

C:-90°

D:-120°

Correct Answer:- Option-C

Question57:-For a Buck converter, in order to reduce the conduction losses in the diode,

A:-A low resistance MOSFET can be added in series with the diode

B:-A low voltage-drop IGBT can be added in anti parallel with the diode

C:-A low resistance MOSFET can be added in anti parallel with the diode

D:-A low voltage-drop IGBT can be added in series with the diode

Correct Answer:- Option-C

Question58:-A three-phase diode bridge rectifier is feeding a constant DC current of 20 A to a highly inductive load. If three-phase 415 V, 50 Hz AC source is supplying to this bridge rectifier, then the rms value of the current is each diode in ampere is

A:-20 A

B:-14.14 A

C:-11.55 A

D:-10.15 A

Correct Answer:- Option-C

Question59:-A TRIAC is a _____

A:-unidirectional current, bi directional voltage blocking device

B:-bi directional current, unidirectional voltage blocking device

C:-bi directional current, bidirectional voltage blocking device

D:-unidirectional current, unidirectional voltage blocking device

Correct Answer:- Option-C

Question60:-For UJT to be used as a relaxation oscillator,

A:-its operating point is designed to be in the positive resistance/saturation region

B:-its cut-off point chosen to be in the cut-off region

C:-Its negative resistance region is avoided while choosing the operating point

D:-It is deliberately designed to operate in the negative resistance region

Correct Answer:- Option-D

Question61:-Consider a system with the following transfer function

$G(s)=\frac{(s+4)}{ks^2+S+4}$

The value of the damping ratio will be 0.5, when the value of k is:

A:-0.5

B:-0.25

C:-8

D:-4

Correct Answer:- Option-B

Question62:-The impulse response of an Rh circuit is

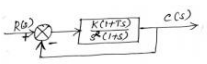
A:-parabolic function

B:-step function

C:-rising exponential function

D:-decaying exponential function

Correct Answer:- Option-D



Question63:-
The feedback system shown in figure is stable for all positive values of K

A:-T = 0

B:-T < 0

C:-T > 1

D:-T < –5

Correct Answer:- Option-C

Question64:-The dominant poles of a servo system are located at –2+j2 and –2–j2. The damping ratio of the system is

A:-1

B:-0.8

C:-0.707

D:-0.866

Correct Answer:- Option-C

Question65:-The initial slope of the Bode magnitude plot of a type 2 system is

A:-–20 dB/decade

B:-20 dB/decade

C:-–40 dB/decade

D:-40 dB/decade

Correct Answer:- Option-C

Question66:-A minimum phase system with no zeros has a phase angle of –270° at its gain cross over frequency. The system is

A:-stable

B:-unstable

C:-marginally stable

D:-conditionally stable

Correct Answer:- Option-B

Question67:-The root locus plot of the system with open loop transfer function , $G(s)=\frac{K}{S(s+5)}$ crosses the imaginary axis at :

A:-±j2

B:-0

C:-does not cross

D:-none of the above

Correct Answer:- Option-C

Question68:-The unit step response of the given system, $G(s)=\frac{10}{(s+15)}$:

A:-oscillates at a frequency of 3 rad/sec

B:-no oscillations

C:-oscillates at a frequency of 2/3 rad/sec

D:-oscillates at a frequency of 3/2 rad/sec

Correct Answer:- Option-B

Question69:-Zero initial conditions means that the system is:

A:-having no input

B:-at rest with no energy stored

C:-system does not have any storage elements

D:-system has a very low energy stored

Correct Answer:- Option-B

Question70:-The damping ratio of a system with a characteristic equation $(s^2+25=0)$ indicates that the system is

A:-under damped

B:-over damped

C:-undamped

D:-critically damped

Correct Answer:- Option-C

Question71:-A 0 - 250 V voltmeter has an error of ±2% of full-scale deflection. What would be the range of readings if true voltage is 50 V?

A:-49 V - 51 V

B:-45 V - 55 V

C:-40 V - 50 V

D:-None of the above

Correct Answer:- Option-B

Question72:-In a measurement using an instrument with D'Arsonval movement, the friction in bearings of moving components causes an incorrect reading. This is an example of:

A:-Gross error

B:-Systematic error

C:-Random error

D:-Observational error

Correct Answer:- Option-B

Question73:-It is required that in an electrical substation, voltage of a backup battery bus need to be continuously monitored for 24 hours daily, and the data need to be used for further analysis. Which type of instrument is most suitable for this application?

A:-A moving coil indicating voltmeter

B:-A moving iron integrating voltmeter

C:-A recording voltmeter

D:-An electrostatic indicating voltmeter

Correct Answer:- Option-C

Question74:-An instrument is used for measuring the Ampere-Hour of a battery charging system. Which class of measuring instruments it belongs to?

A:-Integrating instrument

B:-Recording instrument

C:-Indicating instrument

D:-None of the above

Correct Answer:- Option-A

Question75:-Consider the table given:

Construction Type	Connection Type	Measurement Type	Measurement Quantity
(P). Moving Iron	(R). Series	(T). DC only	(W). Current
(Q). Moving Coil	(S). Parallel	(U). AC only	(X). Voltage
		(V). DC and AC	

The all-correct combination that relates all the four columns of the table is:

A:-P-R-V-W, Q-S-T-X, P-S-V-X, Q-R-T-W

B:-P-R-U-W, Q-S-U-X, P-S-U-X, Q-R-U-W

C:-P-R-T-W, Q-S-V-X, P-S-T-X, Q-R-V-W

D:-P-R-V-X, Q-S-V-W, P-S-V-W, Q-R-V-X

Correct Answer:- Option-A

Question76:-Power measurement using dynamometer-type wattmeter in low current and high current loads yield different errors when the pressure coil and the current coil are connected differently. Consider the table below:

Current value	Coil	Connection Type
(P). Low current	(R). Pressure coil	(T). Load side
(Q). High current	(S). Current coil	(U). Source side

The all-correct combination that relates the current value, the coil and the connection type for the least error reading is:

A:-P-S-U, Q-R-U

B:-P-R-T, Q-S-U

C:-P-R-U, Q-S-T

D:-P-S-T, Q-R-T

Correct Answer:- Option-D

Question77:-In two-wattmeter method of three-phase power measurement, let the watt meter readings are denoted by P1 and P2 respectively. Read the following 7 statements and choose the correct combination that indicates ALL-TRUE statements.

I. P1 = P2 indicates zero power factor
II. P1 = P2 indicates unity power factor
III. P1 = –P2 indicates zero power factor
IV. P2 = 0 indicates 0.5 power factor
V. P2 = 0 indicates zero power factor
VI. P2 < 0 indicates the power factor is between 0 and 0.5
VII. P2 < 0 indicates the power factor is between 0.5 and 1

A:-I, IV, VI

B:-II, III, IV, VII

C:-II, III, IV, VI

D:-II, III, V, VI

Correct Answer:- Option-C

Question78:-In induction-type energy meters, diametrically opposite holes are placed on the rotating aluminium disc. The purpose of this is to:

A:-Prevent disc from deformation due to excess torque

B:-Prevent creeping of the disc

C:-Aid friction compensation

D:-Compensate for overloads

Correct Answer:- Option-B

Question79:-Which of the following is NOT a part of a Digital Energy Meter?

A:-ADC

B:-EEPROM

C:-Braking magnet

D:-Current sensor

Correct Answer:- Option-C

Question80:-A 1 kHz sinusoidal signal is being observed in a CRO. If the sweep signal is of frequency 500 Hz, the display will show:

A:-A single cycle of sinusoidal signal

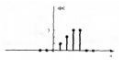
B:-A half cycle of sinusoidal signal

C:-One and half-cycle of sinusoidal signal

D:-Two cycles of sinusoidal signal

Correct Answer:- Option-D

Question81:-Fig (a). below shows a discrete signal x[n].



Which is the correct signal that is represented by Fig. (b)?

A:-x[n–2]

B:-x[–n+2]

C:-x[-n]

D:-x[-n-2]

Correct Answer:- Option-B

Question82:-The number of lightning strikes in a district is recorded against days of the year. The data is an example of:

A:-Continuous-time deterministic signal

B:-Discrete-time deterministic signal

C:-Continuous-time random signal

D:-Discrete-time random signal

Correct Answer:- Option-D

Question83:-Considering the unit impulse function δ(t), which of the following statements describes property of δ(t)?

A:-Infinite amplitude at t = 0 and unit area

B:-Unit amplitude at t = 0 and infinite area

C:-Unit amplitude at t = 0 and zero area

D:-Infinite amplitude at t = 0 and infinite area

Correct Answer:- Option-A

Question84:-Which of the following functions is a non-periodic one?

A:-$x(t)=\cos\left(2t+\frac{\pi}{4}\right)$

B:-$x(t)=\cos^2 t$

C:-$x(t)=(\cos 2\pi t)u(t)$

D:-$x[n]=\cos\left(\frac{\pi n}{4}\right)+\sin\left(\frac{\pi n}{8}\right)$

Correct Answer:- Option-C

Question85:-Consider the system described by: $y(t)=T\{x(t)\}=x(t)\cos kt$, k being a constant. The system is:

A:-Linear and Time-Invariant

B:-Linear and Time-variant

C:-Non-linear and Time-invariant

D:-Non-linear and Time-variant

Correct Answer:- Option-B

Question86:-Consider the system given by: y[n] = T{x[n]} = 2nx[n]. The system is:

A:-Causal and BIBO unstable

B:-Causal and BIBO stable

C:-Non-causal and BIBO unstable

D:-Non-causal and BIBO stable

Correct Answer:- Option-A

Question87:-Given a signal, $x(t)=20\cos 150\pi t+3\cos 220\pi t-7\cos 3000\pi t$. The Nyquist sampling rate for this signal is:

A:-150 Hz

B:-1.5 kHz

C:-3 kHz

D:-6 kHz

Correct Answer:- Option-C

Question88:-The Zero-Order-Hold transfer function is given by:

A:-$\frac{(1-e^{-T})}{sT}$

B:-$\frac{(1-e^{s}T)}{sT}$

C:-$\frac{(1-e^{-s}T)}{s}$

D:-$\frac{(1-e^{-s}T)}{sT}$

Correct Answer:- Option-D

Question89:-Consider the following statements:
I. Changing the order of the convolution operands does not affect the result of the convolution integral.
II. Convolution is a linear operation with respect to addition.
III. If the two operands of the convolution integral are shifted in time, then the result of the convolution integral is shifted by a duration that is the sum of the individual time shifts introduced in the convolution operands.
IV. Convolving a signal with a unit step function produces the running integral of the original signal as a function of time t.

Which of the following is correct combination with respect to the statements given above?

A:-All the statements, (I, II, III and IV) are True

B:-Only I and II are True

C:-Only I and IV are True

D:-All are False

Correct Answer:- Option-A

Question90:-A first-order hold converts an ideally sampled signal into:

A:-A delayed sampled signal

B:-A piece-wise linear signal

C:-A continuous and smooth signal which is same as the original signal

D:-A piece-wise constant signal

Correct Answer:- Option-B

Question91:-Which among the following device is used to sense angular position?

A:-LVDT

B:-Tacho-generator

C:-Strain Gauge

D:-Synchro

Correct Answer:- Option-D

Question92:-With reference to an LVDT, the secondary windings are connected in differential configuration. The purpose(s) of this is/are to:
I. Obtain higher output voltage
II. Have phase-sensitive output voltage
III. To establish a reference point for the core displacement.
IV. Obtain phase-insensitive output voltage

Which combinations of the above statements are True?

A:-I only

B:-I and II

C:-II and III

D:-IV only

Correct Answer:- Option-C

Question93:-It is required to measure pressure in a process. For this, a system is proposed that comprises of a Bourdon's tube that senses the pressure and converts into a displacement of its free end. The free and connected to the core of an LVDT, which gives an output voltage corresponding to the displacement. Which of the following is a correct statement for this context?

A:-The LVDT is a primary transducer and the Bourdon's tube is a secondary transducer.

B:-The Bourdon's tube is a primary transducer and the LVDT is a secondary transducer.

C:-Both the LVDT and the Bourdon's tube are primary transducers.

D:-Both the LVDT and the Bourdon's tube are secondary transducers.

Correct Answer:- Option-B

Question94:-Hall-effect sensors can be applied to measure:

A:-Magnetic field

B:-Voltage

C:-Position

D:-All the above

Correct Answer:- Option-D

Question95:-A few battery cell types are listed below:
I. Alkaline cells
II. Zinc-carbon cells
III. Lead-acid cells

IV. Nickel-Cadmium cells
V. Lithium-ion cells

Which of the below statement is correct with respect to the listing?

A:-I and II are primary cells and III, IV and V are secondary cells

B:-I and II are secondary cells and III, IV and V are primary cells

C:-All are primary cells

D:-All are secondary cells

Correct Answer:- Option-A

Question96:-A battery is rated for 100 Ah, 1C. If this battery is discharged at 0.5 C, how long it can supply energy, and at what current?

A:-1 hour, 100 A

B:-30 minutes, 200 A

C:-2 hours, 50 A

D:-30 minutes, 100 A

Correct Answer:- Option-C

Question97:-Which of the following IE rule concerns about the connection to earth?

A:-IE 63

B:-IE 64

C:-IE 65

D:-IE 67

Correct Answer:- Option-D

Question98:-Consider the table below:

	Device	Protect against
P.	MCB	R. Overload
Q.	RCCB	S. Short-circuit
		T. Earth-leakage
		U. Electric shock

Which of the following combinations is all-correct with respect to the given table?

A:-(P, R, S, T, U), (Q, T, U)

B:-(P, R, S), (Q, T, U)

C:-(P, T, U), (Q, R, S)

D:-(P, S, T), (Q, R, S)

Correct Answer:- Option-B

Question99:-Which among the following is Not used as an earthing-enhancement compound?

A:-Charcoal and sand

B:-Bentonite

C:-Marconite

D:-Dolomite

Correct Answer:- Option-D

Question100:-Two lamp posts of height 3 m are separated by 8 m on ground. Each lamp post is having a lamp with 500 CP intensity. What is the illumination (in lux) at the middle point on ground between the two posts?

A:-75/2

B:-120

C:-75/4

D:-60

Correct Answer:- Option-B