PROVISIONAL ANSWER KEY

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Question1:-Let A, P and Q are invertible square matrices with $Q = P^{-1}AP$. Then A^n is

A:-$P^{-1}Q^nP^n$

B:-$P^{-1}Q^nP$

C:-PQ^nP^{-1}

D:-$PQ^{-n}P$

Correct Answer:- Option-C

Question2:-Let the matrix$\begin{bmatrix} 1 & -1 & 2 \\ 3 & 2 & -4 \\ -2 & 2 & -4 \end{bmatrix}$ Det(A) denote the determinant of A. Then Det (A^5)=

A:--3

B:-0

C:--1

D:-2^5

Correct Answer:- Option-B

Question3:-If P and Q are the coefficient of x^n in the expansion of $(1+x)^{2n}$ and $(1+1)^{2n-1}$, Then $\frac{P}{Q}$ is

A:-2

B:-2/3

C:-0

D:--3/2

Correct Answer:- Option-A

Question4:-A,B, 45° are the angles in a triangle such that Cot A+ Cot B + Cot 45° = CotA CotB Cot 45°. Then tan(A+B) is

A:-1

B:-∞

C:--1

D:-1/2

Correct Answer:- Option-C

Question5:-Solution of the system of equation $x+y+z=6, y+3z=11, x-2y+z=0$ is

A:-x=1, y=-2, z=3

B:-x=1, y=2, z=3

C:-x=-2, y=1, z=2

D:-x=-1, y=2, z=-3

Correct Answer:- Option-B

Question6:-Equation of the line passing through the point of intersection of the lines 2x+3y-1=0, 3x+4y-6=0 and parallel to 5x+4y-2=0

A:-4x+5y-34=0

B:-5x-4y+34=0

C:-5x+4y+34=0

D:-5x+4y-34=0

Correct Answer:- Option-D

Question7:-Which of the following are the solutions of the equation $\sin x=\frac{-\sqrt{3}}{2}$?

A:-$n\pi+(-1)^n\frac{\pi}{3}$

B:-$\pi+(-1)^n\frac{4\pi}{3}$

C:-$n\pi+(-1)^n\frac{2\pi}{3}$

D:-$n\pi+(-1)^n\frac{4\pi}{3}$

Correct Answer:- Option-D

Question8:-The tangent of the curve $y=4x^2-6x+3$ is parallel to the line $y=2x-7$ at the point (a,b). Then the point (a,b)

A:-(1,-1)

B:-(-1,1)

C:-
(1,1)

D:-(-1,-1)

Correct Answer:- Option-C

Question9:-$\int\frac{e^{2t}+1}{2^{2t-1}}$dt is

A:-$\log|e^{2t}-1|+c$

B:-$\log|e^t-e^{-t}|+c$

C:-$\log|e^{2t}+1|+c$

D:-$\log|e^t+e^{-t}|+c$

Correct Answer:- Option-B

Question10:-Area lying above the line y=0 of the circle $x^2+y^2=a^2$ bounded between x=-a and x=a is

A:-$\frac{a^2}{2}\pi$

B:-$2\pi a^2$

C:-$\frac{3a^2}{2}\pi$

D:-$\frac{\pi}{2}\sin^{-1}2$

Correct Answer:- Option-A

Question11:-The maximum water absorption in percentage for class 25 brick is

A:-25

B:-15

C:-12.5

D:-20

Correct Answer:- Option-B

Question12:-Indian Standard code for requirements of Ordinary portland cement is

A:-IS 269:2015

B:-IS 12330:1988

C:-IS 12269:2013

D:-IS 383:2016

Correct Answer:- Option-A

Question13:-Minimum Cover to reinforcement of footing shall be

A:-70 mm

B:-50 mm

C:-45 mm

D:-75 mm

Correct Answer:- Option-B

Question14:-The whole circle bearing of a line is 300 degrees. Its reduced bearing is

A:-N60° E

B:-S60° W

C:-N30° W

D:-N60° W

Correct Answer:- Option-D

Question15:-The sensitivity of a bubble tube can be increased by

A:-Increasing the length of level tube

B:-Increasing the diameter of the tube

C:-Both 1 and 2 above

D:-None of the above

Correct Answer:- Option-C

Question16:-In SI engines, the power and economy are altered by adjusting

A:-Stochiometric air fuel ratio

B:-Rate of air flow

C:-Compression ratio

D:-None of the above

Correct Answer:- Option-B

Question17:-The piston head of a two stroke engine has a deflector to ensure

A:-Charge delivery is directed upward into the cylinder

B:-Charge delivery is directed towards exhaust port

C:-Proper turbulent mixing of fuel-air mixture

D:-None of the above

Correct Answer:- Option-A

Question18:-The combustion duration of a CI engine when compared to a SI engine is

A:-Equal

B:-More

C:-Short

D:-None of the above

Correct Answer:- Option-B

Question19:-To adjust for the change in length of propeller shaft while the vehicle is in motion

A:-A universal joint is provided

B:-A slip joint is provided

C:-Both universal joint and slip joint are provided

D:-None of the above

Correct Answer:- Option-B

Question20:-The most common economizers used in thermal power plants to prevent corrosion of the flue gas passages are

A:-Direct contact type

B:-Condensing type

C:-Non condensing type

D:-None of the above

Correct Answer:- Option-C

Question21:-A capacitor when connected across a dc voltage source accumulates a charge of Q coulombs . When two such capacitors are connected in series across the same voltage source, the total accumulated charge will be

A:-Q

B:-2Q

C:-Q/2

D:-Q/4

Correct Answer:- Option-C

Question22:-Two resistances of value 10 ohms and 15 ohms are connected in parallel and included in a dc circuit. The 10 ohms resistance carries 3 amperes. The

what will be the current carried by the 15 ohm resistor?

A:-2 A

B:-3 A

C:-4.5 A

D:-5 A

Correct Answer:- Option-A

Question23:-What type of generator will be selected for producing a dc power supply that will have nearly constant voltage from no load to full load?

A:-Shunt generator

B:-Series generator

C:-Differential compound generator

D:-Cumulative compound generator

Correct Answer:- Option-D

Question24:-A three phase balanced load draws 0.5 A line current from 400 V supply at a power factor of 0.5. What is the energy consumed by this load when it is connected to the supply for 10 hours?

A:-1.0 kWh

B:-1.732 kWh

C:-1000 kWh

D:-1732 kWh

Correct Answer:- Option-B

Question25:-A thyrite type lighting arrester is used to

A:-absorb the surge voltage

B:-block the surge voltage

C:-bypass surge to the ground

D:-return surge back to the source

Correct Answer:- Option-C

Question26:-LED is made up of

A:-In P

B:-GaAs

C:-Cd Te

D:-Si

Correct Answer:- Option-B

Question27:-The ripple factor of full wave bridge rectifier is

A:-0.632

B:-0.821

C:-0.48

D:-0.329

Correct Answer:- Option-C

Question28:-1C 7805 is used for

A:--5V

B:-8V

C:-10V

D:-5V

Correct Answer:- Option-D

Question29:-Codes used for spreading in CDMA system is

A:-Orthogonal

B:-Non orthogonal

C:-Cyclic

D:-Huffman

Correct Answer:- Option-A

Question30:-Which wireless mobile technology is used for image transmission?

A:-1G

B:-2G

C:-3G

D:-None of these

Correct Answer:- Option-C

Question31:-A resistance temperature detector (RTD) has a resistance of 10Ω at 0°C. When measuring the temperature of a process, a resistance value of 15Ω is recorded. calculate the temperature corresponding to this resistance value. Assume that the sensing element used in the RTD has a temperature coefficient of resistance of 0.001/°C

A:-500°C

B:-333.33°C

C:-66.66°C

D:-250°C

Correct Answer:- Option-A

Question32:-Which type of radiation is typically used in the radiation absorption method for level measurement?

A:-Alpha particles

B:-Beta particles

C:-Gamma rays

D:-X-rays

Correct Answer:- Option-C

Question33:-Calculate the Reynold's number of a fluid of viscosity 0.5 Pascal-second and density of 500Kg/m^3 flowing in a horizontal circular tube of diameter 50 cm with a flow speed of 2.5m/s

A:-2500

B:-25

C:-1250

D:-12.5

Correct Answer:- Option-C

Question34:-Ultrasonic level gauges operate based on the principle of

A:-Refraction

B:-Reflection

C:-Diffraction

D:-Transmission

Correct Answer:- Option-B

Question35:-Which of the following is/are the assumptions(s) on the flow of fluid in Bernoulli's equation

A:-Incompressible

B:-Steady

C:-Inviscid

D:-All of the above

Correct Answer:- Option-D

Question36:-A given substance has a specific gravity of 5. Calculate its density in Kg/m^3

A:-200

B:-0.2

C:-20

D:-5000

Correct Answer:- Option-D

Question37:-Which of the following is an example of an orifice viscometer?

A:-Saybolt's viscometer

B:-Zeitfuchs viscometer

C:-Pinkevitch viscometer

D:-FitzSimons viscometer

Correct Answer:- Option-A

Question38:-Match the following quantities in Column I with their units in column II

Column I	Column II
(a) Humidity	(i) Ns/m^2
(b) Torque	(ii) g/m^3

(c) Pressure (iii) N/m^2
(d) Viscosity (iv) Nm

A:-(a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

B:-(a)-(ii), (b)-(i), (c)-(iii), (d)-(iv)

C:-(a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)

D:-(a)-(iv), (b)-(i), (c)-(iii), (d)-(ii)

Correct Answer:- Option-C

Question39:-A chromel-alumel thermocouple generates an e.m.f. of 10 mV. Determine the temperature of the hot junction of the cold junction is at a temperature of 15°C and the sensitivity if the thermocouple is 0.04 mV/°C

A:-250°C

B:-265°C

C:-235°C

D:-375°C

Correct Answer:- Option-B

Question40:-Which of the following manometric fluids should be used to determine the pressure difference between two horizontal pipes, through which water is flowing, using an inverted manometer?

A:-Manometric fluid with a specific gravity of 15.4

B:-Manometric fluid with a specific gravity of 0.7

C:-Both Manometric fluids can be used

D:-None of the manometric fluids can be used

Correct Answer:- Option-B

Question41:-Two pipes, each of diameter d1, converge to form a pipe of diameter d2. What should be the relation between d1 and d2 such that the velocity in the pipe with diameter d2 becomes double of that in each of the pipes with diameter d1?

A:-d1=d2

B:-d1=d2/2

C:-d2=d1/2

D:-d2=d1/4

Correct Answer:- Option-A

Question42:-The working principle of a Pirani gauge is based on

A:-Thermal conductivity

B:-Piezoelectric effect

C:-Magnetic induction

D:-Ionization of gas molecules

Correct Answer:- Option-A

Question43:-The Bourdon-type pressure gauge operates based on the principle of

A:-Thermal expansion

B:-Capacitance sensing

C:-Elastic deformation

D:-Magnetic induction

Correct Answer:- Option-C

Question44:-A McLeod gauge is commonly used to measure

A:-Temperature

B:-Pressure

C:-Flow rate

D:-Humidity

Correct Answer:- Option-B

Question45:-A thermistor has temperature coefficient of -5% over a temperature range of 25°C to 50°C. If the resistance of thermistor is 120Ω at 25°C, what is the resistance of at 40°C?

A:-35Ω

B:-25Ω

C:-27.5Ω

D:-30Ω

Correct Answer:- Option-D

Question46:-Which of the following is not the governing principle of variable inductance transducers?

A:-Change of self-inductance

B:-Change of mutual inductance

C:-Production of eddy currents

D:-Change of differential inductance

Correct Answer:- Option-D

Question47:-As the basic principle of radiation pyrometer, the total thermal energy of the radiation emitted by a black body is proportional to _____ power of the temperature of the hot body

A:-First

B:-Second

C:-Third

D:-Fourth

Correct Answer:- Option-D

Question48:-In the liquid level measuring system with float the force applied on the measuring device is

A:-F=mg+ghA

B:-F=mg+ρghA

C:-F=mg-ρghA

D:-F=mg-ghA

Correct Answer:- Option-C

Question49:-Differential pressure-based method of specific gravity measurement works based on

A:-Geiger muller counting

B:-Hydrostatic principle

C:-Variable area method

D:-Poiseuille's equation

Correct Answer:- Option-B

Question50:-Select one of the advantages of turbine flow meter

A:-Good dynamic behavior

B:-Less error at low flow rates

C:-Performances independent of liquid characteristics

D:-Errors are less due to frictional torque

Correct Answer:- Option-A

Question51:-Which one is not the desirable property of manometric fluid

A:-Low viscosity

B:-Low vapour pressure

C:-High-co-efficient of thermal expansion

D:-Low capillary effect

Correct Answer:- Option-C

Question52:-Pirani gauges are useful to measure pressures ranging from

A:-10 $\times_{10^{-6}}$ to 1 torr

B:-1 to 100 torr

C:-10 $_{\times 10^{-5}}$ to 1000 torr

D:-10 $_{\times 10^{-12}}$ to 100 torr

Correct Answer:- Option-A

Question53:-In vortex shedding flow meter, the constant of proportionality in computing shedding frequency is known as

A:-Reynolds number

B:-Mach number

C:-Strouhal number

D:-Doppler number

Correct Answer:- Option-C

Question54:-Consider a venturi flume built in a rectangular channel 1m wide and having a throat width of 0.4m. Assume the upstream head is 0.52m and the measured head in the throat is 0.4m. What is the discharge through the venturi flume?

A:-0.235 m^3 /s

B:-$0.112m^3$ /s

C:-$0.084m^3$ /s

D:-$0.302m^3$ /s

Correct Answer:- Option-A

Question55:-A venturi of throat diameter 60 mm is placed in a water pipe of diameter 100 mm to measure volumetric flow. $60 \times 10^{-3}\ m^3$ /s is the volumetric flow rate through the tube. Water has a density of $10^3 \frac{kg}{m^3}$ and viscosity of 10^{-3} Ns/m^2 . Determine the Reynolds number

A:-1495.4 $\times 10^3$

B:-1273.8×10^3

C:-1532.2×10^3

D:-1608.1×10^3

Correct Answer:- Option-B

Question56:-The point where the highest differential pressure is obtained in the orifice plate is known as

A:-Segmental contracta

B:-Eccentric point

C:-Vena contracta

D:-Concentric contracta

Correct Answer:- Option-C

Question57:-The measurement of viscosity of a motor oil is done by a Saybolt viscometer. The time recorded for 60ml drainage is 190 s. The kinematic viscosity is

A:-$39.18 \times 10^{-6} m^2$ /s

B:-$10.86 \times 10^{-6} m^2$ /s

C:-$40.86 \times 10^{-6} m^2$ /s

D:-$23.86 \times 10^{-6} m^2$ /s

Correct Answer:- Option-C

Question58:-The point at which the vapor starts to condensate when the mixture is cooled at constant pressure

A:-Dry point

B:-Dew point

C:-Condense point

D:-Hydro point

Correct Answer:- Option-B

Question59:-A temperature process has the operating range 100 to 500K with the setpoint as 300K. Find the percentage of error span when the temperature is 450K

A:--36.5

B:--37.5

C:--21.5

D:--25.5

Correct Answer:- Option-B

Question60:-Proportional controller introduces _____ and it can be minimized by reducing _____

A:-Residual error, proportional band

B:-Oscillations, Proportional band

C:-Damping, Setpoint

D:-Inverse response, proportional gain

Correct Answer:- Option-A

Question61:-A controller outputs 4-20mA current signal to the final control element. Find the current when the controller has a proportional band of 25%

A:-8 mA

B:-10 mA

C:-12 mA

D:-16 mA

Correct Answer:- Option-A

Question62:-The measurement range of an integral control system spans from 0.6 to 1.6 V, and it generates an output voltage of 0 to 9.0 V. compute the gain G1 of the op amp to implement the integral controller of gain KI = 6% (%-min)

A:-$0.1s^{-1}$

B:-$0.09s^{-1}$

C:-$0.01s^{-1}$

D:-$0.9s^{-1}$

Correct Answer:- Option-D

Question63:-In a penumatic control valve, a force of 320 N is applied to open a valve. Find the diaphragm area, if a control gauge pressure of 50Kpa must provide this force

A:-$15.6\times10^{-3}m^2$

B:-$16.2\times10^{-3}m^2$

C:-$6.4\times10^{-3}m^2$

D:-$8.2\times10^{-3}m^2$

Correct Answer:- Option-C

Question64:-An equal percentage valve has a maximum flow of 100 cm^3 /s and a minimum flow of 4cm^3 /s. If the full travel is 4cm, find the flow at 2cm opening

A:-40 cm^3 /s

B:-10cm^3 /s

C:-50cm^3 /s

D:-20cm^3 /s

Correct Answer:- Option-D

Question65:-Valve positioners are mandatory in the following circumstances
(i) When accurate valve position is required
(ii) To speed up the response of a valve
(iii) Where a pressure boost is required to give the necessary actuator force
(iv) All the above

A:-(i) and (ii)

B:-(i) and (iii)

C:-(ii) and (iii)

D:-(iv)

Correct Answer:- Option-D

Question66:-Which among the following is the tendency of a process to adopt specific value of the controlled variable for nominal load with no control operations?

A:-Setpoint tracking

B:-Self regulation

C:-Disturbance rejection

D:-Integrating

Correct Answer:- Option-B

Question67:-If a single process output is controlled by incorporating the actions of several manipulated variables, which produce the same effect on the overall system is known as

A:-Adaptive control

B:-Inferential control

C:-Cascade control

D:-Splitrange control

Correct Answer:- Option-D

Question68:-In a feed forward control loop, process transfer function is given as $G_p^s = \frac{9e^{-0.6s}}{s+1}$ and disturbance is expressed as $G_d(s) = \frac{3e^{-0.3s}}{s+1}$. Find the transfer function $G_c(s)$ of the feedforward controller

A:-$\frac{1}{3}e^{0.3s}$

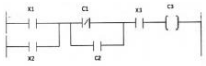
B:-$3e^{-0.3s}$

C:-$\frac{1}{3}e^{-0.3s}$

D:-$3e^{0.3s}$

Correct Answer:- Option-A

Question69:-A PLC ladder logic diagram is shown in Fig. Find the equivalent Boolean logic for the ladder logic



A:-C3=(X1 AND (NOT C1)) OR (X2 OR C2) AND X3

B:-C3 = (X1 OR X2) OR ((NOT C1) OR C2) AND X3

C:-C3 = (X1 AND X2) OR ((NOT C1) AND C2) OR X3

D:-C3 = (X1 OR X2) AND ((NOT C1) OR C2) AND X3

Correct Answer:- Option-D

Question70:-In a biological neuron, what type of signal transmission takes place at synapse?

A:-Physical process

B:-Chemical process

C:-Both physical and chemical process

D:-None of the above

Correct Answer:- Option-B

Question71:-For a parameter control device, identify the symbol "PI".

A:-Temperature indicate

B:-Flow indicate

C:-Vacuum indicate

D:-Level indicate

Correct Answer:- Option-C

Question72:-According to P and ID, identify the valve type given below

A:-Plug valve

B:-Gate valve

C:-Globe valve

D:-Angle valve

Correct Answer:- Option-A

Question73:-Mention the significance of interstage coolers in compressors

A:-To reduce the temperature of the air

B:-Used as storage and smoothened

C:-To prevent dust from entering the compressor

D:-To remove the traces of moisture

Correct Answer:- Option-A

Question74:-Name the method which removes water molecule by changing its chemical composition

A:-Drying

B:-Dehydration

C:-Dewatering

D:-De-moisturizing

Correct Answer:- Option-B

Question75:-In gears, the locus of a point on the line which rolls out without slipping on the fixed circle is called

A:-Backlash circle

B:-Pressure angle

C:-Involute profile

D:-Pitch circle

Correct Answer:- Option-C

Question76:-A pinion gear with 33 teeth has a rotational speed of 1200 rpm and drives a gear at 600 rpm. determine the number of teeth on the gear

A:-20

B:-66

C:-33

D:-42

Correct Answer:- Option-B

Question77:-Which of the following coordinate system can be used for designing an industrial robot?

A:-Spherical coordinate

B:-Cylindrical coordinate

C:-Cartesian coordinate

D:-All the above

Correct Answer:- Option-D

Question78:-Which one of the following is not a programming language of a robot?

A:-HELP

B:-MARS

C:-RAIL

D:-WAVE

Correct Answer:- Option-B

Question79:-Which of the following system is a time variant system?

A:-$y(n)=x(n)+x(n-1)$

B:-$y(n)=x(-n)$

C:-$y(n)=2x(n)+\frac{1}{x(n-1)}$

D:-$y(n)=x^2(n)$

Correct Answer:- Option-B

Question80:-A mechanical rotational system is represented by a differential equation $J_1\frac{d^2\theta_1}{dt^2}+B_1\frac{d\theta_1-d\theta_2}{dt}+K_1(\theta_1-\theta_2)=T$, where T- torque,, θ - angular displacement, J-moment of inertia, B-dashpot coefficient and K-spring stiffness constant. Find the equivalent torque-voltage electrical analogous equation for the mechanical rotational system

A:-$L_1\frac{d^2i_1}{dt^2}+R_1\frac{di_1-di_2}{dt}+\frac{1}{C_1}(i_1-i_2)=e(t)$

B:-$\frac{1}{L_1}\frac{d^2i_1}{dt^2}+R_1\frac{di_1-di_2}{dt}+\frac{1}{C_1}(i_1-i_2)=e(t)$

C:-$L_1\frac{di_1}{dt}+R_1(i_1+i_2)+\frac{1}{C_1}\int(i_1-i_2)dt=e(t)$

D:-$\frac{1}{L_1}\frac{di_1}{dt}+R_1(i_1+i_2)+\frac{1}{C_1}\int(i_1-i_2)dt=e(t)$

Correct Answer:- Option-C

Question81:-Consider the following properties of signal flow graph
(i) Signal flow graph is applicable to linear systems
(ii) Signal flow graph of a system is unique
(iii) Signals travel along branches only in the marked direction
Which of the above statements is/are incorrect?

A:-(i) and (ii)

B:-(i) only

C:-(ii) only

D:-(i), (ii) and (iii)

Correct Answer:- Option-C

Question82:-For the construction of Bode plot, the corner frequencies (rad/sec) for the given transfer function $G(s)=K\frac{e^{-0.3s}}{s(s+2)(s+4)}are$

A:-0, 2 and 4

B:-2 and 4

C:-0, 0.5 and 0.25

D:-0.5 and 0.25

Correct Answer:- Option-B

Question83:-Match the following open loop transfer functions with the type of input signals which rise to a constant steady state error values. Assume H(s)=1

(a) $G(s)=\frac{10}{s(s+2)(s+3)}$ (i) Step
(b) $G(s)=\frac{5(s+1)}{(s+1)(s+2)}$ (ii) Parabolic
(c) $G(s)=\frac{s+1}{s^2(s+4)(s+5)}$ (iii) Rsmp

A:-(a)-(i), (b)-(ii), (c)-(iii)

B:-(a)-(iii), (b)-(ii), (c)-(i)

C:-(a)-(i), (b)-(iii), (c)-(ii)

D:-(a)-(iii), (b)-(i), (c)-(ii)

Correct Answer:- Option-D

Question84:-Using Routh criterion, determine the stability of the system whose characteristics equation is $S^6+2S^5+8S^4+12S^3+20S^2+16S+16=0$

A:-Marginally stable

B:-Stable

C:-Unstable

D:-None of the above

Correct Answer:- Option-A

Question85:-If a single phase full converter generates a peak value of 300 V for the conduction angle 45°, then what will be the average output voltage of the converter?

A:-0v

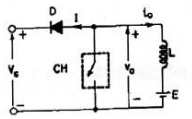
B:-$\frac{600}{\pi}v$

C:-$\frac{\pi}{\sqrt{2}}300v$

D:-$\frac{\sqrt{2}}{\pi}300v$

Correct Answer:- Option-D

Question86:-Identify the type of chopper from the circuit shown in Fig



A:-Type B chopper

B:-Type A chopper

C:-Type D chopper

D:-Type C chopper

Correct Answer:- Option-A

Question87:-Ultra filtration rate in dialysis is due to

A:-Blood solute concentration only

B:-Hydrostatic pressure only

C:-Hydrostatic and osmotic transmembrane pressure

D:-Transmembrane pressure only

Correct Answer:- Option-C

Question88:-Which semiconductor laser is typically emit light i the 1200nm to

1550nm region of the spectrum

A:-lnGaAsP

B:-A1GaAs

C:-lnGa

D:-GaAs

Correct Answer:- Option-A

Question89:-How many electrodes are used in the clinical electroencephalography?

A:-20

B:-21

C:-10+20

D:-19

Correct Answer:- Option-B

Question90:-The radius of trajectory(r) of each charged particle in mass spectrometer is depends on

A:-$\sqrt{\frac{vm}{h^2e}}$

B:-$\sqrt{\frac{2vm}{he}}$

C:-$\sqrt{\frac{2vm}{h^2e}}$

D:-$\sqrt{\frac{vm}{he}}$

Correct Answer:- Option-C

Question91:-The flow cytometry sensor is used for

A:-Blood count

B:-Blood flow

C:-Blood pressure

D:-None of the above

Correct Answer:- Option-A

Question92:-Which Laser is NOT working in continuous wave (cw) mode of operation

A:-Helium-Neon Laser

B:-Carbon dioxide Laser

C:-Argon Laser

D:-Ruby Laser

Correct Answer:- Option-D

Question93:-Unipolar chest electrode in ECG is measured with respect to

A:-Left Arm (LA) + Right Arm (RA) + Left leg (LL)

B:-Left Arm (LA) + Right Arm (RA)

C:-Left Arm (LA) + Left leg (LL)

D:-Right leg(RL)

Correct Answer:- Option-D

Question94:-Calculate the magnetic field in Tesla (T) at 2mm from a wire carrying 10A of current

A:-$5\times10^{-4}T$

B:-$10\times10^{-4}T$

C:-$1\times10^{-4}T$

D:-None of the above

Correct Answer:- Option-B

Question95:-Which is help to remove spurious voltage generated during magnet current reversal in electromagnetic flow meter

A:-Gating circuits

B:-Band pass filter circuits

C:-Detector circuits

D:-Triggering circuits

Correct Answer:- Option-A

Question96:-The blood gas analyzer are measure

A:-pCO2 and pO2

B:-pO2 only

C:-pH and O2

D:-pH, pCO2 and pO2

Correct Answer:- Option-D

Question97:-To reduce the motion artifacts in the CT scan machine

A:-Scan time equal to breath hold time

B:-Scan time greater than breath hold time

C:-Scan time less than breath hold time

D:-None of the above

Correct Answer:- Option-C

Question98:-Spatial resolution in NMR imaging system can be improved by reducing

A:-The body movement

B:-The slice thickness

C:-The uniformity of magnetic field

D:-The image scan time

Correct Answer:- Option-A

Question99:-Synthetic piezo electric material is

A:-Lead Zirconate phosphate

B:-Lead zirconate Titanate

C:-Lead cerium Nitrate

D:-Lead cerium Phosphate

Correct Answer:- Option-B

Question100:-Which electrode metal has highest potential between electrodes in electrolyte (Saline)

A:-Stainless steel

B:-Silver-Silver chloride

C:-Silver

D:-Lead

Correct Answer:- Option-C