PROVISIONAL ANSWER KEY

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Question1:-In the case of a simple pendulum with a rigid support, the constraint is

A:-holonomic only

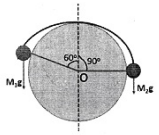
B:-rhenomic only

C:-both rhenomic and holonomic

D:-both scleronomic and holonomic

Correct Answer:- Option-D

Question2:-Two particles of masses M_1 and M_2 are connected by a light inextensible string and hang over a fixed circular cylinder of radius 5 cm, the axis of which is horizontal. If the system is in equilibrium and M_1 = 200g, what will be the value of M_2?



A:-108 g

B:-151 g

C:-173 g

D:-230 g

Correct Answer:- Option-C

Question3:-Consider a frame S' which is rotating with an angular velocity $\vec{w}$ = (3t+4)$\hat{\imath}$+$t^2\hat{\jmath}$,-5t $\hat{k}$ with respect to a fixed frame S having same origin. The position vector of a particle at any instant as observed in S' frame is $\vec{r}$ =$t^2\hat{\imath}$ +6t$\hat{\jmath}$ +(4+ t^3)$\hat{k}$. The Coriolis acceleration at time t = 1 is

A:-2$\hat{\imath}$ + 6$\hat{\jmath}$ +7$\hat{k}$

B:-9$\hat{\imath}$ + 7$\hat{\jmath}$ +2$\hat{k}$

C:-26$\hat{\imath}$ + 49$\hat{\jmath}$ -44$\hat{k}$

D:-74$\hat{\imath}$ - 118$\hat{\jmath}$ +80$\hat{k}$

Correct Answer:- Option-D

Question4:-If R_e and R_m respectively represents the orbital radii of Earth and Mars, the ratio of orbital velocity of Mars to that of Earth around the Sun is

A:-$\sqrt{R_m}:\sqrt{R_e}$

B:- $\sqrt[3]{R_m}:\sqrt[3]{R_e}$

C:-$\sqrt{R_e}:\sqrt{R_m}$

D:- $\sqrt[3]{R_e}:\sqrt[3]{R_m}$

Correct Answer:- Option-C

Question5:-The angular speed of a partical moving under the action of a central force varies

A:-inversely as the distance from the the origin to the particle

B:-inversely as the square of the distance from the origin to the particle

C:-directly as the distance from the origin to the particle

D:-directly as the square of the distance from the origin to the particle

Correct Answer:- Option-B

Question6:-The eigen values of a system with Hamiltonian $\hat{H}$ = $\in\hat{\sigma}.\hat{n}$, where $\in$ is a constant having dimensions of energy, $\hat{n}$ is an arbitrary unit vector and σ_x σ_y and σ_z are Pauli matrices, are _____

A:-E_1 =$\in$ andE_2 =$\in$

B:-E_1 =$\in$ andE_2 =-$\in$

C:-E_1 =2$\in$ andE_2 =-$\in$

D:-$E_1 = \in$ and$E_2 = -2 \in$

Correct Answer:- Option-B

Question7:-For any given vector $\vec{A}$, $[\vec{\sigma}, \vec{A} . \vec{\sigma}]$

A:-2i($\Sigma^2\_x + \Sigma^2\_y + \Sigma^2\_z$)

B:-2i($A^2\_x + A^2\_y + A^2\_z$)

C:-2i$\vec{A} \times \vec{\sigma}$

D:--2i$\vec{A} \times \vec{\sigma}$

Correct Answer:- Option-C

Question8:-Which among the following statements are correct?
(i) The eigen values of a Hermitian operator are real
(ii) Eigenfunctions belonging to distinct eigenvalues of a Hermitian operator are orthogonal
(iii) The set of all eigenvectors of a bounded Hermitian operator forms a complete set
(iv) All Hermitian operators represent observables

A:-Only (i) and (ii) are correct

B:-Only (i), (ii) and (iii) are correct

C:-Only (i), (ii) and (iv) are correct

D:-All statements are correct

Correct Answer:- Option-B

Question9:-Which one of the following represents the matrix for J_x for j = $\frac{3}{2}$?

A:-$\frac{\hbar}{2}\begin{bmatrix} 3 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & -3 \end{bmatrix}$

B:-$\frac{\hbar}{2}\begin{bmatrix} 0 & \sqrt{3} & 0 & 0 \\ 0 & 0 & 2 & 0 \\ 0 & 0 & 0 & \sqrt{3} \\ 0 & 0 & 0 & 0 \end{bmatrix}$

C:-$\frac{\hbar}{2}\begin{bmatrix} 0 & \sqrt{3} & 0 & 0 \\ \sqrt{3} & 0 & 0 & 0 \\ 0 & 2 & 0 & \sqrt{3} \\ 0 & 0 & -\sqrt{3} & 0 \end{bmatrix}$

D:-$\frac{\hbar}{2}\begin{bmatrix} 0 & \sqrt{3} & 0 & 0 \\ \sqrt{3} & 0 & 0 & 0 \\ 0 & -2 & 0 & \sqrt{3} \\ 0 & 0 & -\sqrt{3} & 0 \end{bmatrix}$

Correct Answer:- Option-C

Question10:-Which among the following statements on Klein-Gordon equation are correct?
(i) It has nothing to say about the spin of the particle
(ii) It can give negative energy solutions
(iii) It describes a system of arbitrary number of particles and their antiparticle by treating ψ as an operator function

A:-Statements (i) and (ii) are correct

B:-Statements (i) and (iii) are correct

C:-Statements (ii) and (iii) are correct

D:-All the statements are correct

Correct Answer:- Option-D

Question11:-Assume that an atomic electron with orbital angular momentum quantum number l=3 is placed in a magnetic field of 3T is applied along in the z-direction. The separation between the energy levels is _____ (Take bohr magneton = 10^{-23} SI units)

A:-1.0 $\times 10^{-23} J$

B:-1.5 $\times 10^{-23} J$

C:-3.0 $\times 10^{-23} J$

D:-6.0 $\times 10^{-23} J$

Correct Answer:- Option-C

Question12:-The operational amplifier 741C has a slew rate of 15 V/μs. What is the power bandwidth for a peak output voltage of 200 mV

A:-240 kHz

B:-3 MHz

C:-12MHz

D:-26 MHz

Correct Answer:- Option-C

Question13:-In a gallium arsenide LED, _____ of the photons incident from the GaAs on the GaAs-air interface are reflected back in to the semiconductor. Refractive index of GaAs (at a wavelength 700 nm)= 3.50

A:-6%

B:-15%

C:-31%

D:-48%

Correct Answer:- Option-C

Question14:-The rate of change of output voltage of an op-amp integrator, in response to a step input is set by

A:-RC time constant

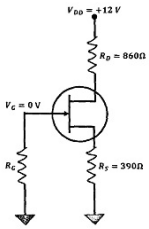
B:-the current through the capacitor

C:-the amplitude of the step output

D:-all the above

Correct Answer:- Option-D

Question15:-For the given n-channel JFET circuit, $I_D = 8mA$. What are the values of V_{DS} and V_{GS}



A:-$V_{DS} = 5.12V; V_{GS} = 3.00V$

B:-$V_{DS} = 2.00V; V_{GS} = 3.12V$

C:-$V_{DS} = 3.12V; V_{GS} = 2.00V$

D:-$V_{DS} = 3.12V; V_{GS} = 5.12V$

Correct Answer:- Option-B

Question16:-The antenna current of an AM transmitter is 10 A when only the carrier is sent. If the transmitter current increases to 10.87 A on modulation with a single sine wave, what will be the percentage modulation?

A:-13%

B:-36%

C:-60%

D:-87%

Correct Answer:- Option-C

Question17:-An amplifier with resistive negative feedback has two left half plane poles in its open loop transfer function. The amplifier

A:-will be stable for all frequencies

B:-may be unstable depending on the feedback factor

C:-will always be unstable at high frequencies

D:-will oscillate at low frequencies

Correct Answer:- Option-A

Question18:-Which of the following is not true for Hermite polynomials?
(i) $H_n(-x) = (-1)^n H_n(x)$
(ii) $H'_n(x) = 2nH_{n-1}(x)$
(iii) $H_{n+1}(x) = 2xH_n(x) + 2nH_{n-1}(x)$

A:-Only statement (i)

B:-Only statement (ii)

C:-Only Statement (iii)

D:-None of the statement is wrong

Correct Answer:- Option-C

Question19:-The series $\sum_{n=2}^{\infty} \frac{\cos n\Pi}{\sqrt{n}}$ is _____

A:-Convergent

B:-Divergent

C:-A positive term series

D:-None of these

Correct Answer:- Option-A

Question20:-The value of the integral I = $\int_C \frac{5-2z}{z(z-1)(z-3)}dz$, where z = x + iy and C is the circle $|z| = \frac{5}{2}$, is _____

A:-$\frac{\pi}{3}i$

B:-$\frac{2\pi}{3}i$

C:-πi

D:-$2\pi i$

Correct Answer:- Option-A

Question21:-Given v(x,y)=6xy-5x+3
If z = x + iy , which one of the following can represents the analytic function f(z)=u(x,y)+iv(x,y)?x^{m+n}

A:-$4z^2 - 5iz + 3i + C$

B:-$5z^2 - 5iz + 8i + C$

C:-$z^2 - 4iz + 3i + C$

D:-$3z^2 - 5iz + 3i + C$

Correct Answer:- Option-D

Question22:-If p is a positive integer, which one of the following represents Bessel function of the first kind of order p?

A:-$J_p(x) = \sum_{n=0}^{\infty} \frac{(-1)^n}{n!(n+p)!}\left(\frac{x}{2}\right)^{n+p}$

B:-$J_p(x) = \sum_{n=0}^{\infty} \frac{(-1)^n}{n!(n+p)!}\left(\frac{x}{2}\right)^{2n+p}$

C:-$J_p(x) = \sum_{n=0}^{\infty} \frac{(-1)^{2n}}{n!(n+p)!}\left(\frac{x}{2}\right)^{2n+p}$

D:-$J_p(x) = \sum_{n=0}^{\infty} \frac{(-1)^{2n}}{n!(n+p)!}\left(\frac{x}{2}\right)^{2n+p}$

Correct Answer:- Option-B

Question23:-How many hardware interrupts are available in an 8085 microprocessor?

A:-2

B:-3

C:-4

D:-5

Correct Answer:- Option-C

Question24:-What is the use of HOLD signal in an 8085-microprocessor based system?

A:-It is used for direct memory access data transfer

B:-It is used by slow peripherals to get extra time in order to communicate with the processor

C:-It is used to select between address and data coming through a multiplexed address/data bus

D:-none of the above

Correct Answer:- Option-A

Question25:-During a memory read cycle in 8085 µP, WAIT states, if required, are introduced between

A:-1st and 2nd T-states

B:-2nd and 3rd T-states

C:-Any time after 1st T-state

D:-WAIT states cannot be added in a memory read cycle

Correct Answer:- Option-B

Question26:-The _____ data transfer scheme in a microprocessor system is devoid of handshaking signals.

A:-Synchronous

B:-Asynchronous

C:-Direct memory access

D:-None of these

Correct Answer:- Option-A

Question27:-The memory locations 8000 H and 8001 H contains hexadecimal numbers 06 H and 04 H respectively. The content of 8000 H after the execution of the following program is

```
LXI H, 8001
LDA 8000
MOV B, M
DCX H
SUB B
MOV M, L
STA 8002
HLT
```

A:-06 H

B:-04 H

C:-02 H

D:-00H

Correct Answer:- Option-D

Question28:-Which of the following statement is not correct for 8085 microprocessors?

A:-It is an 8-bit processor

B:-Its general purpose registers cannot be used in pairs

C:-It has dedicated pins for serial data transmission

D:-It can address up to 64k memory locations

Correct Answer:- Option-B

Question29:-The temperature of a monoatomic ideal gas is raised by 20%, What is the change in entropy of one mole of the gas, if the rise in temperature occurs at constant pressure?

A:-28.70 $\log_{10}(1.2) JK^{-1}\,mol^{-1}$

B:-47.87 $\log_{10}(1.2) JK^{-1}\,mol^{-1}$

C:-28.70 $\log_{10}(0.83) JK^{-1}\,mol^{-1}$

D:-47.87 $\log_{10}(0.83) JK^{-1}\,mol^{-1}$

Correct Answer:- Option-B

Question30:-Which of the following statement(s) is/are correct consequence of Liouville's theorem?
(i) If a given number of representative points occupy an element of volume δV at a certain time, they will another volume of equal size at a later time
(ii) The distribution of representative points moves in the Γ - space like a compressible fluid

A:-Statement (i) only

B:-Statement (ii) only

C:-Both are correct

D:-None are correct

Correct Answer:- Option-A

Question31:-The condensation temperature of an ideal Bose gas is 10 K. The specific heat of the gas at temperature 2.5 K is

A:-0.5 $JK^{-1}\,mol^{-1}$

B:-2 $JK^{-1}\,mol^{-1}$

C:-8 $JK^{-1}\,mol^{-1}$

D:-16 $JK^{-1}\,mol^{-1}$

Correct Answer:- Option-B

Question32:-Which of the following statement is/are correct about Landau diamagnetism?
(i) It arises from the quantization of the orbits of charged particles in a Fermi gas, in the presence of an external magnetic field

(ii) The susceptibility at high temperature varies as $\chi \propto \quad T^{-(\frac{1}{2})}$
(iii) As T→ 0, the susceptibility is independent of temperature

A:-(i) and (ii) are correct

B:-(i) and (iii) are correct

C:-(ii) and (iii) are correct

D:-All the statements are correct

Correct Answer:- Option-B

Question33:-For an ideal Bose gas at T_c , the deviation in energy from the corresponding classical value is about _____

A:-25%

B:-33%

C:-50%

D:-67%

Correct Answer:- Option-C

Question34:-The pressure exerted at absolute zero by the electrons in a hypothetical metal having three conduction electrons is _____
Given, Density of the metal = 0.9 × $10^3 kgm^{-3}$,
Atomic weight of the metal = 1.8 × $10^2 kg(kmol)^{-1}$,
Avagardo number = 6 × 10^{26} atoms$(kmol)^{-1}$, h = 6 ×10^{-34} Js and mass of electron = 9×10^{-34} kg

A:- $\left(\frac{81}{5\pi^{2/3}}\right)\times 10^5 Nm^{-2}$

B:- $\left(\frac{81}{5\pi^{2/3}}\right)\times 10^8 Nm^{-2}$

C:- $\left(\frac{81}{5\pi^{2/3}}\right)\times 10^{11} Nm^{-2}$

D:- $\left(\frac{81}{5\pi^{2/3}}\right)\times 10^{12} Nm^{-2}$

Correct Answer:- Option-D

Question35:-The Lagrangian of a particle is given by L = $y^2 + Aw^2y^2 - Cy^3$
where A, B and C are constants. The corresponding Hamiltonian is _____

A:-$H = \frac{p^2 y}{4(1-By)} - Aw^2y^2 - Cy^3$

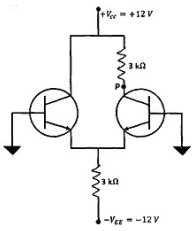
B:-$H = \frac{p^2 y}{8(1-By)} - Aw^2y^2 - Cy^3$

C:-$H = \frac{py}{2(1-By)} - Aw^2y^2 - Cy^3$

D:-$H = \frac{py}{8(1-By)} - Aw^2y^2 - Cy^3$

Correct Answer:- Option-A

Question36:-The tail current I_T emitter current I_E and dc voltage at the point P (V_c) for the following circuit based on silicon transistor, using second approximation are



A:-$I_T = 4.0mA, I_E =$ 2.0 mA and V_c = 6.0V

B:-$I_T = 2.0mA, I_E =$ 4.0 mA and V_c = 6.0V

C:-$I_T = 1.88mA, I_E =$ 3.77 mA and V_c = 0.69V

D:-$I_T = 3.77mA, I_E =$ 1.88 mA and V_c = 6.36V

Correct Answer:- Option-B

Question37:- $\int_0^1 \left(x^2 - 5x + 2\right) \Delta \left[2(x-4)\right] dx =$

A:--2

B:--1

C:-0

D:-2

Correct Answer:- Option-B

Question38:-The phase velocity of ocean waves is, $\sqrt{g \Lambda / 2 \Pi}$ where g is the acceleration due to gravity. The group velocity of ocean waves is

A:-$\sqrt{g \Lambda / 8 \Pi}$

B:-$\sqrt{g \Lambda / 4 \Pi}$

C:-$\sqrt{g \Lambda / \Pi}$

D:-$\sqrt{2g \Lambda / \Pi}$

Correct Answer:- Option-A

Question39:-The probability that an N-particle system in contact with a heat reservoir has energy E is proportion is proportional to

A:-exp $\left(-\frac{E}{kT}\right)$

B:-E^{2N} exp $\left(-\frac{E}{kT}\right)$

C:-$E^{\frac{N}{2}}$ exp $\left(-\frac{E}{kT}\right)$

D:- $E\left(\frac{3N}{2} - 1\right) \exp\left(-\frac{E}{kT}\right)$

Correct Answer:- Option-D

Question40:-For a 16-bit analog-to-digital converter calibrated for a 0 to 5V range, the analog voltages corresponding to LSB and MSB are respectively _____ and _____

A:-76.3 mV, 5.0 V

B:-76.3 mV, 4.92.V

C:-76.3 μV, 4.92 V

D:-76.3 μV, 2.50 V

Correct Answer:- Option-D

Question41:-The configuration of a known dynamical system is described by generalized coordinate q and its sbehaviour by the hamiltonian function H (q,p,t) = $\alpha p^2 + \beta p\left(q + t\right)^2$, where α and β are constants. If a point transformation is made to a new generalized coordinate Q = q+t, the corresponding Hamiltonian K(Q,P,t) is _____

A:-$K = \alpha P^2 + \beta P Q^2$

B:-$K = \alpha P^2 + \left(\beta P + 1\right)$

C:-K=$\alpha P^2 + P\left(\beta Q^2 + 1\right)$

D:-K= $P^2 + \left(\alpha + \beta Q\right) + P$

Correct Answer:- Option-C

Question42:- $\int_1^0 x^{n-1} \left\{\ln\left(\frac{1}{x}\right)\right\}^{m-1} dx =$

A:-$\frac{1}{n^m} \lceil (m-1)$

B:-$\frac{1}{n^{m-1}} \lceil (m-1)$

C:-$\frac{1}{n^{m-1}} \lceil (m)$

D:-$\frac{1}{n^m} \lceil (m)$

Correct Answer:- Option-D

Question43:-Nuclear force is

A:-Charge dependent

B:-Spin dependent

C:-Spin independent

D:-None of the above

Correct Answer:- Option-B

Question44:-For a prolate charge distribution of the nucleus, electric quadrupole moment is

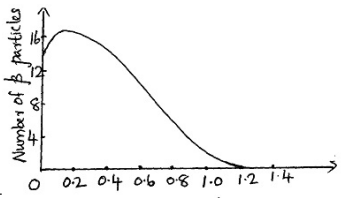
A:-Positive

B:-Negative

C:-Zero

D:-Both (1) and (2)

Correct Answer:- Option-A



Question45:-
Energy of the β particles in MeV.
The above figure shows the β-ray spectrum of Bi-210. The disintegration energy of the reaction is 1.16 MeV. If the kinetic energy of the β-particle is 0.76 MeV, calculate the energy of the associated neutrino in Mev.

A:-0.76 MeV

B:-1.16 Mev

C:-Zero

D:-0.4 MeV

Correct Answer:- Option-D

Question46:-The conservation of parity is valed only for

A:-strong interactions

B:-electromagnetic interactions

C:-Both (1) and (2)

D:-weak interactions

Correct Answer:- Option-C

Question47:-The charge of ddu quark is

A:--e

B:-zero

C:-+e

D:-+2e

Correct Answer:- Option-B

Question48:-In the reaction $\prod^{+} + n \rightarrow \bigwedge^{0} + X$, what is X?

A:-K^{+}

B:-P

C:-$\sum^{+}$

D:-K^{-}

Correct Answer:- Option-A

Question49:-X-ray crystallography is not used to find the physical properties of which of the following

A:-Crystals

B:-Metals

C:-Solid

D:-Liquid

Correct Answer:- Option-D

Question50:-If a primitive cell in the direct lattice has a volume V, then the primitive cell of the reciprocal lattice has a volume

A:-$\frac{(2\pi)^3}{V}$

B:-V^3

C:-$\left(\frac{2\pi^3}{V}\right)$

D:-$\frac{V^3}{2\pi}$

Correct Answer:- Option-A

Question51:-In a periodic potential latice, the electron energy values are

A:-continuous

B:-discontinuous

C:-quasi continuous

D:-none of the above

Correct Answer:- Option-B

Question52:-According to Einstein's theory of specific heat, at lower temperatures the specific heat

A:-Remains constant

B:-Drops linearly with decrease of temperature

C:-Drops linearly with increase to temperature

D:-Drops exponentially with decrease of temperature

Correct Answer:- Option-D

Question53:-In piezoelectric materials, electricity is produced by applying

A:-Temperature

B:-Pressure

C:-Magnetic field

D:-Electric field

Correct Answer:- Option-B

Question54:-The temperature at which an antiferromagnetic substance becomes a paramagnetic substance

A:-curie temperature

B:-transition temperature

C:-Faraday's temperature

D:-Neel temperature

Correct Answer:- Option-D

Question55:-The critical field strength of a superconducting material is zero at

A:-Transition temperature

B:-OK

C:-Room temperature

D:-none of these

Correct Answer:- Option-A

Question56:-The maximum distance upto which the electron pairs are correlated to produce superconductivity is called

A:-Penetration depth

B:-Skin depth

C:-Coherence length

D:-Range

Correct Answer:- Option-C

Question57:-In the rotation spectrum of a non-rigid rotator, the rotational constant is related to the centrifugal distortion constant by the relation

A:-B = $\frac{4D^3}{\bar{W}^2}$

B:-D = $\frac{4B^3}{\bar{W}^2}$

C:-B = $\frac{\bar{W}^2}{4D^3}$

D:-D = $\frac{\bar{W}^2}{4B^3}$

Correct Answer:- Option-B

Question58:-A linear molecule has _____ normal modes of vibrations

A:-3n-3

B:-3n-4

C:-3n-5

D:-3n-6

Correct Answer:- Option-C

Question59:-In the rotational Raman spectrum of O_2 , the spacing between two successive spectral lines is

A:-8B

B:-6B

C:-4B

D:-2B

Correct Answer:- Option-A

Question60:-The band transitions represented by (0,0), (0,1), (0,2), (0,3)....in the electronic spectra of diatomic molecules are called

A:-J' progression

B:-J'' progressions

C:-V' progressions

D:-V'' progressions

Correct Answer:- Option-D

Question61:-If a nucleus has mass number A is even and atomic number Z is odd, then that nucleus has a spin

A:-Zero

B:-Integer

C:-Half integer

D:-None of these

Correct Answer:- Option-B

Question62:-An NMR signal for a compound is found to be 200 Hz downward from TMS peak using a spectrometer operating at 50 MHz. What is its chemical shift in ppm

A:-2 ppm

B:-10 ppm

C:-5 ppm

D:-4 ppm

Correct Answer:- Option-D

Question63:-In Mössbauer spectroscopy, the emitting and absorbing nuclei are bound in crystal lattice in order to reduce

A:-Absorption frequency

B:-Emission frequency

C:-Recoil energy

D:- None of these

Correct Answer:- Option-C

Question64:-Which of the following is a characteristic of stimulated emission

A:-Multiplication of photons

B:-It is controllable from outside

C:-Photon produced propagates in the same direction of stimulating photon

D:-All of the above

Correct Answer:- Option-D

Question65:-In passive Q-switching of lasers, which of the following is used as the attenuator

A:-Shutter

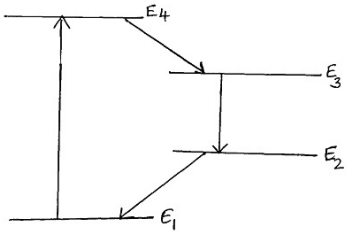
B:-Semiconductor

C:-Spinning prism

D:-Chopper wheel

Correct Answer:- Option-B

Question66:-The following figure shows a four level laser pumping scheme



in this which energy level is meta stable state

A:-E_1

B:-E_2

C:-E_3

D:-E_4

Correct Answer:- Option-C

Question67:-Carbon dioxide laser is a

A:-Four level laser

B:-Three level laser

C:-Two level laser

D:-None of these

Correct Answer:- Option-A

Question68:-When image is reconstructed in holography, which image is formed at the location formerly occupied by the object

A:-Virtual image

B:-Real image

C:-Both (1) and (2)

D:-None of these

Correct Answer:- Option-A

Question69:-The numerical aperture of an optical fibre depends on

A:-Refractive index of the core

B:-Refractive index of the cladding

C:-Both (1) and (2)

D:-Incident light

Correct Answer:- Option-C

Question70:-Which of the following is an advantages of optical fibre communication

A:-Economical and cost-effective

B:-Thin and non-flammable

C:-Less power consumption

D:-All of the above

Correct Answer:- Option-D

Question71:-"The colour of that light is blue". This learner response is a product of

A:-Sensation

B:-Perception

C:-Analysis

D:-Evaluation

Correct Answer:- Option-B

Question72:-The measurement of intellectual and skillful products are done using

A:-Ability assessment

B:-Collective Assessment

C:-Authentic Assessment

D:-Authoritative Assessment

Correct Answer:- Option-C

Question73:-In a student initiated classroom, students

A:-listen the teacher explanations of topic

B:-attend class test and remedial teaching

C:-enrich knowledge through online learning

D:-participate in all decision making processes

Correct Answer:- Option-D

Question74:-Intelligence is a combination of many traits and capacities. This multiple intelligence theory was proposed by

A:-Gardner

B:-Thurston

C:-Binet

D:-Spearman

Correct Answer:- Option-A

Question75:-The learner should construct knowledge through proper social interactions. This theory is a premise of

A:-Cognitive constructivism

B:-Social constructivism

C:-Collaborative constructivism

D:-Constructive Socialism

Correct Answer:- Option-B

Question76:-The researcher implements an action plan to solve the problem of particular context. This research is known as

A:-Case study

B:-Experimental research

C:-Action research

D:-Evaluation study

Correct Answer:- Option-C

Question77:-A research topic is entitled as 'A study on the lifestyle practices of teachers'. The most appropriate method to study this research is

A:-Survey method

B:-Experimental method

C:-Historical method

D:-Document analysis

Correct Answer:- Option-A

Question78:-The UGC aided agency for organizing teacher training for in service teachers of Higher Education level

A:-National Council for Educational Research and Training

B:-State Institute for Educational Technology

C:-Adult and Continuing Education Centre

D:-Human Resource Development Centre

Correct Answer:- Option-D

Question79:-'There is no relationship between intelligence and home environment' This hypothesis is known as

A:-Directional Hypothesis

B:-Alternative Hypothesis

C:-Null Hypothesis

D:-Insignificant hypothesis

Correct Answer:- Option-C

Question80:-Copying the works of others and claiming as own work is known as

A:-Plagiarism

B:-Pragmatism

C:-Pluralism

D:-Pugilism

Correct Answer:- Option-A

Question81:-Which are the non-justiciable rights of Indian citizens?
(i) Art.41, 43, 45, 39A
(ii) Art.48, 45, 41, 39

(iii) Art.39 d, 39c, 47, 50
(iv) Art.45, 43, 39f, 41

A:-(i) only

B:-(i) and (ii)

C:-(i) and (iv)

D:-(ii) and (iii)

Correct Answer:- Option-C

Question82:-"The preamble of the constitution of India serves two purposes" - Identify them
(i) Indicates the sources from which the constitution derives its authority.
(ii) Ideals of the resolutions are faithfully embodied
(iii) It states the objects which the Constitution seeks to establish and promote.
(iv) Protect the ultimate sovereignty of the people of India

A:-(i) and (ii)

B:-(iii) and (iv)

C:-(ii) and (iv)

D:-(i) and (iii)

Correct Answer:- Option-D

Question83:-Few names of the Chief Election Commissioners of India are given. Which among the following is in correct chronology?
(i) Sukumar Sen, KVK Sundaram, SP Sen Verma
(ii) Sukumar Sen, M.S. Gill, Nagendra Singh
(iii) Sukumar Sen, M.S. Gill, SP Sen Verma
(iv) Sp sen Varma, KVK Sundaram, T.N. Seshan

A:-(i) only

B:-(ii) and (iii)

C:-(i) and (iv)

D:-(i) and (iii)

Correct Answer:- Option-A

Question84:-With reference to the NEP 2020, consider the following statements
(i) Increase the gross enrollment ratio in Higher Education to 50% by 2030
(ii) Start Higher Education commission including medical and legal education.
(iii) Set up an Indian Institute of Translation and Interpretation. (IITI)
(iv) Ek Bharath Shreshta Bharath initiative will be started
Which of the above statements is/are correct?

A:-(i) only

B:-(iii) only

C:-(i) and (ii) only

D:-(iii) and (iv)

Correct Answer:- Option-B

Question85:-Trace the true features related to the state of Andhra Pradesh
(i) It is the Eighth largest state in India
(ii) Occupies the third largest coast line
(iii) Andhra Pradesh bifurcated in the year 2015
(iv) The state celebrates Ugadi as festival

A:-(i) and (iv)

B:-(i) and (iii)

C:-(i), (ii) and (iv)

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

Correct Answer:- Option-A

Question86:-Which of the following statements is not true in the context of MP LADS?
(i) Funds are released in the form of grants in aid directly to the State Government
(ii) Elected Loksabha members can recommend works in their respective constituencies
(iii) 15 percent of MPLADS funds are to be utilised for areas inhabited by ST population.
(iv) Nominated members can utilise fund anywhere in the country

A:-(i) and (ii)

B:-(iii) and (iv)

C:-(i) and (iii)

D:-(i) and (iv)

Correct Answer:- Option-C

Question87:-Which among the following statements are false related to Pradhanamantri Mudra Yogana?
(i) Launched in the year 2016
(ii) Launched three innovative projects Shishu, Kishore and Tarun
(iii) Extending funding support to encourage entrepreneurship in India
(iv) Extending no support to activities allied to agriculture

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

B:-(i), (ii) and (iv)

C:-(ii), (iii) and (iv)

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

Correct Answer:- Option-B

Question88:-Which of the following statements are true about the policy on Child Labour?
(i) The National Policy on Child Labour was announced in 1987
(ii) The Child Labour Prohibition and Regulation act came into force from 2017
(iii) The National Child labour Project Scheme was started in 1988
(iv) The National Child Labour Project Societies are set up at state level

A:-(i) and (ii)

B:-(ii) and (iii)

C:-(i) and (iii)

D:-(ii) and (iv)

Correct Answer:- Option-C

Question89:-Locate the major interventions of RKSK
(i) Weekly Iron Folic acid Supplementation
(ii) Adolescent Family Health Clinics
(iii) Promotion of Menstrual Hygiene among Adolescent Girls
(iv) Peer Education programmes

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

B:-(ii), (iii) and (iv)

C:-(i), (ii) and (iv)

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

Correct Answer:- Option-D

Question90:-With reference to The National Overseas Scholarship for ST students, consider the following statements
(i) The number of awards has been increased to 15
(ii) Number of subjects has been increased from 35 to 52
(iii) The maximum income sealing has been increased to 8 lakhs per annum
(iv) 30 percent of the scholarships are reserved for Girls
Which of the statements given above are correct?

A:-(ii) and (iv)

B:-(ii) and (iii)

C:-(i) and (iii)

D:-(i) and (ii)

Correct Answer:- Option-A

Question91:-The aim behind introduction of English Education by English East India Company

A:-Improve standard of living of people

B:-Intellectual and social development

C:-To supply the company with reliable and capable public servant

D:-Eradicate superstitions and evil practices

Correct Answer:- Option-C

Question92:-Who wrote the poem, 'About My Race : A Song'

A:-Kumaran Asan

B:-Kumara Guru

C:-Ulloor S. Parameshwara Iyer

D:-Dr. B.R. Ambedkar

Correct Answer:- Option-B

Question93:-Which agitation related to Women Rights in history of Kerala?

A:-Channar Revolt

B:-Kuttamkulam Struggle

C:-Abstention movement

D:-Malabar Riots

Correct Answer:- Option-A

Question94:-Which media group published the Malayalam literary magazine Bhashaposhini

A:-Kerala Kaumudi

B:-Rashtra Deepika Ltd

C:-The Mathrubhumi Printing and Publishing Company Ltd

D:-Malayala Manorama Company Ltd

Correct Answer:- Option-D

Question95:-Who contributed to revitalising the traditional Keralite dance

A:-Kodungallur Kunhikkuttan Thampuran

B:-Kerala Varma Valiyakoyi Thampuran

C:-Vallathol Narayana Menon

D:-Chandu Menon

Correct Answer:- Option-C

Question96:-Which country won Thomas Cup 2022

A:-India

B:-Indonesia

C:-China

D:-Denmark

Correct Answer:- Option-A

Question97:-Kalaripayattu included in

A:-Applied arts

B:-Performing arts

C:-Martial arts

D:-Fine arts

Correct Answer:- Option-C

Question98:-Government of India announce a series of events to celebrate 75th anniversary of India's independence. In which name of the series of events announced.

A:-Make in India

B:-Azadi Ka Amrit Mahotsav

C:-Amrut

D:-Start up India, stand up India

Correct Answer:- Option-B

Question99:-The World Economic Forum presented the concept of Global Collaboration Village at the annual meeting of 2022. What is the aim of Global Collaboration village?

A:-Social protection and economic stimulus packages serve women and girls

B:-To maintain international peace and security

C:-To promote human rights and fundamental freedom for the people of the word

D:-To create a new virtual space where global interaction can be enhanced and cooperative solutions found:

Correct Answer:- Option-D

Question100:-Who won the Final Indian Premier League (IPL) 2022?

A:-Rajastan Rayals

B:-Gujarat Titans

C:-Lucknow super giants

D:-Royal challengers Bangalore

Correct Answer:- Option-B