## FINAL ANSWER KEY

| Question Paper Code: | $73 / 2016 /$ OL |
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| Category Code: | $033 / 2016$ |
| Exam: | HSST Physics SR for SC/ST |
| Medium of Question: | English |
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| Alphacode | A |

Question1:-Who was the founder editor of the Magazine "Yukthivadi'?
A:-Sahodaran Ayyappan
B:-Ayyankali
C:-Dr.Palpu
D:-Pandit K P Karuppan
Correct Answer:- Option-A
Question2:-The slogan for the Asian Games held at Incheon in 2014
A:-Green,Clean and Friendship
B:-We clear, We share, We win
C:-Diversity shines here
D:-None of these Correct Answer:- Option-C
Question3:-"Visakhavijayam" is the work of ....?
A:-Kodungallur Kunhikkuttan Thampuran
B:-Kerala Varma Valiyakoyi Thampuran
C:-Kumaran Assan
D:-Ulloor S Parameswara Iyer
Correct Answer:- Option-B
Question4:-The 25th anniversary of the Fall of Berlin Wall was celebrated in ..?
A:-1989 November 9
B:-1961 November 9
C:-2013 November 9
D:-2014 November 9
Correct Answer:- Option-D
Question5:-Who was the Maharaja of Travancore during the Abstention Movement?
A:-Sri Chithira Thirunal
B:-Visakham Thirunal
C:-Sri Moolam Thirunal
D:-Swathi Thirunal
Correct Answer:- Option-A
Question6:-The first European Union country which recognized the state of Palestine?
A:-Germany
B:-Italy
C:-Sweden
D:-England
Correct Answer:- Option-C
Question7:-Duleep Trophy is associated with?
A:-Football
B:-Volleyball
C:-Basketball
D:-Cricket
Correct Answer:- Option-D
Question8:-'Jeevitha Samaram' is the autobiography of....?
A:-TK Madhavan
B:-C Kesavan
C:-K P Kesavamenon
D:-K Kelappan
Correct Answer:- Option-B
Question9:-The first woman High Court Judge in India?
A:-Anna Chandy

## B:-Akkamma Cheriyan

C:-Arya Pallam
D:-AV Kuttimalu Amma
Correct Answer:- Option-A
Question10:-'Rashtriya Ekta Diwas' was observed on 31st October 2014 to commemorate the birth anniversary of ...?
A:-Dadabhai Naoroji
B:-Gopalakrishna Gokhale
C:-Sardar Vallabhbhai Patel
D:-Mahatma Gandhi
Correct Answer:- Option-C
Question11:-The eigen value of the matrix $A=`[[$ costheta,-sintheta],[sintheta,costheta]]` is A:-exp $\pm i \theta / 2$
B:-exp $\pm 2 i \theta$
C: $-\exp \pm 3 i \theta$
D:-exp $\pm i \theta$
Correct Answer:- Option-D
Question12:- The necessary condition for the function $f(Z)$ to be analytic at the point $Z$ is
A: $-\partial \mathrm{U} / \partial \mathrm{y}=\partial \mathrm{V} / \partial \mathrm{x}$ and $\partial \mathrm{U} / \partial \mathrm{x}=\partial \mathrm{V} / \partial \mathrm{y}$
$B:-\partial U / \partial x=\partial V / \partial y$ and $\partial V / \partial x=-\partial U / \partial y$
C:- $\partial \mathrm{U} / \partial \mathrm{x}=\partial \mathrm{U} / \partial \mathrm{y}$ and $\partial \mathrm{V} / \partial \mathrm{x}=-\partial \mathrm{V} / \partial \mathrm{y}$
$D:-\partial U / \partial x=\partial U / \partial y$ and $\partial V / \partial x=-\partial V / \partial y$
Correct Answer:- Option-B
Question13:-The residue of ‘ $z /((z-a)(z-b))$ ' at infinity is
A:-a/b
B:--b/a
C:-1
D:--1
Correct Answer:- Option-D
Question14:- Which one of the following is a tensor of order zero, if $\mathbf{A}$ and $\mathbf{B}$ are vectors?
A:-A + B
B:-A - B
C:-A. B
D:-A $\times \mathbf{B}$
Correct Answer:- Option-C
Question15:- Aij and Bij represent symmetric and anti symmetric real valued tensor respectively in three dimension. The number of independent components of Aij and Bij are

A:-3 and 6
B:- -6 and 3
C:-6 and6
D:-9 and 6
Correct Answer:- Option-B
Question16:-If $F(s)$ is the Laplace transform of $F(t)$ the Laplace transform of $F(a t)$ is
A:- $1 / a^{`} F(s)$
B:- $1 / a^{`} F(s / a)$
C:-F(s)
D:-F(s/a)
Correct Answer:- Option-B
Question17:-The matrix ` $[[0,-1,0],[1,0,0],[0,0,1]]$ ' is
A:-orthogonal
B:-hermitian
C:-anti symmetric
D:-None of the above
Correct Answer:- Option-A
Question18:-If H is Hermitian matrix then $\exp (\mathrm{iH})$ will be
A:-hermitian
B:-anti hermitian
C:-unitary
D:-orthogonal
Correct Answer:- Option-C

Question19:-Orthogonal property of Legender's polynomial is given by
A:-`int_-1^1` $\operatorname{Pm}(x) \operatorname{Pn}(x)=0^{`} m \neq n$
B:- ${ }^{\text {int_-1^1`` }} \operatorname{Pm}(x) \operatorname{Pn}(x)=1^{`} m \neq n$
C:-`int_0^1` $\operatorname{Pm}(x) \operatorname{Pn}(x)=0 ` m \neq n$
D:-`int_0^1``Pm(x)Pn(x)=0`m=n
Correct Answer:- Option-A
Question20:-Find the value of ' ' ' $\mid \sim(5 / 2)^{`}$ i.e gamma (5/2)
A:-` \({ }^{`}(3 \mathrm{sqrt}(\mathrm{pi})) /(4)^{`}\) B:- \({ }^{-}(\)sqrt(pi) \() /(2)^{`}\)
C:-`(15sqrt(pi))/(8) D:-`(sqrt(pi))/(3)`
Correct Answer:- Option-A
Question21:-A particle of mass $m$ is bound by a linear potential $U=k r$. For what energy will the orbit be a circle of radius $r$ about the origin

A:-` \((3 \mathrm{kr}) /(2)^{`}\)
B:-3kr
C:-kr
D:-` \((k r) /(2)^{`}\)
Correct Answer:- Option-A
Question22:-Two circular discs have the same mass $m$ and same thickness $t$. Disc one has uniform density less than that of disc two. Which of the following is correct.

A:-Disc two has larger moment of inertia
B:-Disc one has larger moment of inertia
C:-Both have same moment of inertia
D:-Can not be predicted from given data.
Correct Answer:- Option-B
Question23:-Consider motion of a particle of mass $m$ under the influence of a force $F=-k r$, where $k$ is a positive constant and $r$ is the position vector of the particle. Now the orbit will be

A:-Ellipse
B:-Along a line
C:-Circle
D:-Parabola
Correct Answer:- Option-A
Question24:-A violin string 0.5 m long has a fundamental frequency 200 Hz . At what speed does a transverse pulse travel on this string?

A:-100m/s
B: $-400 \mathrm{~m} / \mathrm{s}$
C: $-200 \mathrm{~m} / \mathrm{s}$
D:-300m/s
Correct Answer:- Option-C
Question25:-Consider the longitudinal vibration of a linear triatomic molecule with two atoms of mass meach symmetrically situated on either sides of an atom of mass $M$. Now which of the following is a normal mode frequency of the system, if we use a spring model

A:-`sqrt(kM)" B:-`sqrt(km)` C:-0 D:-`sqrt(kMm)
Correct Answer:- Option-C
Question26:-Number of generalized coordinates required to describe the motion of a particle of mass $m$ constrained to move on the surface of a sphere of radius $R$ are

A:-3
B:-1
C:-0
D:-2
Correct Answer:- Option-D
Question27:-The Hamiltonian of a particle in a central potential $\mathrm{V}(\mathrm{r})$ is
A:- ${ }^{-}\left(p^{\wedge}(2)\right) /(2 m)^{\wedge}$
B:- ${ }^{\wedge}\left(p^{\wedge}(2)\right) /(2 m)^{\wedge}+V(r)$
C:- ${ }^{\prime}\left(p^{\wedge}(2)\right) /(2 m)^{`}-V(r)$
D:-` \(\left.p^{\wedge}(2)\right) /(2 m)^{`}+`\) gradV \((r)^{`}\)

## Correct Answer:- Option-B

Question28:-Two particles of same mass m are emitted in the same direction with momenta 5 mc and 10 mc respectively(c is the speed of light). As seen from the slower one, what is the speed of the faster particle?

A:-0.595c
B:-0.425c
C:-0.795c
D:-0.85c
Correct Answer:- Option-A
Question29:-Which of the following has positive intrinsic curvature?
A:-Saddle
B:-Plane
C:-Sphere
D:-Cylinder
Correct Answer:- Option-C
Question30:-A particle is constrained to move on a plane, where it is attracted towards a fixed point with force is inversely
proportional to square of the distance from the point. What is the Lagrangian of the particle in polar coordinates?
A: ${ }^{`}\left(\operatorname{mdotr}^{\wedge}(2)+m r^{\wedge}(2)\right.$ dottheta^$\left.(2)\right) /(2)^{`}+`(k) /(r)^{`}$
B:- ${ }^{`}\left(\operatorname{mdotr}{ }^{\wedge}(2)\right) /(2)^{`}+{ }^{`}(k) /(r)^{`}$
C:-` \(\left(m \operatorname{mdotr}^{\wedge}(2)\right) /(2)^{`}-{ }^{-}(k) /(r)^{`}\) D:-`(mdotr^(2))/(2) ${ }^{`}\left(m r^{\wedge}(2)\right.$ dottheta^ $\left.^{\wedge}(2)\right) /(2)^{`}$
Correct Answer:- Option-A
Question31:-The de-Broglie wavelength of an electron accelerated to a potential difference of V volts is
A:-`sqrt((150)/(V))' `dotA ${ }^{\prime} \cdot{ }^{\prime}$
B:- ${ }^{\prime}(h) /\left(\operatorname{sqrt}(2 m E){ }^{\prime}{ }^{\prime} \operatorname{dot} A `\right.$
C:-` \((\mathrm{h}) /(\operatorname{sqrt}(2 \mathrm{mkT}))^{`}{ }^{-} \operatorname{dot} \mathrm{A}^{\prime}\)
D:-`hsqrt((150)/(meV)) \({ }^{\prime \cdots}\) `dotA` Correct Answer:- Option-A Question32:-The electron orbit in a ground state hydrogen atom is in circumference equals to A:-one de-Broglie wave length B:-Two de-Broglie wave length C:-Ten de-Broglie wave length D:-Twelve and half de-Broglie wave length Correct Answer:- Option-A Question33:-In case more than one linearly independent wave functions belong to the same energy E , the level is said to be A:-orthogonal B:-orthonormal C:-degenerate D:-non-degenerate Correct Answer:- Option-C Question34:-The particle confined within the potential well displays A:-discrete series of energy B:-continuous series of energy C:-both continuous and discrete series at time D:-none of the above Correct Answer:- Option-A Question35:-If the uncertainty in momentum \(\Delta^{\prime} p_{-}(x)^{\prime}\) is known, then \(\Delta^{\prime} p_{-}(y)^{\prime}\) will be A:-equal to \(\Delta^{\prime} p_{-}(x)^{\prime}\) B:-3.33x` $10^{\wedge}(-10)^{`} \Delta^{`} p_{-}(x)^{`}$
C:-0.5x`10^(-10) \(\Delta^{`} p_{-}(x)^{`}\) D:-impossible to say Correct Answer:- Option-D Question36:-A golf ball of 46 gm travels at \(30 \mathrm{~m} / \mathrm{s}\). The wave length associated with it is A:-4.8x \(10^{\wedge}(-34)^{\wedge} m\) B: \(-0.48 x^{`} 10^{\wedge}(-34)^{`} m\) C:-4.8x \(10^{\wedge}(-36)^{\wedge} m\) D:-0.048x`10^(-34) $m$
Correct Answer:- Option-A
Question37:-Since electrons has an intrinsic magnetic dipole moment due to its spin, the electron interacts with the external magnetic field and the operator for this moment is `hatmu` is

A:-`(eh)/(4Pi m)` 'hatsigma`

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    B:-`(eh)/(8Pi m)``hatSigma```
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    C:-` \((\mathrm{em}) /\left(4(\mathrm{~h} /(2 \mathrm{Pi}))^{\prime}\right.\) 'hatsigma`
    D:-` \((\mathrm{em}) /\left(2(\mathrm{~h} /(2 \mathrm{Pi}))^{\prime}\right.\) `hatsigma`
    Correct Answer:- Option-A
    Question38:-A wave function is said to be symmetric if the interchange of any pair of particles
A:-changes the sign of $\psi$
B:-does not change the sign of $\psi$
C:-change or does not change $\psi$
D:-none of the above is true
Correct Answer:- Option-B
Question39:-The value of [' $L_{-}(x)^{`}$, ` \(\left.L_{-}(y)^{\prime}\right]\) is A:-i(h/2r) L B:-i(h/2r) \({ }^{\prime}\) _(z) C:-zero D:-- \({ }^{\text {ºn_(z) }}\) Correct Answer:- Option-B Question40:-Find the correct relation A:- \(\mathrm{H} \psi=\mathrm{i}(\mathrm{h} / 2 \pi)^{`}(\mathrm{dPsi}) / d x^{`}\) \(\mathrm{B}:-\mathrm{H} \Psi=\mathrm{i}(\mathrm{h} / 2 \pi)^{`}(\mathrm{dPsi}) / d t{ }^{`}\) \(\left.C:-H \psi=\left(` \cdots{ }^{\prime} h^{\wedge} 2\right) /(8 m)^{`}{ }^{-} d^{\wedge} 2 / d x^{\wedge} 2^{`}+V\right) \psi\)
$D:-H \psi=\left(` p^{\wedge}(2)^{`}+{ }^{\wedge}{ }^{\wedge}(2)^{`}\right) \psi$
Correct Answer:- Option-B
Question41:-If a material has a conductivity of $25 \mathrm{~S} / \mathrm{m}$ and relative permittivity of 80 , then at a frequency of 3 GHz the material will acts as

A:-insulator
B:-conductor
C:-perfect dielectric
D:-none of the above
Correct Answer:- Option-B
Question42:-For normal incidence at an air glass interface with refractive index of 1.5 the fraction of energy reflected is given by

A:-0.40
B:-0.2
C:-0.16
D:-0.04
Correct Answer:- Option-D
Question43:-Which of the following current densities J can generate the magnetic vector potential $\mathbf{A}=\mathrm{y}^{2} \mathbf{i}+\mathrm{x}^{\mathbf{2}} \mathbf{j}$
A:-2(xi+yj)/ $\mu 0$
B:--2(i+ j)/ $\mu 0$
C:--2(i-j)/ $\mu 0$
D:-2(xi-yj)/ $/ 0$
Correct Answer:- Option-B
Question44:- Find out the correct relation between magnetic field $B$ and electric field $E$, if $n$ is the unit vector along the direction of propagation

$$
\begin{aligned}
& \text { A:-B }=(\mathbf{n} \times \mathbf{E}) / \mathrm{C} \\
& \text { B: }-\mathrm{B}=\mathrm{C}(\mathbf{n} \times \mathbf{E}) \\
& \mathrm{C}:-\mathbf{B}=\mathrm{C} /(\mathbf{n} \times \mathbf{E}) \\
& \text { D: }-\mathbf{B}=(\mathbf{E} \times \mathbf{n}) / \mathrm{C} \\
& \text { Correct Answer:- Option-A }
\end{aligned}
$$

Question45:-Neper/meter is the SI unit of
A:-phase constant
B:-attenuation constant
C:-planck's constant
D:-skin depth
Correct Answer:- Option-B
Question46:-A system of $N$ non-interacting classical point particles are constrained to move on the two-dimensional surface of a sphere. The internal energy of the system is


D:-N`k_(B)`T
Correct Answer:- Option-D
Question47:-The isothermal compressibility of an ideal gas at temperature T and volume V is given by
A:-K=-V'((delP)/(delV))_(T)'
B:-K=V`((delP)/(delV))_(T)`
C:-K=`(1)/(V) "`((delV)/(delP))_(T)` D:-K=-`(1)/(V) ` \({ }^{((d e I V) /(d e I P))}\) _(T) Correct Answer:- Option-D Question48:-What is the temperature of an ideal gas of He atoms, if there are \(6{ }^{`} x x^{`}{ }^{`} 10^{\wedge}(22)^{`}\) atoms occupying 2 litres at atmospheric pressure?

A:-341K
B:-241K
C:-300K
D:-273K
Correct Answer:- Option-B
Question49:-Consider a photon gas enclosed in a volume V and in equilibrium at temperature T . What is the chemical potential of this gas?

A:- ${ }^{-}(3) /(2)^{`} k T$
B:-`(3)/(2) ` $(k T) /(V)^{`}$
C:-0
D:-`(1)/(2) \(k T\) Correct Answer:- Option-C Question50:-A white dwarf star is supported against gravity by A:-Electron degeneracy pressure B:-Radiation pressure C:-Thermal pressure D:-Neutron degeneracy pressure Correct Answer:- Option-A Question51:-Anomalous Zeeman effect is exhibited by atoms having A:-zero spin angular momentum B:-non-zero spin angular momentum C:-non -zero orbital angular momentum D:-none of these Correct Answer:- Option-B Question52:-The lande g factor for the 3D1 level of an atom is A:-1/2 B:-3/2 C:-5/2 D:-7/2 Correct Answer:- Option-A Question53:-The ratio of intensity of D1 and D2 line of sodium atom is A:-1:2 B:-2:1 C:-3:2 D:-2:3 Correct Answer:- Option-B Question54:-Identify the molecule whose vibrations are both Raman and IR active A:- \({ }^{-} \mathrm{CO}_{-}(2)^{`}\)
B:-‘CS_(2)
C:- ${ }^{-H}$ _(2) $\mathrm{O}^{`}$
D:-'O_(2)'
Correct Answer:- Option-C
Question55:-The term `\(\left(\mathrm{j} \_(1), \mathrm{j} \_(2)\right)\)` arising from $2 \mathrm{~s} 1,2 \mathrm{p} 1$ electronic configuration in jj coupling scheme is
A:- ${ }^{\prime}{ }^{\prime}(1 / 2,3 / 2) \quad(2,1)^{`} \quad$ ' ${ }^{\prime}(1 / 2,1 / 2) \quad(1,2)^{`}$
B:- ${ }^{\prime}{ }^{\prime}(1 / 2,3 / 2)$ _( 2,1$)^{\prime} \quad$ ' ${ }^{\prime}(1 / 2,1 / 2)_{-}(1,0){ }^{\prime}$
C:- '" $(3 / 2,5 / 2)$ _( 4,3 ) $\quad$ ' ${ }^{\prime}(1 / 2,3 / 2)$ _( 2,1 )
D:- "' $(1 / 2,1 / 2)$ _( 2,1$)^{\prime} \quad$ ' ${ }^{\prime}(3 / 2,1 / 2)$ _( 1,0$)^{`}$
Correct Answer:- Option-B
Question56:-Metallic sodium has a BCC structure. Which of the following lines will be absent in the diffraction pattern

A:-(100)
B:-(200)
C:-(110)
D:-(222)
Correct Answer:- Option-A
Question57:-The reciprocal lattice to a BCC lattice is a lattice of type
A:-Simple cubic
B:-BCC
C:-FCC
D:-none of the above
Correct Answer:- Option-C
Question58:-Hall co-efficient gives an indication of
A:-thermal conductivity
B:-specific heat capacity
C:-carrier concentration
D:-None of the above
Correct Answer:- Option-C
Question59:-If the fermi energy of copper is 7.0 eV , what is the corresponding fermi temperature ?
A:-81.2 K
B:-812 K
C: -8120 K
D:-81200 K
Correct Answer:- Option-D
Question60:- Which of the following is not true for type I super conductor
A:-Exhibit complete Meissner Effect
B:-Perfect diamagnetism below Tc
C:-Also known as soft superconductors
D:-Exhibits a vortex state
Correct Answer:- Option-D
Question61:-Average Binding Energy of a nucleon in the nucleus of an atom is
A:-7.8eV
B: -7.8 KeV
$\mathrm{C}:-7.8 \mathrm{MeV}$
D:-7.8BeV
Correct Answer:- Option-C
Question62:-Weak nuclear forces act on
A:-both hadrons and leptons
B:-hadrons only
C:-all particles
D:-all charged particles
Correct Answer:- Option-A
Question63:-An admissible potential between the proton and neutron in a deutron is
A:-coulomb
B:-harmonic oscillator
C:-finite square well
D:-infinite square well
Correct Answer:- Option-C
Question64:-‘’Half life of a radio active material is 4 days. After 20 days the fraction remaining undecayed will be
A:-1/32
B:-1/20
C:-1/16
D:-1/8
Correct Answer:- Option-A
Question65:-Nuclear fusion requires high temperature because
A:-all nuclear reactions absorb heat
B:-the particles can not come closer unless they are moving rapidly
C:-the B.E. must be supplied from an external source
D:-mass defect must be supplied
Correct Answer:- Option-B

Question66:-The ripple factor in a rectifier circuit indicates
A:-amount of a.c. voltage present in output
B:-amount of d.c. voltage present in output
C:-change in d.c. voltage when input a.c. changes
D:-change in d.c. voltage when load. changes
Correct Answer:- Option-A
Question67:-The cathod of a zener diod in a voltage regulator is normally
A:-more positive than the anode
B:-more negative than the anode
C:-at +0.7 V
D:-grounded
Correct Answer:- Option-A
Question68:-An oscillator differs from an amplifier because
A:-it has more gain
B:-it requres no input signals
C:-it requres no d.c. supply
D:-it always has the same output
Correct Answer:- Option-B
Question69:-If maximum and minimum amplitudes of an amplitude modulated waves are 10 V and 5 V respectively, the modulation index is

A:-2
B:-0.5
C:-3.3
D:-0.33
Correct Answer:- Option-D
Question70:-Thermal runaway is not possible in FET because as the temperature of FET increases
A:-the mobility decreases
B:-the transconductance increases
C:-the drain current increases
D:-none of the above
Correct Answer:- Option-A
Question71:-The dimension of Cantor set is
A:-0
B:-0.631
C:-1.683
D:-1
Correct Answer:- Option-B
Question72:-The fixed points of the Logistic map `x_(n+1)` = a`x_(n)` (1-` \(\left.x_{-}(n){ }^{\prime}\right)\) are \(A:-x=0\) and \(x=1-{ }^{`}(1) /(a)^{\prime}\)
$B:-x=0$ and $x=1 / a$
C: $-x=1$ and $x=1 / a$
D: $-x=1$ and $x=1$ - $^{`}(1) /(a)^{`}$
Correct Answer:- Option-A
Question73:-A stable and unstable fixed point collide each other and vanish as the control parameter is decreased in
A:-Hopf bifurcation
B:-Pitchfork bifurcation
C:-Transcritical bifurcation
D:-Saddle node bifurcation
Correct Answer:- Option-D
Question74:-If $10>$ and $I 1>$ are eigen states of number operator which of these represent a state orthogonal to
`(1)/(sqrt(2))` ( $10>+\mid 1>$ )
A:- ${ }^{`}(1) /(\operatorname{sqrt}(2))^{`}(10>-11>)$
B:-`(1)/(sqrt(2))` ( $10>+\mid 1>)$
C:-|1>
D:-I0>
Correct Answer:- Option-A
Question75:-If In> represent an eigen vector of number operator with eigen value $n$, the state ataataln> has eigen value` `
A:-n
B: $-n+1$

$$
\mathrm{C}:-\mathrm{n}(\mathrm{n}+1)
$$

D:-n-1
Correct Answer:-Question Cancelled
Question76:-Among the following, the fullerene also known as "bucky ball" is
A:-`C_(70) B:- \({ }^{-} C_{-}(60)^{\prime}\) C:- \({ }^{-} C_{-}(76)^{`}\)
D:-`C_(78) Correct Answer:- Option-B Question77:-Which among the following is a quantum dot? A:- \({ }^{`} \mathrm{CdSe}\) ` B:-Ti`O_(2)'
C:-Sn`O_(2) D:-Y`Co_(2)
Correct Answer:- Option-A
Question78:-The temperature of cosmic background radiation is
A:-6K
B:-9.7K
C:-7.3K
D:-2.7K
Correct Answer:- Option-D
Question79:-Name the person who won Nobel prize in physics in 2011 for predicting the accelerating expansion of universe?

## A:-R Feynmann

B:-Eric Drexler
C:-Paul Steinhardt
D:-S Perlmutter
Correct Answer:- Option-D
Question80:-The interaction which changes the flavor of a quark is?
A:-Strong interaction
B:-Electromagnetic interaction
C:-Weak interaction
D:-Gravitational interaction
Correct Answer:- Option-C
Question81:-The SE of the sample mean
A:-decreases in direct proportion to the sample
B:-decreases in inverse proportion to the sample
C:-increases in direct proportion to the sample
D:-does not depend on sample size
Correct Answer:- Option-B
Question82:-In an experimental research, a particular group is subjected to an innovative intervention and studied by way of its effects. Which of the following design will you consider suit the study?

A:-After-only experimental design
B:-Pre-post experimental design
C:-Ex-post facto design
D:-Panel study design
Correct Answer:- Option-B
Question83:-Operational definition of a variable means defining it in a way that
A:-identifies specific behaviour in which it is reflected
B:-makes it possible to understand the variable
C:-makes research methodology clearer to the reader
D:-differentiates it from the other similar variables
Correct Answer:- Option-C
Question84:-Systematic sampling is a type of
A:-purposive sampling
B:-quota sampling
C:-non probability sampling
D:-random sampling
Correct Answer:- Option-D

Question85:-A publication which has significant reproduction of content from a previously published article without proper reference or acknowledgement is

A:-a redundant publication
B:-an original publication
C:-an authentic publication
D:-a manuscript of a publication
Correct Answer:- Option-A
Question86:-Teaching in higher education is mainly for A:-preparing students fit for seeking job B:-lecturing on the information as per syllabus requirements C:-helping students in learning 'how to learn' D:-helping students to prepare for and pass the examination for securing a degree Correct Answer:- Option-C
Question87:-The activities related to a topic done in the form of 'reflective practicum' will help students A:-get experiential learning B:-acquire problem solving skill C:-develop divergent thinking D:-all of the above Correct Answer:- Option-D
Question88:-The most suitable method for learning disabled children is
A:-behaviour guidance method B:-remedial teaching C:-brain storming D:-none of the above Correct Answer:- Option-A
Question89:-'Professional and humane teachers' has been put forth as its prime objective by A:-NCF-2007
B:-NCFTE-2010
C:-NKC-Blue print -2007
D:-UGC VI pay Commission
Correct Answer:- Option-B
Question90:-The propounder of 'meaningful reception learning' is
A:-Bruner
B:-Bloom
C:-Ausubel D:-Skinner Correct Answer:- Option-C
Question91:-Which one of the following type of justice is not mentioned in the Preamble of the Indian Constitution? A:-Political Justice
B:-Social Justice
C:-Economic Justice
D:-None of the above Correct Answer:- Option-D
Question92:-Which is the Fundamental Right omitted from Article 19 of the Constitution by The Constitution (44th
Amendment) Act,1978?
A:-Right to acquire, hold and dispose of property.
B:-Right to freedom of speech and expression.
C:-Right to practice any profession or to carry on any occupation, trade or business.
D:-Right to form associations or unions. Correct Answer:- Option-A
Question93:-What is the quorum to constitute a meeting of either house of the Parliament?
A:-1/5th of the total number of members of the House.
$\mathrm{B}:-1 / 10$ th of the total number of members of the House.
C:-1/3rd of the total number of members of the House.
D:-None of the above Correct Answer:- Option-B
Question94:-What is the ground for declaration of emergency in a State under Article 356 of the Constitution? A:-War.
B:-External aggression.

C:-Failure of constitutional machinery.
D:-Armed rebellion.
Correct Answer:- Option-C
Question95:-The President of India shall be elected by the members of an electoral college consisting of $\qquad$
A:-Elected members of Lok Sabha.
B:-Elected members of both Houses of Parliament.
C:-Elected members of the Legislative Assemblies of the States.
D:-Elected members of both Houses of Parliament and elected members of the Legislative Assemblies of the States. Correct Answer:- Option-D
Question96:-Which is the Court with jurisdiction to decide cases under Protection of Women from Domestic Violence Act, 2005?

A:-Assistant Sessions Judge
B:-Chief Judicial Magistrate
C:-District/Sessions Judge
D:-Judicial First Class Magistrate
Correct Answer:- Option-D
Question97:-Designation of the Presiding Judge in Juvenile Justice Board under Juvenile Justice (Care and Protection of Children) Act, 2006

A:-Judicial First Class Magistrate
B:-Principal Magistrate
C:-Chief Judicial Magistrate
D:-None of the above
Correct Answer:- Option-B
Question98:-Denote the section enlisting the exemption from disclosure of information according to Right to Information Act, 2005

A:-Section 2
B:-Section 5
C:-Section 8
D:-Section 15
Correct Answer:- Option-C
Question99:-Rule making power under Section 6 of Environment (Protection) Act, 1986 is entrusted with
A:-The Central Government
B:-The State Government
C:-The Pollution Control Board
D:-District Authorities
Correct Answer:- Option-A
Question100:-Days of employment ensured by the Mahatma Gandhi National Rural Employment Guarantee Act as per the existing law?

A:-100
B:-120
C:-160
D:-180
Correct Answer:- Option-A

