Computer Based Examination System

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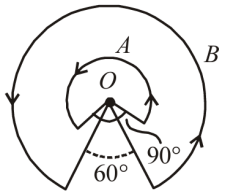
Title *	Question Paper Answer Key
OES Exam *	GPSC07202201 / Assistant Professors in Government College in Physics/ Completed / 2022-11-19

1

Question Description	Avalanche photo diodes are preferred over PIN diodes in optical communication system, because of
A	Higher sensitivity
B	Larger bandwidth
C	Large power handling capacity
D	Speed of perations
E	None of the above
Correct Answer	C
Marks	1

2

Question Description	A random number generator outputs $+1$ and -1 with equal probability every time it is run. After it is run 6 times, what is the probability that the sum of the answers generated is zero? Assume that the individual runs are independent of each other.
A	$\frac{1}{2}$
B	$\frac{5}{6}$
C	$\frac{5}{16}$
D	$\frac{15}{32}$
E	None of the above
Correct Answer	C
Marks	1

3		
	Question Description	A wire A, bent in the shape of an arc of a circle, carrying a current of 2 A and having radius 2 cm and another wire B, also bent in the shape of arc of a circle, carrying a current of 3 A and having radius of 4 cm, are placed as shown in the figure. The ratio of the magnetic fields due to the wires A and B at the common center O is 
	A	2:1
	B	6:4
	C	2:5
	D	6:5
	E	None of the above
	Correct Answer	D
	Marks	1

4		
	Question Description	The Lagrangian for a system is given by $$L=\frac{1}{2}m l^2\dot{\theta}^2-mgl(1-\cos\theta)$$ The Poisson bracket between θ and $\dot{\theta}$ is
	A	$(\theta,\dot{\theta})=1$
	B	$(\theta,\dot{\theta})=\frac{1}{m l^2}$
	C	$(\theta,\dot{\theta})=\frac{g}{l}$
	D	$(\theta,\dot{\theta})=\frac{1}{m}$
	E	None of the above
	Correct Answer	B
	Marks	1

5

Question Description	The normalized wave-function of a particle in three dimensions is given by $$\psi(r,\theta,\phi)=\frac{1}{\sqrt{8\pi a^3}}e^{-r/2a}$$ where $a>0$ is a constant. The ratio of the most probable distance from the origin to the mean distance from the origin, is [You may use $\int_0^\infty x^n e^{-x}dx=n!$]
A	$\frac{1}{3}$
B	$\frac{1}{2}$
C	$\frac{3}{2}$
D	$\frac{2}{3}$
E	None of the above
Correct Answer	D
Marks	1

6

Question Description	One of the solutions of the equation $$(1-x^2)\frac{d^2y}{dx^2}-2x\frac{dy}{dx}+12y=0$$ is (symbols have their usual meanings)
A	$H_4(x)$
B	$P_3(x)$
C	$J_3(x)$
D	$L_4(x)$
E	None of the above
Correct Answer	B
Marks	1

7		
	Question Description	The fixed point of a one dimensional harmonic oscillator obeying the dynamical equation $\ddot{x}+w^2x=0$ is
	A	Unstable spiral
	B	Saddle
	C	Stable spiral
	D	Elliptic
	E	None of the above
	Correct Answer	D
	Marks	1

8

Question Description	Two bodies of mass m and $2m$ are connected by a spring of spring constant k. The frequency of the normal mode is
A	$\sqrt{\frac{3k}{2m}}$
B	$\sqrt{\frac{k}{m}}$
C	$\sqrt{\frac{2k}{3m}}$
D	$\sqrt{\frac{k}{2m}}$
E	None of the above
Correct Answer	A
Marks	1

9

Question Description	If L_x, L_y and L_z are respectively the x, y and z components of angular momentum operator L. The commutator$[L_x L_x, L_z]$ is equal to
A	$i\hbar(L_x^2+L_y^2)$
B	$i\hbar(L_x L_y+L_y L_x)$
C	$i\hbar(L_x^2-L_y^2)$
D	$-i\hbar(L_x L_y+L_y L_x)$
E	None of the above
Correct Answer	D
Marks	1

10

Question Description	A 3×3 matrix M has $Tr(M)=6, Tr(M^2)=26$ and$Tr(M^3)=90$. Which of the following can be a possible set of eigenvalues of M?
A	1, 1, 4
B	-1, 0, 7
C	-1, 3, 4
D	2, 2, 2
E	None of the above
Correct Answer	C
Marks	1

11

Question Description	For a gas under isothermal condition, its pressure P varies with volume V as $P \propto V^{-5/3}$. The bulk modules B is proportional to
A	$V^{-1/2}$
B	$V^{-2/3}$
C	$V^{-3/5}$
D	$V^{-5/3}$
E	None of the above
Correct Answer	D
Marks	1

12

Question Description	The electric flux through any closed surface is measure of
A	The total charge inside the surfrace
B	The total charge outside the surface
C	The total charge at the surface
D	The total charge, both inside and outside the surface
E	None of the above
Correct Answer	A
Marks	1

13

Question Description	The minimum energy of a collection of 6 non-interacting electrons of spin-$\frac{1}{2}$ placed in a one dimensional in finite square well potential of width L is
A	$\frac{14\pi^2\hbar^2}{mL^2}$
B	$\frac{91\pi^2\hbar^2}{mL^2}$
C	$\frac{7\pi^2\hbar^2}{mL^2}$
D	$\frac{3\pi^2\hbar^2}{mL^2}$
E	None of the above
Correct Answer	A
Marks	1

14	**Question Description**	The time period of a charged particle undergoing a circular motion in a uniform magnetic field is independent of its
	A	speed
	B	mass
	C	charge
	D	magnetic induction
	E	None of the above
	Correct Answer	A
	Marks	1

15	**Question Description**	What is the residue of the complex function $f(z)=e^{1/z}$ at $z=0$?
	A	1
	B	0
	C	e^1
	D	Undefined
	E	None of the above
	Correct Answer	A
	Marks	1

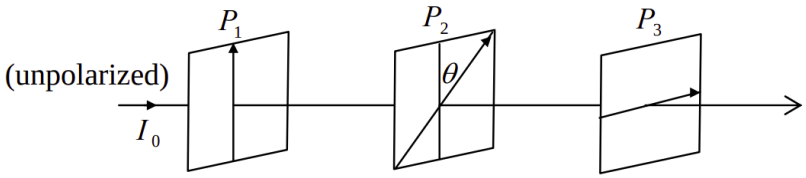
16

Question Description	According to shell model, the ground state spin parity of $^{11}_{5}B^{\square}$ is a) $\frac{3^+}{2}$ b) $\frac{3^-}{2}$ c) $\frac{1^+}{2}$ d) $\frac{1^-}{2}$
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	B
Marks	1

17

Question Description	The characteristic time of strong interactions is about
A	$10^{-43}s$
B	$10^{-2}s$
C	$10^{-10}s$
D	$10^{-23}s$
E	None of the above
Correct Answer	D
Marks	1

18

Question Description	Consider three polarizers P_1, P_2 and P_3 placed along an axis as shown below:  The pass axis of P_1 and P_3 are at right angles to each other while the pass axis of P_2 makes an angle θ with that of P_1. A beam of unpolarized light of intensity I_0 is incident on P_1 as shown. The intensity of light emerging from P_3 is
A	0
B	$\frac{I_0}{2}$
C	$\frac{I_0}{8}\sin^2(2\theta)$
D	$\frac{I_0}{4}\sin^2(2\theta)$
E	None of the above
Correct Answer	C
Marks	1

19

Question Description	A system consists of N weakly interacting subsystems, each with two internal status with energies O & E. The internal energy of the system at absolute temperature T is equal to
A	$\frac{NE}{\exp\left(\frac{E}{KT}\right)+1}$
B	*NE exp(-E/KT)*
C	$\frac{3}{2}NKT$
D	*NE*
E	None of the above
Correct Answer	D
Marks	1

20	**Question Description**	The magnitude of the cross product of two vectors $\overrightarrow{AB}$ and $\overrightarrow{AC}$ is equal to
	A	the area of the triangle.
	B	the area of the parallelogram with adjacent sides AB and AC.
	C	twice the area of the rectangle with adjacent sides AB and AC.
	D	the area of the circle passing through the points A, B and C.
	E	None of the above
	Correct Answer	B
	Marks	1
21	**Question Description**	The integral $\int_{-2}^{2} (2x+3).\delta(3x)dx$ is equal to
	A	-1
	B	0
	C	1
	D	2
	E	None of the above
	Correct Answer	C
	Marks	1

22		
	Question Description	The energy of the first excited state of a particle in the two-dimensional potential $$V(x)=\frac{1}{2}m\omega^2(x^2+4y^2)$$ is
	A	$2\hbar\omega$
	B	$3\hbar\omega$
	C	$\frac{3}{2}\hbar\omega$
	D	$\frac{5}{2}\hbar\omega$
	E	None of the above
	Correct Answer	D
	Marks	1

23

Question Description	An electron is moving with a velocity of $0.85c$ in the same direction as that of a moving photon. The relative velocity of the electron with respect to photon is
A	c
B	$-c$
C	$0.15c$
D	$-0.15c$
E	None of the above
Correct Answer	B
Marks	1

24

Question Description	A system of 3 indistinguishable particles has the total energy 4_{ϵ} . There are four single particle energy states with energy $0, \in, 2 \in \wedge 3 \in$. The number of microstates accessible to the system will be
A	1
B	2
C	3
D	4
E	None of the above
Correct Answer	D
Marks	1

25

Question Description	The dispersion relation for electromagnetic waves travelling in a plasma is given as $$\omega^2 = c^2 k^2 + \omega_p^2 ,$$ where c and ω_p are constants. In this plasma, the group velocity is
A	inversely proportional to the phase velocity.
B	proportional to but not equal to the phase velocity.
C	equal to the phase velocity.
D	a constant.
E	None of the above
Correct Answer	A
Marks	1

26	**Question Description**	Considering the set of vectors $\frac{1}{\sqrt{2}}(1,1,0)$, $\frac{1}{\sqrt{2}}(0,1,1)$ and $\frac{1}{\sqrt{2}}(1,0,1)$, which of the following statements is true?
	A	The three vectors are linearly independent.
	B	The three vectors are orthonormal.
	C	The three vectors cannot form a basis in three-dimensional vector basis.
	D	$\frac{1}{\sqrt{2}}(1,1,0)$ can be written as a linear combination of $\frac{1}{\sqrt{2}}(0,1,1)$ and $\frac{1}{\sqrt{2}}(1,0,1)$.
	E	None of the above
	Correct Answer	A
	Marks	1
27	**Question Description**	The volume of the parallelopiped with edges $\vec{A}=\hat{i}+\hat{j}, \vec{B}=\hat{j}+\vec{k} \wedge \vec{C}=\hat{k}+\hat{i}$ is
	A	8
	B	6
	C	4
	D	2
	E	None of the above
	Correct Answer	D
	Marks	1

28

Question Description	Which of the following operators is Hermitian?
A	$\frac{d}{dx}$
B	$\frac{d^2}{dx^2}$
C	$i\frac{d^2}{dx^2}$
D	$\frac{d^3}{dx^3}$
E	None of the above
Correct Answer	B
Marks	1

29

Question Description	Given that $\sum_{n=0}^{\infty} H_n(x)\frac{t^n}{n!}=e^{-t^2+2tx}$, the value of $H_4(0)$ is
A	-6
B	6
C	12
D	24
E	None of the above
Correct Answer	C
Marks	1

30

Question Description	Which of the following is a universal gate?
A	OR gate
B	AND gate
C	NOT gate
D	NAND gate
E	None of the above
Correct Answer	D
Marks	1

31

Question Description	The ratio of the second-neighbor distance to the nearest-neighbor distance in an *fcc* lattice is
A	$\sqrt{2}$
B	$\sqrt{3}$
C	$2\sqrt{2}$
D	2
E	None of the above
Correct Answer	A
Marks	1

32

Question Description	Four fold degeneracy in the excited state (n=2) in hydrogen atom can be partially removed by
A	Application of weak electric field
B	By supplying heat energy to the atom
C	By accelerating the atom in a particle acceleration
D	By applying gravitational field
E	None of the above
Correct Answer	A
Marks	1

33		
	Question Description	Franck-codon principle predicts large intensity spectral line for electronic transitions
	A	In monoatomic gases
	B	Between the vibrational energy levels of any electronic state
	C	Between vibrational levels of two electronic state at a constant inter-nuclear separation
	D	Between the v=0 vibrational levels two electronic states
	E	None of the above
	Correct Answer	C
	Marks	1

34		
	Question Description	In a central force field, the trajectory of a particle of mass m and angular momentum L in plane polar coordinates is given by $$\frac{1}{r}=\frac{m}{l^2}(1+\varepsilon\cos\theta)$$ where, ε is the eccentricity of the particle's motion. Which one of the following choice for ε gives rise to a parabolic trajectory?
	A	$\varepsilon=0$
	B	$\varepsilon=1$
	C	$0<\varepsilon<1$
	D	$\varepsilon>1$
	E	None of the above
	Correct Answer	B
	Marks	1

35

Question Description	A satellite is moving in a circular orbit around the Earth. If T , V and E are its average kinetic, average potential and total energies, respectively, then which one of the following options is correct?
A	$V=-2T;E=-T$
B	$V=-T;E=0$
C	$V=\frac{-T}{2};E=\frac{T}{2}$
D	$V=\frac{-3T}{2};E=\frac{-T}{2}$
E	None of the above
Correct Answer	A
Marks	1

36

Question Description	The free energy of the gas of N particles in a volume V and at a temperature T is $$F = N k_B T \ln\left[\frac{a_0 V (k_B T)^{5/2}}{N}\right],$$ where a_0 is a constant and k_B denotes the Boltzmann constant. The internal energy of the gas is
A	$\frac{3}{2} N k_B T$
B	$\frac{-5}{2} N k_B T$
C	$N k_B T \ln\left[\frac{a_0 V (k_B T)^{5/2}}{N}\right] \frac{-3}{2} N k_B T$
D	$N k_B T \ln\left[a_0 V (k_B T)^{5/2}\right]$
E	None of the above
Correct Answer	B
Marks	1

37

Question Description	A particle is moving under the action of a generalized potential $V=\frac{1+\dot{q}}{q^2}$. The magnitude of the generalized force is
A	$\frac{2}{q^3}(1-\dot{q})$
B	$\frac{2}{q^3}$
C	$\frac{2}{q^3}(1+\dot{q})$
D	$\frac{\dot{q}}{q^3}$
E	None of the above
Correct Answer	B
Marks	1

38

Question Description	A closed system having three non-degenerate energy levels with energies $E=0,\pm\varepsilon$ is at temperature T . For $\varepsilon=2k_BT$, the probability of finding the system in the state with energy E = 0, is
A	$\frac{1}{1+2\cosh(2)}$
B	$\frac{1}{2\cosh(2)}$
C	$\frac{1}{1-\cosh(2)}$
D	$\frac{1}{\cosh(2)}$
E	None of the above
Correct Answer	A
Marks	1

39

Question Description	The electric field of an electromagnetic wave is given by $\vec{E}=E_0\cos[\pi(0.3x+0.4y-1000t)]\hat{k}$ The associated magnetic field $\vec{B}$ is
A	$10^{-3}E_0\cos[\pi(0.3x+0.4y-1000t)]\hat{k}$
B	$10^{-3}E_0\cos[\pi(0.3x+0.4y-1000t)](3\hat{i}+4\hat{j})$
C	$10^{-4}E_0\cos[\pi(0.3x+0.4y-1000t)](4\hat{i}-3\hat{j})$
D	$10^{2}E_0\cos[\pi(0.3x+0.4y-1000t)](0.3\hat{i}+0.4\hat{j})$
E	None of the above
Correct Answer	C
Marks	1

40

Question Description	The solution of the Boolean equation $Y=\overline{A+B}+\overline{A.B}$ is
A	1
B	$\overline{A.B}$
C	$\overline{A}+B$
D	$\overline{A.B}$
E	None of the above
Correct Answer	B
Marks	1

41

Question Description	The maximum number of I/O ports that can be interfaced to intel 8085 microprocessor is
A	2
B	8
C	64
D	256
E	None of the above
Correct Answer	B
Marks	1

42		
	Question Description	The electric field $\vec{E}$ and the magnetic field $\vec{B}$ corresponding to the scalar and vector potentials, $\varphi(x,y,z,t)=0$ and $\vec{A}(x,y,z,t)=\frac{1}{2}\mu_0 A_0(ct-x)\hat{k}$, where μ_0 and A_0 are constants, are
	A	$\vec{E}=0$ and $\vec{B}=\frac{1}{2}\mu_0 A_0\hat{j}$
	B	$\vec{E}=0$ and $\vec{B}=\frac{-1}{2}\mu_0 A_0\hat{i}$
	C	$\vec{E}=\frac{1}{2}\mu_0 A_0 c\hat{k}$ and $\vec{B}=\frac{-1}{2}\mu_0 A_0\hat{i}$
	D	$\vec{E}=\frac{-1}{2}\mu_0 A_0 c\hat{k}$ and $\vec{B}=\frac{1}{2}\mu_0 A_0\hat{j}$
	E	None of the above
	Correct Answer	D
	Marks	1

43		
	Question Description	Consider a Maxwellian distribution of the velocity of the molecules of an ideal gas. Let, V_{mp} and V_{rms} denote the most probable velocity and the root mean square velocity respectively. The magnitude of the ratio $\frac{V_{mp}}{V_{rms}}$ is
	A	1
	B	$\sqrt{2/3}$
	C	2/3
	D	$\sqrt{3/2}$
	E	None of the above
	Correct Answer	B
	Marks	1

44		
	Question Description	If $z=x+iy$, then the imaginary part of the $\cos(z)$ is
	A	$\sin(x).\sinh(y)$
	B	$\cos(x).\cosh(y)$
	C	$-\cos(x).\cosh(y)$
	D	$-\sin(x).\sinh(y)$
	E	None of the above
	Correct Answer	D
	Marks	1

45

Question Description	The physical quantity that has the same dimension as the action S in Hamitton’s principle is
A	Linear momentum
B	Energy
C	Orbital angular momentum
D	Torque
E	None of the above
Correct Answer	D
Marks	1

46

Question Description	The relation between the speed of light, permeability and permittivity in free space is
A	$c=\mu_0\varepsilon_0$
B	$c=\frac{\mu_0}{\varepsilon_0}$
C	$c=\frac{1}{\sqrt{\mu_0\varepsilon_0}}$
D	$c=\frac{1}{\mu_0\varepsilon_0}$
E	None of the above
Correct Answer	C
Marks	1

47

Question Description	Volume of a sphere is V_0 in its rest frame. Its volume V in an inertial from moving with a speed c/2 along X-axis relative to rest frame is
A	$V<V_0$
B	$V=V_0$
C	$V=2V_0$
D	$V\to\infty$
E	None of the above
Correct Answer	A
Marks	1

48

Question Description	A particle in a spherically symmetric potential is known to be in an eigenstate of L^2 and L_z with eigenvalues $l(l+1)\hbar^2$ and $m\hbar$, respectively. What is the value of $\langle l,m\vert L_x^2\vert l,m\rangle$?
A	$\frac{\hbar^2}{2}(l^2+l+m^2)$
B	$\hbar^2(l^2+l+m^2)$
C	$\frac{\hbar^2}{2}(l^2+l-m^2)$
D	$\hbar^2(l^2+l-m^2)$
E	None of the above
Correct Answer	C
Marks	1

49

Question Description	The eigen values of a 5 X 5 matrix B are 2,1,0,-1,-2. The determinant of e^B is
A	e
B	$\frac{1}{e}$
C	1
D	0
E	None of the above
Correct Answer	C
Marks	1

50

Question Description	The product of the uncertainties $\Delta x \wedge \Delta P_x$ for ground state of a one dimensional simple harmonic oscillator satisfies
A	$\Delta x \Delta Px > \frac{\hbar}{2}$
B	$\Delta x \Delta P_x = \frac{\hbar}{2}$
C	$\Delta x \Delta Px < \frac{\hbar}{2}$
D	$\Delta x \Delta Px = 0$
E	None of the above
Correct Answer	C
Marks	1

51

Comprehension	With the disappearance of a language, it is not only a human creation that dies, but also a form of expressing a relationship with nature, an oral tradition, poetry and ultimately a culture, thereby contributing to global impoverishment of humanity. It is for these reasons that states, regions, society and civil as well as cultural organizations are seeking to adopt measures conducive to the preservation of languages. These languages constitute a priceless heritage, playing a central role in the preservation of the identity of numerous communities threatened on some continents, as well as being indispensable factors in ensuring cultural diversity. A number of warnings by linguists and other social scientists as well as international organizations have come to underline with growing intensity the crucial factor of languages and mother tongues in the development of human creativity, of the capacity to communicate, and above all, its primary role in evolving cultural identities.
Question Description	Identify from the options given below, the synonym of the phrase “global impoverishment”
A	universal depletion
B	poverty of the earth
C	local enrichment
D	poverty in the world
E	None of the above
Correct Answer	A
Marks	1

52

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Question Description	From the options provided below, select the one that is closest in meaning to the phrase “with growing intensity the crucial factor” as implied in the passage.
A	with increasing vigour the pivotal part
B	with increasing anxiety the unique part
C	with intense worry the significant role
D	with excessive concern the important role
E	None of the above
Correct Answer	C
Marks	1

53

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Question Description	Identify the word from the passage that is farthest in meaning to “central” as implied in the passage
A	peripheral
B	indispensable
C	pivotal
D	intense
E	None of the above
Correct Answer	A
Marks	1

54

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Question Description	As per the passage, evolving cultural identity is the prime contribution to human society made by
A	oral tradition
B	language and mother tongue
C	process of communication
D	development of human creativity
E	None of the above
Correct Answer	B
Marks	1

55

Comprehension	With the disappearance of a language, it is not only a human creation that dies, but also a form of expressing a relationship with nature, an oral tradition, poetry and ultimately a culture, thereby contributing to global impoverishment of humanity. It is for these reasons that states, regions, society and civil as well as cultural organizations are seeking to adopt measures conducive to the preservation of languages. These languages constitute a priceless heritage, playing a central role in the preservation of the identity of numerous communities threatened on some continents, as well as being indispensable factors in ensuring cultural diversity. A number of warnings by linguists and other social scientists as well as international organizations have come to underline with growing intensity the crucial factor of languages and mother tongues in the development of human creativity, of the capacity to communicate, and above all, its primary role in evolving cultural identities.
Question Description	The human society gets culturally impoverished when
A	the relationship with nature is hindered
B	human creation is undermined
C	oral tradition is lost
D	when a language disappears
E	None of the above
Correct Answer	D
Marks	1

56		
	Question Description	Which IT company and the Indian government will collaborate on a programme to educate its digital toolkit?
	A	Apple
	B	Dell
	C	Microsoft
	D	Wipro
	E	None of the above
	Correct Answer	C
	Marks	1

57		
	Question Description	Which state/UT released the 'SAMRIDDHI', a one-time property tax amnesty scheme?
	A	Gujarat
	B	Jammu and Kashmir
	C	Andhra Pradesh
	D	New Delhi
	E	None of the above
	Correct Answer	D
	Marks	1

58		
	Question Description	Asia's Largest Compressed Biogas Plant has been inaugurated in which state?
	A	Punjab
	B	Haryana
	C	Gujarat
	D	Madhya Pradesh
	E	None of the above
	Correct Answer	A
	Marks	1

59		
	Question Description	Who has launched a special WhatsApp helpline number for pregnant women?
	A	WCD
	B	NCW
	C	MHA
	D	MoHFW
	E	None of the above
	Correct Answer	B
	Marks	1

60	**Question Description**	Which education board has launched the mobile application "Dost for Life"?
	A	ICSE Board
	B	CBSE Board
	C	Open Board
	D	All of above
	E	None of the above
	Correct Answer	B
	Marks	1

61	**Question Description**	Durgavati Tiger Reserve, which was notified recently, is located in which state/UT?
	A	Andhra Pradesh
	B	West Bengal
	C	Maharashtra
	D	Madhya Pradesh
	E	None of the above
	Correct Answer	D
	Marks	1

62		
	Question Description	Which country and the Indian Air Force are participating in "Garuda VI," a bilateral exercise?
	A	Australia
	B	Sri Lanka
	C	France
	D	Japan
	E	None of the above
	Correct Answer	C
	Marks	1

63		
	Question Description	Where was India's Second National Model Vedic School inaugurated recently?
	A	Dwarka
	B	Puri
	C	Badrinath
	D	Guwahati
	E	None of the above
	Correct Answer	B
	Marks	1

64

Question Description	What is the theme for the International Day of the Girl Child 2022?
A	Courage and perseverance
B	Good vs. Evil
C	Redemption
D	Our time is now-our rights, our future
E	None of the above
Correct Answer	D
Marks	1

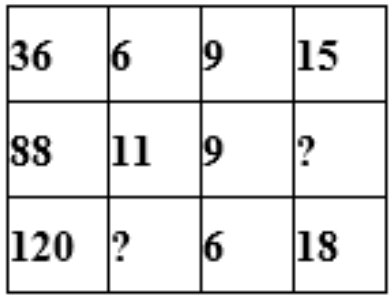
65

Question Description	How many satellites have been placed into orbit by ISRO's heaviest rocket LVM3 M2?
A	31
B	36
C	35
D	32
E	None of the above
Correct Answer	B
Marks	1

66

Question Description	A wheel that has 6 cogs is meshed with a larger wheel of 14 cogs. When the smaller wheel has made 21 revolutions, then the number of revolutions mad by the larger wheel is:
A	4
B	9
C	12
D	49
E	None of the above
Correct Answer	B
Marks	1

67		
	Question Description	choose which pair of numbers comes next. 17 32 19 29 21 26 23
	A	25 25
	B	20 22
	C	23 25
	D	25 22
	E	None of the above
	Correct Answer	C
	Marks	1

68		
	Question Description	Find the missing Numbers 
	A	54,41

B	17,82
C	17,10
D	96,13
E	None of the above
Correct Answer	C
Marks	1

69

Question Description	Each question given below consists of a statement, followed by three or four arguments numbered I, II, III and IV. You have to decide which of the arguments is/are 'strong' arguments) and which is/are 'weak' arguments) and accordingly choose your answer from the alternatives given below each question. **Statement:** Should trade unions be banned completely? **Arguments:** I. Yes. Workers can concentrate on production. II. No. This is the only way through which employees can put their demands before the management. III. Yes. Employees get their illegal demands fulfilled through these unions. IV. No. Trade unions are not banned in other economically advanced countries.
A	Only I is strong
B	Only II is strong
C	Only I and II are strong
D	Only I, II and III are strong
E	None of the above
Correct Answer	B
Marks	1

70

Question Description	**There is a certain relationship between two given pair on both side of '::' . One word is given on another side of '::' while another word is to be found from the given options, having the same relation with this word as the words of the given pair . Choose the correct word from the following options.** **Tectonics : Building : : Taxidermy : ?**
A	Classification
B	Conserving
C	Stuffing
D	Collecting
E	None of the above
Correct Answer	C
Marks	1

71	**Question Description**	A train 800 metres long is running at a speed of 78 km/hr. If it crosses a tunnel in 1 minute, then the length of the tunnel (in meters) is:
	A	130
	B	360
	C	500
	D	540
	E	None of the above
	Correct Answer	C
	Marks	1

72	**Question Description**	Four of the following five are related to each other in terms of English alphabet series and thus form a group. Which of the following does not fit to that group?
	A	FUX
	B	PKN
	C	HSV
	D	MNP
	E	None of the above
	Correct Answer	D
	Marks	1

73

Question Description	How many such pairs of letters are there in the 'CONDITIONAL' each of which has as many letters between them in the word as in the English Alphabet?
A	One
B	Two
C	Three
D	Four
E	None of the above
Correct Answer	E
Marks	1

74

Question Description	**There is a certain relationship between two given pair on both side of '::' . One word is given on another side of '::' while another word is to be found from the given options, having the same relation with this word as the words of the given pair . Choose the correct word from the following options.** **taxonomy : Classification : : Pedology : ?**
A	Nature
B	Farming
C	Soil
D	Mountain
E	None of the above
Correct Answer	C
Marks	1

75

Question Description	Choose the pair that best represents a similar relationship to the one expressed in the original pair of words. PASTORAL : RURAL
A	metropolitan : urban
B	harvest : autumn
C	agrarian : benevolent
D	sleepy : nocturnal
E	None of the above
Correct Answer	A
Marks	1