Computer Based Examination System

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Title *	Question Paper Answer Key
OES Exam *	GPSC10202404 / Lecturer in Physics / Completed / 2025-03-01

1

Question Description	Two masses $m_1 = 200g$ and $m_2 = 400g$ are attached to the two ends of a massless spring with force constant $K = 0.5N/m$. The system oscillates in simple harmonic motion. Find the natural angular frequency f of oscillation in Hz. (A) 0.205 Hz (B) 0.256 Hz (C) 0.289 Hz (D) 0.308 Hz
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	D
Marks	1

2

Question Description	A radioactive element X has a half-life of 45 hours. It decays via alpha, beta and gamma emissions with the branching ratio for beta decay being 0.75. The partial half-life for beta decay in unit of hours is _____
A	25
B	40
C	50
D	60
E	None of the above
Correct Answer	D
Marks	1

3

Question Description	The total electric flux through a cubical box of side 2 cm, enclosing an electric dipole will be? a) zero b) $\frac{3q}{\varepsilon_0}$ c) $\frac{2q}{\varepsilon_0}$ d) $\frac{q}{\varepsilon_0}$
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	A
Marks	1

4

Question Description	The atomic masses of $^{152}_{63}Eu$, $^{152}_{62}Sm$, $^{1}_{1}H$, and neutron are 151 .921749, 151.919756 1.007825 and 1.008665 in atomic mass units (amu), respectively. Using the above information, the Q - value of the reaction $^{152}_{63}Eu + n \rightarrow ^{152}_{62}Sm + \text{p}$ is _____ $\times 10^{-3}$amu (A) 2.534 (B) 2.833 (C) 1.534 (D) 1.833
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	B
Marks	1

5

Question Description	A bead of mass m is constrained to move without friction on a circular wire of radius R, which rotates with a constant angular velocity ω about the vertical axis. The position of the bead is described by the angle θ, measured from the lowest point of the circle. The Lagrangian of the system is given by: $$L = \frac{1}{2}mR^2\left(\dot{\theta}^2 + \omega^2 sin^2\theta\right) - mgR\cos\theta$$ The Hamiltonian of the system is: (A) $H = \frac{{p_\theta}^2}{2mR^2} + mgR\cos\theta - \frac{1}{2}mR^2\omega^2 sin^2\theta$ (B) $H = \frac{{p_\theta}^2}{2mR^2} + mgR\cos\theta + \frac{1}{2}mR^2\omega^2 sin^2\theta$ (C) $H = \frac{{p_\theta}^2}{2mR^2} - mgR\cos\theta - \frac{1}{2}mR^2\omega^2 sin^2\theta$ (D) $H = \frac{{p_\theta}^2}{2mR^2} - mgR\cos\theta + \frac{1}{2}mR^2\omega^2 sin^2\theta$
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	A
Marks	1

6

Question Description	For simple cubic structure the ratio of lattice interplanar spacing of 111, 101 and 001 is? a) $\sqrt{2}$: $\sqrt{3}$: $\sqrt{6}$ b) $\sqrt{6}$: $\sqrt{3}$: $\sqrt{2}$ c) 3: 2: 1 d) $\sqrt{3}$: $\sqrt{2}$: $\sqrt{1}$
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	A
Marks	1

7		
	Question Description	Consider a transformation from one set of generalized coordinate and momentum (,q p) to another set (Q, P) denoted by, $$Q = pq^s; P = q^r$$ where s and r are constants. The transformation is canonical if (A) $s = 0$ and $r = 1$ (B) $s = 2$ and $r = 1$ (C) $s = 0$ and $r = -1$ (D) $s = 2$ and $r = -1$
	A	A
	B	B
	C	C
	D	D
	E	None of the above
	Correct Answer	D
	Marks	1

8

Question Description	The inverse Laplace transforms of $\frac{1}{s^2(s+1)}$ is a) $\frac{1}{2}t^2e^{-t}$ b) $\frac{1}{2}t^2+1-e^{-t}$ c) $t-1+e^{-t}$ d) $\frac{1}{2}t^2(1-e^{-t})$
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	C
Marks	1

9

Question Description	Given a magnetic vector potential: $\vec{A}(x,y,z) = -\frac{1}{2}(y\hat{i} - x\hat{j}).B_0$, where B_0 is a constant, then the magnetic induction produced is? a) $B_0\hat{k}$ b) $B_0\hat{i}$ c) $B_0\hat{j}$ d) $\frac{B_0xy}{x^2+y^2}.\hat{k}$
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	A
Marks	1

10

Question Description	The solutions to the differential equation $\frac{dy}{dx} = -\frac{x}{y+1}$ are a family of a) Circles with different radii b) Circles with different centres c) Straight lines with different slopes d) Straight lines with different intercepts on the y-axis
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	A
Marks	1

11

Question Description	Two particles each of the rest mass m collide head-on and stick together. Before collision, the speed of each mass was 0.6 times the speed of light in free space. The mass of the final entity is (A) $5m/4$ (B) $2m$ (C) $5m/2$ (D) $25m/8$
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	C
Marks	1

12

Question Description	The Curtis turbine belongs to which category of steam turbines?
A	velocity compounded turbine
B	reaction turbine
C	pressure compounded turbine
D	radial flow turbine
E	None of the above
Correct Answer	A
Marks	1

13

Question Description	A spaceship of proper length L_0 moves with speed $\frac{4}{5}c$ along the x-axis in the S-frame, where c is the speed of light in free space. The observer is also moving along the x-axis with speed $\frac{3}{5}c$ with respect to the S-frame. The length of the spaceship as measured by the observer is (A) $\frac{9}{13}L_0$ (B) $\frac{7}{13}L_0$ (C) $\frac{12}{13}L_0$ (D) $\frac{5}{13}L_0$
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	C
Marks	1

14

Question Description	A capacitor of 10 μF is connected in series with a resistor of 1 kΩ. What is the time constant of the circuit? (A) 1 ms (B) 10 ns (C) 100 ms (D) 1s
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	B
Marks	1

15

Question Description	The crank radius of a single-cylinder I.C. engine is 70 mm and the diameter of the cylinder is 90 mm. The swept volume of the cylinder in cm^3 is
A	480
B	960
C	302
D	890
E	None of the above
Correct Answer	D
Marks	1

16

Question Description	The non-existence of magnetic monopole is a consequence of? a) $\vec{\nabla} + \vec{J} + \frac{\partial \rho}{\partial t} = 0$ b) $\vec{\nabla}.\vec{B} = 0$ c) $\vec{\nabla} \times \vec{E} = \frac{-\partial \vec{B}}{\partial t}$ d) $\vec{\nabla} \times \vec{E} = \frac{\rho}{\varepsilon_0}$
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	B
Marks	1

17		
	Question Description	A parallel plate capacitor has a uniform electric field E in the space between the plates. If the distance between the plates is d and area of each plate is A, the energy stored in the capacitor is? a) $\frac{1}{2}\varepsilon_0 EAd$ b) $\frac{1}{2}\frac{\varepsilon_0 EA}{d}$ c) $\frac{1}{2}\varepsilon_0 E^2 Ad$ d) $\frac{1}{2}\frac{\varepsilon_0 E^2 A}{d}$
	A	a
	B	b
	C	c
	D	d
	E	None of the above
	Correct Answer	C
	Marks	1

18

Question Description	A dielectric medium ($\epsilon = 4$) is placed in a time varying electric field $E = 100 \sin(2000 \pi t)$ volt/m, then the displacement current density of the medium will be? a) 11.1×10^{-6} Amp/m^2 b) zero c) 22.2×10^{-6} Amp/m^2 d) 44.6×10^{-6} Amp/m^2
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	C
Marks	1

19

Question Description	Given that the ground state energy of the hydrogen atom is –13.6 eV, the ground state energy of positronium (which is a bound state of an electron and a positron) is
A	(A) +6.8 eV
B	(B) -6.8 eV
C	(C) -13.6 eV
D	(D) -27.2 eV
E	None of the above
Correct Answer	B
Marks	1

20

Question Description	If the energy requires to remove pair of ion Na^{+} and Cl^{-} is about 1.5 eV in NaCl. Then the approximate number of Schottky imperfection present at room temperature in one mole is?
A	9.35×10^{16}
B	9.35×10^{14}
C	5.63×10^{9}
D	5.63×10^{10}
E	None of the above
Correct Answer	D
Marks	1

21		
	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) $\frac{d^3}{dx^3}$
	A	A
	B	B
	C	C
	D	D
	E	None of the above
	Correct Answer	B
	Marks	1

22

Question Description	Which one of the following conservation laws is violated in the decay $\tau^+ \to \mu^+\mu^+\mu^-$ (A) Angular momentum (B) Total lepton number (C) Electric charge (D) Tau number
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	D
Marks	1

23

Question Description	The contents of a well-insulated tank are heated by a resistor of 50Ω through which 5 A current is flowing. Consider the tank along with its contents as a thermodynamic system. The work done by the system and the heat transfer to the system are positive. The rates of heat (Q), work (W) and change in internal energy (ΔU) during the process in kW are (A) Q = 0, W =- 1.25, ΔU =+ 1.25 (B) Q =+ 1.25, W = 0, ΔU + 1.25 (C) Q =- 2.3, W = 0, ΔU =- 2.3 (D) Q = 0, W =+ 2.3, ΔU =0
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	A
Marks	1

24

Question Description	The direction of $\overrightarrow{\nabla f}$ for a scalar field $f(x,y,z) = \frac{1}{2}x^2 - xy + \frac{1}{2}z^2$ at the point $P(1,1,2)$ is? **a)** $\frac{(-\hat{j}-2\hat{k})}{\sqrt{5}}$ **b)** $\frac{(-\hat{j}+2\hat{k})}{\sqrt{5}}$ **c)** $\frac{(3\hat{j}-2\hat{k})}{\sqrt{6}}$ **d)** $\frac{(3\hat{j}+2\hat{k})}{\sqrt{6}}$
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	B
Marks	1

25

Question Description	A single-acting two-stage compressor with complete intercooling delivers air at a final presuure 25 bar. Assuming an intake state of 1 bar at 20^0C, what is the optimal pressure ratio per stage is to minimize the work of compression?
A	16
B	5
C	25
D	2.5
E	None of the above
Correct Answer	B
Marks	1

26

Question Description	A silicon crystal doped with phosphorus atoms. (The binding energy of a H-atom is13.6 eV, the dielectric constant of silicon is 12 and the effective mass of electrons in the crystal is 0.4me). The gap between the donor energy level and the bottom of the conduction band is nearest to
A	0.01 eV
B	0.08 eV
C	0.02 eV
D	0.04eV
E	None of the above
Correct Answer	D
Marks	1

27

Question Description	3 moles of nitrogen are mixed adiabatically with another 3 moles of nitrogen in mixing chamber, so that the final total pressure and temperature of the mixture become same as those of the individual constituents at their initial states. The universal gas constant is given as R. The change in entropy due to mixing, per mole of oxygen, is given by
A	- R ln2
B	R ln2
C	0
D	R ln4
E	None of the above
Correct Answer	C
Marks	1

28

Question Description	The element of a 3×3 matrix A are the products if its row and column indices $A_{ij} = ij$ (where $i,j = 1,2,3$). The eigenvalues of A are? a) (7,7,0) b) (7,4,3) c) (14,0,0) d) (14,14,0)
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	C
Marks	1

29

Question Description	The number density of a free electron gas in 3-D increases by 27 times then its Fermi temperature will be?
A	increase by a factor 3
B	increase by a factor 9
C	decrease by a factor 9
D	decrease by a factor 9
E	None of the above
Correct Answer	B
Marks	1

30

Question Description	The scattering of particles by a potential can be analyzed by Born approximation. In particular, if the scattered wave is replaced by an appropriate plane wave, the corresponding Born approximation is known as the first Born approximation. Such an approximation is valid for
A	large incident energies and weak scattering potentials.
B	large incident energies and strong scattering potentials.
C	small incident energies and weak scattering potentials.
D	small incident energies and strong scattering potentials.
E	None of the above
Correct Answer	A
Marks	1

31

Question Description	The logic expression $\bar{A}BC + \bar{A}\bar{B}C + AB\bar{C} + A\bar{B}\bar{C}$ can be simplified to (A) A XOR C (B) A AND C (C) 0 (D) 1
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	A
Marks	1

32

Question Description	The quantum mechanical operator for the momentum of a particle moving in one dimension is given by (A) $i\hbar \frac{d}{dx}$ (B) $-i\hbar \frac{d}{dx}$ (C) $i\hbar \frac{\partial}{\partial t}$ (D) $-\frac{\hbar^2}{2m}\frac{d^2}{dx^2}$
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	C
Marks	1

33

Question Description	Of the following term symbols of the np^2 atomic configurations, $^1S_0$, $^3P_0$, $^3P_1$, $^3P_2$ and $^1D_2$ which is the ground state? (A) $^3P_0$ (B) $^1S_0$ (C) $^3P_1$ (D) $^3P_2$
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	A
Marks	1

34

Question Description	A metal rod at a high temperature is placed in thermal contact with a large body of water at room temperature. Which of the following statements is true regarding the entropy change of the universe during this process?
A	The entropy change of the universe is equal to the entropy change of the metal rod.
B	The entropy change of the universe is equal to the entropy change of the water.
C	The entropy change of the universe is zero.
D	The entropy change of the universe is positive.
E	None of the above
Correct Answer	D
Marks	1

35

Question Description	Consider a one-dimensional potential well of width 3nm. Using the uncertainty principle, an estimate of the minimum depth of the well such that it has at least one bound state for an electron is: (A) $1\mu eV$ (B) $1meV$ (C) $1eV$ (D) $1MeV$
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	B
Marks	1

36		
	Question Description	The value of the Lande g-factor for a fine-structure level defined by the quantum number L=1, J=2 and S=1, is
	A	11/6
	B	4/3
	C	8/3
	D	3/2
	E	None of the above
	Correct Answer	D
	Marks	1

37		
	Question Description	Which one of the following is fermions'?
	A	A-particle
	B	$_4Be^7$
	C	Hydrogen atom
	D	Deuteron
	E	None of the above
	Correct Answer	B
	Marks	1

38

Question Description	Which of the following statements is CORRECT for a common emitter amplifier circuit?
A	The output is taken from the emitter
B	There is 180^{o} phase shift between input and output voltages
C	There is no phase shift between input and output voltages
D	Both p-n junctions are forward biased
E	None of the above
Correct Answer	B
Marks	1

39

Question Description	A Ge semiconductor is doped with acceptor impurity concentration of 10^{15} atoms/cm^3. For the given hole mobility of 1800 cm^2 /V-s, the resistivity of the material is (A) 0.288 Ωcm (B) 0.694 Ωcm (C) 3.472 Ωcm (D) 6.944 Ωcm
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	C
Marks	1

40

Question Description	The nuclear spin and parity of $^{40}_{20}Ca$ in its ground state is: (A) 0^+ (B) 0^- (C) 1^+ (D) 1^-
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	A
Marks	1

41

Question Description	In a 4-bit binary counter, what is the maximum count it can represent?
A	8
B	15
C	16
D	31
E	None of the above
Correct Answer	B
Marks	1

42

Question Description	The value of the integral $\oint \frac{z^3 dz}{(z^2-5z+6)}$, where C is a closed contour defined by the equation $2\|z\| - 5 = 0$, traversed in the anti-clockwise direction, is a) $-16\pi i$ b) $16\pi i$ c) $8\pi i$ d) $2\pi i$
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	A
Marks	1

43

Question Description	A particle of mass m is subjected to a potential $$V(x,y) = \frac{1}{2}m\omega^2(x^2+y^2), -\infty \le x \le \infty, -\infty \le y \le \infty$$ The state with energy $4\hbar\omega$ is g-fold degenerate. The value of g is?
A	2
B	3
C	4
D	6
E	None of the above
Correct Answer	C
Marks	1

44

Question Description	A superconductor has a critical temperature of 3.7 K in zero magnetic field and a critical field of 0.0306T at 0K. The critical field at T = 2K is?
A	2.16×10^{-2} T
B	2.16×10^{-5} T
C	2.16×10^{-3} T
D	2.16×10^{-4} T
E	None of the above
Correct Answer	A
Marks	1

45

Question Description	A basketball is inflated to a gauge pressure of 1.5 bar at an ambient temperature of 20°C. Before a game, the ball is taken to an indoor court where the temperature is 10°C. Assuming the volume of the basketball remains constant at 3000 cm^3, what should have been the initial gauge pressure to ensure it is 1.5 bar gauge at the indoor court?
A	2.33 bar
B	1.58 bar
C	1.75 bar
D	2.50 bar
E	None of the above
Correct Answer	B
Marks	1

46

Question Description	The wave vector k of propagation of electromagnetic wave in a plasma is given by: $k^2 = \frac{1}{C^2}(\omega^2 - \omega_p^2)$, where ω_p is the constant plasma frequency. The group velocity is given by: a) $\frac{C}{\left(1-\frac{\omega_p^2}{\omega^2}\right)^{1/2}}$ b) $C\left(1-\frac{\omega_p^2}{\omega^2}\right)^{1/2}$ c) $C\frac{\omega}{\omega_p}$ d)) $C\left(1-\frac{\omega_p^2}{\omega^2}\right)$
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	B
Marks	1

47

Question Description	At low temperatures, in the Debye approximation, the contribution of the phonons to the heat capacity of a three dimensional solid is proportional to the
A	T^2
B	T^3
C	$T^{1/2}$
D	$T^{3/2}$
E	None of the above
Correct Answer	B
Marks	1

48

Question Description	In a common-emitter amplifier, the voltage gain is 100, the input resistance is 1 kΩ, and the load resistance is 10 kΩ. What is the power gain of the amplifier? (A) 10 dB (B) 20 dB (C) 30 dB (D) 40 dB
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	C
Marks	1

49

Question Description	The solid phase of an element having FCC structure, lattice potential is given by: $V(r) = -\frac{2P}{r^6} + \frac{Q}{r^{12}}$, where P and Q are constants. The lattice potential at equilibrium given by? a) $-\frac{P^2}{Q}$ b) $-\frac{2P^2}{Q}$ c) $\frac{P^2}{Q}$ d) $-\frac{Q^2}{P}$
A	a
B	b
C	c
D	d
E	None of the above
Correct Answer	A
Marks	1

50

Question Description	In a normal Zeeman Effect experiment using a magnetic field of strength 0.3 T, the splitting between the components of a 660 nm spectral line is
A	12 pm
B	10 pm
C	8 pm
D	6 pm
E	None of the above
Correct Answer	D
Marks	1

51

Comprehension	Read the passage below and answer the Questions: Knowledge is a form of union of Self and not-Self; like all unions, it is impaired by dominion, and therefore by any attempt to force the universe into conformity with what we find in ourselves. There is a widespread philosophical tendency towards the view which tells us that Man is the measure of all things, that truth is man-made, that space and time and the world of universals are properties of the mind, and that, if there be anything not created by the mind, it is unknowable and of no account for us. This view, if our previous discussions were correct, is untrue; but in addition to being untrue, it has the effect of robbing philosophic contemplation of all that gives it value, since it fetters contemplation to Self. What it calls knowledge is not a union with the not-Self, but a set of prejudices, habits, and desires, making an impenetrable veil between us and the world beyond. The man who finds pleasure in such a theory of knowledge is like the man who never leaves the domestic circle for fear his word might not be law.
Question Description	According the passage, the philosophical view which considers “Man” as the measure of all things and truth to be man-made, espouses ---------- in lieu of knowledge
A	union with Non-self
B	prejudices, habits and desires
C	union with Self
D	impenetrable veil between self and the world beyond
E	None of the above
Correct Answer	D
Marks	1

52		
	Comprehension	Read the passage below and answer the Questions: Knowledge is a form of union of Self and not-Self; like all unions, it is impaired by dominion, and therefore by any attempt to force the universe into conformity with what we find in ourselves. There is a widespread philosophical tendency towards the view which tells us that Man is the measure of all things, that truth is man-made, that space and time and the world of universals are properties of the mind, and that, if there be anything not created by the mind, it is unknowable and of no account for us. This view, if our previous discussions were correct, is untrue; but in addition to being untrue, it has the effect of robbing philosophic contemplation of all that gives it value, since it fetters contemplation to Self. What it calls knowledge is not a union with the not-Self, but a set of prejudices, habits, and desires, making an impenetrable veil between us and the world beyond. The man who finds pleasure in such a theory of knowledge is like the man who never leaves the domestic circle for fear his word might not be law.
	Question Description	As per the passage, what is impaired by any attempt to force the universe into conformity with what we find in ourselves?
	A	self
	B	non-self
	C	union
	D	knowledge
	E	None of the above
	Correct Answer	D
	Marks	1

53		
	Comprehension	Read the passage below and answer the Questions: Knowledge is a form of union of Self and not-Self; like all unions, it is impaired by dominion, and therefore by any attempt to force the universe into conformity with what we find in ourselves. There is a widespread philosophical tendency towards the view which tells us that Man is the measure of all things, that truth is man-made, that space and time and the world of universals are properties of the mind, and that, if there be anything not created by the mind, it is unknowable and of no account for us. This view, if our previous discussions were correct, is untrue; but in addition to being untrue, it has the effect of robbing philosophic contemplation of all that gives it value, since it fetters contemplation to Self. What it calls knowledge is not a union with the not-Self, but a set of prejudices, habits, and desires, making an impenetrable veil between us and the world beyond. The man who finds pleasure in such a theory of knowledge is like the man who never leaves the domestic circle for fear his word might not be law.
	Question Description	Identify from the options given below, a word or phrase, which means to damage or harm
	A	fetter
	B	rob
	C	impair
	D	force conformity
	E	None of the above
	Correct Answer	C
	Marks	1

54	**Comprehension**	Read the passage below and answer the Questions: Knowledge is a form of union of Self and not-Self; like all unions, it is impaired by dominion, and therefore by any attempt to force the universe into conformity with what we find in ourselves. There is a widespread philosophical tendency towards the view which tells us that Man is the measure of all things, that truth is man-made, that space and time and the world of universals are properties of the mind, and that, if there be anything not created by the mind, it is unknowable and of no account for us. This view, if our previous discussions were correct, is untrue; but in addition to being untrue, it has the effect of robbing philosophic contemplation of all that gives it value, since it fetters contemplation to Self. What it calls knowledge is not a union with the not-Self, but a set of prejudices, habits, and desires, making an impenetrable veil between us and the world beyond. The man who finds pleasure in such a theory of knowledge is like the man who never leaves the domestic circle for fear his word might not be law.
	Question Description	Indicate from the options provided the closest antonym of ‘conform’ as used in the passage:
	A	flout
	B	bypass
	C	flaunt
	D	deny
	E	None of the above
	Correct Answer	A
	Marks	1
55		

Comprehension	Read the passage below and answer the Questions: Knowledge is a form of union of Self and not-Self; like all unions, it is impaired by dominion, and therefore by any attempt to force the universe into conformity with what we find in ourselves. There is a widespread philosophical tendency towards the view which tells us that Man is the measure of all things, that truth is man-made, that space and time and the world of universals are properties of the mind, and that, if there be anything not created by the mind, it is unknowable and of no account for us. This view, if our previous discussions were correct, is untrue; but in addition to being untrue, it has the effect of robbing philosophic contemplation of all that gives it value, since it fetters contemplation to Self. What it calls knowledge is not a union with the not-Self, but a set of prejudices, habits, and desires, making an impenetrable veil between us and the world beyond. The man who finds pleasure in such a theory of knowledge is like the man who never leaves the domestic circle for fear his word might not be law.
Question Description	Read the following statements and say whether they are true or false, on the basis of the passage: (i) Man-centric view of the universe and the notion that truth is man-made is utterly fallacious (ii) Far from being true, it denies any scope to human mind for contemplation of matters of intrinsic worth to itself
A	statement (i) is true but statements (ii) is false
B	both the statements are true
C	both the statements are false
D	statement (i) is false but statements (ii) is true
E	None of the above
Correct Answer	B
Marks	1

56		
	Question Description	When is World Cancer Day observed?
	A	February 1
	B	February 4
	C	March 5
	D	December 10
	E	None of the above
	Correct Answer	B
	Marks	1

57		
	Question Description	Which state was declared ‘Naxal-free’ after the final surrender of its last active Naxalite?
	A	Chhattisgarh
	B	Jharkhand
	C	Karnataka
	D	Odisha
	E	None of the above
	Correct Answer	C
	Marks	1

58		
	Question Description	How many consecutive Union Budgets have Nirmala Sitharaman presented?
	A	7th
	B	8th
	C	9th
	D	10th
	E	None of the above
	Correct Answer	B
	Marks	1

59		
	Question Description	Who was awarded the INSA Fellowship for 2025 for contributions to vaccine development?
	A	Dr. S. Somanath
	B	Dr. Krishna Ella
	C	Dr. Renu Swarup
	D	Dr. Kiran Mazumdar-Shaw
	E	None of the above
	Correct Answer	B
	Marks	1

60	**Question Description**	Which company unveiled India’s first eVTOL air taxi ‘Shunya’?
	A	Sarla Aviation
	B	Reliance Aerospace
	C	Tata Advanced Systems
	D	Mahindra Aerospace
	E	None of the above
	Correct Answer	A
	Marks	1

61	**Question Description**	Which institution collaborated with ISRO to develop the Indigenous Space Chip IRIS?
	A	IIT Bombay
	B	IIT Delhi
	C	IIT Kanpur
	D	IIT Madras
	E	None of the above
	Correct Answer	D
	Marks	1

62		
	Question Description	When is National Geographic Day celebrated?
	A	January 25
	B	January 26
	C	January 27
	D	January 28
	E	None of the above
	Correct Answer	C
	Marks	1

63		
	Question Description	Who won the 10th men's snooker championship at the Indian Snooker Championship?
	A	Aditya Mehta
	B	Brijesh Damani
	C	Pankaj Advani
	D	Geet Sethi
	E	None of the above
	Correct Answer	C
	Marks	1

64

Question Description	What is the name of the new SuperApp launched by Indian Railways for seamless travel?
A	RailConnect
B	UTS Mobile
C	RailYatra
D	SwaRail
E	None of the above
Correct Answer	D
Marks	1

65

Question Description	Which state is set to host the world's largest Jhumur festival in 2025?
A	West Bengal
B	Assam
C	Odisha
D	Jharkhand
E	None of the above
Correct Answer	B
Marks	1

66

Question Description	What is the next term in the series? 1, 3, 6, 10, 15, _____
A	21
B	19
C	18
D	16
E	None of the above
Correct Answer	A
Marks	1

67		
	Question Description	3, 12, 30, 68, 128, ?
	A	218
	B	228
	C	220
	D	210
	E	None of the above
	Correct Answer	B
	Marks	1

68		
	Question Description	Read each definition and all four choices carefully, and find the answer that provides the best example of the given definition. People **speculate** when they consider a situation and assume something to be true based on inconclusive evidence. Which situation below is the best example of Speculation ?
	A	Francine decides that it would be appropriate to wear jeans to her new office on Friday after reading about "Casual Fridays" in her employee handbook.
	B	Mary spends thirty minutes sitting in traffic and wishes that she took the train instead of driving.
	C	After consulting several guidebooks and her travel agent, Jennifer feels confident that the hotel she has chosen is first-rate.
	D	When Emily opens the door in tears, Theo guesses that she's had a death in her family.
	E	None of the above
	Correct Answer	D
	Marks	1

69	**Question Description**	Choose the pair that best represents a similar relationship to the one expressed in the original pair of words. SPY : CLANDESTINE
	A	accountant : meticulous
	B	furrier : rambunctious
	C	lawyer : ironic
	D	shepherd : garrulous
	E	None of the above
	Correct Answer	A
	Marks	1
70	**Question Description**	Tree is to leaf as flower is to:
	A	Petal
	B	Root
	C	Stem
	D	Branch
	E	None of the above
	Correct Answer	A
	Marks	1

71	**Question Description**	Look carefully for the pattern, and then choose which pair of numbers comes next 84 78 72 66 60 54 48
	A	44 34
	B	42 36
	C	42 32
	D	40 34
	E	None of the above
	Correct Answer	B
	Marks	1
72	**Question Description**	Which of the following is the least like the others?
	A	Diamond
	B	Ruby
	C	Emerald
	D	Pearl
	E	None of the above
	Correct Answer	D
	Marks	1

73

Question Description	**The words in the bottom row are related in the same way as the words in the top row. For each item, find the word that completes the bottom row of words.** <table><tr><td>daisy</td><td>flower</td><td>plant</td></tr><tr><td>bungalow</td><td>house</td><td>?</td></tr></table>
A	building
B	cottage
C	apartment
D	city
E	None of the above
Correct Answer	A
Marks	1

74

Question Description	Find the next number in the series: 2, 6, 12, 20, 30, ___
A	38
B	42
C	48
D	56
E	None of the above
Correct Answer	B
Marks	1

75

Question Description	A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?
A	12 days
B	15 days
C	16 days
D	18 days
E	None of the above
Correct Answer	B
Marks	1