70 Questions

Que. 1 **Read the passage and answer the questions that follow.**

There was a Gurukula (school) at the edge of the forest where many children studied under a wise Guru. Two of the students had finished their education and were ready to leave the Gurukula. They wished to offer their Guru a gift of the Guru's choice as Gurudakshina (offering made to Guru in lieu of fees).
The Guru was pleased with the love, devotion, discipline and sense of duty of the students. He did not want anything from them. However, he decided to add a little more wisdom to their store of knowledge before they left. So he asked them to go to the forest behind the Gurukula and bring him some dry leaves for which no one had any use. The boys wondered at the strange request but left obediently to fulfil the Guru's request.
As soon as they entered the forest, they saw a small heap of dry leaves beneath a tree. They went to pick it up and a farmer came out running and stopped them. He had collected them to burn and utilize the ashes as manure. By doing so, his fields would produce excellent crop. They went further into the forest and saw three women collecting dry leaves and putting them into their baskets. The boys asked them why they collected dry leaves which were useless. The first woman said she used them as fuel for heating bathwater and for washing clothes. The second woman said she pinned nice dry leaves together and made leaf plates which were used as dinner plates in ashrams and temples. She earned some money by doing so and fed her children. The third woman said that she collected dry leaves of a particular tree. Her husband was a doctor and used them for preparing herbal medicines. Many sick people were cured by using those medicines. As the boys walked farther, they saw some dry leaves under a tall tree. As they were watching, a big bird swooped down and picked up a leaf and flew away. It carried it to the top of a small tree where it was building a nest. As it was growing late, they decided to return to the Gurukula. On the way back, they saw a big leaf float in the water. One of the boys picked it up as it was of no use to anyone. To his surprise, he saw two red ants sitting on it. They had used it as their raft and saved themselves. So he put the leaf gently on the ground and left it.
The boys were sad and informed their Guru that they could not get him even dry leaves as they discovered dry leaves have so many uses and people, birds and insects used them extensively. The Guru replied that the wisdom they had received that day was his real Gurudakshina.

What was the Guru's intention regarding the boys?

1. To add more wisdom to their share of knowledge
2. To ridicule and mock them
3. To make them kill each other
4. All of these

Que. 2 Why were the leaves useful for the third woman?

1. Her son used them to make dinner plates
2. Her husband used them to make herbal medicines
3. Her daughter used them to make rafts
4. None of these

Que. 3 Why did the boy put the leaf gently on the ground and leave it?

1. Since he was scared of the ants
2. Since he was scared of water
3. As it was being used by two ants to save themselves
4. None of these

Que. 4 Determine a suitable title for the passage

1. The ant and the boys

2. The death of a gurukul
3. Everything is valuable
4. All of these

Que. 5 **Fill in the blank with the correct form of the verb.**

After Sofie _____ her work, she went to lunch.

1. Finishes
2. Had finished
3. Will finish
4. Finished

Que. 6 **The given sentence is in Direct/Indirect Speech. Convert the sentence to Indirect/Direct Speech.**

Ram said, "We will play the match tomorrow."

1. Ram said that they would play the match the next day
2. Ram told we will play the match the next day
3. Ram said to me I will play the match tomorrow
4. Ram said that he would play the match the next day

Que. 7 **In the following question, a sentence is given in Direct/Indirect speech. Out of the four alternatives choose the one which best expresses the sentence in Indirect/Direct Speech.**

Rahul said, "The Earth is a planet".

1. Rahul said that the Earth was a planet.
2. Rahul said that the Earth is a planet.
3. Rahul says that Earth was a planet.
4. Rahul said that the Earth can be a planet.

Que. 8 **A sentence has been given in Active/Passive voice. Out of the four alternatives suggested, select the one which best expresses the same sentence in Passive/Active voice.**

Payal threw the ball.

1. The ball was thrown at by Payal.
2. The ball was thrown by Payal.
3. The ball was to be thrown by Payal.
4. The ball had been thrown by Payal.

Que. 9 **Select the correct passive form of the given sentence.**

Were you writing an article?

1. Was an article being written by you?
2. Were an article being written by you?
3. Was an article written by you?
4. Was an article being wrote by you?

Que. 10 **Determine the correct spelling.**

1. Controvershial

2. Controvursal
3. Controversial
4. Countronrersial

Que. 11 **Out of all the alternatives given, select the word which closely fits the given definition.**

A person who worships only one God

1. Caricature
2. Novice
3. Idiosyncrasy
4. Monotheist

Que. 12 **Out of four alternatives, choose the one which can be substituted for the given words/sentences.**

One who never dies

1. Immortal
2. Irreducible
3. Impractical
4. Irrational

Que. 13 **What would be the verb form of the word 'acquirement'?**

1. Acquirely
2. Acquiringly
3. Acquiry
4. Acquire

Que. 14 **Determine the correct spelling.**

1. Endeavour
2. Endaevour
3. Endevour
4. Endeavore

Que. 15 **What is the antonym of the word given below?**

Ambiguous

1. Uncertain
2. Obscure
3. Clear
4. Vague

Que. 16 **Select the most appropriate word for the given group of words.**

A group of flowers

1. Herd
2. Bouquet
3. Crowd

4. Host

Que. 17 **Direction: Choose the option which best expresses the meaning of the idiom/phrase.**

To bring one's eggs to a bad market

1. To face a humiliating situation
2. To bring one's commodities to a market where there is no demand for them
3. To show one's talents before audience which is incapable of appreciating them
4. To fail in one's plan because one goes to the wrong people for help

Que. 18 **In the following question, out of the give four alternatives, select the one which best expresses the meaning of the given word.**

Futile

1. Effective
2. Hopeful
3. Cogent
4. Useless

Que. 19 **Select the most appropriate option to fill in the blank.**

_____ food will protect it from flies.

1. attending
2. covering
3. shutting
4. hiding

Que. 20 **In the following question, parts of a sentence have been jumbled and labeled as P, Q, R, and S. You are required to rearrange the jumbled parts of the sentence and mark your response accordingly by selecting the correct option.**

P. then fell on my two uncles

Q. than my father

R. who were very much older

S. the burden of the family

1. PQRS
2. SPRQ
3. SPQR
4. RSQP

Que. 21 When the temperature of a ferromagnetic material is increased above curie temperature then

1. The ferromagnetic material changes into paramagnetic material.
2. The ferromagnetic material changes into diamagnetic material.
3. The ferromagnetic material changes into state from solid to liquid.
4. The ferromagnetic material changes into superconducting material.

Que. 22 The area under force-displacement graph gives-

1. Velocity

2. Acceleration
3. Work done
4. Power

Que. 23 Which of the following is not a physical quantity?

1. Length
2. Time
3. Electric current
4. Kilogram (kg)

Que. 24 The electrostatic force between two equal charges placed at a separation of 4 m is 40 N. Find the magnitude of two charge particles.

1. 800 μC
2. 800/3 μC
3. 400 μC
4. 400/3 μC

Que. 25 Surface tension is due to :

1. cohesive molecular forces
2. gravitational forces
3. nuclear forces
4. electrical forces

Que. 26 A liquid drop tends to assume a spherical shape because of

1. Centrifugal force
2. Surface tension
3. Gravitational force
4. Viscous force

Que. 27 The force of attraction between two objects of masses m_1 and m_2 that lie at a distance 'd' from each other is directly proportional to the-

1. d^2
2. d^3
3. $\frac{1}{d^2}$
4. $\frac{1}{d}$

Que. 28 What happens to the drift velocity of electrons if the cross-sectional area of a current-carrying wire is increased? (keep all other parameters constant)

1. Decreases
2. Remain same
3. Increases
4. Can't predict

Que. 29 What should be the angle between magnetic moment and magnetic field for maximum work done in a magnetic field?

1. 90°
2. 180°
3. 270°
4. 45°

Que. 30 Which of the following is a vector quantity?

1. Mass
2. Speed
3. Length
4. Impulse

Que. 31 The linear momentum of a particle is $p = at + bt^2$. Find the force on the particle at t = 0 sec. (Here a and b are constants)

1. b
2. 2b
3. a
4. 2a

Que. 32 The wire used in an electric heater has-

1. Low melting point
2. High melting point
3. Very low resistance
4. Can't say

Que. 33 Which of the following electromagnetic wave has maximum frequency?

1. Radio waves
2. X-rays
3. Gamma rays
4. Visible rays

Que. 34 The escape speed from the surface of the Earth is equal to?

1. $\sqrt{(2GM_E/R_E)}$
2. $\sqrt{(GM_E/R_E)}$
3. $\sqrt{(2GR_E/M_E)}$
4. $\sqrt{(GR_E/M_E)}$

Que. 35 A p-n junction behaves as an insulator when it is-

1. Forward biased
2. Reversed biased
3. In both forward bias and reverse bias

4. Never

Que. 36 The heat taken from a sink is based on-

1. First law of thermodynamics
2. Second law of thermodynamics
3. Third law of thermodynamics
4. Zeroth law of thermodynamics

Que. 37 Choose the equation representing simple harmonic motion.

1. $y = A\ e^{2\omega t}$
2. $y = A\ \cos^2(\omega t) + 4t$
3. $y = A\ Sin^2(\omega t) - 2\omega t$
4. $y = A\ \sin(\omega t)$

Que. 38 Which one of the following statements is correct regarding the magnetic field inside a current carrying solenoid?

1. The magnetic field inside the solenoid is zero
2. The magnetic field inside the solenoid is uniform at all the points
3. The magnetic field inside the solenoid increases as we move towards the ends
4. The magnetic field inside the solenoid decreases as we move towards the ends

Que. 39 A ball is thrown with a velocity of 10 m/s in vertically upward direction. Find the time after which it comes back to the ground. ($g = 10 m/s^2$)

1. 0.5 sec
2. 1 sec
3. 2 sec
4. 2.5 sec

Que. 40 The distance between the plates of a parallel plate capacitor is increased then the capacitance will-

1. remain same
2. Increase
3. Decrease
4. Can't predict

Que. 41 The angle between two vectors $\vec{A}$ and $\vec{B}$ given by-

1. $cos\ \theta = \frac{\vec{A}.\vec{B}}{2\left|\vec{A}\right|\left|\vec{B}\right|}$
2. $tan\ \theta = \frac{\vec{A}.\vec{B}}{\left|\vec{A}\right|\left|\vec{B}\right|}$
3. $sin\ \theta = \frac{\vec{A}.\vec{B}}{\left|\vec{A}\right|\left|\vec{B}\right|}$
4. $cos\ \theta = \frac{\vec{A}.\vec{B}}{\left|\vec{A}\right|\left|\vec{B}\right|}$

Que. 42 Find the centre of mass of three masses 2 kg, 1 kg and 2 kg which are placed at (2, 1), (-1, 2) and (0, 4) respectively.

1. (1, 2)
2. (0.2, 1.2)
3. (0.6, 2.4)
4. (1.2, 2.4)

Que. 43 The magnetic field and number of turns of the coil of an electric generator is doubled then the magnetic flux of the coil will-

1. become half
2. become two times
3. become three times
4. become four times

Que. 44 A glass is heated first and then it is cooled down suddenly. It breaks due to-

1. Thermal conductivity
2. Electrical conductivity
3. Density difference
4. None of the above

Que. 45 How the temperature of a thermodynamic system can be increased without giving heat energy to the system?

1. By isothermal compression
2. By isochoric expansion
3. By adiabatic expansion
4. By adiabatic compression

Que. 46 What is the area of the region bounded by the lines y = x, y = 0 and x = 4?

1. 4 square units
2. 8 square units
3. 12 square units
4. 16 square units

Que. 47 Find the angle between the vectors $\vec{a}$ and $\vec{b}$

1. $\sin^{-1}\left(\frac{\vec{a}\cdot\vec{b}}{|a||b|}\right)$
2. $\cos^{-1}\left(\frac{\vec{a}\cdot\vec{b}}{|a||b|}\right)$
3. $\sin^{-1}\left(\frac{\vec{a}\times\vec{b}}{|a||b|}\right)$
4. $\cos^{-1}\left(\frac{\vec{a}\times\vec{b}}{|a||b|}\right)$

Que. 48 If $x + y = \begin{bmatrix} 4 & 2 \\ 0 & 9 \end{bmatrix}$ and $x - y = \begin{bmatrix} 2 & 6 \\ 0 & 1 \end{bmatrix}$, then x is equal to ?

1. $\begin{bmatrix} 6 & 8 \\ 0 & 10 \end{bmatrix}$
2. $\begin{bmatrix} 3 & 11 \\ 0 & -7 \end{bmatrix}$
3. $\begin{bmatrix} 3 & 4 \\ 0 & 5 \end{bmatrix}$
4. None of the above

Que. 49 Find the value of $\lim_{x \to 0} \cos x$

1. 0
2. 1
3. -1
4. Not define

Que. 50 If a line has the direction ratios (2, -3, 4) then its direction cosines are

1. $\left(\frac{2}{\sqrt{25}}, \frac{-3}{\sqrt{25}}, \frac{4}{\sqrt{25}}\right)$
2. $\left(\frac{2}{\sqrt{29}}, \frac{3}{\sqrt{29}}, \frac{4}{\sqrt{29}}\right)$
3. $\left(\frac{2}{\sqrt{29}}, \frac{-3}{\sqrt{29}}, \frac{4}{\sqrt{29}}\right)$
4. None of the above

Que. 51 Find the median of the given set of numbers 4, 6, 3, 8, 5, 2, 7, 9

1. 6.5
2. 5.5
3. 5
4. 6

Que. 52 If the ninth term of an A.P. is zero, then $\frac{t_{27}}{t_{18}}$ is?

t_n denotes the n^{th} term of AP.

1. 4
2. 3
3. 2
4. 1

Que. 53 Find the general solution of $\frac{dy}{dx} = y \cos x$

1. log y = cos x + c
2. log y = sin x + c
3. y = log (sin x) + c
4. None of the above

Que. 54 $\int \frac{1}{\sqrt{3x+4}} dx$ is equal to?

1. $\frac{(3x+4)^{1/2}}{3} + c$
2. $\frac{2(3x+4)^{1/2}}{3} + c$
3. $\frac{3(3x+4)^{1/2}}{2} + c$
4. None of the above

Que. 55 The coefficient of x^2 in the expansion of $(1 + x)^{17}$ is

1. $^{17}C_1$
2. $^{17}C_2$
3. $^{17}C_3$
4. $^{17}C_{14}$

Que. 56 Find the value of cos 75°

1. $\frac{\sqrt{3}-1}{2\sqrt{2}}$
2. $\frac{\sqrt{3}+1}{2\sqrt{2}}$
3. $\frac{\sqrt{3}-1}{\sqrt{2}}$
4. $\frac{\sqrt{3}+1}{\sqrt{2}}$

Que. 57 Find the value of $(1 - i)^4$, Where $i = \sqrt{-1}$

1. -4i
2. 4
3. -4
4. -1

Que. 58 If A and B are mutually exclusive events then $P(A \cup B)$ equal to ?

1. P (A) - P (B)
2. P (A) + P (B)
3. P (A) × P (B)
4. None of the above

Que. 59 Find the interval in which the function $f(x) = x^2 - 4x$ is strictly increasing ?

1. $[2, \infty)$
2. $(2, \infty)$
3. $(0, \infty)$
4. $(-\infty , 2)$

Que. 60 What is the eccentricity of the conic $4x^2 + 9y^2 = 144$?

1. $\frac{\sqrt{5}}{3}$
2. $\frac{\sqrt{5}}{4}$
3. $\frac{3}{\sqrt{5}}$
4. 2/3

Que. 61 What is the degree of the differential equation $\frac{d^2y}{dx^2} + a\sin x = 0$

1. 0
2. 3
3. 2
4. 1

Que. 62 Find $\frac{d\tan\sqrt{x}}{dx}$

1. $\sec^2\sqrt{x}$
2. $\frac{\sec^2\sqrt{x}}{\sqrt{x}}$
3. $\frac{\sec^2\sqrt{x}}{2\sqrt{x}}$
4. None of the above

Que. 63 Find the radius of the circle whose centre is at (2, 2) and which passes through the point (4, 5).

1. $\sqrt{12}$
2. $\sqrt{13}$
3. $\sqrt{14}$
4. $\sqrt{15}$

Que. 64 Find the value of $\text{cosec}^2\,\theta - \cot^2\,\theta$

1. 1
2. -1
3. 0
4. 2

Que. 65 Find the value of $\text{cosec}^{-1}\,2$

1. 60°
2. 30°
3. 90°
4. 45°

Que. 66 Find the determinant of the matrix $\begin{vmatrix} 2 & 7 & 65 \\ 3 & 8 & 75 \\ 5 & 9 & 86 \end{vmatrix}$?

1. 274
2. 387
3. 873
4. 0

Que. 67 The value of ω^{3n+1} is

1. ω^2
2. ω^3
3. ω
4. 0

Que. 68 If $y = x^{1/3}$ then $\frac{dy}{dx} =$

1. $\frac{x^{2/3}}{3}$
2. $\frac{1}{3x^{2/3}}$
3. $x^{-1/3}$
4. $\frac{1}{3x^{-2/3}}$

Que. 69 Find $\frac{d^2 \tan^{-1} x}{dx^2}$

1. $\frac{-2x}{(1+x^2)^2}$
2. $\frac{-2}{(1+x^2)^2}$
3. $\frac{-1}{(1+x^2)^2}$
4. $\frac{2x}{(1+x^2)^2}$

Que. 70 $\int x^9\, dx =$

1. $10x^{10} + c$
2. $\frac{x^{10}}{10} + c$
3. $\frac{x^{10}}{11} + c$
4. None of the above

70 Questions

Que. 1	Correct Option - 1
Que. 2	Correct Option - 2
Que. 3	Correct Option - 3
Que. 4	Correct Option - 3
Que. 5	Correct Option - 2
Que. 6	Correct Option - 1
Que. 7	Correct Option - 2
Que. 8	Correct Option - 2
Que. 9	Correct Option - 1
Que. 10	Correct Option - 3
Que. 11	Correct Option - 4
Que. 12	Correct Option - 1
Que. 13	Correct Option - 4
Que. 14	Correct Option - 1
Que. 15	Correct Option - 3
Que. 16	Correct Option - 2
Que. 17	Correct Option - 4
Que. 18	Correct Option - 4
Que. 19	Correct Option - 2
Que. 20	Correct Option - 2
Que. 21	Correct Option - 1
Que. 22	Correct Option - 3
Que. 23	Correct Option - 4
Que. 24	Correct Option - 2
Que. 25	Correct Option - 1
Que. 26	Correct Option - 2

Que. 27	Correct Option - 3
Que. 28	Correct Option - 1
Que. 29	Correct Option - 2
Que. 30	Correct Option - 4
Que. 31	Correct Option - 3
Que. 32	Correct Option - 2
Que. 33	Correct Option - 3
Que. 34	Correct Option - 1
Que. 35	Correct Option - 2
Que. 36	Correct Option - 2
Que. 37	Correct Option - 4
Que. 38	Correct Option - 2
Que. 39	Correct Option - 3
Que. 40	Correct Option - 3
Que. 41	Correct Option - 4
Que. 42	Correct Option - 3
Que. 43	Correct Option - 4
Que. 44	Correct Option - 3
Que. 45	Correct Option - 4
Que. 46	Correct Option - 2
Que. 47	Correct Option - 2
Que. 48	Correct Option - 3
Que. 49	Correct Option - 2
Que. 50	Correct Option - 3
Que. 51	Correct Option - 2
Que. 52	Correct Option - 3
Que. 53	Correct Option - 2
Que. 54	Correct Option - 2

Que. 55	Correct Option - 2
Que. 56	Correct Option - 1
Que. 57	Correct Option - 3
Que. 58	Correct Option - 2
Que. 59	Correct Option - 2
Que. 60	Correct Option - 1
Que. 61	Correct Option - 4
Que. 62	Correct Option - 3
Que. 63	Correct Option - 2
Que. 64	Correct Option - 1
Que. 65	Correct Option - 2
Que. 66	Correct Option - 4
Que. 67	Correct Option - 3
Que. 68	Correct Option - 2
Que. 69	Correct Option - 1
Que. 70	Correct Option - 2