## 70 Questions

**Que. 1** **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.**

The people made him President.

1. He is made President by the people.
2. He was made President by the people.
3. The people had made him President.
4. The people will make him President.

**Que. 2** **Select the segment of the sentence that contains an error. if there is no error, mark 'No error' as your answer.**

Towns after towns (A) was affected (B) by the rapidly-spreading Bubonic plague. (C) No Error (D)

1. A
2. B
3. C
4. No Error

**Que. 3** **Read the passage given below and answer the questions that follow. Some words may be highlighted. Read carefully.**

It was once said that “Judging a person doesn’t define who they are…it defines who you are.” Unfortunately, we all fall into the category of judging other people at some point in our lives. We have also been affected at various times by the ways that other people have judged us. We all need to be more aware of “rushing to judgment” and remember to first understand the real situation and/or the other person’s intent before making a conclusion.

One day, a lovely little girl was holding two apples with both hands. Her mom came in the room and softly asked her little daughter with a smile, “My sweetie, could you give your mom one of your two apples?” The girl looked up at her mom for some seconds; then she suddenly took a quick bite on one apple, and then quickly on the other. The mom felt the smile on her face freeze. She tried hard not to **reveal** her disappointment. Then the little girl handed one of her bitten apples to her mom, and said, “Here you go, mommy. This is the sweeter one.” Her mother realized the **blunder** she had made and embraced her with open arms.

What is the antonym of the word 'reveal?

1. Expose
2. Show
3. Exhibit
4. Hide

**Que. 4** What did the girl do after she tasted both the apples?

1. She threw the apples down on the ground.
2. She handed both the apples to her mother.
3. She handed one of the bitten apples to her mother.
4. She left the room and never talked to her mother ever again.

**Que. 5** What is the meaning of the word 'blunder'?

1. Looting
2. Mistake
3. Stone
4. None of these

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**Que. 6** What do we need to be more aware of?

1. Rushing to judgment
2. Staying in shape
3. How to cook fish
4. None of these

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**Que. 7** **Fill in the blank with the appropriate word.**

Do you want _____ to help?

1. I
2. Me
3. Mine
4. Myself

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**Que. 8** **In the following question, a sentence has been given in Direct/Indirect speech. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct speech.**

I said to my sister, "I brought you a doll yesterday."

1. I said to my sister I brought her a doll yesterday.
2. I told my sister that I brought you a doll the day before.
3. I said to my sister that I brought her the doll yesterday
4. I told my sister that I had brought her a doll the previous day.

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**Que. 9** **In the following question, out of the four alternatives, select the word opposite in meaning to the word given.**

Abrupt

1. Gradual
2. Unanticipated
3. Startling
4. Unexpected

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**Que. 10** **In the following question, out of the four alternatives, select the word similar in meaning to the word given.**

Chaos

1. Method
2. Disorder
3. System
4. Order

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**Que. 11** **Select the segment of the sentence that contains an error. if there is no error, mark 'No error' as your answer.**

My mother (A) does not like me (B) coming home late at night. (C) No Error (D)

1. A
2. B
3. C
4. No Error

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**Que. 12** **Choose the correct spelling.**

1. Benifitted
2. Benneffited
3. Benefitted
4. Beniffited

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**Que. 13** **In the following question, out of the four alternatives, the phrase given below is aptly described by just one word. Select the choice which gives the meaning most appropriately.**

A place where pigs live

1. Sty
2. Burrow
3. Kennel
4. Hive

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**Que. 14** **Give the noun form of the word 'compel'.**

1. Compelling
2. Compelled
3. Compulsion
4. Compulsive

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**Que. 15** **Fill in the blank.**

He was astonished _____ his failure.

1. With
2. For
3. In
4. At

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**Que. 16** **Directions - A sentence is given in Active/Passive voice. Out of the four alternatives suggested, select the one which best expresses the same sentence in Active/Passive voice.**

Who plays cricket?

1. By whom is cricket played?
2. By whom was cricket played?
3. By who is cricket played?
4. By who were cricket played?

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**Que. 17** **Choose the correct collective noun for the phrase given below.**

A _____ of keys

1. Flock
2. Fleet
3. Bunch
4. Pride

**Que. 18** **In the following question, out of the four alternatives, choose the alternative which best expresses the meaning of the idiom /Phrase.**

All at sea

1. Confused
2. Ecstatic
3. Sad
4. Lonely

**Que. 19** **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. photographers clicked her pictures

Q. to interview her and

R. as the family watched in amazement,

S. newspaper reporters came

1. RSQP
2. RSPQ
3. SPQR
4. SQRP

**Que. 20** **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.**

The old woman said, “Alas! I have been robbed.

1. The old woman exclaimed that she has been robbed.
2. The old woman exclaimed with joy that she has been robbed.
3. The old woman exclaimed with sorrow that she has been robbed.
4. The old woman exclaimed with sorrow that she had been robbed.

**Que. 21** The electrostatic force between two charges of 6 C and 2 C separated by some distance is 12 N. If -4 C charge is added to each of them then find the new magnitude of force between them (distance between the charges remains same).

1. 12 N
2. 6 N
3. 4 N
4. 2 N

**Que. 22** The relation between frequency ‘f’ wavelength ‘λ’ and velocity of propagation ‘v’ of the wave is

1. $\lambda = f \times v$

2. $f = \lambda \div v$
3. $v = f \times \lambda$
4. $\lambda = f \div v$

**Que. 23** Which logic gate will produce the following output?

| Input | | Output |
|---|---|---|
| A | B | Y |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

1. OR
2. AND
3. NAND
4. NOR

**Que. 24** Which of the following is not a force?

1. Thrust
2. Impulse
3. Weight
4. Tension

**Que. 25** If $v = at + bt^2$

v is velocity and t in seconds, then the dimension of b is:

1. $LT^0$
2. $LT^{-1}$
3. $LT^{-2}$
4. $LT^{-3}$

**Que. 26** The total number of images formed by two mirrors inclined at 72° to each other is _____.

1. 2
2. 3
3. 4
4. 5

**Que. 27** The mathematical form of the resonant frequency of a LCR circuit is equal to

1. $\frac{1}{2\pi(LC)}$
2. $\frac{1}{2\pi(LC)^2}$
3. $2\pi(LC)$
4. $\frac{1}{2\pi\sqrt{LC}}$

**Que. 28** The propagation constant or the angular wave number is equal to _____.

1. $2\pi\lambda$
2. $\lambda / 2\pi$
3. $2\pi / \lambda$
4. $1 / (2\pi\lambda)$

**Que. 29** The rms speed of gas at 27°C is V. If the temperature of the gas is raised to 327°C, then the rms speed of a gas is

1. V
2. $V/\sqrt{2}$
3. $V\sqrt{2}$
4. 3V

**Que. 30** Which law of thermodynamics defines the concept temperature?

1. First Law of Thermodynamics
2. Second Law of Thermodynamics
3. Zeroth Law of Thermodynamics
4. Third Law of Thermodynamics

**Que. 31** The ratio of length of two simple pendulums is 2 : 3. Find the ratio of their frequency.

1. $\sqrt{\frac{2}{3}}$
2. $\sqrt{\frac{3}{4}}$
3. $\sqrt{\frac{3}{2}}$
4. $\sqrt{\frac{2}{9}}$

**Que. 32** The electric field strength and electrostatic potential due to a dipole depends upon distance r as

1. $1/r$ and $1/r^2$
2. $1/r^2$ and $1/r^3$
3. $1/r^3$ and $1/r^2$
4. $1/r^2$ and $1/r$

**Que. 33** Which of the following satisfies the condition of partial equilibrium?

1. Rotational equilibrium
2. Translation equilibrium
3. Both 1 and 2
4. Neither 1 nor 2

**Que. 34** Which of the following expressions represents the energy stored in a stretched wire? (Y = Young's modulus, S = strain)

1. $\frac{1}{2}YS^2$
2. Y $S^2$
3. $\frac{3}{2}YS^2$
4. $\frac{1}{4}YS^2$

**Que. 35** An electron is moving with a velocity v in a magnetic field B. The magnetic field is perpendicular to the velocity of the electron and the electron is moving on a circular path of radius r. Which of the following represent the charge per unit mass (e/m) of the electron?

1. rB/v
2. B/rv
3. v/rB
4. v/2rB

**Que. 36** The Einstein's photoelectric equation is $h\nu = \phi + k$. Here k represents- (h is planck's constant, c is speed of light, λ is wavelength, and ϕ is work function)

1. Minimum kinetic energy of electrons
2. Maximum kinetic energy of electrons
3. Mean kinetic energy of electrons
4. None of the above

**Que. 37** A ball is dropped from a height h and rebounds to a height which is 80 % of the initial height. Find the ratio of final potential energy to the initial potential energy of the ball.

1. 5/4
2. 4/5
3. 25/4
4. 4/25

**Que. 38** The velocity of a particle varies with displacement as $v^2 = a + bx$, where a and b are constants. The acceleration of the particle is-

1. Non-uniform
2. Uniform
3. 1
4. 0

**Que. 39** Two electrical resistances R and 2R are connected in parallel combination. This combination is connected in series with a battery of potential difference V. Find the ratio of heat dissipated in two resistances.

1. 2 : 1
2. 4 : 1
3. 1 : 4
4. 8 : 1

**Que. 40** The dispersion is-

1. bending of light ray at a corner
2. reflection of light rays from a surface
3. bending of light ray towards normal when it travels from one medium to another
4. splitting of white light into its constituent colours

**Que. 41** The number of turns in secondary coil and primary coil of a transformer are 200 and 500 respectively. If the electric current in the primary coil is 48 A then find the current in secondary coil.

1. 148 A
2. 130 A
3. 120 A
4. 100 A

**Que. 42** The efficiency of a Carnot heat engine is 75 %. If the temperature of sink is 300 K then find the temperature of heat source.

1. 75 K
2. 150 K
3. 300 K
4. 1200 K

**Que. 43** The acceleration due to gravity reduces by 75% at a height h above the surface of the earth. Find h in terms of radius of earth (R).

1. R/2
2. 2 R
3. 3 R
4. R

**Que. 44** A wire of length 2 m is bend to form a circular coil of single turn. Find the magnetic moment of the circular coil if the current in the coil is 1 A.

1. $\frac{2}{\pi}$
2. $\frac{3}{\pi}$
3. $\frac{1}{\pi}$
4. $\frac{1}{2\pi}$

**Que. 45** The drift velocity of electrons in a current-carrying wire of cross-sectional area A and current I is v. If the electric current and the cross-sectional area is doubled then-new drift velocity will-

1. become 2 times
2. become 4 times
3. become half
4. remain same

**Que. 46** Find $\frac{d^2(x^{20})}{dx^2}$

1. $370x^{187}$

2. $360x^{18}$
3. $380x^{18}$
4. $340x^{18}$

**Que. 47** If k(3Median - Mode) = Mean then k is ?

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

**Que. 48** Find value of cot ($\tan^{-1} x + \cot^{-1} x$)

1. 1
2. -1
3. 0
4. $\infty$

**Que. 49** Find the value of $\cot^{-1}\left(\sqrt{3}\right)$.

1. $\frac{\pi}{3}$
2. $\frac{\pi}{4}$
3. $\frac{\pi}{6}$
4. $\frac{\pi}{2}$

**Que. 50** $\int_0^{2\pi} \frac{\sin 2x}{a-b\cos x} dx$ is equal to ?

1. $6\pi$
2. $4\pi$
3. $2\pi$
4. 0

**Que. 51** $\int \sqrt{ax+b}\, dx$ is equal to ?

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

**Que. 52** Find the first order derivative of (x cos x)

1. -x sin x + cos x
2. x sin x + cos x
3. x cos x - sin x
4. -x cos x - sin x

**Que. 53** If n elements in a set A then the elements presents in power set are ?

1. $2^n - 1$
2. $2^n$
3. n
4. None of the above

**Que. 54** What is the focus of the parabola $y^2 = -12x$ ?

1. (3, 0)
2. (0, 0)
3. (-3, 0)
4. (0, -3)

**Que. 55** Find middle terms in the expansion of $\left(x - \frac{2}{x}\right)^{10}$

1. $2^5 \times {}^{10}C_5$
2. ${}^{10}C_5$
3. $-2^5 \times {}^{10}C_5$
4. None of the above

**Que. 56** What is the sum of first n odd natural numbers?

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

**Que. 57** What is the modulus of -2i, Where $i = \sqrt{-1}$

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

**Que. 58** If vectors $\vec{a} = \vec{b}$ then $a_3$ is ?

Where $\vec{a} = 3\hat{i} - 2\hat{j} + a_3\hat{k}$ and $\vec{b} = \vec{3}\hat{i} - 2\hat{j} + \hat{k}$

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

**Que. 59** Find the determinant of the matrix $\begin{vmatrix} 3 & 2 & 1 \\ 3 & 2 & 1 \\ 1 & 0 & 1 \end{vmatrix}$ ?

1. 0

2. 3
3. 5
4. None of these

**Que. 60** Find the value of x and y if [x + 3y  y] = [4  - 1] ?

1. x = 2 and y = 5
2. x = - 7 and y = 1
3. x = 7 and y = - 1
4. x = - 5 and y = - 2

**Que. 61** Find the area of the region bounded by the curves $y = x^3$, the line x = 2, x  = 5 and the x - axis?

1. 173.50
2. 230.25
3. 175.35
4. 152.25

**Que. 62** Evaluate: $\lim_{x \to 0}\left[\frac{\sin(ax)}{\sin(bx)}\right] =?$

1. 1
2. $\frac{a}{b}$
3. $\frac{b}{a}$
4. 0

**Que. 63** Find the order of the differential equation $\frac{d^3y}{dx^3} - 2\frac{d^2y}{dx^2} - y = 0$ ?

1. 3
2. 2
3. 1
4. None of these

**Que. 64** Find the equation of the circle whose end points of the diameter are (- 2, 4) and (4, 2) ?

1. $x^2 + y^2 - 2x + 6y = 0$
2. $x^2 + y^2 + 2x - 6y = 0$
3. $x^2 + y^2 - 2x - 6y = 0$
4. $x^2 + y^2 + 2x + 6y = 0$

**Que. 65** A bag contains 9 white balls and 12 red balls. If one ball is drawn at random from the bag what is the probability the ball drawn is white in colour ?

1. 5/7
2. 2/7
3. 1/7
4. 3/7

**Que. 66** In how many ways can 8 persons sit in a row ?

1. 7!
2. 8!
3. 6!
4. None of these

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**Que. 67** If the distance between the points (3, 4) and (a, 2) is 8 units then find the value of a

1. $3 \pm 2\sqrt{15}$
2. $2 \pm 2\sqrt{15}$
3. $1 \pm \sqrt{15}$
4. None of these

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**Que. 68** The maximum value of the function $f(x) = x^3 + 2x^2 - 4x + 6$ exists at

1. x = -2
2. x = 1
3. x = 2
4. x = -1

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**Que. 69** $\int \log x \, dx =$

1. xlog x - 1 + c
2. xlog x + x + c
3. xlog x - x + c
4. None of the above

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**Que. 70** If $\tan(A - B) = \frac{1}{\sqrt{3}}$ and $\tan(A + B) = \sqrt{3}$, then the values of A and B are respectively:

1. 45°, 15°
2. 30°, 60°
3. 30°, 30°
4. 40°, 20°

## 70 Questions

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

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

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