

**SAMPLE QUESTION PAPER**  
**for**  
**PGDBA Admission Test 2023**

**Note:** *Question-wise Answer Keys are provided  
at the end of this question paper.*

## **SECTION A: Verbal Ability and Logical Reasoning**

**This section has 20 (Twenty) Questions**

Q.1 The four sentences (labelled A, B, C and D) below, when properly sequenced would yield a coherent paragraph. Choose the option that would result in the most coherent paragraph:

1. He pioneered a new method for making such shapes understandable: instead of drawing them as solids, he made them see-through skeletons, as if constructed of wooden beams.
2. Most of Leonardo's drawings for Pacioli's book, which was finished in 1498, are variations of five shapes known as Platonic solids.
3. He also illustrated more complex shapes such as rhombicuboctahedron, which has twenty-six facets, eight of them equilateral triangles that are bordered by squares.
4. These are polyhedrons that have the same number of faces meeting at each vertex: pyramids, cubes, octahedrons (eight faces), dodecahedrons (twelve) and icosahedrons (twenty).

(A) 2, 1, 3, 4

(B) 2, 4, 1, 3

(C) 2, 3, 4, 1

(D) 2, 4, 3, 1

Q.2 The four sentences (labelled A, B, C and D) below, when properly sequenced would yield a coherent paragraph. Choose the option that would result in the most coherent paragraph:

1. Mr. Hernandez is not the first Latin American head of state to be accused of drug trafficking.
2. On 15th February, 2022, Mr. Juan Orlando Hernandez, the outgoing President of Honduras, was arrested and taken away in handcuffs.
3. But the rot goes particularly deep in Honduras.
4. The arrest was in response to an extradition request from the US relating to a drug trafficking case.

(A) 2, 1, 3, 4

(B) 2, 4, 1, 3

(C) 2, 3, 4, 1

(D) 2, 4, 3, 1

Q.3 The four sentences (labelled A, B, C and D) below, when properly sequenced would yield a coherent paragraph. Choose the option that would result in the most coherent paragraph:

1. Both at the same level of credibility, both at the same level of fakery.
2. And so, at Disneyland, along with Mickey Mouse and the kindly Bears, there must also be, in tactile evidence, Metaphysical Evil (The Haunted Mansion) and Historical Evil (The Pirates), and in the waxwork museums, alongside the Venuses de Milo, we must find grave robbers, Dracula, Jack the Ripper and the Phantom of the Opera.
3. The ideology of this America wants to establish reassurance through imitation.
4. But profit defeats ideology, because the consumers want to be thrilled not only by the guarantee of the Good but also by the shudder of the Bad.

(A) 2, 3, 4, 1

(B) 3, 4, 2, 1

(C) 3, 2, 4, 1

(D) 4, 3, 2, 1

Q.4 Fill in the blank with the correct word:

The adjective for metal is metallic. But not for iron, which is \_\_\_\_\_.

(A) strange

(B) unlikely

(C) ironic

(D) ferrous

Q.5 Choose the combination of words that appropriately completes this sentence:

‘You tried to \_\_\_\_\_ money from me, and now that I’ve refused, you \_\_\_\_\_ and \_\_\_\_\_ me.’

(A) Cadge, argue, pester

(B) Hedge, spank, scold

(C) Cadge, upbraid, reproach

(D) Cadge, braid, approach

***Instructions for Questions 6 to 10:***

**Read the passage below and choose the BEST answer to each question.**

Doomsayers of the past two centuries have blamed, among other things, novels, the radio, jazz, rock 'n roll, television, horror films, Dungeons & Dragons, video games, the internet, smartphones and social media for the sad decline of the young. John Protzko, a psychologist...wondered whether things might not be quite so gloomy as they seemed. To try to bring some rigour to the question, he went hunting for examples of a cognitive experiment called the marshmallow test. This test, first performed at Stanford University in the 1960s, measures how good young children are at self-control - specifically, whether or not they can defer a small but immediate reward, such as a marshmallow, in favour of a bigger one later. It was one of the first examples of a standardised psychological test, so it gave him plenty of historical data to work with.

The set-up is simple. A child is taken into a room and presented with a choice of sugary snacks. A researcher explains that the child can choose his favourite treat and eat it whenever he likes - but, if he waits 15 minutes, he can have two instead. The researcher then leaves the room. Age is the strongest predictor of successfully resisting the temptation [to take the treat immediately]. Among children of the same age, however, doing well on the test is associated with plenty of good things later in life, from healthy weight to longer school attendance and better exam results.

Dr Protzko...polled 260 experts in child cognitive development, inviting them to predict what he might find. Just over half thought that children would have become worse at delaying gratification - perhaps thinking about a plethora of recent studies into the supposedly deleterious effects of modern technology. Another third predicted no change.

Only 16% of the experts made the correct prediction. This is, that children have become steadily and significantly better at the test over the past half century. In 1967, the average waiting time before succumbing to temptation was around three minutes. By 2017, that had risen to eight minutes - an increase of about a minute a decade. And that increase seems to be happening at all levels of ability. The most impulsive children are improving at the same rate as the most prudent.

The rate of increase caught Dr Protzko's eye as well. That rate, a fifth of a standard deviation every decade, is about the same improvement as has been seen in IQ tests over the past 80 years.... The cause of this increase in IQ, which is dubbed the Flynn effect after the psychologist who brought it to the world's attention, remains mysterious - as does whether Dr Protzko's results are related to it. IQ is associated with the ability to delay gratification, but the correlation is far from perfect.

- Q.6 In the context of the passage, what do doomsayers intend to convey when they talk of ‘the sad decline of the young’?
- (A) The young are lazy and that affects their studies.
  - (B) The young waste a lot of time on social media.
  - (C) The young are failing the ‘Marshmallow Test’.
  - (D) The young don’t live up to their full potential.
- Q.7 From the passage it can be inferred that those doing well in the ‘Marshmallow Test’ are more likely to do well later in adult life because,
- (A) they can sacrifice short-term gains for higher long-term returns.
  - (B) they focus more on their studies than on watching television.
  - (C) they work harder than other children, and therefore, succeed in life.
  - (D) they are unaffected by social media, and therefore, are more successful in life.
- Q.8 In the context of the passage, what could the ‘plethora of recent studies into the supposedly deleterious effects of modern technology’ have concluded?
- (A) There has been a decrease in IQ among children.
  - (B) Children are keen on instant gratification.
  - (C) Children are being affected by the ‘Flynn Effect’.
  - (D) Children are doing less well in exams when compared to the past.

Q.9 From the passage what can one infer about the impact of the 'Flynn Effect' on children's performance in the Marshmallow Test?

- (A) Children would do better than earlier.
- (B) More children would fail the test than earlier.
- (C) Children's performance would remain the same.
- (D) The 'Flynn Effect' would have no impact on children's performance.

Q.10 Which of the following best reflects the main argument of the passage?

- (A) Children have become more patient since the 1960s because of a plethora of distractions.
- (B) Children have become more patient since the 1960s despite a plethora of distractions.
- (C) Children have become less patient since the 1960s despite a plethora of distractions.
- (D) Children have become less patient since the 1960s because of a plethora of distractions.

***Instructions for Questions 11 to 15:***

**Read the passage below and choose the BEST answer to each question.**

One of the problems we face in working out where we stand on surveillance is that none of us know exactly how we are being surveilled, and what the coming years might bring. Surveillance technology is developing at breakneck speed, and what seemed science-fiction 10 years ago is today old news. As a thought experiment, consider a hypothetical government that demands that every citizen wears a biometric bracelet that monitors body temperature and heart-rate 24 hours a day. The resulting data is hoarded and analysed by government algorithms. The algorithms will know that you are sick even before you know it, and they will also know where you have been, and who you have met. The chains of infection could be drastically shortened, and even cut altogether. Such a system could arguably stop the epidemic in its tracks within days. Sounds wonderful, right? The downside is, of course, that this would give legitimacy to a terrifying new surveillance system.

If you know, for example, that I clicked on a Fox News link rather than a CNN link, that can teach you something about my political views and perhaps even my personality. But if you can monitor what happens to my body temperature, blood pressure and heart-rate as I watch the video clip, you can learn what makes me laugh, what makes me cry, and what makes me really, really angry.

It is crucial to remember that anger, joy, boredom and love are biological phenomena just like fever and a cough. The same technology that identifies coughs could also identify laughs. If corporations and governments start harvesting our biometric data en masse, they can get to know us far better than we know ourselves, and they can then not just predict our feelings but also manipulate our feelings and sell us anything they want - be it a product or a politician. Biometric monitoring would make Cambridge Analytica's data hacking tactics look like something from the Stone Age. Imagine North Korea in 2030, when every citizen has to wear a biometric bracelet 24 hours a day. If you listen to a speech by the Great Leader and the bracelet picks up the tell-tale signs of anger, you are done for.

You could, of course, make the case for biometric surveillance as a temporary measure taken during a state of emergency. It would go away once the emergency is over. But temporary measures have a nasty habit of outlasting emergencies, especially as there is always a new emergency lurking on the horizon. My home country of Israel, for example, declared a state of emergency during its 1948 War of Independence, which justified a range of temporary measures from press censorship and land confiscation to special regulations for making pudding (I kid you not). The War of Independence has long been won, but Israel never declared the emergency over, and has failed to abolish many of the "temporary" measures of 1948 (the emergency pudding decree was mercifully abolished in 2011).

- Q.11 What does the author want to convey through the anecdote of the Emergency Pudding Decree?
- (A) Governments in power use measures taken during emergency as an excuse to justify surveillance.
  - (B) Powerful individuals may take advantage of an emergency to pass laws that are harmful.
  - (C) Governments often abuse their power by not abolishing temporary laws sanctioned during a state of emergency.
  - (D) Surveillance is bad for democracy.
- Q.12 Many individuals wear smart watches that monitor heart rate, oxygen level and other physical activity. In the context of the passage, does this imply that governments are already practicing biometric surveillance?
- (A) Yes
  - (B) No
  - (C) Maybe
  - (D) Insufficient information
- Q.13 How might authoritarian governments use biometric surveillance to remain in power?
- (A) Monitoring negative emotions like anger or hatred to identify dissenters.
  - (B) Using biometric data to push products/services that glorify the government.
  - (C) Ensuring that no pandemic or health crisis happens.
  - (D) Using biometric data to crack down on opposition leaders and activists.



Q.14 How does the author define data surveillance?

- (A) Data surveillance is something that can assist governments and corporations to predict our feelings.
- (B) Data surveillance is something that uses data to manipulate our emotions and modify our behaviour.
- (C) Data surveillance is 'Stone Age' technology, and hence, is being considered outdated and useless.
- (D) Data surveillance is not as scary as biometric surveillance, and hence, can be conveniently used by governments and corporations.

Q.15 In the context of the passage, which of the following statements about biometric surveillance are TRUE?

1. Biometric surveillance could arguably stop an epidemic very fast.
2. Biometric surveillance turns emotions into data.
3. Biometric surveillance can predict our actions.
4. Biometric surveillance can manipulate our feelings.

- (A) 1, 2, 3, 4
- (B) 1, 3, 4
- (C) 2, 3, 4
- (D) 1,2,4

**Instructions for Questions 16 to 20:** Based on the following information, choose the correct answer for each of the five questions that follow.

There are four different teams in a tournament, each having exactly two players. These eight players {A, B, C, D, E, F, G and H} are sitting around a circular table, wearing dresses that are Red or Blue or Green in colour. No two players wearing dresses of same colour sit either adjacent or opposite to each other. Further, no two teammates wear dresses of same colour, and no two teammates sit either adjacent or opposite to each other.

It is also known that:

- 1) A, D, E and F belong to four different teams.
- 2) H and F belong to the same team.
- 3) A is wearing a Green dress and sitting opposite to C.
- 4) E is wearing a Blue dress and sitting opposite to G.
- 5) D is not wearing a Red dress and is not a teammate of G.
- 6) Wearing a Green dress, B is sitting to the immediate left of C and to the immediate right of teammate of C.

Q.16 Who is definitely sitting adjacent to F?

- (A) A
- (B) G
- (C) B
- (D) E

Q.17 What is the colour of the dress of teammate of D?

- (A) Red
- (B) Blue
- (C) Green
- (D) Cannot be determined

Q.18 Who is sitting in-between two players wearing Blue dresses?

(A) A

(B) B

(C) F

(D) G

Q.19 Whose teammate is wearing a Red dress?

(A) C

(B) D

(C) E

(D) G

Q.20 Who is sitting opposite to B?

(A) D

(B) E

(C) Either F or H

(D) Either D or E

## **SECTION B: Data Interpretation and Data Visualization**

**This section has 05 (five) Questions**

- Q.21 Cases filed in different courts may be pending (not yet processed to completion) or closed. The total number of cases pending from previous years, the total number of new cases filed this year and the total number of cases closed this year in different courts across four states are given below.

State	Pending cases from previous Years	New cases filed this Year	Cases closed this Year
S <sub>1</sub>	52753	17004	25252
S <sub>2</sub>	1217	7005	3414
S <sub>3</sub>	117328	32766	23722
S <sub>4</sub>	12876	2251	3731

Assuming that the total number of cases filed and getting closed remain approximately the same over the years, which states are likely to see a decrease in the total number of pending cases next year?

- (A) S<sub>1</sub>, S<sub>3</sub>
- (B) S<sub>2</sub>, S<sub>4</sub>
- (C) S<sub>1</sub>, S<sub>4</sub>
- (D) S<sub>2</sub>, S<sub>3</sub>

- Q.22 A city is divided into three regions P, Q and R. A survey was conducted in each of the regions to get an idea of the proportion of males and proportion of females who feel safe or unsafe. Accordingly, 250 males and 250 females were interviewed and the following were observed:

Regions	Number of Males who		Number of Females who	
	Feel Safe	Feel Unsafe	Feel Safe	Feel Unsafe
P	90	10	20	10
Q	30	20	40	60
R	80	20	60	60

The three regions can be ordered based on the differences in the proportion of males and proportion of females feeling safe as:

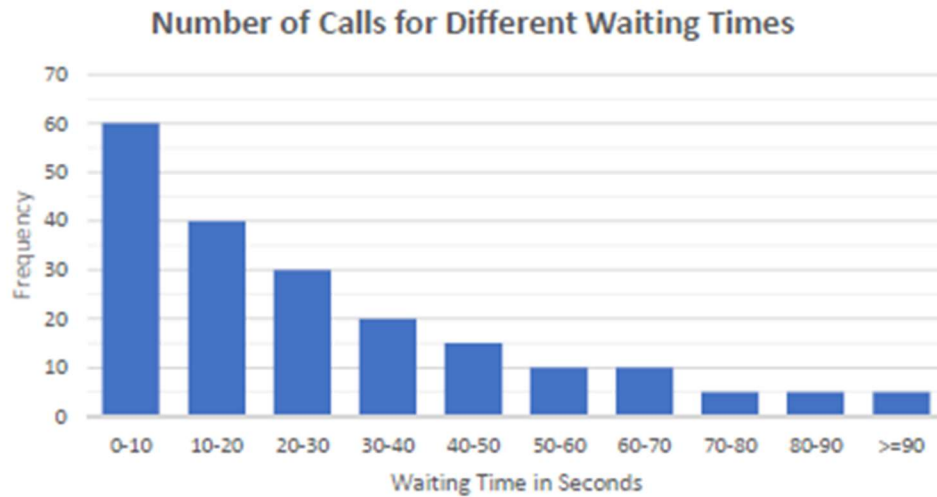
- (A)  $P > Q > R$   
 (B)  $R > P > Q$   
 (C)  $Q > P > R$   
 (D)  $R > Q > P$
- Q.23 A product can have at most 3 defects  $D_1$ ,  $D_2$  and  $D_3$ . Suppose 1000 samples of the product are inspected and the number of samples with different combinations of defects are tabulated as follows:

Sl. No.	Defects			Number of Samples
	$D_1$	$D_2$	$D_3$	
1	Yes	Yes	Yes	20
2	Yes	Yes	No	50
3	Yes	No	Yes	130
4	Yes	No	No	200
5	No	Yes	Yes	100
6	No	Yes	No	50
7	No	No	Yes	50
8	No	No	No	400

Which of the following statements is TRUE?

- (A) The number of samples with at least one defect is less than the number of samples with no defects.  
 (B) The number of samples with exactly one defect is less than the number of samples with exactly two defects.  
 (C) The number of samples with exactly one defect is more than the number of samples with more than one defect.  
 (D) More than 2% of the samples have at least two defects.

Q.24 Customers calling up a call center often need to wait before being attended to. In order to study the waiting time of customers, data were collected on waiting times of 200 calls. The following is a graphical representation of the observed waiting times. Note that the bar marked a – b includes all waiting times  $t$  such that  $a \leq t < b$ . A call is said to have waiting time 0 in case it is answered as soon as it is connected to the call center.



The lowest possible value of the average of the observed waiting times is closest to

- (A) 21.00
- (B) 22.75
- (C) 20.00
- (D) 20.50

Q.25 It is believed that job satisfaction is related to pay. A study was conducted where 400 respondents were asked about their monthly salary and level of job satisfaction. The data collected are given below.

Salary (Rs. / Month)	No. of Respondents with Level of Job Satisfaction			Total
	Low	Medium	High	
$\leq 25000$	20	30	70	120
$> 25000$ but $\leq 50000$	20	40	90	150
$> 50000$	10	30	90	130
Total	50	100	250	400

A pair of respondents ( $R_1, R_2$ ) with salary of  $R_1$  greater than salary of  $R_2$  and with job satisfaction of  $R_1$  greater than job satisfaction of  $R_2$  is called a concordant pair. Then the observed number of concordant pairs is

- (A) 16000
- (B) 16400
- (C) 17800
- (D) 19200

## **SECTION C: Quantitative Aptitude**

**This section has 25 (twenty-five) Questions**

Q.26 Which of the following equations will have positive integer solutions?

(A)  $x^2 + y^2 = 2025$

(B)  $x^2 + y^2 = 2023$

(C)  $x^2 - y^2 = 2022$

(D)  $xy(x-y) = 2021$

Q.27 An airplane is observed to be approaching a point that is at a distance of 20 *km* from the point of observation such that the angle of elevation is  $60^\circ$ . Then the height of the airplane above the ground is:

(A)  $40\sqrt{3}$  *km*

(B)  $\sqrt{30}$  *km*

(C)  $10\sqrt{3}$  *km*

(D) 20 *km*



Q.28 For what value of  $m$  will the equation

$$\frac{x^2 - bx}{ax - c} = \frac{m - 1}{m + 1}$$

have roots equal in magnitude but opposite in sign?

(A)  $\frac{a + b}{a - b}$

(B)  $\frac{a + b}{a - b}$

(C)  $\frac{a - c}{a + c}$

(D)  $\frac{b - c}{b + c}$

Q.29 If  $P$  and  $Q$  are two matrices such that  $PQ = Q$  and  $QP = P$ , then  $P^3 + Q^3$  is equal to

(A)  $3PQ$

(B)  $3QP$

(C)  $P + Q$

(D)  $P^3Q^3$

Q.30 Suppose  $2\sin \theta - 5\cos \theta = \sqrt{13}$ . Then the expression  $(2\cos \theta + 5\sin \theta)$  equals

(A)  $\pm 5$

(B)  $0$

(C)  $\pm 13$

(D)  $\pm 4$

Q.31 Let  $a_1, a_2, a_3, a_4, a_5$  be the distinct fifth roots of 1. Then the value of

$$a_1^{2022} + a_2^{2022} + a_3^{2022} + a_4^{2022} + a_5^{2022} \text{ is}$$

- (A) 0
- (B) 5
- (C) 7
- (D) 10

Q.32 Consider the function  $f: \mathbb{R} \rightarrow \mathbb{R}$  defined by

$$f(x) = \max\{x, x^2\} - \min\{x, x^2\}.$$

Then  $f$  is differentiable|

- (A) everywhere except  $x = 0$
- (B) everywhere except  $x = 0$  and  $x = -1$
- (C) everywhere except  $x = 0$  and  $x = 1$
- (D) everywhere except  $x = 0, x = 1$  and  $x = -1$

Q.33 The highest power of 7 that divides  $2022!$  is

- (A) 337
- (B) 334
- (C) 323
- (D) 345

Q.34 The area of the region bounded by the curves  $y^2 = 4x$  and  $y = 2x$  is

(A)  $\frac{1}{10}$

(B)  $\frac{1}{5}$

(C)  $\frac{1}{3}$

(D)  $\frac{1}{8}$

Q.35 If  $\alpha$  and  $\beta$  are the two roots of the quadratic equation  $x^2 + x + 1 = 0$ , then the equation whose roots are  $\alpha^{2022}$  and  $\beta^{2022}$  is

(A)  $x^2 + x - 1 = 0$

(B)  $x^2 - 2x + 1 = 0$

(C)  $x^2 + 2x - 1 = 0$

(D)  $x^2 + x + 1 = 0$

Q.36 For which values of  $\lambda \in \mathbb{R}$  will the system of linear equations

$$x + y + z = 2$$

$$x + 2y + z = -2$$

$$x + y + (\lambda - 5)z = \lambda$$

have a unique solution?

(A)  $\lambda = 6$

(B)  $\lambda \neq 6$

(C)  $\lambda = 2$

(D)  $\lambda \neq 3$

Q.37 The domain of the function  $f(x) = \sqrt{\frac{1-|x|}{2-|x|}}$  is

- (A)  $\mathbb{R} \setminus \{-2, 2\}$
- (B)  $[-1, 1] \cup (-\infty, -2) \cup (2, \infty)$
- (C)  $(-1, 1) \cup (-\infty, -2) \cup (2, \infty)$
- (D)  $(-\infty, -2) \cup (2, \infty)$

Q.38 Let  $P, Q, R$  be any three sets. Consider the following two statements:

(I)  $P - (Q - R) = (P - Q) \cup R$

(II)  $P - (Q \cup R) = (P - Q) - R$

Which of the following is TRUE?

- (A) Both (I) and (II) are always correct
- (B) Both (I) and (II) are always incorrect
- (C) (II) is always correct and (I) is correct if and only if  $P \subset R$
- (D) (II) is always correct and (I) is correct if and only if  $R \subset P$

Q.39 If the line  $\frac{x}{a} + \frac{y}{b} = 1$  is a tangent to the curve  $x^{\frac{2}{3}} + y^{\frac{2}{3}} = 1$ , then which of the following is TRUE?

- (A)  $a^2 + b^2 = 1$
- (B)  $a^2 + b^2 = 2$
- (C)  $a^2 + b^2 = \frac{2}{3}$
- (D)  $\frac{1}{a^2} + \frac{1}{b^2} = 1$

Q.40 The limit

$$\lim_{x \rightarrow 0} \left( \frac{\tan x}{x} \right)^{\frac{1}{x}}$$

- (A) is 1.
- (B) is 0.
- (C) Is  $e$ .
- (D) Does not exit.

Q.41 Let  $P$  be a  $19 \times 19$  matrix whose entries in both the diagonals are all equal to 1 and all other entries are equal to 0. Then,  $\text{rank}(P)$  is equal to

- (A) 9
- (B) 10
- (C) 11
- (D) 19

Q.42 Suppose  $E_1$  and  $E_2$  are two independent events, each having probability  $p$ . If

$P(E_1 \cup E_2) = \frac{5}{9}$ , what is the value of  $p$ ?

- (A)  $\frac{1}{9}$
- (B)  $\frac{2}{9}$
- (C)  $\frac{1}{3}$
- (D)  $\frac{5}{18}$

Q.43 Consider a function  $f(x) = x^2 + px + q$  such that the roots of  $f(x) = 0$  are positive and distinct. Let the arithmetic mean, the geometric mean and the harmonic mean of the two roots be  $a$ ,  $b$  and  $c$ , respectively. Then, which of the following statements is TRUE?

(A)  $f(a) > f(b) > f(c)$

(B)  $f(a) > f(c) > f(b)$

(C)  $f(a) < f(b) < f(c)$

(D)  $f(a) < f(c) < f(b)$

Q.44 Let  $a_1, a_2 \in \mathbb{R}$  be such that  $|a_1 - a_2| = 10$ . Consider

$$f(x) = \begin{vmatrix} 1 & a_2 & a_1 \\ 1 & a_2 & 2a_1 - x \\ 1 & 2a_2 - x & a_1 \end{vmatrix}$$

Then, the largest value of  $f(x)$  is

(A) 15

(B) 20

(C) 25

(D) 30

Q.45 If  $f(x) = \sin(\log_{10} x)$  and  $h(x) = \cos(\log_{10} x)$ , then

$$\frac{1}{2} \left( h\left(\frac{x}{y}\right) + h(xy) \right) - f(x)f(y)$$

equals

(A)  $\cos(\log_{10}(xy))$

(B)  $\sin(\log_{10}(xy))$

(C)  $\cos\left(\log_{10}\left(\frac{x}{y}\right)\right)$

(D)  $\sin\left(\log_{10}\left(\frac{x}{y}\right)\right)$

Q.46 A straight line segment  $AB$  of length  $p$  moves with its ends on the axes. Let  $C$  be a point on  $AB$  such that  $AC:BC = 1:3$ . Then the equation of the locus of  $C$  is

(A)  $16(x^2 + y^2) = 9p^2$

(B)  $16(9x^2 + y^2) = 9p^2$

(C)  $16(x^2 + 9y^2) = 9p^2$

(D)  $16(9x^2 + y^2) = p^2$

Q.47 The number of terms in the expansion of  $(1 - x)^{51}(1 + x + x^2 + x^3 + x^4)^{50}$  is

(A) 112

(B) 102

(C) 100

(D) 101

Q.48 For any real number  $x$ , let  $[x]$  denote the greatest integer  $m$  such that  $m \leq x$ . Then the value of  $\int_0^\pi [2 \sin x] dx$  is

(A)  $\frac{\pi}{3}$

(B)  $\frac{\pi}{6}$

(C)  $\frac{2\pi}{3}$

(D)  $\frac{\pi}{2}$

Q.49 If a circle passes through the points of intersection of the coordinate axes with the lines  $x - \lambda y + 1 = 0$  and  $x - 2y + 3 = 0$ , then  $\lambda$  equals

(A)  $\frac{3}{2}$  or  $\frac{1}{2}$

(B)  $\frac{2}{3}$  or  $\frac{1}{2}$

(C)  $\frac{4}{3}$  or  $\frac{1}{3}$

(D)  $\frac{3}{4}$  or  $\frac{1}{3}$

Q.50 In how many ways can the 26 letters of the English alphabet be arranged such that no two vowels are next to each other in the arrangement?

(A)  $26! - 5 \times 21!$

(B)  $26! - 5 \times 25!$

(C)  ${}^{21}P_5 \times 21!$

(D)  ${}^{22}C_5 \times 21! \times 5!$

END OF QUESTION PAPER



## ANSWER KEYS

Question No.	Answer Key
Q.1	D
Q.2	B
Q.3	B
Q.4	C
Q.5	C
Q.6	D
Q.7	A
Q.8	B
Q.9	A
Q.10	B
Q.11	C
Q.12	B
Q.13	A
Q.14	A
Q.15	D
Q.16	A
Q.17	C
Q.18	D
Q.19	C
Q.20	C
Q.21	C
Q.22	B
Q.23	D
Q.24	B
Q.25	B

Question No.	Answer Key
Q.26	A
Q.27	C
Q.28	B
Q.29	C
Q.30	D
Q.31	A
Q.32	C
Q.33	B
Q.34	C
Q.35	B
Q.36	B
Q.37	B
Q.38	D
Q.39	A
Q.40	A
Q.41	B
Q.42	C
Q.43	C
Q.44	C
Q.45	A
Q.46	B or C
Q.47	B
Q.48	C
Q.49	B
Q.50	D