

# iGate Patni

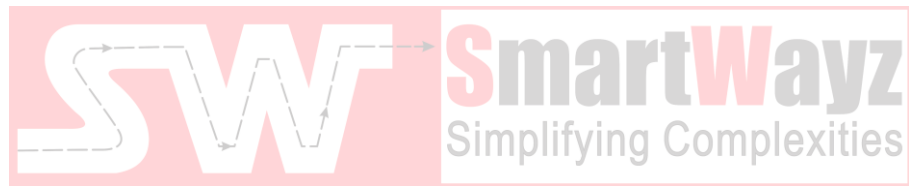
## INSTRUCTIONS

1. In all there are 60 questions across three sections. Direction for answering the questions is given before each group of questions. There is only one correct answer to each question.
2. Each question carries 1 mark. 0.25 marks will be deducted for every wrong answer.
3. The duration of the test is 1 hours.
4. Follow the instructions of the invigilator. Candidates found violating the instructions will be disqualified.

### Breakup of the different sections of the test

Section No.	Section Name	No. of Questions	Suggested Time
<b>I</b>	QUANTITATIVE APTITUDE	25	30 min.
<b>II</b>	VERBAL APTITUDE	15	10 min.
<b>III</b>	LOGICAL REASONING	20	20 min.
	<b>Total</b>	<b>60</b>	<b>60 min.</b>

*Candidates giving assistance or seeking/receiving help from any source in answering questions or copying in any manner in the test will forfeit their chances of being considered for admission. Such candidates will forfeit the right to the scorecard and the Institutes concerned will not issue scorecards to them. The Institutes reserve the right to exclude any question or questions from this test Booklet for final evaluation.*



## Section – I

### Quantitative Aptitude

1. A dog takes four leaps for every five leaps of the hare but three leaps of the dog is equal to four leaps of the hare. Find the ratio of the speeds of the dog and the hare?

- a) 12 : 16                      b) 19 : 20                      c) 16 : 15                      d) 10 : 12

2. A watch ticks 85 times in 90 seconds. And another watch ticks 315 times in 324 secs. If they start ticking together, how many times will they tick together in first hour?

- a) 100 times                      b) 101 times                      c) 99 times                      d) 102 times

3. Two operators # and \$ for real numbers a and b are defined as follows:

(i)  $a \# b$                       =  $a + b$  if both a and b are positive,  
   = 1, otherwise

(ii)  $a \$ b$                       =  $(ab)(a + b)$  if ab is positive  
   = 1, otherwise

Then, the value of  $((1 \# 1) \$ 2) - ((1 \$ 1) \# 2)$  is

- a) 0                                      b) 4                                      c) 8                                      d) 12

4. Find the range of x if  $x^2 - 5x + 6 > 0$ .

- a)  $2 < x < 3$                       b)  $-3 < x < -2$                       c)  $x < 2$  or  $x > 3$                       d)  $x < -3$  or  $x > -2$

5. If the roots of the equation  $5x^2 + 14x + k = 0$  are reciprocals of each other, find the value of k.

- a) 5                                      b) -5                                      c)  $\frac{1}{5}$                                       d)  $-\frac{1}{5}$

6. The first term of an Arithmetic Progression is 5 and the 16<sup>th</sup> term is 45. Find the sum of first 16 terms of this series.

- a) 800                                      b) 600                                      c) 400                                      d) 200

7. If x, y and z are three odd numbers, then what is the value of y, if it is known that arithmetic mean of x and z is 114 and arithmetic mean of y and z is 113?

- a) 109                                      b) 111                                      c) 113                                      d) 115

8. Ram is 27 years older to Mohan. After 7 years Ram would be thrice as old as Mohan. Find their combined ages 5 years back.

- a) 40 years                                      b) 35 years                                      c) 30 years                                      d) 25 years

9. Taps A, B and C can individually fill a tank in 72 sec, 36 sec and 24 sec respectively. If all three of them are opened simultaneously, the output from the three taps together is 5 litres per minute. What is the capacity of the tank?

- a) 2400 litres                                      b) 3000 litres                                      c) 3600 litres                                      d) 4500 litres

10. How many solutions does the following equation have:  $\frac{x-2}{x-1} = 1 - \frac{2}{x-2}$

- a) None                      b) One                      c) Two                      d) Three

11. Find the point of intersection of the given two lines:

Line 1:  $15x + 9y = 15$  and Line 2:  $5x + 3y = 21$

- a) (1, 0)                      b) (3, 2)  
c) The two lines will never intersect                      d) The two lines will intersect at infinite points

12. An urn contains cards that are numbered from 1 to 20. If two cards are drawn successively from this urn, find the probability that both are prime.

- a)  $\frac{7}{85}$                       b)  $\frac{2}{5}$                       c)  $\frac{13}{95}$                       d)  $\frac{14}{95}$

13. A basket contains 3 mangoes, 4 apples and 4 bananas. Find the number of ways of selecting 3 fruits of the same type from the basket.

- a) 11                      b) 10                      c) 9                      d) 8

14. If  $a^x = b^y = c^z$  and  $b^2 = ac$ , find the value of  $\frac{x+z}{xz}$ .

- a)  $\frac{1}{y}$                       b)  $\frac{2}{y}$                       c)  $y$                       d)  $2y$

15.  $(\log_{10}5)^2 - (\log_{10}2)^2 = ?$

- a)  $\log_{10}2.5$                       b)  $\log_{10}5$                       c)  $\log_{10}20$                       d)  $\log_{10}25$

16. A 60 litres mixture of spirit and water contains 21% spirit. How much water must be added to this mixture to make it a 7% spirit mixture?

- a) 30 litres                      b) 60 litres                      c) 90 litres                      d) 120 litres

17. There are 9 pair of black socks and 8 pair of white socks in a drawer. Rita pulls out 3 socks at random. Find the probability that she gets a pair of black socks.

- a)  $\frac{9}{22}$                       b)  $\frac{3}{22}$                       c)  $\frac{6}{11}$                       d)  $\frac{15}{22}$

18. What is the value of the following series:  $\frac{1}{7} - \frac{1}{7^2} + \frac{1}{7^3} - \frac{1}{7^4} + \dots \infty$

- a)  $\frac{1}{8}$                       b)  $\frac{3}{8}$                       c)  $\frac{1}{9}$                       d)  $\frac{2}{9}$

19. For what value of 'a' will the given two quadratic equations have a common root. Equation 1:  $x^2 - 11x + a = 0$  and Equation 2:  $x^2 - 14x + 2a = 0$ .

- a) 18                      b) 24                      c) 30                      d) 36

**20.** What is the sum of all the 4-digit numbers formed by using the digits 0, 1, 2 and 3 only once?

- a) 41736                      b) 40684                      c) 39996                      d) 38664

**21.** In a right angled triangle, the square of the hypotenuse is twice the product of the perpendicular sides. Then this triangle must be

- a) Scalene                      b) Isosceles                      c) Both a) and b)                      d) Can't Say

**22.** There are two square rooms, one having sides 5 ft. longer than the other one. The cost of papering the walls of the rooms is Rs.600 and Rs.800. Given that the heights of both rooms are the same, find the height.

- a) 5 ft.                      b) 8 ft.                      c) 10 ft.                      d) 12 ft.

**23.** Two numbers are on the ratio 8 : 9. If the smaller of the two numbers is increased by 12 and the larger one is reduced by 19, the ratio becomes 5 : 9. Find the smaller of the two numbers.

- a)  $\frac{1848}{41}$                       b)  $\frac{2079}{41}$                       c)  $\frac{3688}{41}$                       d)  $\frac{4078}{41}$

**24.** A teacher writes a number on the board. The first student tells that the number is divisible by 1. The second one says it is divisible by 2, the third says it is divisible by 3 and so on, till the tenth student says it is divisible by 10. If the statement made by exactly one of the students is incorrect, what is the number written on the board given that it is the smallest such number.

- a) 120                      b) 360                      c) 540                      d) 840

**25.** A stamp collector is trying to divide his stamps into groups of equal sizes. When he arranges his stamps in groups of 2, he finds that 1 stamp is left. He observes the same thing when he tries to divide the stamps in groups of 3, 4 and 7 stamps. Knowing that the number of stamps with him is between 100 and 200, what is the smallest group size more than 1 that he will be able to exactly divide all his stamps into without any stamp being left out?

- a) 5                      b) 11                      c) 13                      d) 17

## Section – II

### Verbal Aptitude

**Direction for questions 26 – 30:** Choose the most logical sequence for sentences A, B, C and D that forms the best paragraph.

**26.**

- A. Modern physics and cosmology suggest that basic truths about how nature operates, and how our universe arose, are visible only to those who can see events that occur faster than the time it takes for light to cross a proton, and whose vision can resolve sub-nuclear distances.
- B. By smashing protons together with unprecedented energy, monitoring the many particles that emerge from the collisions, and reconstructing the primary events that produced them, physicists will in effect have constructed the fastest, highest-resolution microscope ever, with each proton taking a snapshot of the other's interior.
- C. The Large Hadron Collider (LHC) rises to the opportunity.
- D. Fortunately, that does not rule out humans, for we can augment the eyes we were born with.

- a) ADBC                      b) ADCB                      c) ABDC                      d) BCAD

**27.**

- A. For more than a decade, the precious metallic component of e-waste has been fueling a polarized international trade in potentially hazardous materials, with defunct electronic products exported to countries where labor is cheap.
- B. It can be argued that disposing of high-tech e-waste in landfills is just another way of returning these precious metals to the earth, where, millennia from now, it will have merged with the substrata, becoming just like any other ore.
- C. The short-term consequences of using landfills, shallow pits, or incinerators to get rid of e-waste is the release of these noxious chemicals, which adversely impact ecological processes, wildlife, and human health.
- D. But, along with the precious metals, e-waste also contains potent toxic chemicals such as lead, mercury, cadmium, and brominated flame retardants.

- a) BDCA                      b) ABCD                      c) BCAD                      d) ACBD

**28.**

- A. It makes eminent sense; I grew up with Malthus's ideas brought up-to-date in apocalyptic books like *The Population Bomb*.
- B. It was not that long ago that experts were predicting that our skyrocketing human population would outstrip its food supply, leading directly to mass famine.
- C. It was the old doom-and-gloom mathematics of Thomas Malthus at work: population shoots up geometrically while food production lags behind.
- D. By now millions were supposed to be perishing from hunger every year.

- a) BCAD                      b) BDCA                      c) BACD                      d) ADCB

**29.**

- A. Help is at hand in the form of a new study from cognitive scientists at the University of Rochester, which suggests that video gamers make faster and more accurate decisions.
- B. Parents worry that violent games make their children antisocial, violent, shallow, and obese, and are breeding a generation that cannot sustain their concentration.
- C. Video games have been blamed for the ills of the world.
- D. Screen time is routinely limited, much to the chagrin of their keyboard-pounding offspring.

- a) CBDA                      b) BDCA                      c) BADC                      d) ABDC

30.

- A. That business is not just about profit and the interests of shareholders, and that the wishes of executives cannot be placed above those of all other stakeholders.
- B. In today's business climate, organizations need well-rounded executives with strong leadership skills and the ability to integrate ethical, sustainable and stakeholder thinking into their management decisions.
- C. Nowhere was this more apparent than the BP oil spill where the suspicion was that protecting the dividend and shareholder value was placed above public interest.
- D. For the MBA to remain relevant there needs to be an acknowledgement of this fact.

- a) ADBC                      b) BDCA                      c) BDAC                      d) DACB

**Direction for questions 31 – 35:** Fill in the blanks with the most appropriate word/s.

31. As the consequences of climate change become more \_\_\_\_\_, increasing numbers of people have come to \_\_\_\_\_ that the longer we hesitate, the more expensive the problem becomes.

- a) severe, reminisce      b) visible, evaluate      c) evident, reconcile      d) visible, recognize

32. In the past, universities have been created in times of \_\_\_\_\_, typically to encourage people to think beyond their immediate need for survival to more edifying spiritual or national \_\_\_\_\_.

- a) poverty, wealth      b) distress, well being      c) plenty, goals      d) prosperity, interests

33. Is academic freedom affordable in a time of economic crisis? There remains a nagging sense that universities are \_\_\_\_\_ now that ordinary people are \_\_\_\_\_ to make ends meet.

- a) free, living      b) luxuries, struggling      c) useless, surviving      d) unnecessary, studying

34. The new knowledge produced by original research is an instance of social capital formation. Hence, the university's unique institutional mission is to manufacture knowledge as a/an \_\_\_\_\_.

- a) social institution      b) intellectual property      c) consumable      d) public good

35. Contrary to the hopes of many, the end of the Second World War and the shock of the Nazi atrocities did not mean the end of war and genocide; the decades following it have been \_\_\_\_\_ with bloody conflicts in which entire population groups have been \_\_\_\_\_.

- a) marred, involved      b) riddled, involved      c) rife, murdered      d) rife, associated

**Direction for questions 36 – 40:** Each of these questions contains six statements followed by four/five (BCD etc.) sets of combinations of three. Choose the set in which the third statement can be deduced from the first two.

36.

- A. Some intolerant are poor thinkers.
- B. Some poor thinkers are intolerant.
- C. All people with high ideals are intolerant.
- D. No poor thinker is intolerant.
- E. No poor thinker has high ideals.
- F. Some people with high ideals are not poor thinkers.

- a) CDE                      b) CDF                      c) ABD                      d) BCF

**37.**

- A. Some well-dressed people are sociable.
- B. All sociable people are well-dressed.
- C. Some well dressed people are dull.
- D. No dull person is well-dressed.
- E. Some sociable people are dull.
- F. Some dull ones are well-dressed.

a) ACE

b) BCE

c) ADE

d) BEF

**38.**

- A. Iran and Iraq are members of the UN.
- B. Iran and Iraq are not friends.
- C. Iran and Iraq are neighbours.
- D. Some UN members are friends.
- E. Not all members of the UN are friends.
- F. All neighbours are not friends.

a) ABE

b) ABD

c) CDF

d) AEF

**39.**

- A. No spring is a season.
- B. Some seasons are springs.
- C. Some seasons are autumns.
- D. No seasons are autumns.
- E. Some springs are not autumns.
- F. All springs are autumns.

a) DFA

b) BEF

c) CEB

d) DEB

**40.**

- A. Some abra are dabra.
- B. All abra are cabra.
- C. All dabra are abra.
- D. All dabra are not abra.
- E. Some cabra are abra.
- F. Some cabra are dabra

a) AEF

b) BCF

c) ABD

d) BCE



## Section – III

### Logical Reasoning

**Direction for questions 41 – 43:** Read the following instructions and answer the questions that follow.

A, B and C have different number of marbles initially. First, A gives certain number of marbles to B and C, such that the number of marbles with B and C get doubled. Now, B gives certain number of marbles to A and C such that the number of marbles with them get doubled. Finally, C gives certain number of marbles to A and C such that the number of marbles with them get doubled. At this moment all three of them have 64 marbles.

**41.** How many marbles did B start with?

- a) 60                      b) 56                      c) 52                      d) 48

**42.** How many marbles did B give to C?

- a) 56                      b) 60                      c) 64                      d) 68

**43.** How many marbles did A give to C?

- a) 26                      b) 28                      c) 30                      d) 32

**Direction for Questions 44 and 45:**

Elle is 3 times as old as Zaheer. Zaheer is half as old as Waheeda. Yogesh is elder than Zaheer.

**44.** Which of the following data is sufficient to estimate Yogesh's age?

- a) Zaheer is 10 years old  
b) Yogesh and Waheeda are both older than Zaheer by the same number of years.  
c) Both of the above  
d) None of the above

**45.** Which one of the following statements can be inferred from the information given above

- a) Yogesh is elder than Waheeda  
b) Elle is older than Waheeda  
c) Elle's age may be less than that of Waheeda  
d) None of the above

**Direction for questions 46 – 50:** Read the information given below and answer the questions that follow.

Five teams participated in the Pepsi Cup Cricket Tournament. Each team played against each other once. The top two teams in the league matches played the finals. A win fetched 2 points, while a tie 1 point.

1. India defeated South Africa but failed to reach the finals.
2. Australia won only one match in the tournament.
3. The match between India and Sri Lanka ended in a tie.
4. The only undefeated team in the league matches lost in the finals.
5. The three teams that did not qualify for the finals ended up with same number of points in the league stage.

**46.** Who were the finalists?

- a) South Africa and Sri Lanka                      b) South Africa and Australia  
c) Australia and Sri Lanka                      d) England and Australia

47. Who won the finals?

- a) Australia                      b) Sri Lanka                      c) South Africa                      d) England

48. How many matches did India win?

- a) 0   b) 1                      c) 2                      d) Cannot be determined

49. Which was the only team against which Australia win in the league stage?

- a) England                      b) India                      c) South Africa                      d) Cannot be determined

50. What was the result of Australian-England match at the league stage?

- a) Australia won                      b) England won                      c) Tie                      d) Cannot be determined

**Direction for questions 51 and 52:** Read the information given below and answer the questions that follow.

7 cricket players are to be honored at a special luncheon. The players will be seated on a dais along one side of a single rectangular table. A and G have to leave the luncheon early and must be seated at the extreme right end of table, which is closest to the exit. B will receive the man of the match and must be in the centre chair. C and D who are bitter rivals for the position of the Wicket keeper dislike one another and should be seated as far apart as possible. E and F are the best friends and want to seat together.

51. Which of the following may not be seated at either end of the table?

- a) C                      b) D                      c) G                      d) F

52. Which of the following pairs may not be seated together?

- a) E and A                      b) B and D                      c) C and F                      d) G and D

**Direction for questions 53 and 54:** Read the information given below and answer the questions that follow.

A robot moves on a graph sheet with XY axes. The robot is moved by feeding it with a sequence of instructions. The different instructions that can be used in moving it and their meanings are:

Instruction	Meaning
GOTO (x, y)	move to point with co-ordinates (x, y) no matter where you are currently.
WALKX (P)	move parallel to x-axis through a distance of p, in the positive direction if p is positive and in negative direction if p is negative.
WALKY (P)	move parallel to y-axis through a distance of p, in the positive direction if p is positive and in negative if p is negative

53. The robot reaches point (5, 6) when a sequence of 3 instructions is executed, the first of which is GOTO(x, y), WALKY (2), WALKY(4). What are the values of x and y?

- a) 2, 4                      b) 0, 0                      c) 3, 2                      d) 2, 3

54. The robot is initially at (x, y),  $x > 0$  and  $y < 0$ . What is the least number of instructions required to take it to the origin if GOTO command is not allowed to be used?

- a) 1                      b) 2                      c) 3                      d)  $x + y$

**Direction for questions 55 – 57:** Read the information given below and answer the questions that follow.

Ten coins are distributed among 4 people P, Q, R, S such that each one of them gets different number of coins. It is known that Q gets more coins than P, and S gets fewer coins than R.

**55.** If the number of coins distributed to Q is twice the number distributed to P then which one of the following is necessarily true?

- a) R gets even number of coins
- b) R gets odd number of coins
- c) S gets even number of coins
- d) S gets odd number of coins

**56.** If R gets at least two more coins than S which one of the following is necessarily true?

- a) Q gets at least 2 more coins than S
- b) R gets more coins than P
- c) P gets more coins than S
- d) P and Q together get at least five coins

**57.** If Q gets fewer coins than R, then which one of the following is not necessarily true?

- a) P and Q together get at least 4 coins
- b) Q and S together get at least 4 coins
- c) R and S together get at least 5 coins
- d) P and R together get at least 5 coins

**Direction for questions 58 – 60:** Each question is followed by two statements A and B.

**Mark,**

- a) If statement A alone is sufficient to answer the question but not B
- b) If statement B alone is sufficient to answer the question but not A
- c) If both statements A and B are together required to answer the question
- d) If neither A nor B (alone or together) is sufficient to answer the question

**58.** What are the values of m and n?

- A. n is an even integer, m is odd integer and m is greater than n.
- B. The product of m and n is 30

**59.** A boat ferries 1500 passengers across a river in 12 hours. How many round trips does it make during the journey?

- A. The boat can carry 400 passengers at a time.
- B. During its journey, the boat takes 40 minutes each way and 20 minutes waiting time at each end.

**60.** Raman and Gaurav brought eggs from a vendor. How many eggs were brought by each of them?

- A. Raman bought half as many eggs as Gaurav.
- B. The dealer had a stock of 500 eggs at the beginning of day.