

# S P JAIN APTITUDE TEST

**Time: 50 minutes**

**SAMPLE PAPER 3**

Please fill in the following information with a ball-point pen:

STUDENT NAME

S P JAIN'S REGISTERED APPLICATION NUMBER: \_\_\_\_\_ (IF APPLIED ELSE YOUR EMAIL ID) \_\_\_\_\_

Please read instructions in the answer sheet and question booklet before answering

1. Please check the number of questions before you start answering (Total no. of Sections : 5)
2. All rough work to be done only on the blank sheet provided at the back of the question booklet.  
Please do NOT write on the question paper
3. Laptops, calculators, slide rules, log tables, watch calculators, papers, cellular phones etc are not allowed inside the examination hall
4. You will not be allowed to leave the examination hall during the examination
5. This objective type exam is for 50 minutes
6. Any candidate found violating the instructions and receiving/giving any form of help will be disqualified

The decision of S P Jain will be final and binding on the applicant in case of any dispute.

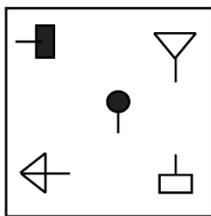
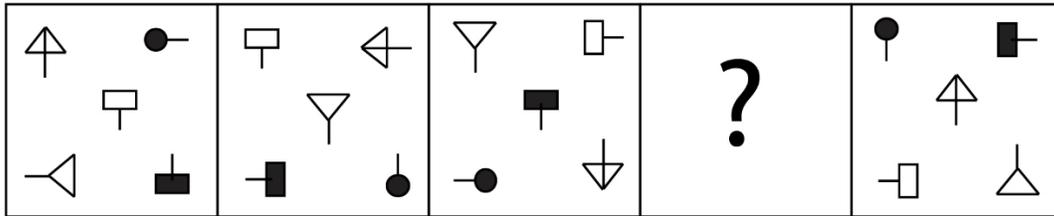
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Signature of Invigilator

## APPROPRIATION OF MARKS

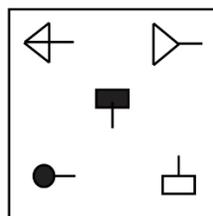
<b>Section</b>	<b>No. of Questions</b>	<b>Marks per question</b>	<b>Total Marks per Section</b>
Diagrammatic Reasoning	7	3	21
Logic	6	2	12
IQ	6	2	12
Numeracy	10	4	40
Reading Comprehension	5	3	15
<b>Total</b>	<b>34</b>		<b>100</b>

**DIAGRAMMATIC REASONING (7Q x 3 marks = 21 marks.)**

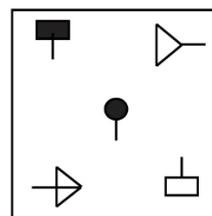
1. What will replace the question mark in the series of images below, such that the logic of the series is maintained?



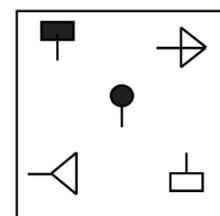
A



B

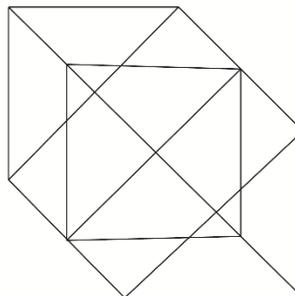


C



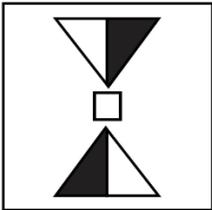
D

2. What is the minimum number of straight lines required to construct the figure below?

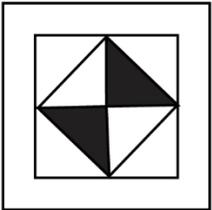


- A) 12
- B) 13
- C) 14
- D) 15

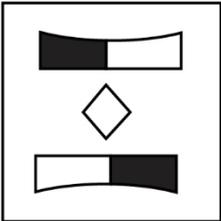
3. If,



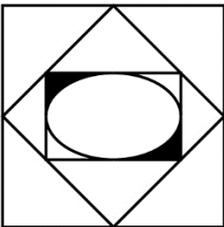
is translated to



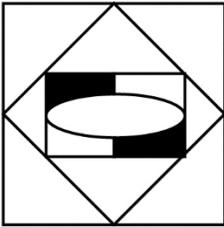
then,



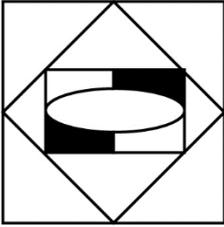
will be translated to



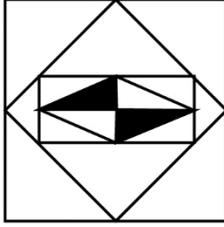
A



B

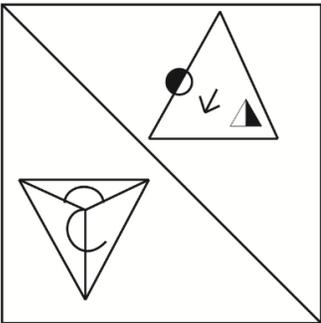
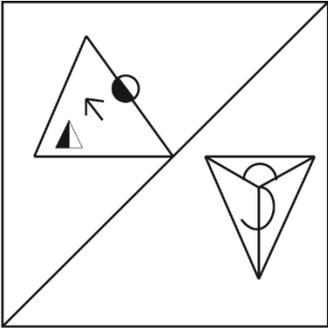


C

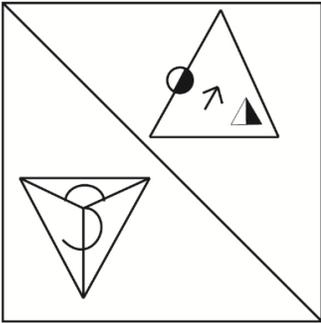


D

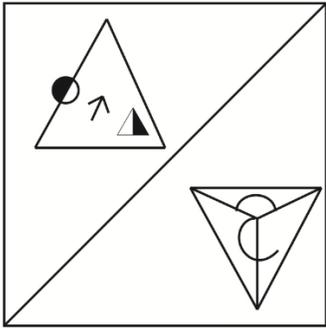
4. If the image below is reflected in a mirror, what will its mirror image look like?



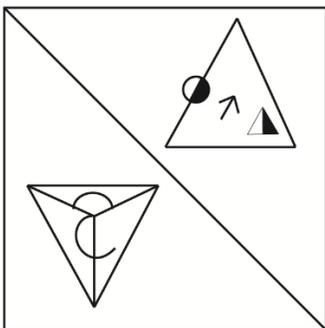
A



B

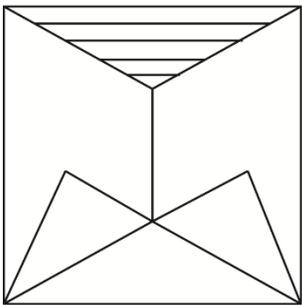
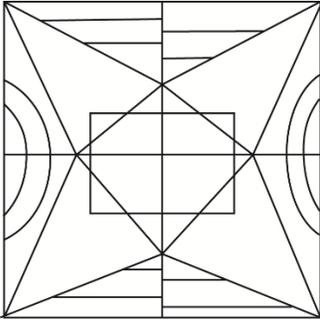


C

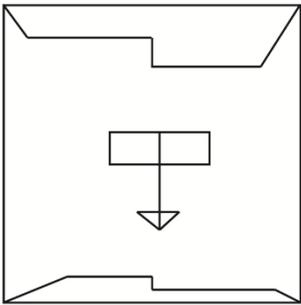


D

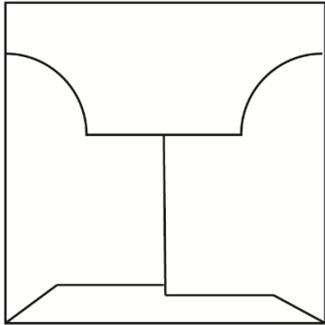
5. Which of the answer options is embedded in the figure given below?



A



B

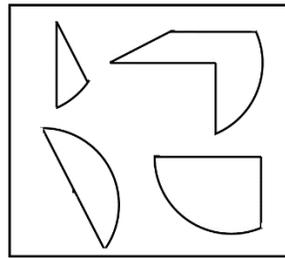


C

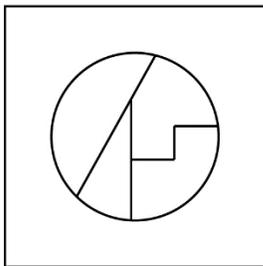
None of  
the other  
options

D

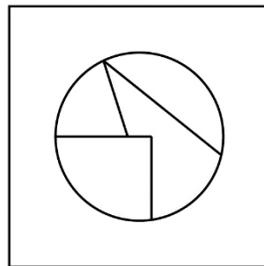
6. Which of the answer option figures can be formed by rearranging the items in the Figure X given below?



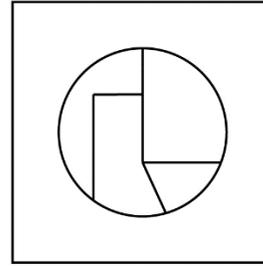
X



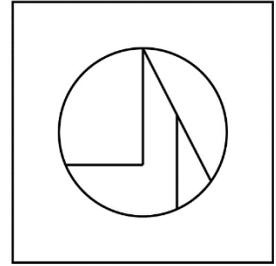
A



B

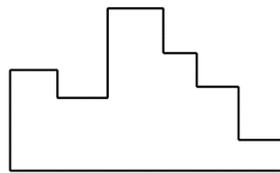


C

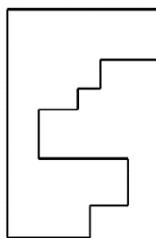


D

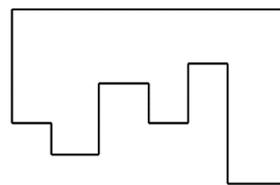
7. Which of the answer figures will exactly fit into figure P, to form a complete square?



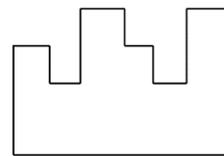
P



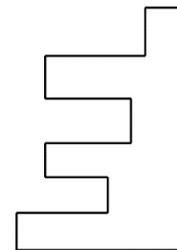
A



B



C



D

**LOGIC (6Q x 3 marks = 18 marks.)**

Read the information carefully and answer the questions below-

Four families attend their friend's wedding. The following information is known –

- a. One of those 4 families has no children, and the rest of them have atleast one child each.
- b. Every family with children has at least one child attending the wedding.
- c. The family with two children came just before the family with no children.
- d. Tracy who does not have any children reached just before Betsy's family.
- e. Samuel, his wife and their only child were the last to reach the venue of the wedding.
- f. Alex is not the husband of Janice. Alex and Richard are fathers.
- g. Betsy's and Alice's daughters go to the same school.
- h. Janice came before Tracy and met Alice when she reached the venue.
- i. Mathew stays the farthest from the venue.
- j. Richard said his son is not well and therefore could not attend the wedding.

1. Who arrived third at the party?

- A) Tracy
- B) Betsy
- C) Alice
- D) Janice

2. Who among the following are husband and wife?

- A) Richard and Tracy
- B) Samuel and Betsy
- C) Alex and Betsy
- D) Richard and Alice

3. Which of the two fathers send their daughters to the same school?

- A) Alex and Mathew
- B) Samuel and Mathew
- C) Samuel and Alex
- D) Richard and Alex

4. Who among the following definitely has more than one child?

- A) Mathew
- B) Richard
- C) Alex
- D) Samuel

5. Who is Mathew's wife?

- A) Janice
- B) Tracy
- C) Alice
- D) Betsy

6. Who among the following are surely not a husband and wife?

- A) Richard and Tracy
- B) Samuel and Betsy
- C) Alex and Betsy
- D) Richard and Alice

**IQ (6Q x 3 = 18 marks.)**

1. If 28<sup>th</sup> December 2016 was a Wednesday, what day was 25<sup>th</sup> September 2017?

- A) Sunday
- B) Monday
- C) Tuesday
- D) Wednesday

2. What will be the third digit of the second lowest number after the positions of the digits in each of the numbers below is reversed?

1763, 5671, 2865, 8945, 7820, 8947, 4936

- A) 6
- B) 7
- C) 8
- D) 9

3. There are 3 playing cards lying face up, side by side, on a table. A three is just to the right of a two. A two is just to the right of an eight. A diamond is just to the right of a heart and a spade is just to the left of a heart. Which of the following is NOT a card lying on the table?

- A) Eight of spades
- B) Two of hearts
- C) Three of diamonds
- D) Two of spades

4. Fill in the blank in the below table –

17	18	3	33
19	42	5	53
36	30	2	?
27	25	6	137

- A) 64
- B) 68
- C) 42
- D) 48

5. Which of the following is closest in meaning to the word “cogitate”?

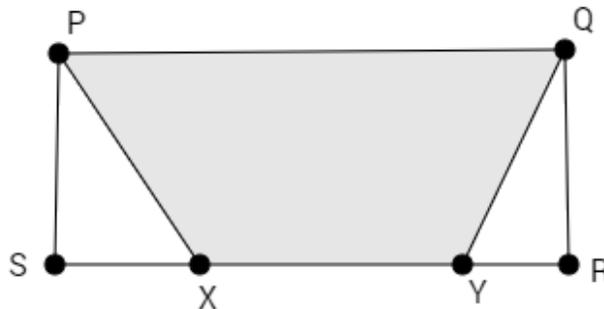
- A) defend
- B) ponder
- C) chew
- D) invest

6. George is painfully shy of the ..... fame he is receiving after marrying a glamorous movie star.
- (A) Political
  - (B) Intentional
  - (C) Inadvertent
  - (D) Deliberate

**NUMERACY (10Q x 4 = 40 marks.)**

1. What will be the last digit of the sum of  $6745^9 + 673419^5$ ?  
A) 5  
B) 9  
C) 4  
D) 3
2. Three natural numbers are in the ratio 2:3:4. The sum of the squares of the numbers is 116. What is the least number of the three numbers?  
A) 2  
B) 4  
C) 6  
D) 8
3. Tom is thrice as good a workman as Peter and is able to finish the painting of a fence in 60 hours less than Peter. If Tom and Peter work together, in how many hours can the painting of fence be completed?  
A) 20 hours  
B) 22.5 hours  
C) 25.25 hours  
D) 30 hours
4. Joe made a trip to his uncle's house which was at a distance of 78 km from Joe's house. He started off on foot at 4 km/hour and after a certain amount of time, he met his friend who was riding a bicycle. Joe asked for a lift, and the two of them travelled on bicycle at 9 km/hour to reach Joe's uncle's house. Overall, it took Joe 10 hours to complete the trip. What distance did Joe travel on foot?  
A) 2.4 km  
B) 7.6 km  
C) 9.6 km  
D) 68.4 km
5. In a survey of determining the average weight of a group of adults, one adult's weight was wrongly entered as 93 kg while his actual weight was 63 kg. Because of this error, the average weight of the group increased by 1.5 kg. How many adults were in the group?  
A) 10  
B) 15  
C) 20  
D) 25

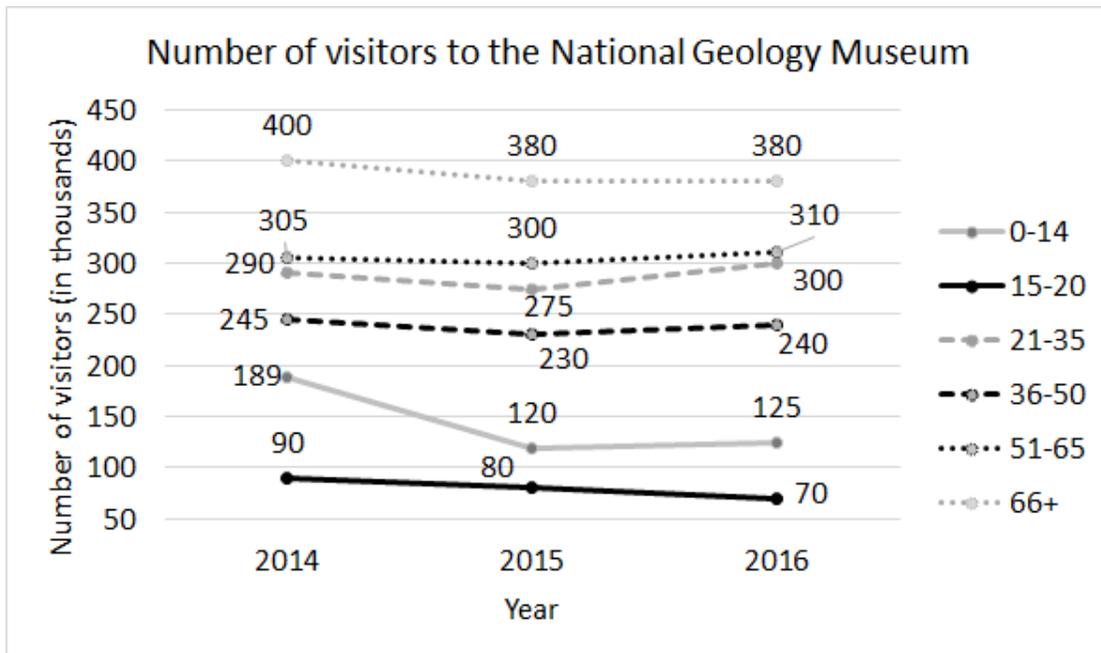
6. Mr. Peter has a son and a daughter. Five years ago, the age of Mr. Peter was five times the age of his daughter. Today, the sum of the ages of his children is half of his age. Four years ago, the sum of the ages of his children was one third of his age. What was the sum of the ages of Mr. Peter's children five years ago?
- A) 10  
B) 20  
C) 30  
D) 40
7. A vegetable vendor sells tomatoes and potatoes and gets identical revenues from each of them. The profit he gets on each tomato and on each potato is 20% and 25% respectively. The number of potatoes sold is four times the number of tomatoes sold. What is the ratio of the cost price of a potato to that of a tomato?
- A) 1:5  
B) 2:9  
C) 4:7  
D) 6:25
8. Given below is a rectangle PQRS such that  $SX = YR = 4$  cm and  $PQ = 20$  cm. The area of the shaded region is  $32$  cm<sup>2</sup>. Which of the following must be the area of the rectangle? (Note – figure not drawn to scale).



- A)  $40$  cm<sup>2</sup>  
B)  $44$  cm<sup>2</sup>  
C)  $60$  cm<sup>2</sup>  
D)  $64$  cm<sup>2</sup>

Questions 9 & 10 are based on the graph below -

The below graph shows the number of visitors, according to their age in years, to the National Geology Museum over a period of three years from 2014-2016.



9. In the year 2014, the admission fee for the museum was \$20 per person. However, visitors who were in the age group of 0-14 years or above 65 years were provided free admission. How much revenue did the National Geology museum earn in the year 2014?

- A) \$14,800,000
- B) \$16,800,000
- C) \$18,600,000
- D) \$20,400,000

10. In which year did the National Geology museum have the maximum number of visitors?

- A) 2014
- B) 2015
- C) 2016
- D) All have equal number of visitors

## **READING COMPREHENSION (5Q x 3 = 15 marks.)**

IT IS a little after 10pm when the world's oldest serving passenger ship makes her first stop. Rolling on a gentle swell, small wooden boats pull up alongside its riveted hull. Lights from the deck illuminate the packed vessels; ropes are flung up and tied to railings. Women in billowing wraps come on board with their suitcases, legs briefly flailing as they are pulled through the hatch. Men load enormous bags into a net hanging from a crane. In the other direction, boxes of gin, batteries, bags of clothes and, at one point, a sewing machine, are passed down perilously by hand. Miraculously, nothing and nobody falls into the black water.

Over a century later, the *Liemba* still carries passengers from Kigoma to Mpulungu in Zambia and back. She remains one of the largest boats on any of Africa's lakes, just behind the MV *Victoria* further north. Operated by the Tanzanian government, the ship has become a vital link for people around the Great Lakes region of Africa, one of the continent's most densely populated areas, with tens of millions of people. Yet her importance to the regional economy is also indicative of the failure to spread investment in infrastructure away from coastal cities to the places where most Africans still live.

Apart from a few tourists, most of the roughly 300 passengers on the *Liemba* are traders. "Almost every person travelling has their cargo," says the captain, Titus Benjamin Mnyanyi. Middle-aged women buy third-class tickets for 34,000 Tanzanian shillings (about \$15), stow their merchandise wherever they can and find spots to sleep on deck. On its way to Zambia, the ship stops at around a dozen places in Tanzania, where they sell their wares. On your correspondent's journey, the main cargo was tonnes of tiny dried fish and pineapples, which filled almost every space not occupied by a human.

Yet the passengers are not only vendors; they are also customers. As she moves through the darkness, the ship is a continuous festival. Downstairs, men at trestle tables do a roaring trade in cheap cigarettes, plastic packets of *konyagi* (a cheap Tanzanian spirit) and biscuits throughout the night.

Normally the *Liemba* takes three days to reach Zambia. But like much trade in central Africa, there are often interruptions. Sometimes the ship is stranded by mechanical failures, forcing traders to take their wares onwards in small wooden boats instead. At other times, normal service has been disrupted by war. In 2015 thousands of Burundian refugees were moved from beaches just across the border in Tanzania south to Kigoma—600 crammed on the decks at a time. "It was easy to fit them," says Mwendesha Louloeka, one of the sailors. "They had almost nothing with them." In 1997 the ship repatriated thousands of Congolese who had fled the bloody war there.

What is the future for this floating temple of commerce? The vibrant *Liemba* is proof of the abilities of entrepreneurs—they have made this ship their own. But it is also testimony to the poverty of infrastructure in the region. Kigoma was envisaged by the German colonists as a major inland city; the province is indeed now home to over 2m people. Yet there has been almost no new investment since the Germans left after their defeat in 1917. The railway station is still among the grandest in east Africa, but the tracks are poorly maintained. There are no unbroken tarmac roads entering the city. Getting to Bujumbura in Burundi, the nearest big city, only a little over 100 miles away, takes six hours by bus.

This region could be rich. The soil around the lake is some of the most fertile in Africa; the lake is full of fish. From Mpulungu in Zambia a good road leads all the way to Lusaka, from where buses and lorries head to South Africa. Lake Tanganyika could link the manufacturers of southern Africa

to the rapidly growing consumer markets of east Africa. Instead, in 2014 Zambia accounted for just 0.6% of Tanzania's imports. The Tazara railway line, built by Maoist China in the 1970s to connect the two countries, is another link that has fallen into disrepair.

1. What is the tone of the passage?
  - A) Critical
  - B) Analytical
  - C) Descriptive
  - D) Informative
  
2. What are the problems faced by the travelers on Liemba as they journey across the lake?
  - A) The ship is extremely crowded and people often get trampled over while boarding.
  - B) The fear of thieves and the noise made by gamblers makes it difficult for passengers to get any sleep.
  - C) The ship is often stranded due to mechanical failures or its service disrupted by war
  - D) The increase in pirate attacks over the years has resulted in major loss of goods and lives.
  
3. What is the central theme of the passage?
  - A) To highlight the poverty of infrastructure in the landlocked regions of Africa
  - B) To illustrate the diversity of local African wares sold on the ship Liemba.
  - C) To discuss the bureaucracy and corruption in the trade activities in central Africa
  - D) To reminisce the grandeur of a golden era in which the long-lasting ship Liemba was built.
  
4. According to the passage, which of the following is the most well-maintained form of transportation in and around the Kigoma region?
  - A) The MV *Victoria* ship
  - B) The Tazara railway line
  - C) Inter-city tarmac roads
  - D) None of them
  
5. Which of the following statements is true?
  - A) The Liemba is the largest boat on the African lakes and carries thousands of passengers
  - B) Lake Tanganyika can be a rich region as it has very fertile soil and a lot of fish
  - C) The Liemba has a higher number of international tourists as compared to local vendors
  - D) The Tazara railway lines are grand and well maintained, making them the transportation of choice for central Africans.

**ANSWERKEY**

<b>DIAGRAMMATIC REASONING</b>	
1	C
2	C
3	B
4	D
5	D
6	D
7	A

<b>LOGIC</b>	
1	A
2	B
3	C
4	B
5	B
6	C

<b>IQ</b>	
1	B
2	A
3	D
4	C
5	B
6	C

<b>NUMERACY</b>	
1	C
2	B
3	B
4	C
5	C
6	A
7	D
8	A
9	C
10	A

<b>READING COMPREHENSION</b>	
1	D
2	C
3	A
4	D
5	B