

## SPJET SAMPLE PAPER 4

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

STUDENT NAME

### S P JAIN'S UNDERGRADUATE ENTRANCE TEST

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 : 6)
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. 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

Section	No. of Questions	Marks per question	Total Marks per Section
Logic	5	2	10
Diagrammatic Reasoning	4	4	16
Numeracy	6	3	18
IQ	10	2	20
Reading Comprehension	5	4	20
General Awareness	8	2	16
<b>Total</b>	<b>38</b>		<b>100</b>

ANSWER FOR THE QUESTIONS ARE PROVIDED AT THE END OF THE PAPER

### Note

It is advisable that the candidate reads the question carefully and avoids marking answers thoughtlessly.

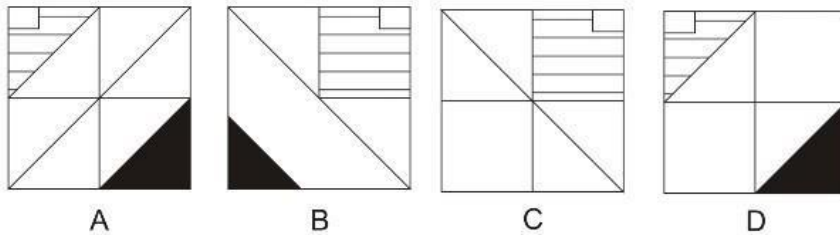
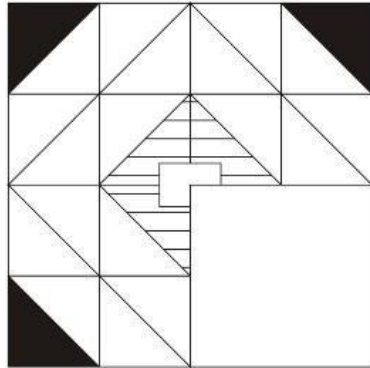
Analyzing the previous question papers will help the candidate to get a clear picture of the pattern of questions asked in each section. Only answer if you are 100% sure about the correct answer.

**LOGIC (50 x 2 marks = 10 marks.)**

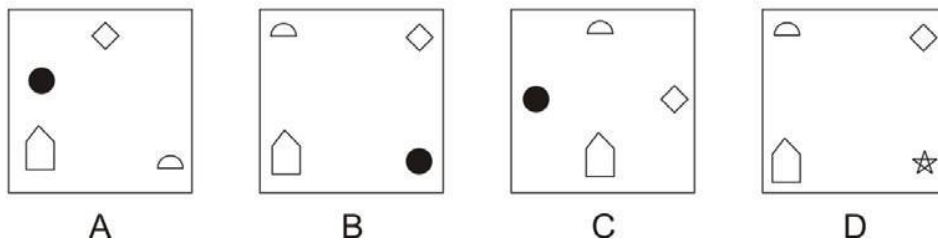
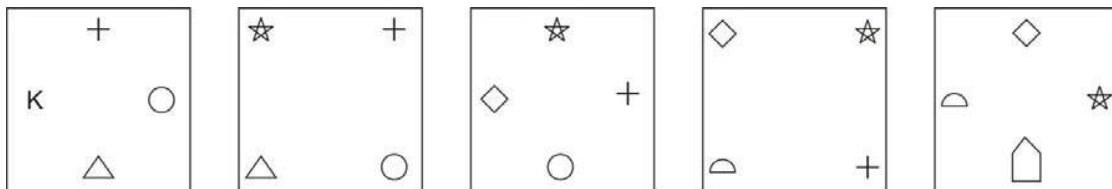
1. Marie, Becky, Carol, Susan and Finn are sitting on a bench. Marie is sitting next to Becky. Carol is sitting next to Susan. Susan is not sitting next to Finn who is on the left end of the bench. Carol is on the second position from the right. Marie is to the right of Becky. Marie and Carol are sitting together. In which position is Carol sitting?  
  
(A) Between Becky and Susan  
(B) Between Marie and Susan  
(C) Between Finn and Susan  
(D) Between Marie and Finn
2. Pointing to a lady Alec said, "The son of her only brother is the brother of my wife." How is the lady related to the Alec?  
  
(A) Grandmother  
(B) Maternal aunt  
(C) Mother of Alec's brother in law  
(D) Sister of Alec's father-in-law
3. A is 50 m South-West of B. If C is 50 m South-East of B, then C is in which direction of A?  
  
(A) South East  
(B) East  
(C) North East  
(D) West
4. A man has 5 bags (namely 1, 2, 3, 4, 5) each having a different weight.
  - 1 weighs twice as much as 2
  - 2 weighs four and a half times as much as 3
  - 3 weighs half as much as 4
  - 5 weighs less than 1 but more than 4Which of the following is the lightest?  
  
(A) 3  
(B) 2  
(C) 1  
(D) 4
5. Seven students A, B, C, D, E, F and G take a series of tests.  
No two students get similar marks. Each time either C scores the highest and E scores the least or alternatively D scores the highest and F or B scores the least. A always scores more than B. G always scores more than A.  
If C gets highest marks, G should be ranked not lower than\_\_\_\_\_  
  
(A) Fourth  
(B) Fifth  
(C) Second  
(D) Third

**DIAGRAMMATIC REASONING (40 x 4 marks = 16 marks.)**

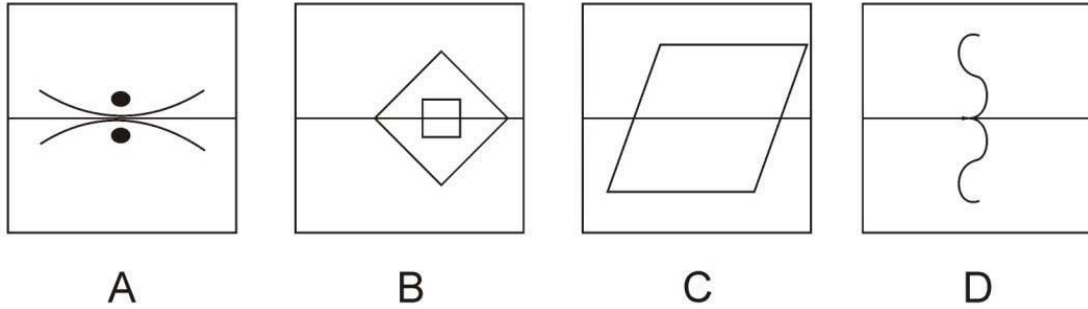
1. Find out which of the options completes the given figure on the left?



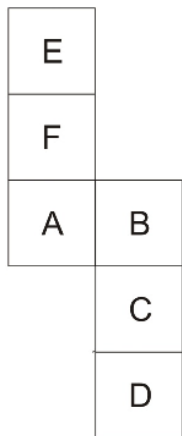
2. The following figures are in a logical series. Out of the options A, B, C and D what comes next in the series?



3. Given below are four figures. Three of the figures are alike in a certain manner and one of the figures is the odd one out. Identify the odd figure.



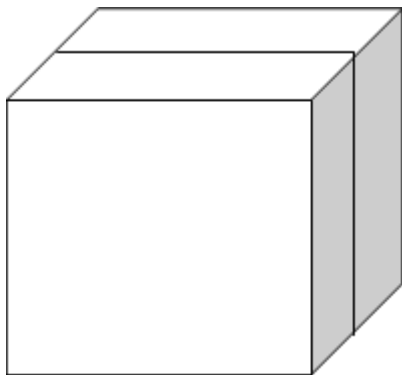
4. Given below is a piece of paper which is then folded into the shape of a cube (dice). When folded into a cube what letter will be opposite the side on which B is?



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

**NUMERACY (60 x 3 = 18 marks.)**

1. An aeroplane covers a certain distance at a speed of 360 kmph in 5 hours. To cover the same distance in  $1\frac{2}{3}$  hours, it must travel at a speed of:  
  
(A) 960 kmph  
(B) 1440 kmph  
(C) 1080 kmph  
(D) 720 kmph
2. Age of Sam is 5 times the age of his son. 5 years ago the product of their ages was twice Sam's age at that time. What is the current age of his son?  
  
(A) 7  
(B) 10  
(C) 15  
(D) 14
3. Six bells commence tolling together and toll at intervals of 6, 12, 18, 24, 30 and 36 seconds respectively. In 30 minutes, how many times do they all 6 toll together?  
  
(A) 5  
(B) 6  
(C) 8  
(D) 10
4. A solid cube is cut into two cuboids exactly at the middle as shown in the figure. Find the ratio of the total surface area of the cube to the total surface area of both the cuboids combined



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

5. In a bag, there are 8 black, 7 white and 6 yellow bottles. One bottle is picked up randomly. What is the probability that it is neither black nor yellow?

- (A)  $\frac{2}{3}$
- (B)  $\frac{1}{21}$
- (C)  $\frac{7}{21}$
- (D)  $\frac{1}{3}$

6. If  $m$  and  $n$  are whole numbers such that  $m^n = 1331$ , the value of  $(m - 1)^{n+1}$  is:

- (A) 10000
- (B) 1000
- (C) 121
- (D) 1

**IO (100 x 2 = 20 marks.)**

1. In a certain code EXCEL has been coded as FZFIQ, in that code POWERPOINT will be coded as:  
  
(A) QQYEQTTYNW  
(B) QQZIWVVQWD  
(C) TYUITYWSAHJ  
(D) POIMKIPANUA
  
2. Given below is a series of numbers. Which option would come next in this series?  
146, 255, 366, 479, 684,  
  
(A) 441  
(B) 891  
(C) 991  
(D) 796
  
3. If 15<sup>th</sup> February 2013 is a Friday what was the day on 11<sup>th</sup> January 2012?  
  
(A) Tuesday  
(B) Friday  
(C) Saturday  
(D) Wednesday
  
4. If you rearrange the letters of GJBEINI you get the name of a city which is the capital of which of the following countries?  
  
(A) China  
(B) Brazil  
(C) Iraq  
(D) Russia
  
5. Which of the following pairs of alphabets is the odd one out?  
  
(A) RI  
(B) VC  
(C) PK  
(D) NO
  
6. Which of the following words has been spelt correctly?  
  
(A) Accesion  
(B) Invigorate  
(C) Oratery  
(D) Pouper



7. Which of the following words is the antonym (means the opposite) of generous?

- (A) Miserly
- (B) Dispassionate
- (C) Dissenting
- (D) Liberal

8. The numbers in table two have been arranged according to the pattern shown in the sample figure given below. Find the missing number which replaces the question mark.

	8	
12	4	16
	36	

	12	
18	6	24
	?	

- (A) 36
  - (B) 44
  - (C) 48
  - (D) 54
9. C, D, E, F and G are the only 5 people standing in a line. G is standing immediately behind F. E is between F and D. C is standing at which position?

- (A) 3<sup>rd</sup>
- (B) 5<sup>th</sup>
- (C) 1<sup>st</sup>
- (D) Cannot be determined with the provided information

10. Which group of numbers is similar to the sample set of numbers given below?  
(18, 3, 0.5)

- (A) (15, 5, 0.2)
- (B) (14, 7, 0.1)
- (C) (21, 3, 0.05)
- (D) (36, 6, 1)

## **READING COMPREHENSION (50 x 4 = 20 marks.)**

In 1997, delegates from 194 nations met in Kyoto, Japan, and collectively promised to reduce greenhouse gas emissions by about 5 percent below 1990 levels by 2012, as a first step toward global cooperation on limiting carbon-driven climate change. The treaty they produced, known as the Kyoto Protocol, expired at the end of 2012.

The treaty required the major industrialized nations to meet targets on emissions reduction but imposed no mandates on developing countries, including emerging economic powers and sources of global greenhouse gas emissions like China, India, Brazil and South Africa.

The United States is not a party to the protocol. It was negotiated by the Clinton administration, but the Senate voted 95 to 0 against even considering ratification because of those asymmetrical obligations. President George W. Bush flatly repudiated it.

Some major countries, including Canada, Japan and Russia, have said they will not agree to an extension of the protocol unless the unbalanced requirements of developing and developed countries are changed. That is similar to the United States' position, which is that any successor treaty must apply equally to all major economies.

But the European Union, the major developing countries, and most African and Pacific island nations would like to see the Kyoto process extended as a **prelude** to a more ambitious, binding international agreement that would take effect in 2020. The goal would be to reduce emissions enough to keep the average global temperature from ever rising more than 2 degrees Celsius, or about 3.6 degrees Fahrenheit, above its current level.

The fate of the Kyoto agreement was a central topic at the international gathering on global warming in Durban, South Africa, in December 2011.

But the issue was left unresolved at the meeting, which ended with modest accomplishments: the promise to work toward a new global treaty in coming years. The future treaty deal renewed the protocol for several more years. It also began a process for replacing the protocol with something that treats all countries — including the economic powerhouses China, India and Brazil — equally. The future treaty deal was the most highly contested element of a package of agreements that emerged from the extended talks among the 200 nations that met in Durban.

The expiration date of the protocol — 2017 or 2020 — and the terms of any agreement that replaces it will be negotiated at future sessions.

The United States has been criticized at such gatherings for years, in part because of its rejection of the Kyoto framework and in part because it has not adopted a comprehensive domestic program for reducing its own greenhouse gas emissions. President Obama has pledged to reduce American emissions 17 percent below 2005 levels by 2020, but his preferred approach, a nationwide cap-and-trade system for carbon pollution, was blocked in the Senate in 2010 after being passed by the House the year before. United States emissions are down over the past five years, largely because of the drop in industrial and electricity production caused by the recession.

1. What does the word “prelude” as used in the passage mean?
  - (A) Introduction
  - (B) Step
  - (C) Strategy
  - (D) Review
  
2. What is the tone of the passage?
  - (A) Lamenting
  - (B) Candid
  - (C) Sarcastic
  - (D) Descriptive
  
3. What is the main purpose of the passage?
  - (A) To highlight the evolution of the Kyoto Protocol and the way forward for the implementation of the protocol
  - (B) To showcase how human activities are responsible for most of the observed increase in global mean temperature since the mid-20th century
  - (C) To highlight how developed nations constantly undermine the goals of developing and weaker nations at global conferences.
  - (D) None of the other options
  
4. Which of the following statements are implied in the last paragraph of the passage?
  - (A) An agreement was reached to extend the Protocol to 2020 and to set a date of 2015 for the development of a successor document, to be implemented from 2020
  - (B) The U.S. has been criticized for choosing the economy and national financial security over international cooperation and environmental ethics
  - (C) U.S. currently emits the highest amount of greenhouse gases in the world and will remain so until 2020
  - (D) Most US Law makers do not believe that global warming is an actual scientific phenomena
  
5. Which of the following is not mentioned in the above passage?
  - (A) The Kyoto protocol helps to stimulate green investment and help Parties meet their emission targets in a cost-effective way.
  - (B) The U.S. signed the Kyoto Protocol, but did not ratify it.
  - (C) The aim of the protocol in 2020 will be to ensure that global temperatures never rise more than 2<sup>0</sup> Celsius.
  - (D) All of the above options are mentioned in the passage

**GENERAL AWARENESS (80 x 2 = 16 marks.)**

1. Which of the following is the currency of Brazil?
  - (A) Real
  - (B) Peso
  - (C) Euro
  - (D) Dollar
  
2. Who has been appointed to succeed Hillary Rodham Clinton as the United States Secretary of State in January 2013?
  - (A) William Weld
  - (B) John Kerry
  - (C) Joe Biden
  - (D) John McCain
  
3. The 2016 summer Olympics will be held in which country?
  - (A) Turkey
  - (B) Brazil
  - (C) Argentina
  - (D) Spain
  
4. Who won the Oscar for best actor at the 2013 Academy Awards?
  - (A) Bradley Cooper
  - (B) Daniel Day Lewis
  - (C) Hugh Jackman
  - (D) Denzel Washington
  
5. Who won the Australian Open Men's Singles trophy in 2013?
  - (A) Novack Djokovic
  - (B) Andy Murray
  - (C) Roger Federer
  - (D) Rafael Nadal
  
6. Which country won the most gold medals at the 2012 London Olympics?
  - (A) China
  - (B) UK
  - (C) USA
  - (D) Jamaica

7. Which of these motor vehicle manufacturers is not based in South Korea?

- (A) Toyota
- (B) Kia Motors
- (C) SsangYong Motor Co
- (D) Hyundai Motor Co

8. Which gas constitutes 78% of air at sea level?

- (A) Carbon Dioxide
- (B) Oxygen
- (C) Nitrogen
- (D) Water Vapor

## ANSWERKEY FOR SPJET SAMPLE PAPER 4

### LOGIC

1	B
2	D
3	B
4	A
5	A

### IQ

1	B
2	B
3	D
4	A
5	D
6	B
7	A
8	D
9	D
10	D

### DIAGRAMMATIC REASONING

1	A
2	B
3	C
4	C

### READING COMPREHENSION

1	A
2	D
3	A
4	B
5	A

### NUMERACY

1	C
2	A
3	A
4	D
5	D
6	A

### GK

1	A
2	B
3	B
4	B
5	A
6	C
7	A
8	C