

SPJET SAMPLE PAPER 7

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
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.

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
Total	38		100

LOGIC (50 x 2 marks = 10 marks.)

1. Sandra started from her house and walked 2 kms north. Then she took a right turn and covered one kilometer. She then took a right turn again and walked for 2kms. In what direction is she going?
 - (A) South
 - (B) North
 - (C) East
 - (D) West

2. One train runs from A to B at 105 miles per hour, the other runs from B to A at 85 miles per hour. How far apart were the two trains 30 minutes prior to their crossing?
 - (A) 125 miles
 - (B) 95 miles
 - (C) 150 miles
 - (D) 200 miles

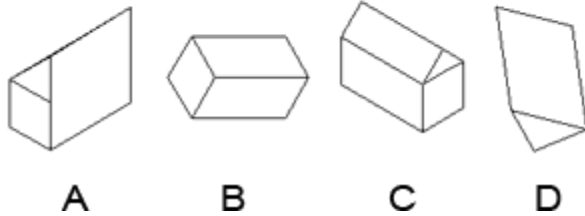
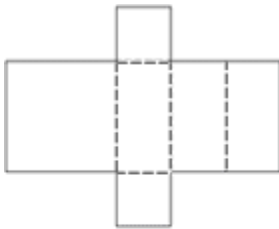
- 3 Ryan is taller than Jose, but not as tall as Michael. Michael is shorter than Harry who is not as tall as Ryan. Who is the tallest of the group?
 - (A) Ryan
 - (B) Michael
 - (C) Harry
 - (D) Jose

4. Pointing towards a person, a man said to a woman, “His mother is the only daughter of your father.” How is the woman related to that person?
 - (A) Sister
 - (B) Daughter
 - (C) Mother
 - (D) Wife

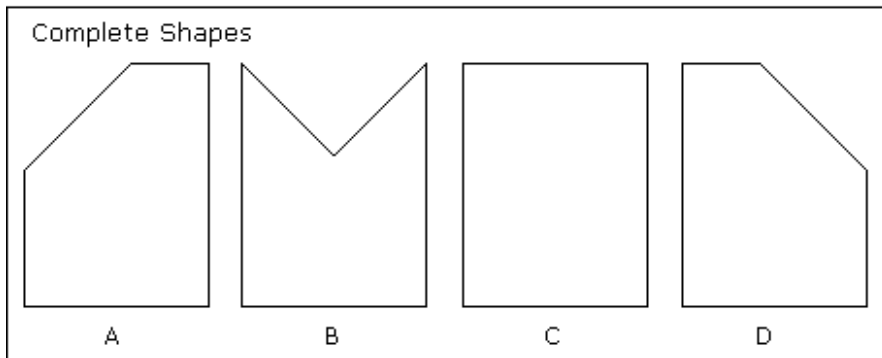
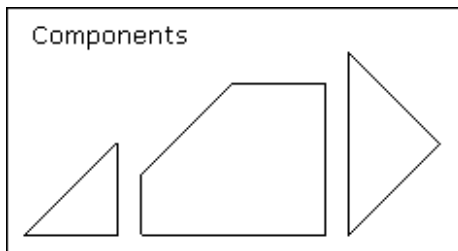
5. At the baseball game, Henry was sitting in seat 253. Marla was sitting to the right of Henry in seat 254. In the seat to the left of Henry was George. Inez was sitting to the left of George. Which seat is Inez sitting in?
 - (A) 251
 - (B) 254
 - (C) 255
 - (D) 256

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

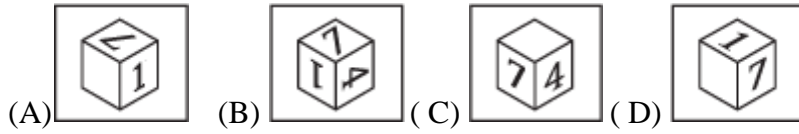
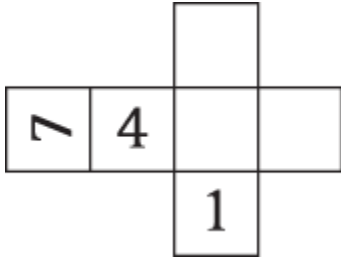
1. Which diagram results from folding the diagram below?



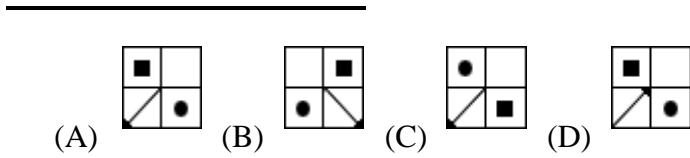
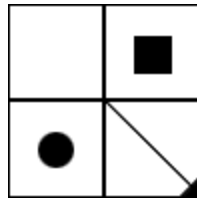
2. Which one of the complete shapes can be made from the components shown?



3. What does the resulting cube look like if you fold this cube together?



4. Choose the mirror image of the shape



NUMERACY (60 x 3 = 18 marks.)

1. In a group of 10 people, 60 percent have brown eyes. Two people are to be selected at random from the group. What is the probability that neither person selected will have brown eyes?

(A) 0.13
(B) 0.16
(C) 0.64
(D) 0.36
2. Marigolds are to be planted inside a circular flower garden so that there are 4 marigolds per square foot. The circumference of the garden is 20 feet. If marigolds are available only in packs of 6, how many packs of 6 flowers are needed?

(A) 6
(B) 13
(C) 20
(D) 22
3. The diameter and height of a right circular cylinder are equal. If the volume of the cylinder is 2, what is the height of the cylinder?

(A) 1.37
(B) 1.08
(C) 0.86
(D) 0.80
4. A right circular cylinder has radius 3 and height 3. If A and B are two points on its surface, what is the maximum possible straight-line distance between A and B?

(A) $3\sqrt{6}$
(B) $3\sqrt{5}$
(C) 6
(D) $3\sqrt{3}$
5. Alison deposits \$500 into a new savings account that earns 5 percent interest compounded annually. If Alison makes no additional deposits or withdrawals, how many years will it take for the amount in the account to double?

(A) 14
(B) 15
(C) 17
(D) 20

6. For a class test, the mean score was 65, the median score was 71, and the standard deviation of the scores was 7. The teacher decided to add 5 points to each score due to a grading error. Which of the following statements must be true for the new scores?

- I. The new mean score is 70
- II. The new median score is 76
- III. The new standard deviation of the scores is 76

- (A) I only
- (B) II only
- (C) I and II only
- (D) I, II and III

IO (100 x 2 = 20 marks.)

1. Choose the number that is $\frac{1}{4}$ of $\frac{1}{2}$ of $\frac{1}{5}$ of 200

- (A) 2
- (B) 5
- (C) 10
- (D) 25

2. Rearrange the following letters to make a single word and then choose the category in which it belongs.

RASPI

- (A) Fruit
- (B) City
- (C) Animal
- (D) Vegetable

3. Which one of the five choices makes the best comparison?
PEACH is to HCAEP as 46251 is to:

- (A) 15264
- (B) 12654
- (C) 26451
- (D) 51462

4. Which of the words is **closest** in meaning to the word “Reassuring “?

- (A) Compassionate
- (B) Comforting
- (C) Meddlesome
- (D) Explanatory

5. Which of the below conclusions can be drawn with absolute certainty based on the following two propositions?

None of the stamp collectors is an architect.
All the Drones are stamp collectors.

- (A) All stamp collectors are architects
- (B) Architects are not Drones
- (C) No stamp collector is Drones
- (D) Some Drones are architects

6. Which number should replace the question mark?

17	8	5	5
13	7	5	4
6	12	6	3
10	6	4	?

- (A) 4
- (B) 5
- (C) 6
- (D) 7

7. Which of the following set of alphabets is the odd one out?

- (A) BDF
- (B) CEH
- (C) AGH
- (D) CDI

8. If K is divisible by 2, 3 and 15, which of the following is also divisible by these numbers?

- (A) $K+15$
- (B) $K+20$
- (C) $K+30$
- (D) $K+45$

9. The half life of an initial isotope is 2 hours. After 6 hours what fraction of the initial quantity of the isotope will be left behind?

- (A) $1/6$
- (B) $1/3$
- (C) $1/8$
- (D) $1/4$

10. Which number should come next in the series?

3, 5, 8, 13, 21

- (A) 4
- (B) 21
- (C) 31
- (D) 34

READING COMPREHENSION (50 x 4 = 20 marks.)

Most people can remember a phone number for up to thirty seconds. When this short amount of time elapses, however, the numbers are erased from the memory. How did the information get there in the first place? Information that makes its way to the short term memory (STM) does so via the sensory storage area. The brain has a filter which only allows stimuli that is of immediate interest to pass on to the STM, also known as the working memory

There is much debate about the capacity and duration of the short term capacity. The most accepted theory comes from George A. Miller, a cognitive psychologist who suggested that humans can remember approximately seven chunks of information. A chunk is defined as a meaningful unit of information, such as a word or name rather than just a letter or number. Modern theorists suggest that one can increase the capacity of the short-term memory by chunking or classifying similar information together. By organizing information, one can optimize the STM, and improve the chances of a memory being passed on to long term storage.

When making a conscious effort to memorize something, such as information for an exam, many people engage in 'rote rehearsal'. By repeating something, one is able to keep a memory alive. Unfortunately, this type of memory maintenance only succeeds if there are no interruptions. As soon as a person stops rehearsing the information, it has the tendency to disappear. When a pen and paper are not handy, people often attempt to remember a phone number by repeating it aloud. If the door bell rings or the dog barks to come in before a person has the opportunity to make a phone call, he will most likely forget the number instantly. Therefore rote rehearsal is not an efficient way to pass information from the short term to long term memory. A better way is to practice "elaborate rehearsal". This involves assigning semantic meaning to a piece of information so that it can be filled along with other pre-existing long term memories.

Encoding information semantically also makes it more retrievable. Retrieving information can be done by recognition or recall. **Humans can easily recall memories that are stored in the long term memory and used often; if a memory seems to be forgotten, it may eventually be retrieved by prompting.** The more cues a person is given (such as pictures), the more likely a memory can be retrieved. This is why multiple choice tests are often used for subjects that require a lot of memorization.

Glossary: Semantic: relating to the meaning of something

1. According to the passage, how do memories get transferred to the STM?
 - (A) They revert from the long term memory
 - (B) They are filtered from the sensory storage area
 - (C) They get chunked when they enter the brain
 - (D) They enter via the nervous system

2. Why does the author mention a dog's bark?
- (A) To give an example of a type of memory
 - (B) To provide a type of interruption
 - (C) To prove that dogs have better memories than humans
 - (D) To compare another sound that is loud like a doorbell
3. The word **elaborate** in paragraph 3 is closest in meaning to
- (A) Complex
 - (B) Efficient
 - (C) Pretty
 - (D) Regular
4. The word **cues** in the passage is closest in meaning to
- (A) Questions
 - (B) Clues
 - (C) Images
 - (D) Tests
5. Which of the following best provides the important information in the highlighted sentence from the passage? Incorrect answer choices leave out essential information or change the meaning of it
- (A) Prompting is the easiest way to retrieve short term memory after an extended period of time
 - (B) A memory can be retrieved by prompting , in a case where it has been rarely used
 - (C) It's easier to remember short term memories than long term memories due to regular prompts
 - (D) Recalling a long term memory that is often used is easy, while forgotten memories often require prompting.

GENERAL AWARENESS(80 x 2 = 16 marks.)

1. The currency of this country is not a part of the Euro
 - (A) Germany
 - (B) France
 - (C) Switzerland
 - (D) Spain

2. Who is the current Prime Minister of Japan?
 - (A) Junichiro Koizumi
 - (B) Shinzo Abe
 - (C) Taro Aso
 - (D) Li Keqiang

3. For which of the following disciplines is Nobel Prize awarded?
 - (A) Physics and Chemistry
 - (B) Physiology or Medicine
 - (C) Literature , Peace and Economics
 - (D) All of the above

4. Aurora Borealis describes
 - (A) A flower
 - (B) Northern lights
 - (C) Literary work
 - (D) A herb

5. Which country overtook China to become third strongest economy in Asia as per the Asian Competitiveness Annual Report 2013?
 - (A) Malaysia
 - (B) Sri Lanka
 - (C) Japan
 - (D) UAE

6. What is the symbol of the chemical element Tin?
 - (A) Sb
 - (B) Sn
 - (C) T
 - (D) Ti

7. Which of these cities is not in the running for hosting the Summer Olympics 2020?

- (A) Istanbul
- (B) Madrid
- (C) Rio Di Janeiro
- (D) Tokyo

8. Who was the Prime Minister of England during World War 2?

- (A) Winston Churchill
- (B) Harold Macmillan
- (C) Harold Wilson
- (D) Edward Heath

Answer Key – 4137

LOGIC	
1	C
2	B
3	A
4	D
5	A
DR	
1	A
2	B
3	C
4	D
NUMERACY	
1	A
2	D
3	A
4	B
5	B
6	C
IQ	
1	B
2	B
3	A
4	B
5	D
6	A
7	D
8	C
9	C
10	C
READING	
1	B
2	B
3	B
4	B
5	D
GK	
1	C
2	B
3	D
4	B
5	D
6	B
7	C
8	A