BNAT Sample Paper- Junior

Mathematical Ability

1. 420 grams of sugar solution has 40% sugar in it. How much more sugar needs to be added (in grams), such that the resulting solution has 65% sugar?
    a. 200
    b. 250
    c. 300
    d. 350

    Answer: Option c)

2. The maximum number of students amongst whom 1495 pens and 690 pencils can be distributed in such a way that each student gets the same number of pens and the same number of pencils, is:

    a. 125
    b. 110
    c. **115**
    d. 155

    Answer: Option c)

3. The average weight of the first 11 people among 12 people is 95kg. The weight of the 12th person is 33 kg more than the average weight of all the 12 people. The weight of the 12th person in kg is:
    a. 131
    b. 130
    c. 133
    d. 132

Answer: Option a)

4. If a : b = c : d = e : f = 2 : 1, then (a + 2c + 3e): (5b + 10d + 15f) is
equal to: a. 1 : 5
  b. 2 : 3
  c. 3 : 5
  d. 2 : 5

Answer: Option d)

5. Four men can do a piece of work in 6 days, while 3 women can complete the same work in 16 days. In how many days 1 man and 2 women can complete the work?

  a. 10 Days
  b. 11 Days
  c. 12 Days
  d. 13 Days

Answer: Option c)

6. The value of $(243)^{n/5} \times 3^{2n+1}$ is:

$$\frac{(243)^{n/5} \times 3^{2n+1}}{9^n \times 3^{n-1}}$$

  a. 3
  b. 9
  c. 27
  d. 81

Answer: Option b)

7. The value of the given expression is equal to

$$\sqrt{2 \times \sqrt[3]{4 \times \sqrt{2 \times \sqrt[3]{4 \times \sqrt{2 \times \sqrt[3]{4}\ldots}}}}}$$

a. 0.5
b. 1
c. 2
d. 4

Answer: Option c)

8. Three men A, B, and C working together, complete a work in 10, 15, and 30 days respectively. If A and B left the work 4 days and 3 days respectively before the completion of the work, how many days in total did it take to finish the work?

    a. 6

    b. 8

    c. 9

    d. 10

Answer: Option b)

9. A man purchased a car and a bike for ₹2,60,000. He sells the bike at 20% loss and the car at 30% profit. On the whole transaction he earns a profit of ₹18,000. Find the SP of the bike.

    a) ₹ 120,000

    b) ₹ 180,000

    c) ₹ 140,000

    d) ₹ 96,000

Answer: Option d)

10. If $x+(1/x) = 3$, then, $x^7 + (1/x^7) = ?$

    a. 840

    b. 841

    c. 842

    d. 843

Answer: Option d)

Verbal Ability

1. Choose the correct present perfect continuous sentence.

a) Aman has been a part of this institution for 10 years.
b) Aman have been a part of this institution for 10 years.
c) Aman has been a part of this institution since 10 years.
d) Aman have been a part of this institution since 10 years.

Answer: Option a)

2. Choose the correct determiner which best fits the sentence that represents the quantity 'some'.
_____ members were present in the meeting.
   a) A little
   b) A few
   c) The little
   d) Few

 Answer: Option b)

3. Rewrite the given sentence in indirect speech.
   Rohan said, "I must go to Bangalore tomorrow."

   a)Rohan said that he has to go to Bangalore the next day.
   b)Rohan said that he had to go to Bangalore the next day.
   c) Rohan said that he must go to Bangalore tomorrow.
   d) Rohan said that he will go to Bangalore tomorrow.

   Answer: Option b)

4. Rearrange the sentence in the correct order:

A. I will dismiss her
B. again,
C. if she gets late
D. right away

a) ABCD
b) CBAD
c) DCBA
d) BCAD

Answer: Option b)

5. Punctuate the following sentence.
Yes we can plan for something tomorrow if the weather is fine

a) Yes! we can plan something tomorrow if the weather is fine.
b) Yes, we can plan something tomorrow, if the weather is fine.
c) Yes, "we can plan something tomorrow" if the weather is fine.
d) Yes we can plan something tomorrow, if the weather's fine.

Answer: Option b)
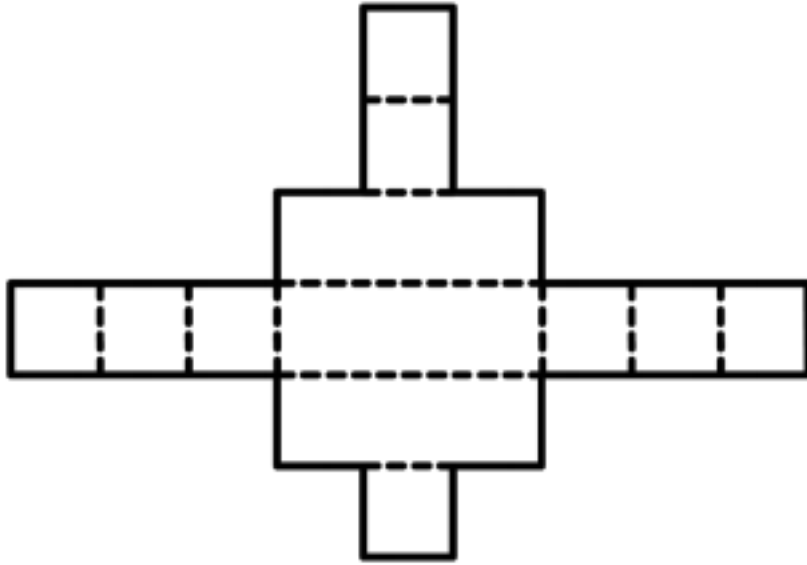
6. Fill in the blanks with the suitable prepositions.
The cat ran _____ the corridor and hid _____ the curtain.
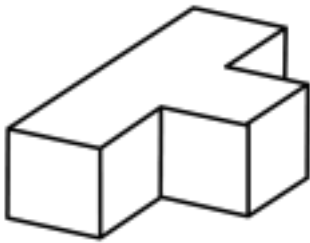a) in, through
b) on, in
c) across, behind
d) among, beside
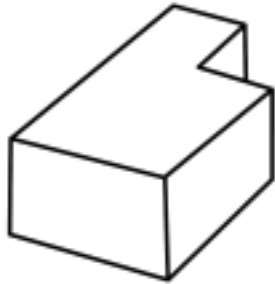
Answer: Option c)

Logical Ability

1. If the given pattern is folded along the dotted lines, find the object that it can be folded into.
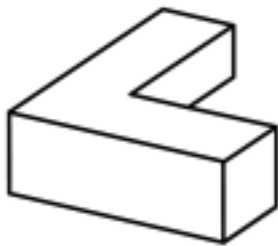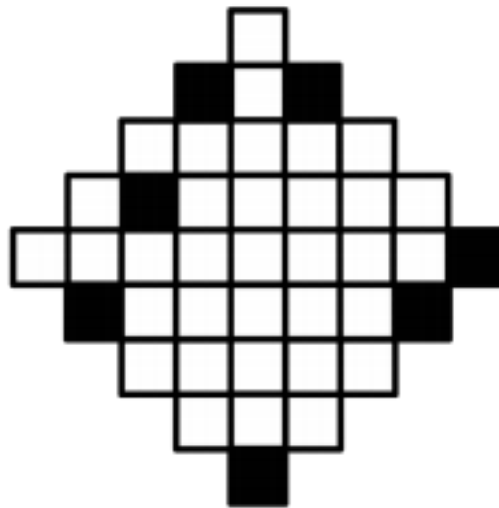
a.

b.
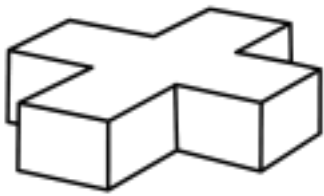
c.

d.

Answer: Option b

2. In a particular family, each boy has as many brothers as sisters, but each girl has twice as many brothers as sisters. How many boys and girls are there in the family, respectively?

    a. 3, 4
    b. 5, 2
    c. **4, 3**
    d. 2, 5

Answer: Option c)

3. What is the minimum number of squares that have to be shaded so that the figure has a line of symmetry?

a. 1
b. 2
c. 3
d. 4

Answer: Option b)

4. The library of a university is closed on all Sundays and Saturdays of even weeks (i.e., second and fourth Saturday). What can be the maximum number of days in a month for which it stays open?

a. 22
b. 23
c. 24
d. 25

Answer: Option d)

5. At 3 O' clock, the tip of the hour hand was 17 cm from the tip of the minute hand. At 6 O' clock, this distance becomes 23 cm. What is the distance (in cm) between their tips at 12 O' clock?

a. 6
b. **7**
c. 8
d. 9

Answer: Option b)

6. A supermarket labels all its goods' prices as ₹XX.99. If the shopper who bought different items paid a total amount of ₹956.71, how many items did he/she buy?

        a. 9
        b. 18
        c. 19
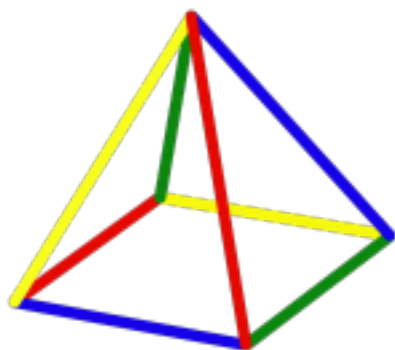   **d. 29**

Answer: Option d)

7. In the dartboard given below, there are four circles with four different points allocated to each of them. The aim is to collect exactly 100 points to win the match. What is the minimum number of throws required to win the game?
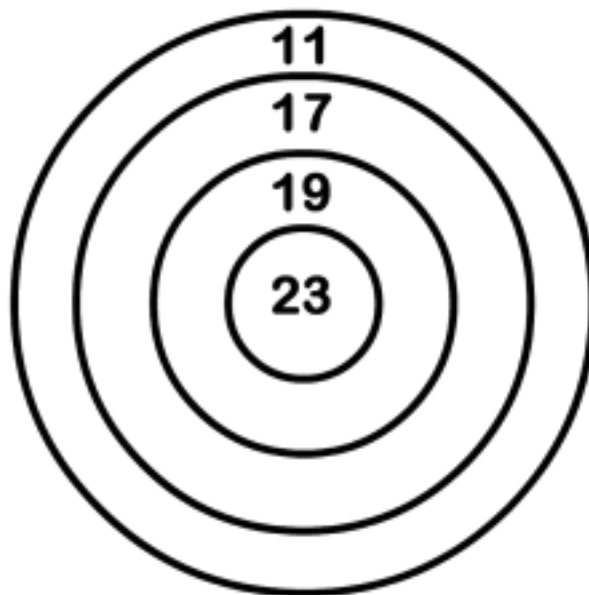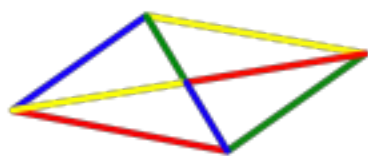

        (a) 10
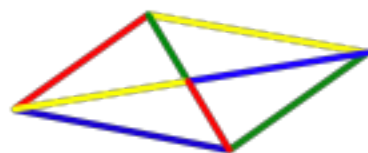   (b) 8
        (c) 6
        (d) 4

Answer: Option c

8. Which of the following is the top view of the given figure?

a.

b.

c.
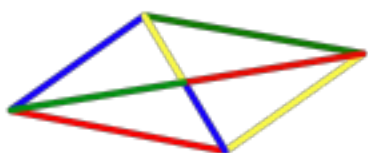
d.

Answer: Option b

1. A wooden spoon, steel spoon, and a gold spoon are initially placed in a bowl of hot water. When taken out of the bowl, which spoon will be hotter for a longer time?

   a. Steel spoon
   b. Wooden spoon
   c. Gold spoon
   d. All the spoons will be hot for an equal amount of time.

Answer: Option b

2. Ram observed the following on the bark of the tree.

This is formed by two organisms - X and Y.
X provides shelter, water, and minerals to Y.
Y prepares and provides food to X.
Identify X and Y.
a. X - Rhizobium, Y - algae
b. X - Rhizobium, Y - fungus
c. X - fungus, Y - algae
d. X - algae, Y - fungus

Answer: Option c

3. Two bar magnets are subjected to two situations. The first magnet is cut vertically and the second magnet is cut horizontally. What do we get?
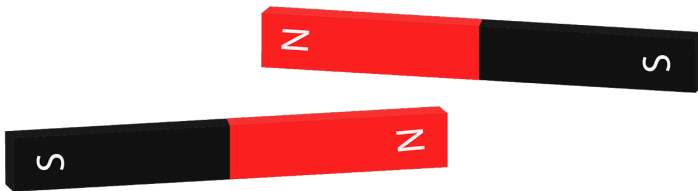
   a. First magnet: 2 North poles and 1 South poles
   b. Second magnet: 2 North poles and 1 South Poles
   c. Second magnet: 1 North poles and 2 South poles
   d. First Magnet: 2 North poles and 2 South Poles

Answer: Option d

4. Whenever you drive over a bridge, you will feel a jerk each time your vehicle moves over one of the small gaps on the bridge. Why do bridges have small gaps at regular intervals?

   a. To slow down the speed of the vehicles
   b. To guide vehicles
   c. To provide proper drainage
   d. To prevent temperature-induced damage

Answer: Option d

5. A ball is moving whose position is tabulated in the table underneath. What type of motion is being followed by the body?

Time (seconds)	Position (metre)
0	10
1	13.5
2	17
3	20.5
4	24

   a. Constant velocity

   b. Constant acceleration = 3.5 ms^{-2}

   c. Body moving with negative acceleration

   d. Body moving with positive acceleration

Answer: Option a

6. In a science experiment, John saw an electrical device which is used very commonly at home to protect electrical appliances from very high current. What device did John see?

    a. Switch
    b. Fuse
    c. Ammeter
    d. Resistors

Answer: Option b

7. Translocation is carried out by the _____.
    a. xylem
    b. phloem
    c. stomata
    d. root hair

Answer: Option b

8. Assertion: Arteries have thick elastic walls.
   Reason: Blood flow in arteries is rapid and at high pressure.

a. The assertion is correct, but the reason is incorrect.
b. The assertion and reason are correct, but the reason is not the correct explanation for the assertion.
c. The assertion and the reason are correct, and the reason is the correct explanation for the assertion.
d. The assertion and the reason are incorrect.

Answer: Option c

9. Which among the following impurities is the predominant constituent of the waste discharged from a public toilet?

    a. Nitrate
    b. Phosphate
    c. Metals
    d. Urea

Answer: Option d

10. Bob was making lemonade on a hot day. While making the lemonade, he kept adding sugar as it was not sweet enough. However, after some time, he noticed that some amount of sugar settled at the bottom even though he stirred well. Which of the following statements correctly explain the phenomenon of sugar settling at the bottom?

    a. Hot weather and continuous agitation due to stirring prevented the sugar from dissolving further.
    b. The solution became saturated due to excess sugar being dissolved.
    c. The sugar became unsaturated due to the hot temperature.
    d. The lemon in the solution prevented the sugar from dissolving.

Answer: Option b

Social Science

1. Amit clicked this picture at a place that he visited during his vacation. Looking at the picture, identify the key environmental characteristics of this place.
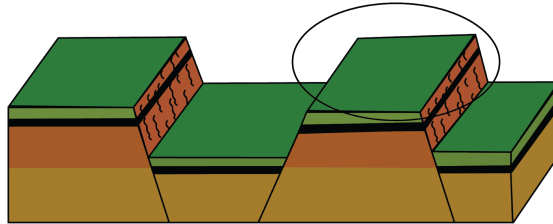

    i. Tundra vegetation
    ii. Scanty vegetation
    iii. High precipitation
    iv. Low precipitation

      a) i, iii
      b) i, iv
      c) ii, iii
      d) ii, iv

    Answer: Option d)

2. The circled part of the landform formed when large areas are broken and uplifted are _____ .

    a) the plateaus
    b) the plains
    c) the valley
    d) the block mountains

Answer: Option d)

3. Which among the following is/are the administrative measure(s) Alauddin Khilji took and successfully withstood the threat from Mongol invasions?

    i. Military reforms
    ii. Token system
    iii. Market control
    iv. Shifting the capital

      a) i
      b) i, ii and iv
      c) ii and iv
      d) i and iii

Answer: Option d)

4. Everyone around the world celebrates Christmas on the 25th of December. During Christmas, it's winter in India but summer in Australia. Choose the reasons for this.

    I. The weather conditions are always opposite in the northern and southern hemisphere.
    II. Australia is situated in the northern hemisphere and India in the southern hemisphere.

III. Australia is situated in the southern hemisphere and India in the northern hemisphere.

IV. Australia experiences summer throughout the year.

a) I,II
b) I,III
c) Only IV
d) Only I

Answer: Option b)

5. Assertion: Citizens of India are not directly involved in electing the president.
Reason: Members of parliament and legislative assembly are involved in electing the president.

a) Both the assertion and reason are true and the reason is the correct explanation of assertion.
b) Both the assertion and reason are true but the reason is not the correct explanation of the assertion.
c) The assertion is true but the reason is false.
d) The assertion is false but the reason is true.

Answer: Option a)

6. Match the stone age period with the corresponding tools used during that period.

Stone age period	Tools used for hunting
A. Mesolithic period	i. Basic stone tools
B. Neolithic period	ii. Polished stone tools
C. Palaeolithic period	iii. Tiny stone tools attached to handles

a) A - ii, B - iii, C - i
b) A - i, B - iii, C - ii
c) A- iii, B- ii, C- i
d) A - ii, B - i, C - iii

Answer: Option c)