



# National Analytical Brains Competition 2020

## NAB Competition 2020 - Grade 07

### Mathematical Ability

All questions are mandatory. Please note there is no negative marking:

1. A man sold two pipes at ₹ 12 each. On one he gained 20% and another he lost 20%. On the whole he

- gained ₹1
- lost ₹1
- gained ₹2
- neither gained no lost

2. A rectangular park of length 80 m and breadth 50 m is there in a locality. Two crossroads perpendicular to each other of width 5 m needs to be constructed in between the park for walking. Find the area of Horizontal Road.

- 400 sq m
- 420 sq m
- 250 sq m
- None of these

3. A retailer buys some silk scarves for ₹460 and sells them at 60% profit. For how much does he sell them?

- 676
- 620
- 520
- 736



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4. On the number line, the value of  $(-2) \times 3$  lies on right hand side of

- 7
- 4
- 0
- 7

5. Water level in a well was 30 m below ground level. During rainy season, rainwater collected in different water tanks was drained into the well and the water level rises 10 m above the previous level. The wall of the well is 1m 30cm high and a pulley affixed at a height of 70 cm. Ram wants to draw water from the well. The minimum length of the rope, that he can use is

- 40 m
- 20 m
- 22 m
- 18 m

6.  $(-35) \times [6 + 4]$  is not same as

- $(-35) \times 10$
- $(-35) \times 6 + (-35) \times 4$
- $-35 \times 6 \times 4$
- 350



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7. All decimal numbers are also rational numbers.

- True
- False
- None of these
- can't say

8. The area of a rectangle 144 m long is same as that of a square of side 84 m.  
The width of the rectangle is

- 14 m
- 49 m
- 7 m
- None of these

9. Which sign will come in the blank space?

$$(-6) \times (-5) - 2 \quad \underline{\hspace{2cm}} \quad (-6) \times (-5 - 2)$$

- >
- <
- =
- Can't say



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10. What should be added to twice the rational number  $-\frac{7}{3}$  to get  $\frac{3}{7}$  ?

- $\frac{107}{21}$
- $\frac{17}{21}$
- $-\frac{40}{21}$
- None of these

11. The digits of a two-digit number differ by 3. If the digits are interchanged, and the resulting number is added to the original number, we get 143. What can be the original number?

- 63
- 58
- 43
- None of these

12. The sum of three consecutive multiples of 11 is 363. The middle number in these multiples is

- 121
- 110
- 132
- None of these



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13. Zero is a rational number.

- True
- False
- None of these
- can't say

14. What should be added to  $(-4)/9$  to obtain the nearest natural number?

- 1
- $4/9$
- $-4/9$
- $13/9$

15. If Tarun sells his table for ₹ 720, he would lose 25%. To gain 25%, he should sell it for:

- 1600
- 1000
- 1200
- can't say





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16.

Multiplication of Multiplicative inverse of  $-1\frac{4}{9}$  and additive inverse of -2 is

- 18/13
- 18/13
- 5/9
- 5/9

17. Value of

$$\left(\frac{-3}{5} \times \frac{10}{-7}\right) - \left(\frac{6}{-7} \times \frac{5}{6}\right)$$

- 1/7
- 13/9
- 11/7
- 1/7

18. \_\_\_\_\_ rational numbers are there between 1 and 2

- 0
- 1
- 2
- None of these



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19. Number of whole numbers lying between  $-5$  and  $5$  is :

- 10
- 3
- 4
- 5

20. In a furniture shop, 24 tables were bought at the rate of ₹ 450 per table. The shopkeeper sold 16 of them at the rate of ₹ 600 per table and the remaining at the rate of ₹ 400 per table. Find her gain or loss percent

- 18%
- More than 18%
- Less than 18%
- can't say



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## Logical Reasoning Ability

All questions are mandatory. Please note there is no negative marking:

Q 21: How many 5s are there in the following number sequence which are immediately preceded by 7 and immediately followed by 6?

7 5 5 9 4 5 7 6 4 5 9 8 7 5 6 7 6 4 3 2 5 6 7 8

- One
- Two
- Three
- Four

Q 22: In the following alphabet series. If the order of the alphabets is reversed then which letter would be exactly in the middle.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

- L
- M
- N
- None of these





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Q 23: Find the missing term:

**5      8      11      14      ?**

- 18
- 16
- 17
- None of these

Q 24: If all the words are arranged alphabetically as in a dictionary then which one will come in the last?

- Transmit
- Transplant
- Transport
- Translate
- Transition

Q 25: If you are facing north-east and move 15 m forward, turn left and move 8 m, then you are:

- North of your initial position
- South of your initial position
- East of your initial position
- West of your initial position



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Q 26: Doctor is related to Patient in the same way lawyer is related to \_\_\_\_\_

- Customer
- Accused
- Magistrate
- Client

Q 27 : If light' is called 'morning', 'morning' is called 'dark', 'dark' is called 'night', 'night' is called 'sunshine' and 'sunshine' is called 'dusk', when do we sleep ?

- Night
- Sunshine
- Dusk
- Dark

Q 28: If LENGTH is coded as "5" and ACADEMIC is coded as "7" , then what is the code for SOLUTIONS will be coded as:

- 6
- 9
- 8
- 7



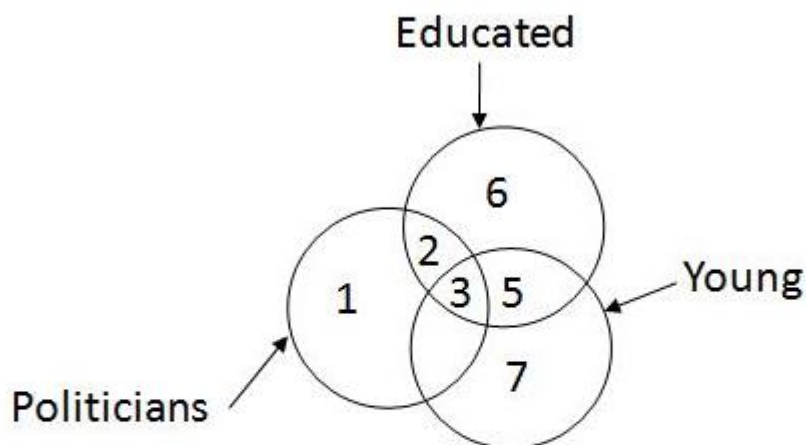
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Q 29: There is a certain relation between two words given on one side of :: . Out of the below four alternatives, one word will have similar relation with the word on other side of ::

Mother : Child :: Cloud : ?

- Weather
- Rain
- Thunder
- Water

Q 30: Which region denote the educated politicians which are not young.



- 2
- 3
- 4
- 5



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Q 31: Choose the word which is least like the other words given below:

- Jan
- May
- July
- August
- November

Q 32: There is a certain relation between two Numbers given on one side of :: . Out of the below four alternatives, one number will have similar relation with the number on other side of ::

**49 : 81 :: 100 : ?**

- 64
- 144
- 169
- None of These

Q 33: Find the missing term in the series:

**A I , B J , C K , ?**

- DL
- DM
- GH
- LM



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Q 34: One term in the series is wrong. Find that out:

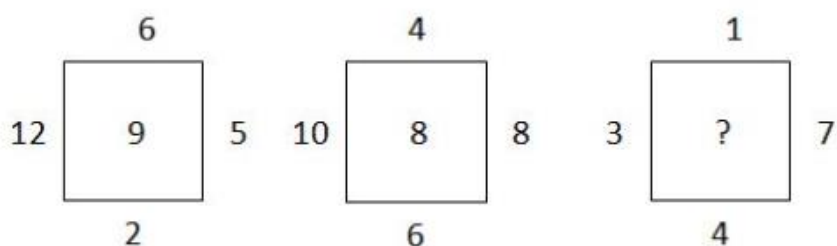
8, 13, 21, 32, 47, 63, 83

- 13
- 21
- 32
- 47

Q 35: If  $AT=20$ ,  $BAT =40$ ,  $CAT$  will be equal to:

- 30
- 50
- 60
- 70

Q 36:



- 5
- 6
- 7
- 8





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Q 37: Below three words are related in some way.

Apple, Mango, Fruits



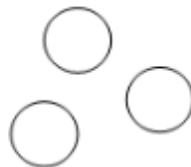
A



B



C



D



E

A

B

C

D

E

Q 38: Rahul ranks eighteenth in a class of 39 students. What is his rank from the last?

18

19

21

22



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Q 39: What will be the difference between the sum of the odd digits and the sum of the even digits in the number 857423?

- 0
- 1
- 2
- 3
- 4
- None of these

Q 40: In a certain code "GARLIC" is coded as 36 and "STARTLING" is coded as 81, then how to code "YOUNG"?

- 25
- 49
- 63
- 36



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## Real Life Problems

Read the following passage to answer these questions from 41 to 45

Anita, Mahima, Rajan, Lata and Deepti are five cousins. Anita is twice as old as Mahima. Rajan is half the age of Mahima. Anita is half the age of Deepti and Rajan is twice the age of Lata.

Q 41: Who is the youngest?

- Deepti
- Rajan
- Lata
- Anita

Q 42: Who is the eldest ?

- Deepti
- Lata
- Anita
- None of these

Q 43: Which of the following pairs of persons are of the same age?

- Mahima and Lata
- Anita and Mahima
- Mahima and Rajan
- None of these



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Q 44: Anita is younger than \_\_\_\_\_?

- Rajan
- Mahima
- Deepti
- None of these

Q 45: If Mahima is 16 years old, then what is the age of Lata?

- 4 years
- 5 years
- 7 years
- 14 years

Q 46: You scored 90% marks in three tests. After that you took another test and your total percentage became 92%. How much percentage you scored in 4th test alone.

- 92%
- 91%
- 98%
- 96%



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Q 47: Today is Tuesday. One which day of the week is 100 days from from?

- Wednesday
- Thursday
- Saturday
- Monday

Q 48: During a plantation derive , you are planning to plant trees on 50 m long road from end to end . Each tree will be 5 meter away from other. How may tree will you require.

- 10
- 12
- 11
- 9

Q 49: You are asked to distribute 200 new books into three libraries in such a way that Vivekananda Library is supposed to get 15 more books than Aryabhata library and Aryabhata library will receive 25 more books then Ramanunjan Library. Can you find out how many new book will be there in Aryabhata library?

- 120
- 85
- 125
- 70





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Q 50: Painter asked you to bring paint for room which has width 3 m and length is 4 m by height is 3m. Painter gave an estimate that 100 ml of paint can cover an area of 1sq meter . Can you find out how much paint will be required to paint the room including roof. For better shining paint will be done two times.

- 5.4 L
- 10.8 L
- 3L
- 6L