

# NAB Competition 2022 - Grade 06

National Analytical Brains Competition 2022 for Grade 06

\* Indicates required question

1. Name \*

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2. Registration ID \*

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3. Contact Number ( registered one) \*

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## Mathematical Ability

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

4. Q 1:

A certain freezing process requires the room temperature to be lowered from  $50^{\circ}\text{C}$  at the rate of  $8^{\circ}\text{C}$  every hour. What will be the room temperature 7 hours after the process begins?

*Mark only one oval.*

$-106^{\circ}\text{C}$

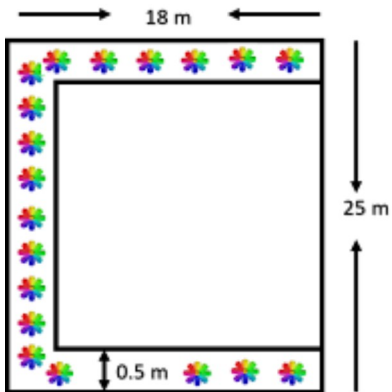
$106^{\circ}\text{C}$

$6^{\circ}\text{C}$

$-6^{\circ}\text{C}$

5. Q 2:

In a park of dimensions 25 m x 18 m, there is a C shaped 0.5 m wide flower bed as shown in the figure. Find the total cost of fertilizer for the flower bed at the rate of ₹ 50 per sq m.



Mark only one oval.

- ₹ 1500
- ₹1025
- ₹2050
- ₹2100

6. Q 3: If two ratios are in proportions then product of extremes =?

Mark only one oval.

- Product of two numbers
- Product of means
- Product of median
- Product of ratio

7. Q 4:

How many lakhs are there in one million?

Mark only one oval.

- 100
- 10
- 1000
- None of These

8. Q 5: Which of the following pairs of integer does represent 6 as a difference?

Mark only one oval.

- 10, 4
- 2, -4
- 6, -6
- All of the above

9. Q 6: If the ratio of circumference of two circle is 5:8, what is the ratio of their areas?

Mark only one oval.

- 5:8
- 8:5
- 25:64
- 3:13

10. Q 7: Find the value of below expression:

$$18 - [6 - \{4 - (8 - \overline{6 + 3})\}]$$

Mark only one oval.

- 17
- 11
- 16
- 5
- None of these

11. Q 8:

The length of a rectangular plot of land is twice its breadth. If the perimeter of the plot be 240 m, find its area.

*Mark only one oval.*

3200 sq m

1600 sq m

2400 sq m

3000 Sq m

12. Q 9: If a bus travels 264 km in 6 hours and a car travels 348 km in 4 hours at uniform speeds, then the ratio of the distances travelled by them in 2 hours is\_\_\_\_\_.

*Mark only one oval.*

264:348

44:87

88:87

61:87

None of these

13. Q 10: Area of a right angled triangle is 10 sq cm. If its smallest side is 4 cm, then its hypotenuse is:

*Mark only one oval.*

5 cm

7 cm

3 cm

None of These

14. Q 11: The integer 7 more than  $-16$  is :

*Mark only one oval.*

23

-23

-9

9

15. Q 12: The value of  $x$  in the proportion,  
 **$7 : 9 :: 35 : x-4$**

*Mark only one oval.*

49

45

41

59

16. Q 13: If the sum of two integers is  $-24$  and one of them is  $15$ , then the other integer is

*Mark only one oval.*

-9

9

39

-39

17. Q 14: Ratio of two quantities is  $5: 7$ . If the larger quantity is  $112$  g, then smaller quantity is\_\_\_?

*Mark only one oval.*

16 g

192g

80 g

none of these

18. Q15 : In a School trip, Bus 1 has 3 teachers and 15 students, Bus 2 has 4 teachers and 16 students. Bus 3 has 2 teachers and 9 students. Which of the buses has the least teacher-student ratio?

*Mark only one oval.*

- Bus 1  
 Bus 2  
 Bus 3  
 Cannot Say

19. Q 16: Find the value:

$$3 + 6 \times (5 + 4) \div 3 - 7$$

*Mark only one oval.*

- 20  
 14  
 12  
 None of these

20. Q 17: Four square tables with side 1.6m each are placed end to end to forms one big square table. What is the perimeter of this square table?

*Mark only one oval.*

- 10.25 m  
 2.56 m  
 12.8 m  
 6.4 m

21. Q 18:

A piece of string is 176 cm long. What will be the diameter of the circle, If the string is used to form a circle?

*Mark only one oval.*

- 28 cm
- 56 cm
- 42 cm
- 44 cm
- None of these

22. Q.19:

The additive inverse of 21 is

*Mark only one oval.*

- 21
- 21
- 1/21
- 1/21

23. Q20: The ratio of the number of diagonals of a square to the number of edges of a cube is \_\_\_\_

*Mark only one oval.*

- 1:3
- 3:1
- 1:6
- 1:4

### Logical Reasoning Ability

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

24. Q 21:  
If RAM is coded as SBN, then how is TIME Coded?

*Mark only one oval.*

- EQDF  
 ESDF  
 GQFD  
 UJNF

25. Q 22: A train is call bus , bus is called tractor, tractor is called car, car is called scooter , scooter is called bicycle, bicycle is called moped.

Which is used to plough a field?

*Mark only one oval.*

- Train  
 Bus  
 Tractor  
 Car

26. Q 23: Lokesh ranks 16th from the top and 49th from the bottom in the class. How many students are there in the class?

*Mark only one oval.*

- 64  
 65  
 66  
 67



27. Q 24: At What angle the hands of a clock are inclined at 15 minutes past 5?

Mark only one oval.

$72 \frac{1}{2}^\circ$

$67 \frac{1}{2}^\circ$

$58 \frac{1}{2}^\circ$

$64^\circ$

28. Q 25: Find the number which will replace the '?' mark

6	6	9
5	7	4
4	3	?
120	126	360

Mark only one oval.

6

8

10

12

29. Q 26: D is A's Son. C is mother of P and wife of D. How is C related to A?

Mark only one oval.

Father

Uncle

Daughter-in-law

Daughter

30. Q 27: In the following question the letters of the words have been jumbled up. Find which one is the right choice if words are arranged to make meaningful word:

A kind of vegetable

*Mark only one oval.*

- OTRNH  
 PRECOP  
 OPTTAO  
 NZCI

31. Q 28: A man walks 15 km toward south and then turns to the right. After walking 7 km he turns to the left and walks 9 km. In which direction is he from the starting place?

*Mark only one oval.*

- West  
 South  
 North-East  
 South-West

32. Q 29: Kailash remembers that his brother Deepak's birthday falls after 20th May but before 28th May, while Geeta remembers that Deepak's birthday falls before 22nd May but after 12th May. On what date Deepak's birthday falls?

*Mark only one oval.*

- 20th May  
 21st May  
 22nd May  
 Cannot be determined  
 None of these

33. Q 30: Choose the odd numeral pair/group from below options:

Mark only one oval.

- 12-96
- 13-117
- 15-120
- 16-128

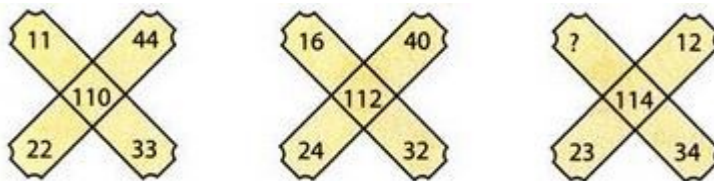
34. Q 31: How many 5's are immediately preceded by 4 but not immediately followed by 3 in the following series?

5 4 3 7 6 5 4 5 3 6 2 4 5 4 5 5 4 3 7 5 6 4 5 5 4 3 5

Mark only one oval.

- 2
- 3
- 4
- 5

35. Q 32: Find the missing character from the given alternatives:



Mark only one oval.

- 36
- 37
- 45
- 46

36. Q 33: If "K" denotes "multiply", "M" denotes "subtract", "J" denotes "add" and "L" denotes "divide", then

$$44 \text{ M } 24 \text{ K } 56 \text{ L } 14 \text{ J } 60 = ?$$

Mark only one oval.

- 8
- 19
- 72
- 40

37. Q 34: What is the shape formed by rotating a right triangle about its height?

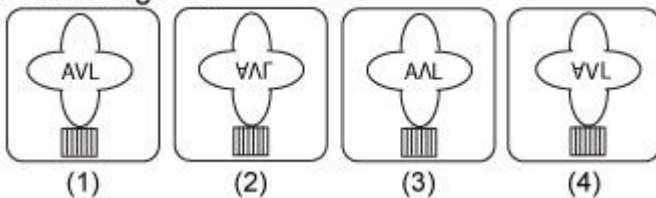
Mark only one oval.

- A sphere
- A cylinder
- A cone
- A cuboid

38. Q 35: Choose the correct water image of the question figure, from the given answer figures (assume that water is along XY)



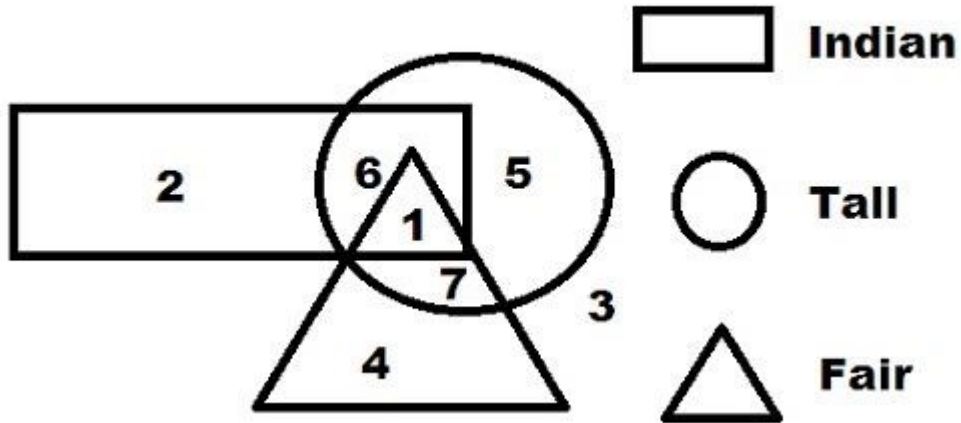
Answer figures:



Mark only one oval.

- 1
- 2
- 3
- 4

39. Q 36. Study the following diagram and try to answer the question accordingly.  
Which number indicates a tall and fair Indian?



Mark only one oval.

- 4
- 7
- 1
- 6

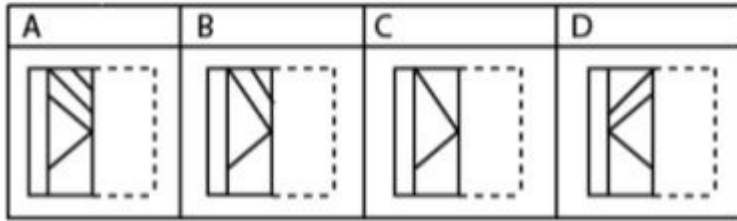
40. Q 37: Five friends P, Q, R, S & T have different heights. T is the 2nd tallest person in the group. P is taller than only S. R and T both are taller than Q. P is taller than S but shorter than Q.

**Who is the tallest person of all?**

Mark only one oval.

- R or T
- T
- R
- Q
- None of These

41. Q 38: Which pattern will the given transparent sheet resemble when it is folded at the dotted line?



Mark only one oval.

- A
- B
- C
- D

42. Q 39: Total how many triangles are there in the below figure?



Mark only one oval.

- 6
- 4
- 5
- 7

43. Q 40: Identify the number of plane faces of the given solid.



Mark only one oval.

4

3

5

2

### Real Life Problems

Questions from 41 to 45 are correlated:

Alka is

older than Mala. Gopal is older than Mala but younger than Alka. Kapil is younger than Ram and Mala. Mala is older than Ram.

44. Q 41: Whose age is between Gopal and Ram?

Mark only one oval.

Mala

Kapil

Alka

None of these

45. Q 42: Whose age is between Mala and alka?

Mark only one oval.

Ram

Gopal

Alka

None of these

46. Q 43: Whose age is exactly in the middle of all the five?

*Mark only one oval.*

Mala

Gopal

Ram

Alka

47. Q 44: Who is the eldest?

*Mark only one oval.*

Alka

Mala

Kapil

Gopal

48. Q 45: Who is the youngest?

*Mark only one oval.*

Mala

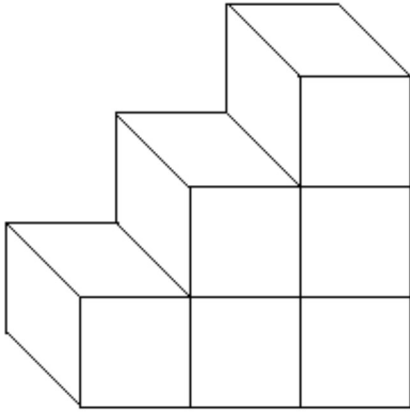
Ram

Alka

Kapil



49. Q 46: If it takes 6 cubes to build a stair case with three steps. How many cubes will be required to build 11 steps staircase?



Mark only one oval.

- 55
- 66
- 56
- 52
50. Q 47: You had a platter of chocolate wafers. You ate 5 of them and then gave 3 to your brother, you then handed them to your ball team of 8 members. The first player to arrive took 1, the second player took 3, the third player took 5 and so on. When the last player took his, the platter was empty. How many chocolate wafers did Tom start with?

Mark only one oval.

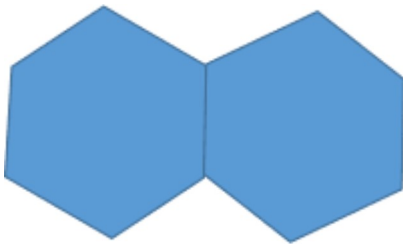
- 72
- 68
- 57
- 70

51. Q 48: An Olympic runner set a record for the 200m dash. The time was twenty and sixty-two hundredths seconds. With same speed how much time will he take to cover 100m ?

*Mark only one oval.*

- 20.062 seconds
- 10.031 seconds
- 10.31 seconds
- 20.62 seconds

52. Q 49: Hexagon tables at the party are joined side by side in one line. How many tables would you need for 34 people?



*Mark only one oval.*

- 12
- 6
- 10
- 8

53. Q 50: Isha challenged Nishant to a contest. If he could eat 310g apple, 210 g cashew nuts, 190 g tomatoes and 250 g of cheese. She will give him a total of ₹10000. Unfortunately Nishant only ate three items , for a total of 750g. Which one Nishant did not eat?

*Mark only one oval.*

- Apple
- Cashew Nuts
- Tomatoes
- Cheese

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