BK BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL

ANNUAL EXAMINATION , 2026

MATHEMATICS (041), Set-2

Class : VIII
Date : 10-03-2026
Admission No.:

Duration: 3 Hrs
Max. Marks: **80**
Roll No.:

General Instructions:

1. This Question Paper has 5 Sections A, B, C, D and E.
2. Section A has 20 MCQs carrying 1 mark each.
3. Section B has 5 questions carrying 02 marks each.
4. Section C has 6 questions carrying 03 marks each.
5. Section D has 4 questions carrying 05 marks each.
6. Section E has 3 case based integrated units of assessment (04 marks each) with sub- parts of the values of 1, 1 and 2 marks each respectively.
7. All Questions are compulsory. However, an internal choice in 2 Qs of 2 marks, 2 Qs of 3 marks and 2 questions of 5 marks has been provided.

SECTION A

1. The probability of getting a number greater than 6 on rolling a die is
   a) 1
   b) $\frac{1}{6}$
   c) 0
   d) $\frac{1}{2}$

2. 18 out of 36 people love reading, so reading in the pie chart will be represented by
   a) 36 degree sector
   b) quarter sector
   c) semi-circular sector
   d) None of these

3. If MP of a box is Rs 10 and a discount of 10% is allowed then what should be the sale price?
   a) Rs 10
   b) Rs 9
   c) Rs 11
   d) None of the above

4. If 25% of students are good at Mathematics out of 20 students. Then the number of students good at Mathematics:
   a) 10
   b) 5
   c) 4
   d) 25

5. (a--b) ^{2} is a product of
   a) (a +b) (a-b)
   b) (a+ b) (a+ b)
   c) a ^{2} + 2ab + b ^{2}
   d) None of these

6. The value of x^2 - 5 at x= -1 is :
   a) -2
   b) -1
   c) -4
   d) -5

7. The area of a rhombus is 140 cm^2 and one of the diagonals is 14 cm. Find the other diagonal.
   a)16 cm
   b) 20 cm
   c) 30 cm
   d) 40 cm

8. The surface area of cube of side 9 cm is :
   a) 486 cm ^{2}
   b) 546 cm ^{2}
   c) 216 cm ^{2}
   d) 116 cm ^{2}

9. Which of the following is the common factor of 21 x^{2}y and 35 xy^2?
   a) 7 $x\,y$ ^{2}
   b) xy
   c) 7 xy
   d) none of these.

10. The factors of $y^2 - 144$ are:
    a) $(y + 12)^2$
    b) $(y - 12)^2$
    c) $(y - 12)\,(y + 12)$
    d) None of the above

11. A graph that displays data that changes continuously over periods of time is called:
    a) Bar-graph
    b) Pie-chart
    c) Double Bar Graph
    d) Line Graph

12. The point where the $x -$ axis and y- axis intersect is called
    a) $x -$ axis
    b) $y -$ axis
    c) origin
    d) none of these

13. If a number is divided by 8 it gives 6 as the value. The number is:
    a) 36
    b) 42
    c) 48
    d) 56

14. The solution of the equation $7x+15 = 50$, is:

   a) -5   b) $\frac{65}{7}$ c) 5   d) n

15. If $p - \frac{p}{4} = 12$, then value of p is:

   a) 12   b) 16   c) 14   d) 38 cm

16. Three angles of a quadrilateral are 60^0, 80^0 and 150^0, fourth angle is:

   a) 120°   b) 70°   c) 110°   d) 60^0

17. 9 x 9 x 9 x 9 x … 20 times is:

   a) 9 x 20   b) 9 + 20   c) 9^{20} d) 20 x 9

18. $5^0 \times 6^0 \times 7^0$ is equal to:

   a) 3   b) 210   c) 1   d) 18

19. **Assertion (A) :** *$3x + 4 = 10 + x$ is a linear equation.*

   Reasons (R) : The solution of the equation is 3.

   a) Both A and R are true and R is the correct explanation of A
   b) Both A and R are true but R is not the correct explanation of A
   c) A is true but R is false
   d) A is false but R is true

20. Assertion: (A): 1.5×10^{11} is equal to 150000000000

   Reason(R): An exponent refers to the number of times a number is multiplied by itself

   a) Both A and R are true and R is the correct explanation of A
   b) Both A and R are true but R is not the correct explanation of A
   c) A is true but R is false
   d) A is false but R is true

SECTION B

21. A bag contains 9 black and 12 white balls. One ball is drawn at random. What is the probability that the ball drawn is black?

22. Convert the following ratio to percentages:

   a) 2:5   b) 5:4

OR

   A man borrowed Rs 1200 from a money lender at 10 % p.a. for 3 years. Find the simple interest

23. Add the following.

   i) $2 p^2 q^2 - 3pq + 4$, $5 + 7 p q - 3 p^2 q^2$ ii) a-b + ab , b-c + b c , c-a +a c

24. Find the product. i) $(3 - 5y)(3 + y)$ ii) $(4 + 7y)(7y - 1)$

25. Find the value of: i) $(2^0 \times 4^{-1}) \div 2^{-2}$ ii) $(\frac{1}{2})^{-2} + (\frac{1}{3})^{-2} + (\frac{1}{4})^{-2}$

OR

   Evaluate: $[(\frac{1}{3})^{-1} - (\frac{1}{4})^{-1}]^{-1}$

SECTION C

26. A student spends different hours of working days as follows. Represent in the form of pie chart

Activity	school	Home Assignment	Play	Sleep	Other
No. of Hours	8	3	2	8	3

27. Simplify: $3 (x^2 + x + 2) + 7$ and find its value at $x = 2$

28. Factorise using the identity: a) $25 x^2 + 30 x + 9$ b) $49 p^2 - 36$

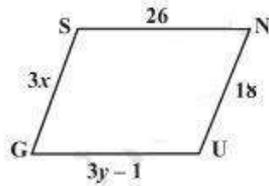29. Solve: $15 (y - 4) - 2(y - 9) + 5 (y + 6) = 0$

OR

$\frac{x}{2} - \frac{3x}{4} = \frac{5x}{6} = 21$

30. The opposite angles of a parallelogram are $(3x + 5)°$ and $(61 - x)°$. Find the measure of four angles.

OR

Find the value of x and y

31. . Find the value of x so that $7^{3x+2} \div 7^1 = 7^4$

OR

Express the following in usual form: i) 9.38×10^4 ii) 3.21×10^{-3} iii) 7.13×10^{-9}

SECTION D

32. A person goes shopping and spends 75% of his money. If he is now left with Rs. 600, find out how much he had in the beginning.

OR

Find the compound interest on Rs 5000 for two years at 10 % per annum compounded annually.

33. Factorise the expression and divide it.

$5 p^2 - 25 p + 20 \div (p - 1)$

34. The area of a trapezium is 34 cm^2 and the length of one of the parallel sides is 10 cm and its height is 4 cm Find the length of the other parallel side.
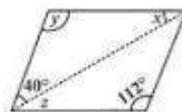
OR

The floor of a building consists of 3000 tiles which are rhombus shaped and each of its diagonals are 45 cm and 30 cm in length. Find the total cost of polishing the floor, if the cost per m^2 is Rs. 4.
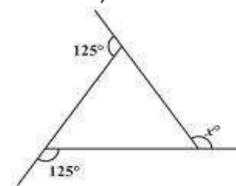
35. a) Find x in the following figures.
    b) Following figure is parallelogram, find the value of the unknown x, y, z

SECTION E

36. One day Rahul visited park along with his friends. There he saw a game of chance that consists of spinning an arrow , as shown in the figure , that comes to rest pointing at one of the numbers 1,2,3,4,5,6,7 and 8 and these are equally likely outcomes. Answer the following using the below figure
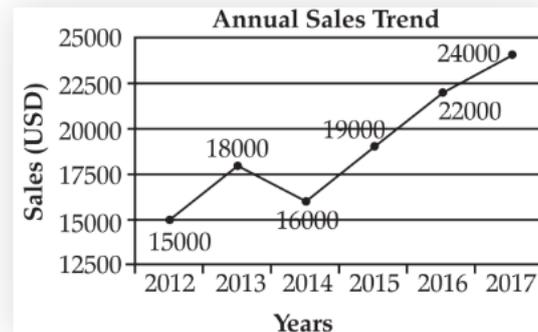
i) Find the probability that the arrow will point at 2.   1

ii) Find the probability that the arrow will point an even number.   2

OR

Find the probability that the arrow will point a prime number.

iii) Find the probability that the arrow will point at 5.   1

37. The given line graph shows the annual sales of car for past six years.

On the basis of above information answer the following questions:

i) What was the sale of car in year 2015?   1

ii) In which year sale is maximum?   1

iii) How many cars are sold between 2013 and 2012?   2

OR

In which year the sales of car depreciated and by how much?

38. The ground man (worker) used a cylindrical roller to level the school play ground completely for sports day matches. If the diameter of the roller is 2 m and length of the roller is 7 m. (use $\pi \frac{22}{7}$)

Answer the following questions based on the above information:

i) Find the radius of the radius of the roller.   1

ii) Find the curved surface area of the roller.   2

OR

Find the area levelled in 5 revolution.

iii) Write the formula of total surface area of the cylinder.   1

*********** *ALL THE BEST* ******************