B K BIRLA CENTRE
FOR EDUCATION
(Sarala Birla Group of School)

## BK BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS

MID-TERM EXAMINATION 2023-24
MATHEMATICS (041)

Class : VIII
Date :11-10-2023
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 5 marks, 2 Qs of 3 marks and 2 Questions of 2 marks has been provided.

## SECTION A

1. Between two rational numbers we can find:
a) one rational number
b) two rational numbers.
c) infinite rational numbers
d) none of the above.
2. The reciprocal of $x$ is :
a)
b)
c)
d)
3. $5^{0} \times 6^{0} \times 7^{0}$ is equal to
a) 3
b) 210
c) 1
d) none of these
4. The standard form of 492000 is :
a) 4.92
b) $4.92 \times 10^{5}$
c) $4.92 \times 10^{-5}$
d) $4.92 \times 10^{4}$
5. $8^{5} 8^{3}$ is equal to
a) $8^{8}$
b) $8^{2}$
c) $8^{-2}$
d) $8^{-8}$
6. The solution of $2 x-3=7$ is:
a) 5
b) 7
c) 12
d) 11
7. The age of the father is four times the age of the son. If the age of the son is $\mathbf{1 5}$ years old, then the age of the father is:
a) 60 years
b) 55 years
c) 40 years
d) 45 years
8. If a number is divided by 8 it gives 6 as the value. Find the number.
a) 36
b) 42
c) 48
d) 56
9. In the grouped data, each of the group is called:
a) Class interval
b) Collection of data
c) Frequency
d) Grouped frequency distribution
10. If a die is thrown in the air, the probability of getting even numbers is:
a)
b)
c)
d) none of these
11. A die is thrown. What is the probability of getting even prime number?
a)
b)
c)
d)
12. The algebraic expression
a) Monomial
b) Binomial
c) Trinomial
d) None of the these
13. The area of a rectangle whose length and breadth are respectively is:
a)
14. 

a
b) c)
d) 0
15. If $A B$ and $C D$ are two parallel sides of a parallelogram, then:
a) $A B>C D$
b) $A B<C D$
c) $A B=C D$
d) None of the these
16. If $\angle A$ and $\angle B$ are two adjacent angles of a parallelogram. If $\angle A=70^{\circ}$, then $\angle B=$ ?
a) $70^{\circ}$
b) $90^{\circ}$
c) $110^{\circ}$
d) $180^{\circ}$
17. The angles of a quadrilateral are in the ratio $1: 5: 6: 8$. The angles are
a) $18^{\circ}, 90^{\circ}, 108^{\circ}, 144^{\circ}$
b) $26^{\circ}, 52^{\circ}, 72^{\circ}, 186^{\circ}$
c) $20^{\circ}, 100^{\circ}, 120^{\circ}, 160^{\circ}$
d) $30^{\circ}, 150^{\circ}, 158^{\circ}, 240^{\circ}$.
18. The quadrilateral whose diagonals are perpendicular to each other is:
a) Parallelogram
b) Rectangle
c) Trapezium
d) Rhombus
19. Assertion (A) - 10 metres of cloth cost Rs 1000. 4 metres costs Rs 400

Reasons (R) -A direct proportion shows the direct the relation between two quantities.
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) - 40 cows can graze a field in 16 days. The 64 cows will graze the same field in 10 days Reasons ( $\mathbf{R}$ ) - An inverse proportion shows inverse or indirect relation between two quantities
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

## SECTION B CONSISTS OF 5 QUESTIONS OF 2 MARKS EACH.

21. Evaluate: i) $5^{-2}$
ii) ( ) ${ }^{-5}$
22. Solve for: $7-9=4+15$

OR

+ =

23. Find the product : $\left(2 p q+3 q^{2}\right)$ and (3pq-2 $\left.q^{2}\right)$
24. Three angles of a quadrilateral are $50^{\circ}, 68^{\circ}, 115^{\circ}$. Find the fourth angle.

OR
The measures of two adjacent angles of a parallelogram are in the ratio $3: 2$. Find the measure of each of the angles of the parallelogram.
25. A machine in a soft drink factory fills 840 bottles in six hours. How many bottles will it fill in five hours?

## SECTION C <br> SECTION C CONSISTS OF 6 QUESTIONS OF 3 MARKS EACH.

26. Find the value of $x$ : ()$^{-5} x()^{-11}=()^{8 x}$

OR
Express in the standard form : i) 58300 ii) 4470000 iii ) 234000
27. Two numbers are in the ratio $5: 8$. If the sum of numbers is 182 , find the numbers.
28. If you have a spinning wheel with 3 green sectors, 1 blue sector and 1 red sector, what is the probability of getting a green sector? What is the probability of getting a non-blue sector?
29.

OR
30. Find the angle measure in the above figure.

(c)
31. A farmer has enough food to feed 20 animals in his cattle for 6 days. How long would the food last if there were 10 more animals in his cattle?

## SECTION D

## SECTION D CONSISTS OF 4 QUESTIONS OF 5 MARKS EACH.

32. Find TEN rational numbers between and
33. 

## OR

Solve for :
34. Draw a pie chart showing the following information. The table shows the colours preferred by a group of people.

| Colours | Number of people |
| :--- | :---: |
| Blue | 18 |
| Green | 9 |
| Red | 6 |
| Yellow | 3 |
| Total | 36 |

35. Suppose 2 kg of sugar contains $9 \times 10^{6}$ crystals. How many sugar crystals are there in (i) 5 kg of sugar? (ii) 1.2 kg of sugar?

## OR

If 1800 can finish the construction of a building in 40 days, how many persons are needed for the construction of the building in 24 days ?

## SECTION E

36. Three friends Ram, Rahim and David went to "RADHEY SWEET MART"
to purchase some sweets, namkin and cold drinks for New year party. The following chart shows the price and available stock of sweets and namkin in the shop.
Answer the following questions using the below given chart.

| S.NO. | SWEETS AND NAMKIN | AVAILABLE STOCK | PRICE |
| :---: | :--- | :--- | :--- |
| 1 | SWEET LADDU | 10 Kg | $₹ 400$ per Kg |
| 2 | JALEBI | 8 Kg | $₹ 360$ per Kg |
| 3 | BARFI | 7 Kg | $₹ 300$ per Kg |
| 4 | MIX-NAMKIN | 100 packets | $₹ 80$ per packet |
| 5 | POTATO CHIPS | 80 packets | $₹ 30$ per packet |
| 6 | COLD DRINKS | 50 Bottles | $₹ 50$ per bottle |
| 7 | ROASTED DRY FRUITS | 12 Kg | $₹ 1000$ per Kg |

i) After purchasing 500gm of sweet laddu, jalebi and barfi each, Ram had Rs150 left with him. How much money does Ram had before the purchase?
ii) Ram wants to purchase one packet of Mix-Namkin and two packets of potato chips with the remaining Rs150. Explain whether he can purchase it or not.
iii) Find the price of two cold drinks bottle and one kg of Barfi .
37. Two friends Richa and Sohan have some savings in their piggy bank. They decided to count the total coins they both had. After counting they find that they have fifty Rs 1 coins, forty-eight Rs 2 coins, thirty-six Rs 5 coins, twenty-eight Rs 10 coins and eight Rs 20 coins. Now, they said to Nisha, another friends, to choose a coin randomly.


Find the probability that the coin chosen is
i) Rs 5 coin 2
ii) Rs 20 coin 2
38. $2,{ }^{2}, 100,6,8^{2}, 8,-15$
i) Write the like terms in the given expressions.
ii) What is the coefficient of in 100
iii) Find the sum of like terms.

