BK BIRLA CENTRE FOR EDUCATION

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

MID-TERM EXAMINATION 2024-25

MATHEMATICS (041)

Class : VIII
Date : 21-09 - 2024
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. Multiplicative inverse of 7^{-2} is
   a) 49 b) $\frac{1}{7}$ c) 7 d) -14
2. The standard form of 149,600,000,000 m is :
   a) 1.496×10^{11} m b) 1.496×10^{8} m c) 14.96×10^{8} m d) 14.96×10^{11} m
3. **20 trucks can hold 150 metric tonnes. How much will 12 trucks hold?**
   a) 80 metric tonnes b) 90 metric tonnes c) 60 metric tonnes d) 40 metric
4. Number of students and consumption of food in a hostel is :
   a) **Direct proportion b) Inverse proportion c) no proportion d) none of these**
5. The multiplicative identity of rational numbers is :
   a) 0 b)1 c) 2 d) -1
6. An integer can be one of the following options:
   a) Only Positive b) Only Negative c) Both positive and negative d) None of these.
7. Pick the equation from the given one's which have solution as z = 2.
   a) 2z -2 = 3 b) 3z -2 = -2 c) 3z -3 = 3 d) 4z + 3 = 3
8. Solution of m in 16 = 3m – 2 is
   a) m = -5 b) m = 5 c) m = 6 d) m = -6
9. Which of the following is not a linear equation in one variable?
   a) $3 + x = 0$ b) $2x + y = 1$ c) $x - 1 = 0$ d) $y + 5 = 10$
10. Which of the quadrilaterals has all angles as right angles, opposite sides equal?
    a) Rectangle b) Rhombus c) Parallelogram d) none of these.
11. Which one of the following is a regular quadrilateral?

a) Square b)Trapezium c) Kite d) Rectangle

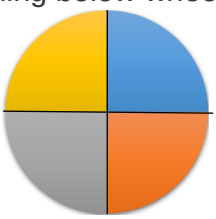
12. The sum of all the angles of a quadrilaterals is :

a) 180^0 b) 120^0 c) 360^0 d) 90^0

13. How many outcomes can be obtained by tossing a coin?

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

14. What are the possible outcomes of spinning below wheel?



a) 1 b) 5 c) 4 d) 8

15. Marks obtained by 20 students are as follows :

24, 14 , 7 , 18 , 14 , 18 , 8 , 13 , 12 , 17 , 20 , 24 , 22 , 21 , 18 , 19, 17 , 18 , 5 , 6.

Range of the data is :

a) 20 b) 19 c) 18 d) none of these

16. Which of the following is not a square number?

a) 156 b) 81 c) 121 d) 100

17. $\sqrt{2.25}$ is equal to

a) 15 b) 0.15 c) 1.5 d) 0.015

18. Squares of even numbers are always :

a) odd b) prime c) even d) composite

19. Assertion : If the cost of 16 books is Rs 80 . Then the cost of 8 books is Rs 40.
Reason : In a direct proportion , when one increase other increases and vice – versa.

a) Both assertion and reason are true and reason is the correct explanation of assertion.

b) Both assertion and reason are true but reason is not the correct explanation of assertion.

c) Assertion is true but reason is false.

d) Assertion is false but reason is true.

20. Assertion : $x + 5 = 0$ is a linear equation
Reason : Highest power of a variable is **1**.

a) Both assertion and reason are true and reason is the correct explanation of assertion.

b) Both assertion and reason are true but reason is not the correct explanation of assertion.

c) Assertion is true but reason is false.

d) Assertion is false but reason is true.

SECTION B

21. Salma types 540 words during half an hour. How many words would she types in 6 minutes?

22. Solve : $x = \frac{4}{5}(x + 10)$

OR

Solve : $5x + 9 = 5 + 3x$

23. Two adjacent angles of a parallelogram have equal measure. Find each angle.

24. A coin is tossed . What is the probability(chance) that the head will come up ?

25. What will be the unit digit of squares of the following?

i) 81 b) 272 c) 1234 d) 55555

OR

Find the prime factors of : 200

SECTION C

26. Find : $(2^{-1} \div 5^{-1}) \times (\frac{5}{8})^{-1}$

27. If a box of sweets is divided among 24 children, they will get 5 sweets each. How many would each get, if the number of the children is reduced by 4?

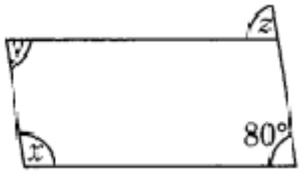
OR

A contractor estimates that 3 persons could rewire Jasminder's house in 4 days. If, he uses 4 persons instead of three, how long should they take to complete the job?

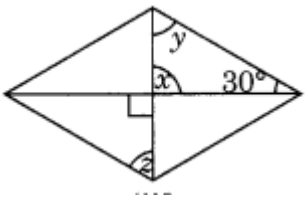
28. Simplify: $\frac{3}{4} - \frac{2}{5} + \frac{3}{10}$

29. Solve the equation and check your result : $9x - 4 = 2x + 3$

30. Consider the following parallelogram. Find the values of the x, y, z.



OR



31. Find the square roots by prime factorisation method : 7744

SECTION D

32. A) Express in standard form : i) 0.000035 ii) 4050000 iii) 0.00000056

B) Express in usual form : 3.52×10^{5} ii) 7.54×10^{-4}

33. Simplify: $\frac{2}{3} + \frac{5}{11} - \frac{1}{3} - \frac{3}{11}$

34. Simplify and solve the following linear equation :

$3 (5z - 7) - 2 (9z - 11) = 4 (8z - 13) - 17.$

OR

$12\,(y-3)-2\,(y-10)+7\,(y+7)=0$

35. Draw the pie chart showing the following information:

Colours	Number of people
Blue	18
Green	9
Red	6
Yellow	3
Total	**36**

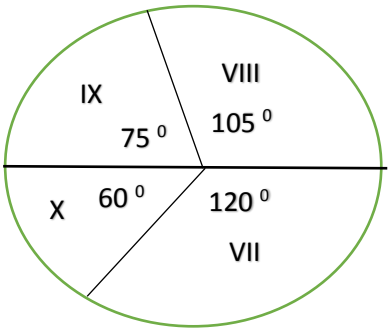
OR

Draw the Bar graph to represent the following information.

Subjects	English	Maths	French	Hindi	Science	Social St.
Marks	50	40	70	60	60	75

SECTION E

36. Pie chart depicts the number of students of classes VII to X . Read it and answer the Following questions. If there are 720 students in these four classes.



i) Which class has least number of students ? 1

ii) How many students are in class VII ? 2

iii) Which class the most number of students ? 1

37. During dance practice in a school 6570 students of different schools are arranged in rows such that the number of students in each row is equal to number of rows. In doing so

the instructor finds out that 9 children are left out.
Using above information , answer the following questions.

i) How many students were left out in an arrangement.? 1

ii) What is the number of students forming a square ? 1

iii) Find the number of children in each row. 2

38. Ramesh makes a poster in the shape of a parallelogram on the topic " SAVE ELECTRICITY " for an inter school competition as shown below.

Using the above poster, answer the following.

i) What is measure of $\angle B$, if $\angle A = 60^0$ 1

ii) What is sum of all the angles of parallelogram? 1

iii) What is measure of $\angle Z$? 2

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