BK BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHO
MID TERM EXAMINATION 2024-25
MATHEMATICS (041)

CLASS:VII
Date: 21.09.24
Name:

Duration: 3 hrs.
MAX.MARKS:80
Exam RNo:

General Instructions:
1. This Question Paper has 5 Sections A-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).
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 $(20 \times 1 = 20)$

Choose the correct answers.

1) $10 \div (-5) =$
   a) 2 b) 5 c) -5 d) -2

2) Which of the following is true?
   a) (-8) + (-4) > (-8) – (-4) b) (-8) + (-4) < (-8) – (-4)
   c) (-8) + (-4) = (-8) – (-4) d) None of these

3) The mean of first five natural number is
   a) 4 b) 3 c) 0 d) 2

4) The sum of measures of two complementary angles is
   a) 180^0 b) 90^0 c) 45^0 d) none of these

5) The median of the distribution 2, 3, 4, 7, 5, 1, 6 is
   a) 1 b) 2 c) 3 d) 4

6) $a \times (-b) = (-b) \times a$
   a) Commutative property b) associative property
   c) distributive property d) closure property

7) $\frac{3}{4}$ of 12 is
   a) 9 b) 16 c) 18 d) 32

8) The product of 0.03 × 0.9 is:
   a) 2.7 b) 0.27 c) 0.027 d) 0.0027

9) $2.4 \times 1000 =$ _____.
   a) 24 b) 240 c) 2400 d) 2.004

10) The mode of the data 13, 16, 12, 14, 19, 12, 14, 13, 14 is
   a) 12 b) 13 c) 14 d) 16

11) Write the Simple equation of the statement — The sum of three times x and 10 is 13.
   a) $3x + 10 = 13$ b) $3x - 10 = 13$ c) $3x + 13 = 10$ d) None of these

12) The solution of the equation $x + 3 = 0$ is

a) 3 b) – 3 c) 0 d) 1

13) How many rational numbers are there between two rational numbers?

a) 1 b) 0 c) infinite d) 100

14) 1 subtracted from one third of a number gives 1. The number is

a) 3 b) 6 c) 9 d) 2

15) Which of the following pair of angles are supplementary?

a) 48°, 42° b) 60°, 60° c) 179°, 2° d) 75°, 105°

16) If the complement of an angle is 79°, then the angle will be of

a) 1° b) 11° c) 79° d) 101°

17) A rational number is defined as a number that can be expressed in the form $\frac{p}{q}$, where p and q are integers and

a) $q = 0$ b) q= 1 c) q≠ 1 d) $q \neq 0$

18) Which of the following rational numbers is negative?

a) – $(-\frac{3}{7})$ b) $\frac{-5}{-8}$ c) $\frac{9}{8}$ d) $\frac{-3}{7}$

19) Assertion: Every integer is a rational number.

Reason: An integer is a number with no decimal or fractional part, from the set of negative and positive numbers, including zero.

a) Both Assertion and Reason are correct and Reason is the correct explanation for Assertion
b) Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion.
c) assertion is true but the reason is false.
d) both assertion and reason are false.

20) Assertion: Sum of two rational numbers is rational number.

Reason: $\frac{4}{5} + \frac{3}{5} = \frac{7}{5}$

a) Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.
b) Both Assertion and Reason are correct and Reason is not the correct explanation for Assertion.
c) Assertion is true but the reason is false.
d) Both assertion and reason are false.

SECTION-B ($\mathbf{5 \times 2 = 10}$)

21) Find the area of the rectangle of length 6.3cm and breadth 3.7cm.

OR

A car runs 16 km using 1 litre of petrol. How much distance will it cover using $2\frac{3}{4}$ litres of petrol?

22) The scores in mathematics test (out of 25) of 15 students is as follows:

19, 25, 23, 20, 9, 20, 15, 10, 5, 16, 25, 20, 24, 12, 20. Find the mode and median of this data

23) Write equations for the following statements:

(i) If you take away 6 from 6 times y, you get 60.
(ii). The number *b* divided by 5 gives 6.

24) If two supplementary angles have equal measures. what is the measure of each angle.

25) Reduce the following rational number in its lowest form:

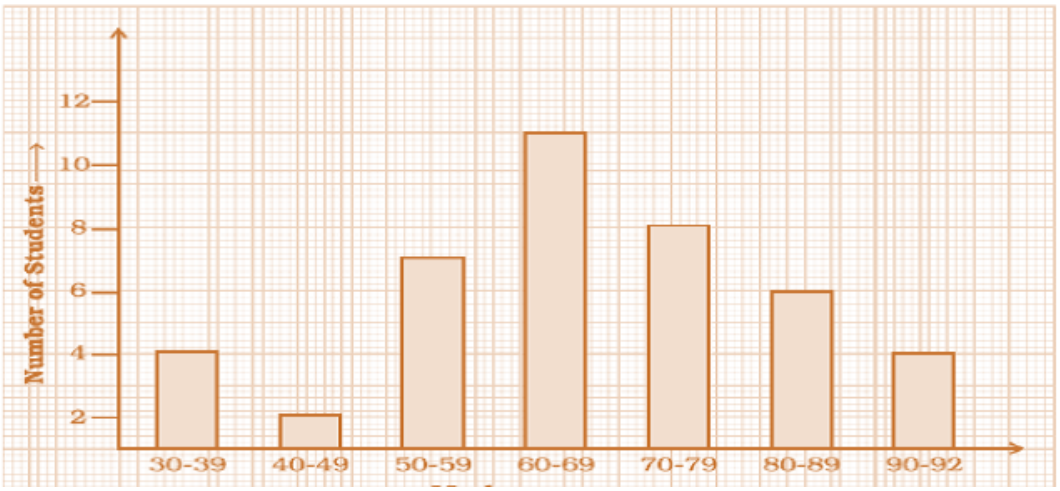
a) $-\frac{60}{72}$ b) $\frac{75}{-45}$

OR

Find the sum: $-2\frac{1}{3} + 4\frac{3}{5}$

SECTION-C **(6 × 3 = 18)**

26)The bar graph given below shows the marks of students of a class in a particular subject:

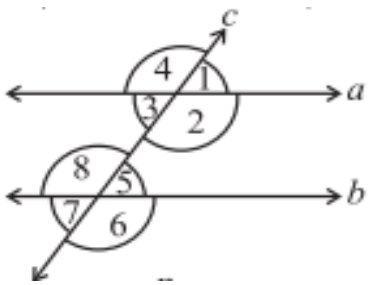


Study the bar graph and answer the following questions:

a) If 40 is the pass mark, then how many students have failed?
b) How many students scored 90 marks and above?
c) If students who scored marks above 80 are given merits then how many merit holders are there?

27)In the adjoining figure, identify

a) The pairs of corresponding angles.
b) The pairs of alternate interior angles.
c) The pairs of interior angles on the same side of the transversal



28) List five rational numbers between -4 *and* -3.

29) Solve: a) $7\frac{1}{2} \times \frac{2}{3}$ b) $\frac{16}{15} \div \frac{24}{25}$

OR

a)34.2÷10 b)268.72÷100 c) 18.9÷1000

30) Verify the following:

$18 \times [7 + (-3)] = [18 \times 7] + [18 \times (-3)]$

OR

Evaluate:

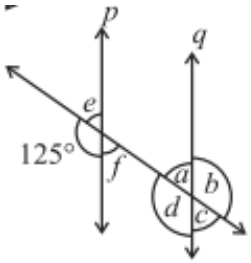
a) (-8) × (-3) × (2) x (-1)
b) (-61) ÷ [(-60) + (-1)]
c) 32 × 0 × (-29)

31) Draw the number line and represent the following rational numbers on it:

(i) $\frac{3}{4}$ (ii) $-\frac{5}{8}$

SECTION-D $(4 \times 5 = 20)$

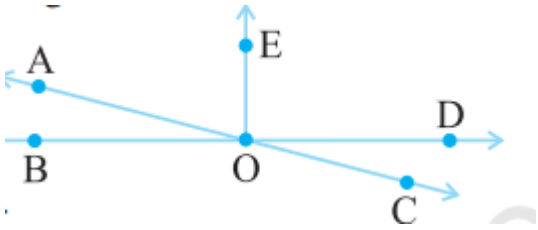
32)In the adjoining figure, p || q. Find the unknown angles.



OR

In the adjoining figure, name the following pairs of angles.

a) Obtuse vertically opposite angles
b) Adjacent complementary angles
c) Equal supplementary angles
d) Unequal supplementary angles
e) Adjacent angles that do not form a linear pair



33)Consider this data collected from a survey of a colony.

Favourite Sport	Cricket	Basket Ball	Swimming	Hockey	Athletics
Watching	1240	470	510	430	250
Participating	620	320	320	250	105

a) Draw a double bar graph choosing an appropriate scale. What do you infer from the bar graph?
b) Which sport is most popular?
c) Which is more preferred, watching or participating in sports?

34) In a class test containing 10 questions, 5 marks are awarded for every correct answer and (–2) marks are awarded for every incorrect answer and 0 for questions not attempted.

a) Mohan gets four correct and six incorrect answers. What is his score?
b) Reshma gets five correct answers and five incorrect answers, what is her score?

35) Solve the following equations:

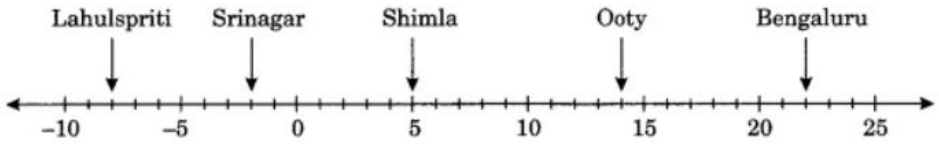
a) $3n - 2 = 46$ b) $5m + 7 = 17$ c) $3q = 42$

OR

In an isosceles triangle, the base angles are equal. The vertex angle is 40°. What are the base angles of the triangle?

SECTION-E $(3 \times 4 = 12)$

36)Following number line shows the temperature in degree Celsius (°C) at different places on a particular day.



a) Observe this number line and write the temperature of the places marked on it.

b) What is the temperature difference between the hottest and the coldest places among the above?

c) Can we say temperature of Srinagar and Shimla taken together is less than the temperature at Shimla? Is it also less than the temperature at Srinagar?

37) While playing in the garden Radha told her friends that she is 8 years less than half of her mother's age. She told her friends that today she is 12 years old.

(i) What is the age of her mother?

a)35 b) 46 c) 30 d) 40

(ii) What is the age of her mother after 5 years from now?

a) 42 b) 51 c) 45 d) 35

(ii) If her father is 3 years older to her mother, then what is difference in her age and her father's age?

a)28 b) 39 c) 30 d) 31

38)Miraya is calling a few friends to her home. She wanted to purchase a few bakery items for them. She prepared a list of all the items that she had to buy.

Item	Quantity Required
(i) Patties	6
(ii) Muffins	4
(iii) Bread rolls	2
(iv) Box of candles	1

Her father gave her a 500 rupee note and she went to the bakery to buy these items. At the bakery, each patty costs ₹ 22.50, each muffin costs ₹ 11.75, each bread roll costs ₹17.25 and the box of candles costs ₹54.25.

1) What was the total bill that Miraya paid at the bakery?

a) ₹247.25 b) ₹270.75 c) ₹ 255.75 d) ₹282.25

2) When Miraya gave the 500 rupee note to the bakery owner, what amount did she get in return after paying the bakery bill?

a) ₹217.75 b) ₹244.25 c) 229.25 d) ₹252.75

3) On her way back, Miraya bought 7 ice creams, each costing ₹16.75. How much did she spend on the ice creams?

a) ₹112.25 b) ₹117.25 c) ₹118.25 d) ₹115.50

**********THE END **********