



# BK BIRLA CENTRE FOR EDUCATION

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



## MID-TERM EXAMINATION 2023-24

### MATHEMATICS (041) (MARKING KEY)

Class :V

Date :20.10.2023

Admission No.:

Duration: 3 Hrs

Max. Marks: 80

Roll No.:

#### General Instructions:

- This Question Paper has 5 Sections A, B, C, D and E.
- Section A has 20 MCQs carrying 1 mark each
- Section B has 5 questions carrying 02 marks each.
- Section C has 6 questions carrying 03 marks each.
- Section D has 4 questions carrying 05 marks each.
- 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.
- 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 × 1 = 20)

#### I. Choose the correct answer.

- Number which is neither prime nor composite is (1)
 

a) 0	b) 1	c) 2	d) None of these.
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- The sum of the place value of two 4's in 401406 is (1)
 

a) <b>400400</b>	b) 400000	c) 440000	d) 80000
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- Add: 8570392 + 7495287 (1)
 

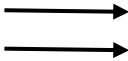


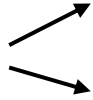
a) 1,66,05,679	b) 1,06,65,679	c) <b>1,60,65,679</b>	d) 1,65,06,679
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- Which of the following has two end points? (1)
 

a) A line	b) A ray	c) <b>A line segment.</b>	d) A point.
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- Last prime number between 1 and 20 is (1)
 

a) 20	b) <b>19</b>	c) 17	d) 13
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- $5749 \times 8 \times 0 =$  \_\_\_\_\_ (1)
 

a) 57,490	b) 45,992	c) 1	d) <b>0</b>
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- In roman numerals, there are only \_\_\_\_\_ basic symbols. (1)
 

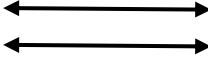
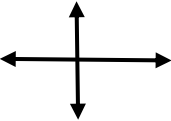

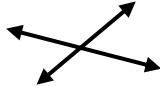
a) <b>7</b>	b) 8	c) 9	d) 10
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- Which of the following fig represents an angle? (1)
 

a) 	b) 	c) 	d) 
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**II. Fill in the blanks.**

- 9) Angles are measured in degree. (1)
- 10) The predecessor of 67933969 is 7933968. (1)
- 11) 1 is a factor of every number. (1)
- 12) The smallest prime number is 2. (1)
- 13)  $42 \times 1000 =$  42000. (1)
- 14)  $Dividend = \underline{divisor} \times Quotient + Remainder$ . (1)
- 15) A prime number has only 2 factors. (1)
- 16) One lakh is the smallest 6 digit number. (1)

**III. Match the following.**

- 17) Perpendicular lines. (b) a)  (1)
- 18) Parallel lines (a) b)  (1)
- 19) Intersecting lines (d) c)  (1)
- 20) Straight line. (c) d)  (1)

**SECTION -B**

Solve.

(5 × 2 = 10)

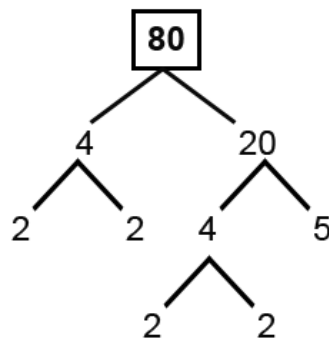
21) Write the factors of 20.

**20 = 1,2,4,5,10,20**

(2)

Or

Complete the following factor tree.



**$= 2 \times 2 \times 2 \times 2 \times 5$**

(2)

22) Write the quotient and remainder of  $8245326 \div 1000$  (2)

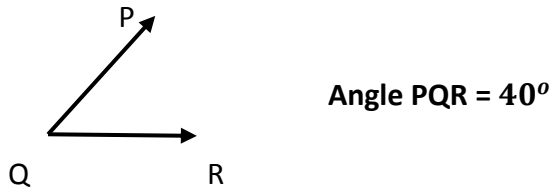
$$Q = , R = 326$$

Or

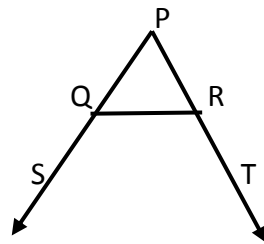
Find the product.  $50000 \times 3000$

$$150000000$$

23) Measure the following angle using a protractor. (2)



24) Name the rays and line segments in the given figure.



Rays =  $\overrightarrow{PS}$  and  $\overrightarrow{PT}$  (1)

Line segment =  $\overline{PQ}, \overline{PR}, \overline{QR}$  (1)

25) A company earned ₹ 1,46,32,439 in the year 2011. Next year the earning of the company increased by ₹ 39,74,687. How much did the company earn in the year 2012?

In the year 2011 company earned = ₹ 1,46,32,439

In the year 2012 company increased by = ₹ 39,74,687

Difference = 1,46,32,439 – 39,74,687 (1)

= ₹ 1,06,57,752 (1)

### SECTION –C

Solve.

(6 × 3 = 18)

26) The sum of two numbers is 1,36,04,050. If one of the numbers is 78,24,361, find the other number?

The sum of two numbers = 1,36,04,050

One of the numbers = 78,24,361 (1)

Then the other number = 1,36,04,050 - 78,24,361 (1)

= 57,79,689 (1)

27) Name the following

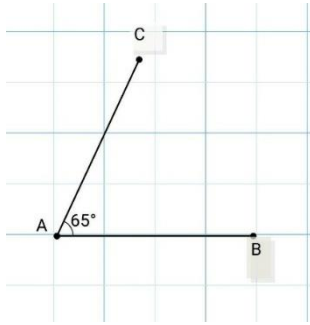
a) Two English alphabets that have horizontal lines of symmetry :- H, E (1)

b) Two English alphabets that have vertical lines of symmetry :- T, V (1)

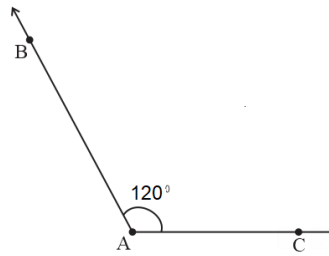
c) Two English alphabets that have both horizontal and vertical lines of symmetry :- O, X (1)

28) Use a protractor to draw the angles with the following measures.

- a)  $65^\circ$
- b)  $120^\circ$



$(1\frac{1}{2})$



$(1\frac{1}{2})$

29) Select any number with 0 at its ones place and write its first ten multiples. State whether the multiples are odd or even

**$20 = 20, 40, 60, 80, 100, 120, 140, 160, 180, 200$**

**(2)**

**The multiples are even**

**(1)**

30) A cost of steel almirah is Rs 5975. What is the cost of 86 such almirah's?

**The cost of one almirah = Rs 5975**

**(1)**

**The cost of 85 such alimrah =  $Rs\ 5975 \times 85$**

**(1)**

**= Rs 5,07,875**

**(1)**

**Or**

Write the Hindu-Arabic numerals of the following.

a) LXIX :- **69**

**(1)**

b) CCLIX :- **259**

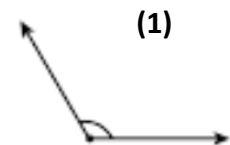
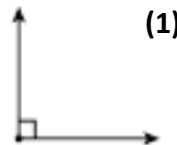
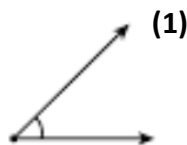
**(1)**

c) XCI :- **91**

**(1)**

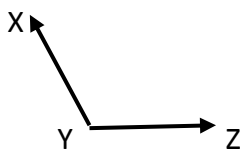
31) Draw the following angles.

- a) Acute angle.
- b) Right angle
- c) Obtuse angle.



**Or**

Name the angle, vertex and arms of the following fig.



**Vertex = pt Y,**

**(1)**

**Arms = YX, YZ**

**(1)**

**Angle = XYZ**

**(1)**

**SECTION -D**

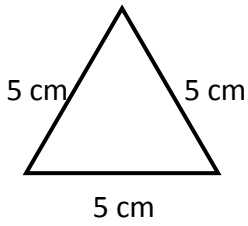
Solve.

(4 × 5 = 20)

32) Identify and name the types of triangle.

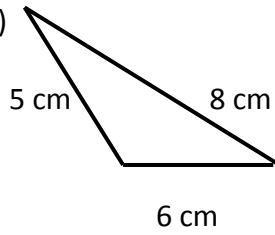
i) According to the sides of triangles

a)



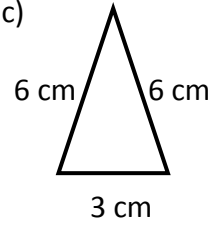
**Equilateral Triangle**

b)



**Scalene Triangle**

c)

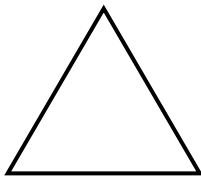


**Isosceles Triangle**

(2  $\frac{1}{2}$ )

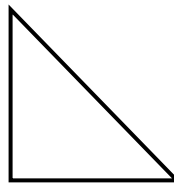
ii) According to the angles of the triangles.

a)



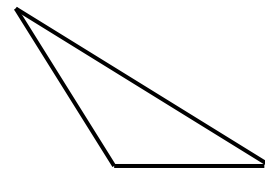
**Acute angle Triangle**

b)



**Right angle Triangle**

c)



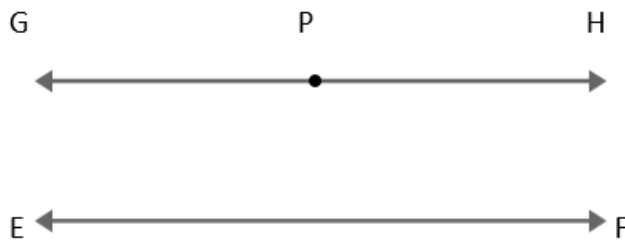
**Obtuse angle Triangle**

(2  $\frac{1}{2}$ )

**Or**

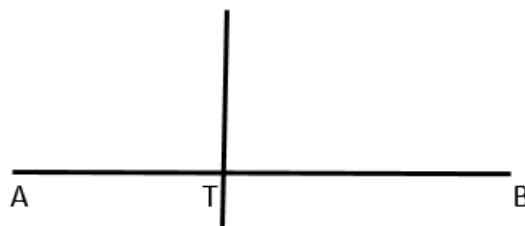
Construct:

a) Line EF and take a point P above EF. Draw line GH passing through P such that GH is parallel to EF.



(2  $\frac{1}{2}$ )

b) Line segment AB. Mark point T on it. Draw a line segment at T perpendicular to AB using set square.



(2  $\frac{1}{2}$ )

33) Find the HCF of 36, 40 and 60 by prime factorization method.

$$\begin{array}{r|l} 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline & 3 \end{array}$$

$$\begin{array}{r|l} 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$\begin{array}{r|l} 2 & 60 \\ \hline 2 & 30 \\ \hline 3 & 15 \\ \hline & 5 \end{array}$$

(3)

$$36 = 2 \times 2 \times 3 \times 3$$

$$40 = 2 \times 2 \times 2 \times 5$$

$$60 = 2 \times 2 \times 3 \times 5$$

$$\text{HCF} = 2 \times 2$$

$$= 4$$

(2)

Or

Find LCM of 20, 25 and 30

$$\begin{array}{r|l} 2 & 20, 25, 30 \\ \hline 2 & 10, 25, 15 \\ \hline 3 & 5, 25, 15 \\ \hline 5 & 5, 25, 5 \\ \hline 5 & 1, 5, 1 \\ \hline & 1, 1, 1 \end{array}$$

(3)

$$\begin{aligned} \text{LCM} &= 2 \times 2 \times 3 \times 5 \times 5 \\ &= 300 \end{aligned}$$

(2)

34) Using the divisibility test, determine which of the following numbers are divisible by 2; by 3; by 4; by 5, and 10? Give reason

a) 1586    b) 275    c) 2856    d) 3063    e) 6350

a) 1586, 2856 are divisible by 2 because ones place is even. (1)

b) 2856 and 3063 are divisible by 3 because sum of all digits are divisible by 3. (1)

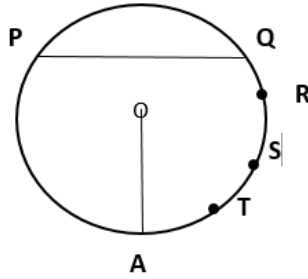
c) 275 is divisible by 5 because ones place is 5. (1)

d) 2856 is divisible by 4 because last 2 digits are divisible by 4. (1)

e) 6350 is divisible by 10 because ones place is 0. (1)

35) Draw a circle of radius 3 cm using compass. Draw the following parts on it. (1)

- a) Centre O (1)
- b) Radius OA (1)
- c) Chord PQ (1)
- d) Arc  $\widehat{RST}$  (1)



**SECTION –E**

(3 × 4 = 12)

Solve.

36) The population of Delhi in 2017 was 1,90,72,564 and it increased to 2,57,04,625 in 2021.

a) Write the population of 2021 in expanded form.

**Expanded notation of 2,57,04,625**

$$= 2 \times 10000000 + 5 \times 1000000 + 7 \times 100000 + 4 \times 1000 + 6 \times 100 + 2 \times 10 + 5 \times 1 \quad (1)$$

b) The successor of 1,90,72,564 is.

**Successor means number that comes after so 1,90,72,565 is the successor of 1,90,72,564.** (1)

c) Write the population of 2017 in word according to International system of numeration

**19,072,564 According to International system of numeration is**

**Nineteen million seventy two thousand five hundred and sixty four.** (2)

37) Ritesh and his wife book seats H13 and H14 for a show. They order some snacks from the menu below.

S no	Items	Cost
1)	Burger	Rs 170
2)	Cold drink	Rs 180
3)	Popcorn	Rs 190
4)	Nachos	Rs 200
5)	Water bottle	Rs 40

Altogether, they spend Rs 1280 including the cost of tickets.

a) What is the cost of 2 burgers?

**Cost of 2 burger = 2 x 200 = Rs 400** (1)

b) What is the total cost of a burger, one cold drink and 1pkt of popcorn?

**Total cost = 170 + 180 + 190 = Rs 540** (1)

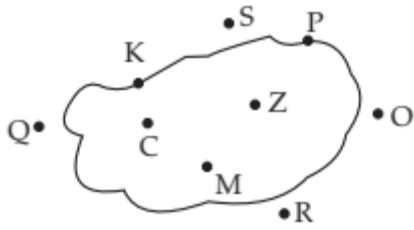
c) If the cost of each ticket is Rs 350. Which snacks could they have ordered?

**Since, cost of two tickets = 2 x 350 = ₹ 700**

**2 Nachos + 1 Cold drink (400 + 180 = 580)**

**Left money = 1280 – 700 = ₹ 580** (2)

38) The students were asked to draw a closed figure with few points inside the figure, few points outside the figure and few on the boundary of the figure. One of the child drew a figure like this:



- a) Which points lie in the interior of the figure :- **C, M, Z** (1)
- b) Which points lie in the exterior of the figure :- **O, Q, S, R** (1)
- c) Draw any two letters of the English alphabet which are closed figures :- **O, D** (2)

-----End of paper-----