**INDIAN SCHOOL SOHAR**
**TERM I EXAMINATION (2022-2023)**
**MATHEMATICS**

CLASS: VIII                                                                 MAX. MARKS: 40
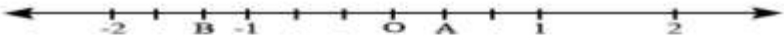DATE: 20/09/2022                                                    TIME ALLOWED: 2 HRS
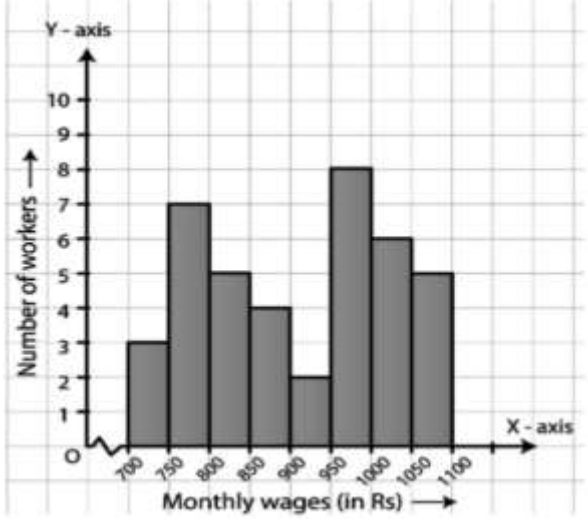
**General Instructions:**
1. This Question Paper has 5 Sections A-E.
2. Section **A** has 6 MCQs, one Match the Following with 4 sub-parts and 3 Fill in the Blanks carrying 1 mark each.
3. Section **B** has 3 questions carrying 2 marks each.
4. Section **C** has 3 questions carrying 3 marks each.
5. Section **D** has 2 questions carrying 4 marks each.
6. Section **E** has one case based integrated units of assessment (4 marks) with 4 sub-parts of the value of 1 mark each.
7. All Questions are compulsory. However, an internal choice in one question of 4 marks, 2 Qs of 3 marks, one question of 2 marks and 3 questions of 1 mark has been provided.
8. Draw neat figures wherever required.

| SECTION – A | | |
|---|---|---|
| **SECTION – A consists of 9 questions of 1 mark each and one Match the Following of 4 marks.** | | |
| **S. No.** | | **MARKS** |
| 1. | What is the perimeter of the rectangle with length 9y units and breadth 4y units? <br> (A) 36 $y^2$ units     (B) 8y units     (C) 13y units     (D) 26y units <br> **OR** <br> Khushi's present age is twice that of Sania's age. If Sania's age four years ago was x, then what is Khushi's present age? <br> (A) 2 (x + 4)     (B) 2x - 6     (C) 2x + 4     (D) 2 (x – 4) | 1 |
| 2. | In the figure given below, ABCD is a parallelogram. Find the value of x. <br>  <br> (A) x = 6     (B) x = 4     (C) x = -3     (D) x = 3 | 1 |
| 3. | In a parallelogram PQRS, QR = 3 cm, PR = 11 cm, RS = 4 cm, and PS = 3 cm. Find the length of PQ. <br> (A) 3 cm     (B) 11 cm     (C) 8 cm     (D) 4 cm | 1 |
| 4. | Find the value of $\sqrt{49} \times \sqrt{256}$ . <br> (A) 305     (B) 23     (C) 112     (D) 98 | 1 |

| 5. | What is the additive inverse of the product of $\frac{-3}{4}$ and $\frac{4}{5}$? | 1 |
|---|---|---|
| | (A) $\frac{-12}{20}$      (B) $\frac{3}{5}$      (C) $\frac{-3}{5}$      (D) $\frac{12}{20}$ | |
| | **OR** | |
| | What is the multiplicative inverse of the product of $\frac{-4}{5}$ and $\frac{3}{4}$? | |
| | (A) $\frac{-5}{3}$      (B) $\frac{-3}{5}$      (C) $\frac{5}{3}$      (D) $\frac{3}{5}$ | |
| 6. | If $x + \sqrt{9} = \sqrt{64}$ what is the value of $x^2$? | 1 |
| | (A) 5      (B) 55      (C) 25      (D) 8 | |

7. **Match the Following:**

| | A | | B | |
|---|---|---|---|---|
| (i) | What is the difference between the upper limit and lower limit of a class interval called as? | a. | 3 | 1 |
| (ii) | How many digits are there in the square root of 27225? | b. | 22 | 1 |
| (iii) | Name the polygon in which at least one diagonal lies outside the polygon. | c. | Class size | 1 |
| (iv) | Find the number of non-square numbers between the square of 11 and 12. | d. | Concave polygon | 1 |

| 8. | In the interval 40-50, 50 is called the _____ class limit. | 1 |
|---|---|---|
| 9. | If in a quadrilateral only one pair of opposite sides are parallel, then the quadrilateral is a _____ . | 1 |
| | **OR** | |
| | In a parallelogram the opposite angles are _____ . | |
| 10. | The sum of first 10 odd numbers is _____ . | 1 |

| **SECTION – B** |
|---|
| **Section B consists of 3 questions of 2 marks each.** |

| 11. | Ritu draws a quadrilateral whose one angle is 108⁰ and the other angles are equal in measure. Find the measure of each equal angle of the quadrilateral. | 2 |
|---|---|---|
| |  108° | |
| | **OR** | |
| | In the given line segment, PQ = RS. What is the length of $\overline{PS}$ ? | |
| | $\underset{P}{\bullet} \overset{x-1}{\rule{2cm}{0.4pt}} \underset{Q}{\bullet} \overset{x}{\rule{3cm}{0.4pt}} \underset{R}{\bullet} \overset{3x-7}{\rule{1cm}{0.4pt}} \underset{S}{\bullet}$ | |

| 12. | Observe the given number line. | 2 |
|---|---|---|
| |  | |
| | Find any three rational numbers between the points A and B. | |
| 13. | The graph below shows the monthly wages (in ₹) of workers in a factory. | 2 |
| |  | |
| | (i) What is the difference between the number of workers in the wage group 950-1000 and 850-900? | |
| | (ii) What is the total number of workers in the factory? | |

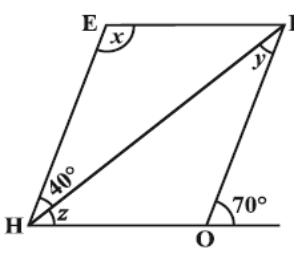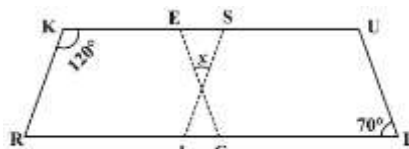<div align="center">SECTION – C</div>

<div align="center">Section C consists of 3 questions of 3 marks each.</div>

| 14. | There are 2401 students in a school. HPE teacher wants to make them stand in rows and columns such that the number of rows is equal to the number of columns. Find the number of rows.<br><br><div align="center">OR</div><br>(i) Find the Pythagorean triplet whose one member is 12.<br>(ii) Find the square root of the decimal number 17.64. | 3 |
|---|---|---|
| 15. | Construct a quadrilateral RING where RI = 4 cm, IN = 6 cm, NG = 5 cm, RG = 5.5 cm and RN = 7 cm.<br><br><div align="center">OR</div><br>Construct a quadrilateral ROPE given that OP = 4.5 cm, RE = 5.5 cm, PE = 5 cm, and the diagonals RP = 5.5 cm and OE = 7 cm. | 3 |
| 16. | Represent $\frac{-3}{4}$ and $\frac{5}{6}$ on a number line. | 3 |

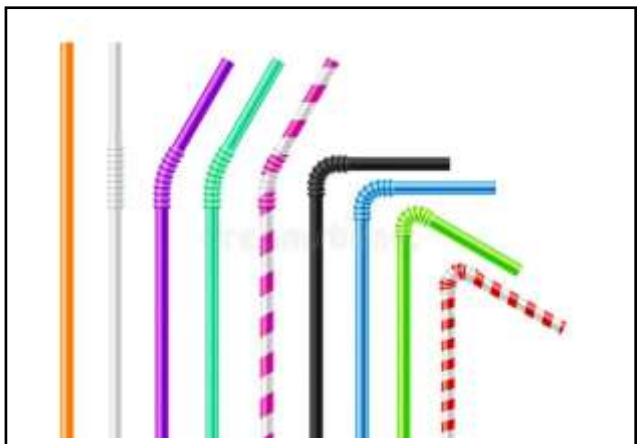<div align="center">SECTION – D</div>

<div align="center">Section D consists of 2 questions of 4 marks each.</div>

| 17. | The heights (in cm) of 20 students of class VII is given below.<br>139, 138, 130, 125, 140, 140, 159, 148, 147, 144, 142, 143, 144, 132, 135, 151, 144, 147, 151, 145. Make a frequency distribution table using tally marks with intervals as 125-130, 130-135 and so on. Construct a histogram for the frequency table made. | 4 |
|---|---|---|

| | | | |
|---|---|---|---|
| 18. | The given figure HOPE is a parallelogram. Find the angle measures x, y and z. State the property you used to find the angle measures.<br><br><br><br>**OR**<br><br>In the below given figure both RISK and CLUE are parallelograms. Find the value of x.<br><br> | | 4 |
| | **SECTION E** | | |
| | **Case study based question is compulsory.** | | |
| 19. | During mathematics lab activity each student was given four straws of lengths 10 cm, 10 cm, 6 cm and 6 cm to make different types of quadrilaterals.<br>Based on the above text, answer the following questions.<br><br> | | |
| | (i)   How many types of quadrilaterals can be formed using these straws? | | 1 |
| | (ii)  Name the types of quadrilaterals that can be formed using these straws. | | 1 |
| | (iii) One of the quadrilaterals formed has its opposite sides equal and opposite angles equal. Name the quadrilateral. | | 1 |
| | (iv)  What is the sum of the measures of the interior angles of a quadrilateral? | | 1 |