SINDHI HIGH SCHOOL, BENGALURU
ANNUAL EXAMINATION [2022-23]
SUBJECT: MATHAMATICS

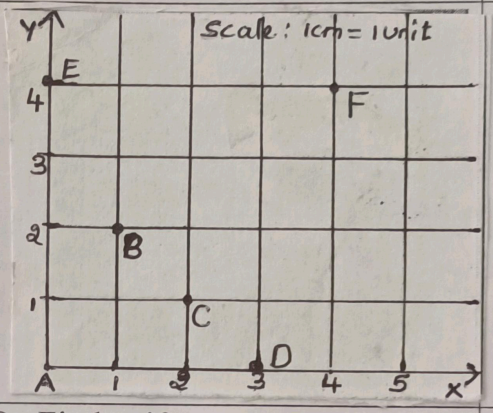
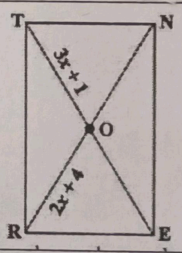
Class: VIII | **Max Marks: 80**
Date: 27.03.23 | **Reading Time: 8.00 am to 8.15 am**
No.of.Sides:05 | **Writing Time: 8.15 am to 11.15 am**

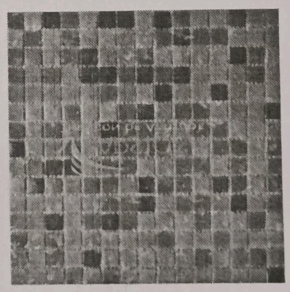
General Instructions :

- This Question Paper has 5 Sections A-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.
- All Questions are compulsory.
- Draw neat figures wherever required.

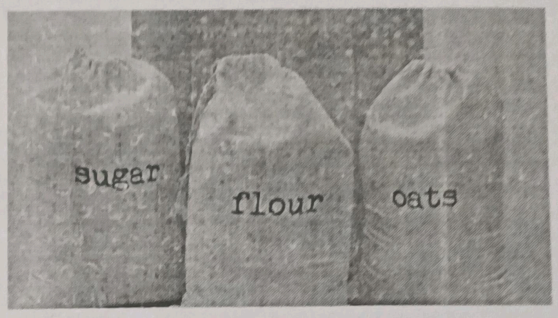
	SECTION-A	
	Section- A consists of 20 questions of 1 mark each.	
Sl no		*Marks*
1	The reciprocal of -7 is a)7 b) -7 c) $-\frac{1}{7}$ d) $\frac{1}{7}$	1
2	The value of x in $\frac{15}{4} - 7x = 9$ is: a) $\frac{3}{4}$ b)$-\frac{3}{4}$ c) 1 d)$-\frac{21}{4}$	1
3	The width or size of the class interval 30-40 is: a) 10 b) 30 c) 40 d) 70	
4	The square root of 20.25 is a) 2.5 b)3.5 c)4.5 d) 5.5	1
5	The sum of coefficients of x^3 and x in the polynomial $3x^4-2x^3+3x^2+7x-8$ is a)8 b)5 c) 0 d)-5	1
6	If the sum of three consecutive multiples of 11 is 363, then the multiples are a)117,121,125 b) 110, 121, 132 c)110, 99, 154 d)154, 88, 121	1
7	To construct a quadrilateral, if we are given the measure two diagonals then the measures of number of sides required is a) One b) Two c) Three d) All four sides	1
8	If 72% of 25 eggs are rotten, then the number of eggs which are not rotten is a)7 b)14 c)16 d)18	1
9	The value of Π(pi) is : a) 3.41 b) 22/17 c) ratio of circumference to diameter d)diameter to circumference	1
10	The square of 121 is: a)11 b)12 c)14641 d)121121	1

11	The rational number between 3 and 4 is : a) $\frac{3}{2}$ b) $\frac{4}{3}$ c) $\frac{7}{2}$ d) $\frac{7}{4}$	1
12	The sum of pq + 7 – 5 and pq + 3 is : a)2pq + 5 b) pq + 5 c)2pq – 5 d)2pq + 15	1
13	On dividing $x^3 + 3x^2 + 3x + 1$ by x, we get reminder as: a)1 b) 0 c) -1 d)2	1
14	The standard form of 0.000000876 is written as: a) 876 b) 8.76×10^{-7} c) 8.76×10^{7} d) 87.6×10^{-8}	1
15	Point A(3, 0) lies on: a) x axis b) y axis c) origin d) I Quadrant	1
16	On selling an article for Rs 1140 a dealer incurs a loss of 5%. Then the dealer has purchased the article by paying: a)Rs.1200 b) Rs.105 c) Rs 150 d) Rs 1050	1
17	The measure of each interior angle of a regular polygon is 140^0, then the number of sides of that regular polygon is: a)15 b) 12 c) 9 d)10	1
18	The expanded form of (x+8)(x-10) is : a) $x^2 - 8x - 80$ b) $x^2 - 2x - 80$ c) $x^2 + 2x + 80$ d) $x^2 - 2x + 80$	1
	Directions for question 19 and 20. In question 19 and 20, Statements of **Assertion(A)** is followed by **Reason(R)**. Choose the correct option.	
19	**Assertion (A)** –The area of a circle of radius 5cm is 25π sq.cm. **Reasons (R)**-The area of any circle is obtained by using the formula πr^2 (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A). (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A). (c) Assertion (A) is true but reason (R) is false. (d) Assertion (A) is false but reason (R) is true	1
20	**Assertion(A)** - 10^{-1} is equal to -1 **Reason(R)** - The power of a number says how many times to use the number in a multiplication a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A). (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A). (c) Assertion (A) is true but reason (R) is false. (d) Assertion (A) is false but reason (R) is true.	1
	SECTION-B **Section- B consists of 5 questions of 2 mark each.**	
21	Find the square root of 7744 by prime factorisation.	2

22	Find the amount to be paid at the end of 2 years on Rs 20000 at an interest of 8%p.a compounded annually.	2
23	Factorise : $2xy + 2y + 3x + 3$	2
24	Find the value of m if : $(-\frac{7}{2})^{-5} \times (-\frac{7}{2})^{11} = (-\frac{7}{2})^{m}$	2
25	361 Plants are to be planted in a garden in such a way that each row contains as many plants as the number of rows. Find the number of rows and the number of plants in each row.	2
	SECTION-C	
	Section- C consists of 6 questions of 3 mark each.	
26	Factorise : $m^4 - 256$	3
27	Write the co-ordinates of the points A, B, C, D, E, F 	3
28	RENT is a rectangle. Its diagonals meet at O. Find x, if OR = 2x + 4 and OT is 3x + 1. 	3
29	Plot each of the following points A(2,3), B(5,3), C(5,5) and D(2,5). Join the points in order A,B,C and D. Name the figure obtained.	3
30	Simplify: $\frac{12^4 \times 9^3 \times 4}{6^3 \times 8^2 \times 27}$	3
31	Shyam bought a second hand refrigerator for Rs 25000 then spend Rs 5000 on its repairs and sold it for Rs 33000. Find his loss or gain percent.	3
	SECTION-D	
	Section- D consists of 4 questions of 5 mark each	
32	State and verify associative property of rational numbers under addition for $a = \frac{-2}{3}$, $b = \frac{7}{4}$ and $c = \frac{5}{2}$. Also write additive and multiplicative inverse for answer obtained.	5
33	(i) Show that $(9p - 5q)^2 + 180\,pq = (9p + 5q)^2$ (ii) Multiply: $(\frac{3}{4}a^2 + 3b^2)$ and $4(a^2 - \frac{2}{3}b^2)$	5

34	Draw a pie chart representing the number of hours spent by Shruthi for different activities in a day. Activities: Number of hours in a day Sleep: 8 hours School: 8 hours TV: 2 hours Studies: 4 hours Others: 2 hours	5
35	Construct a quadrilateral PQRS where, PQ = 5.4 cm, QR = 4.6 cm, $\angle P = 60°$, $\angle Q = 120°$, $\angle R = 105°$ (use compass and scale only for angle construction)	5
	SECTION-E	
	Section- E consists of 3 case study questions of 4 mark each	
36	To construct a swimming pool, the site is dug to remove all the unwanted rock and materials to ensure the surface is smooth enough to build the pool. Then the steel shell placed which forms the base of the entire pool and also plumbing work is done. This shell will be shooted with a concrete mixture that will give the pool a definite shape. At the end finishing of the surface is done to give it a beautiful look. It typically takes 2 to 4 month to build depending on the size of the pool. It can be made in many shapes, sizes and depth. There are unlimited design possibilities. Easy to renovate, you can change the tiles, add new water features whenever you want. This is not possible with fibreglass and vinyl inner pools. Takes time to install. Typically takes 3 to 5 months. Costlier than fibreglass and vinyl pool.   A rectangular swimming pool has to be renovated. The perimeter of a rectangular swimming pool is 154m. Its length is 2 m more than twice its breadth. (i) What are the length and breadth of the pool? (2marks) (ii) Find the LSA of the pool, if the height of the pool is 10m. (1mark) (iii) What is the cost of tiling the floor of the pool if it cost Rs.100 per sq m? (1mark)	4
37	Flour provides the structure in baked goods. Wheat flour contains proteins that interact with each other when mixed with water, forming gluten. It is this elastic gluten framework which stretches to contain the expanding leavening gases during rising. The protein content of a flour affects the	4

strength of a dough. In traditional baking there is no other more important ingredient than wheat flour. It builds the structure of our baked goods and understanding how it functions is essential for successful baking.



Amit buys 3 bags of flour A, B and C. Bag-B weighs thrice as much as Bag-A and Bag-C weighs 4kg less than Bag-B.

(i) Frame algebraic expressions for Bag-B and Bag-C taking variable as 'x'. (2marks)

(ii) If Bag-A weighs 6kg, how heavy is Bag-C? (1mark)

(iii) Also find the weight of Bag-B. (1mark)

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A biscuit is a flour-based baked and shaped food product. In most countries biscuits are typically hard, flat, and unleavened. They are usually sweet and may be made with sugar, chocolate, icing, jam, ginger, or cinnamon. They can also be savoury, similar to crackers. Types of biscuit include sandwich biscuits, digestive biscuits, ginger biscuits, shortbread biscuits, chocolate chip cookies, chocolate-coated marshmallow treats, Anzac biscuits, biscotti, and speculaas.

In most of North America, nearly all hard sweet biscuits are called "cookies", while the term "biscuit" is used for a soft, leavened quick bread similar to a less sweet version of a scone.

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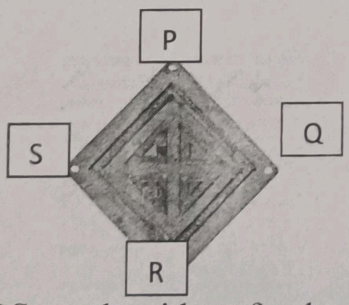

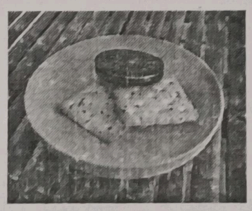

PQRS are the sides of a rhombus shaped biscuit with diagonals meeting at O, in which PO = 4 cm and OQ = 3 cm.

(i) What is the length of the side of the Quadrilateral (biscuit)? (1mark)

(ii) Name the property used to find the side of the biscuit. (1mark)

(iii) If $\angle P = 60^0$, find the measure of the remaining angles. (2marks)

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