**SINDHI HIGH SCHOOL, BENGALURU**

**ANNUAL EXAMINATION [2022-23]**

**SUBJECT: MATHEMATICS**

**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.

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| --- | --- | --- |
|  | **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) d) | 1 |
| 2 | The value of x in – 7x = 9 is:  a) b) c) 1 d) | 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 x3 and x in the polynomial 3x4-2x3+3x2+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) b) c) d) | 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 x3 + 3x2 + 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 x c) 8.76 x  d) 87.6 x | 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 1400, 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) x2 – 8x – 80 b) x2 – 2x – 80  c) x2 + 2x + 80 d) x2 – 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 25 sq.cm.  **Reasons (R)**-The area of any circle is obtained by using the formula *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 : (- X (- (- | 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 : m4 – 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: | 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 | S State and verify associative property of rational numbers under addition for a a= , b= and c= . Also write additive and multiplicative inverse for thAnswer obtained. | 5 |
| 33 | (i) Show that (9p – 5q)2 + 180 pq = (9p + 5q)2  (ii) Multiply: ( and 4(a2 - ) | 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, ∠P = 60°, ∠Q = 120°, ∠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.  Capstona Aqua Glass Mosaic Glossy Finish Swimming Pool ...423,304 Swimming Pool Stock Photos, Pictures & Royalty-Free ...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 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.  Flour Sack Stock Photos, Pictures & Royalty-Free Images - iStock Flour bags - White Line Textile Ltd.  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) | 4 |
| 38 | A biscuit is a [flour-based](https://en.wikipedia.org/wiki/Flour) baked and shaped [food](https://en.wikipedia.org/wiki/Food) product. In most countries biscuits are typically hard, flat, and [unleavened](https://en.wikipedia.org/wiki/Unleavened). They are usually sweet and may be made with [sugar](https://en.wikipedia.org/wiki/Sugar), [chocolate](https://en.wikipedia.org/wiki/Chocolate), [icing](https://en.wikipedia.org/wiki/Icing_(food)), [jam](https://en.wikipedia.org/wiki/Jam), [ginger](https://en.wikipedia.org/wiki/Ginger), or [cinnamon](https://en.wikipedia.org/wiki/Cinnamon). They can also be savoury, similar to [crackers](https://en.wikipedia.org/wiki/Cracker_(food)). Types of biscuit include [sandwich biscuits](https://en.wikipedia.org/wiki/Sandwich_biscuit), [digestive biscuits](https://en.wikipedia.org/wiki/Digestive_biscuit), [ginger biscuits](https://en.wikipedia.org/wiki/Ginger_biscuit), [shortbread](https://en.wikipedia.org/wiki/Shortbread) biscuits, [chocolate chip cookies](https://en.wikipedia.org/wiki/Chocolate_chip_cookie), [chocolate-coated marshmallow treats](https://en.wikipedia.org/wiki/Chocolate-coated_marshmallow_treats), [Anzac biscuits](https://en.wikipedia.org/wiki/Anzac_biscuit), [biscotti](https://en.wikipedia.org/wiki/Biscotti), and [speculaas](https://en.wikipedia.org/wiki/Speculaas" \o "Speculaas).  In most of North America, nearly all hard sweet biscuits are called "[cookies](https://en.wikipedia.org/wiki/Cookie)", while the term "[biscuit](https://en.wikipedia.org/wiki/Biscuit_(bread))" is used for a soft, leavened [quick bread](https://en.wikipedia.org/wiki/Quick_bread) similar to a less sweet version of a [scone](https://en.wikipedia.org/wiki/Scone).  P  S  PQRS are the sides of a rhombus shaped biscuit with diagonals meeting at O, in which PO = 4 cm and OQ = 3 cm.  R  Q  (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 ∠P = 600, find the measure of the remaining angles. (2marks)  \*\*\*\*\*\*\*\*\*\*\*\*\* | 4 |