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**SINDHI HIGH SCHOOL, BENGALURU**

**PERIODIC TEST - III [2023-24]**

**SUBJECT: MATHEMATICS**

**Class: IX Max Marks: 30**

**Date: 20.0.2023 Reading Time: 8:20 – 8:30 am**

**No of Sides: 2 Writing Time: 8:30 – 9:30 am**

**GENERAL INSTRUCTIONS:**

* This Question Paper has 5 Sections A-E.
* Section A has 7 MCQs carrying 1 mark each
* Section B has 4 questions carrying 02 marks each.
* Section C has 3 questions carrying 02 marks each.
* Section D has 1question carrying 05 marks..
* Section E has 1 case based integrated units of assessment carrying 4 marks

sub-parts of the values of 1, 2 and 1.

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| --- | --- | --- |
|  | **Section A** |  |
|  | **Section A consists of 7 questions of 1 mark each.** |  |
| 1 | The class mark of the class 115-130  a)112.5 b) 122.5 c)115 d)130 | 1 |
| 2 | The degree of the polynomial f(x)= is  a) b)2 c)not defined d)0 | 1 |
| 3 | The difference of semi perimeter and the sides of the triangle are 8,7 and 5 respectively. Its semi perimeter is  a)20units b)5units c)15units d)10cm | 1 |
| 4 | ‘s’ and ‘a’ are respectively semi perimeter and side of an equilateral. The area of the triangle is   1. b)   s2 d) s3 | 1 |
| 5 | If x-1 is a factor of the cubic polynomial a+b+ cx+ d (a then which of the following is true?  a) Sum of first two coefficients is zero  b)Sum of all coefficients is zero  c) Sum of first two coefficients and constant is zero.  d) Sum of first three coefficients is zero. | 1 |
| 6 | is equal to  a) b)  c) d) 0 | 1 |
| 7 | **Assertion(A)** : For a frequency table of varied class size, if histogram is drawn without altering the frequencies, then the histogram is not an appropriate histogram.  **Reason(R)** : When the class sizes are varied the areas of the bars erected, are not proportional to the corresponding frequencies.  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 and Reason (R) is not the correct explanation of Assertion(A)  c)Assertion(A) is true and Reason (R) is false.  d) Assertion(A) false and Reason (R) is true. | 1 |
|  | **Section B** |  |
|  | **Section B consists of 4 questions of 2 marks each.** |  |
| 8 | If a+b+c=9 and ab+bc+ca=26 find + + | 2 |
| 9 | If x+1 is a factor of the polynomials 23 and  3 +ax+16 then find the values of k and a | 2 |
| 10 | Find the area of triangle ,two sides of which are 8cm and 11cm and the perimeter  is 32cm. | 2 |
| 11 | An advertisement board is in the form of an equilateral triangle of perimeter 240cm. Find the area of the board using Heron’s formula. | 2 |
|  | **Section C** |  |
|  | **Section C consists of 2 questions of 3 marks each.** |  |
| 12 | The following distribution gives the masses 48 objects measured to the nearest gram. Draw histogram to illustrate the data.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | masses(g) | 10-19 | 20-24 | 25-34 | 35-50 | 51-55 | | No. of objects | 6 | 4 | 12 | 18 | 8 | | 3 |
| 13 | Factorise the polynomial:2 238y 33 |  |
|  | **Section D consists of 1 questions of 5 mark** |  |
| 14 | |  |  |  |  | | --- | --- | --- | --- | | Section A | | Section B | | | Marks | Frequency | Marks | Frequency | | 0-15 | 5 | 0-15 | 3 | | 15-30 | 12 | 15-30 | 16 | | 30-45 | 28 | 30-45 | 25 | | 45-60 | 30 | 45-60 | 27 | | 60-75 | 35 | 60-75 | 40 | | 75-90 | 13 | 75-90 | 10 |   The following table gives the distribution of two sections according to the marks obtained by them. Draw frequency polygon(without histogram). | 5 |
|  | **Section E** |  |
|  | **Section E consists of one Case base study questions of 4 mark** |  |
| 15 | A food pyramid is a representation of the optimal number of servings to be eaten each day from each of basic food groups. It is designed to eat the healthy eating easier. In this direction Health care India has made the children under the age of 13 aware of ‘food pyramid’ by telling the importance of different groups such as carbohydrates , fats, vitamins, proteins minerals etc. One face of the pyramid is shown below. (  WhatsApp Image 2023-12-08 at 1.00  a) The sides of the triangle is in the ratio 3:3:5 and perimeter is 22m.Find the measure of all sides of the triangle. (1mark)  b) Triangle is painted at the rate of 19m2, find the total cost. (2marks)  c) Find the height of the triangle drawn on its base.(1mark) | 4 |