** SINDHI HIGH SCHOOL, HEBBAL**

**PERIODIC TEST - II (2023-24)**

**SUBJECT – Mathematics**

**Class: X Marks: 30**

**Date: 07/8/2023 Reading Time: 8:20 to 8:30 am Number of printed sides: 4 Writing Time: 8:30 to 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 2 questions carrying 03 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, 1 and 2 marks each.

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|  | **Section A** |  |
|  | **Section A consists of 7 questions of 1 mark each.** |  |
| 1 | The   cumulative  frequency table is useful in determining    a) median  b) mean c) mode d) all these | **1** |
| 2 | Given that   sin =    , then cos  is  a) b) c) d) | **1** |
| 3 | If sec + tan + ⅔ =0  , then sec -  tan  is  a)1 b) c ) d) 0 | **1** |
| 4 | The following data has been arranged in ascending order 12, 14, 17, 20, 22, x, 26, 28, 32, 36.  If the median of the data is 23 then the value of x is  a)23       b) 24      c) 22   d) 20 | **1** |
| 5 | The sum of the lower limit of median class and upper limit of modal class is   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | CI | 135-140 | 140-145 | 145-150 | 150-155 | 155-160 | | f | 6 | 10 | 5 | 3 | 2 |   a)145 b) 290 c)300 d) 285 | **1** |
| 6 | In two triangles DEF   and   PQR     ∟D = ∟Q      and  ∟ R =  ∟E then  which of the following is not true  a ) = b) ) = c) ) = d) ) = | **1** |
| 7 | Assertion ((A) :     The value of sin = 4/3  is possible.   Reasoning (R)  :   Hypotenuse is the largest side in any right angled  triangle.  a)Both A and R are true and R is the correct explanation of A  b )Both A and Rare true but R is not the correct explanation of A  c) A is true but R is false  d) A is false but R is true |  |
|  | **Section B** |  |
|  | **Section B consists of 4 questions of 2 marks each.** |  |
| 8 | If 15cot   = 8 , find  sin   and  sec | **2** |
| 9 | In the given figure ∟D = ∟E   and =    .   Prove that ABC is an isosceles triangle  A    D E  B C | **2** |
| 10 | Find the value of    4+ 4 + | **2** |
| 11 | If the mode of the following data is 65 then find the value of p   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | CI | 0 -20 | 20-  40 | 40 - 60 | 60 -  80 | 80 - 100 | 100- 120 | | f | 6 | 8 | p | 12 | 6 | 5 | | **2** |
|  | **Section C** |  |
|  | **Section C consists of 2 questions of 3 marks each.** |  |
| 12 | Prove that in a triangle a line drawn parallel to one side to intersect the other two sides in distinct points divides the two sides in same ratio. | **3** |
| 13 | Show that : | **3** |
|  | **Section D** |  |
|  | **Section D consists of 1 questions of 5 mark** |  |
| 14 | The following table gives the lifetime of 200 bulbs   1. Calculate the mean lifetime of a bulb by step deviation method  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Life Time(hr) | 400-499 | 500-599 | 600-699 | 700-799 | 800-899 | 900-999 | | No. of bulbs | 24 | 47 | 39 | 42 | 34 | 14 |   b) If the median  is 677, then compute mode. | **5** |
|  |  |  |
|  | **Section D** |  |
|  | **Section D consists of 1 questions of 5 mark** |  |
| 14 | The following table gives the lifetime of 200 bulbs   1. Calculate the mean lifetime of a bulb by step deviation method  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Life Time(hr) | 400-499 | 500-599 | 600-699 | 700-799 | 800-899 | 900-999 | | No. of bulbs | 24 | 47 | 39 | 42 | 34 | 14 |   b) If the median  is 677, then compute mode. | **4** |

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|  | **Section E** |  |
|  | **Section E consists of one Case base study questions of 4 mark** |  |
| 15 | An architecture firm in Gurugram, got a project to develop a beautiful resort on a piece of land in the shape of an isosceles trapezium they divided the trapezium in 4 parts as shown below where OD= x - 2m   OC= x – 12m  OA = x+15m      OB = x - 7m  C:\Users\admin\Desktop\aa.PNG   1. Which of the parts are congruent name the congruency criteria. 2. Is   OAB     OCD    ? Justify Your answer 3. If    OD= x - 2m     OC= x - 12m       OA = x+ 15      OB = x - 7m  , Then find the value of x | **4** |

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