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Description automatically generated **SINDHI HIGH SCHOOL, HEBBAL**

**UNIT TEST II [2024-25]**

**SUBJECT: MATHEMATICS -041**

**Class:XI Max Marks: 25**

**Date: 20.11.2024 Reading Time:8.10a.m-8.20a.m**

**No of sides: 2 Writing time:8:20a.m – 9.20a.m**

**General Instructions:**

1. This Question paper contains - **five sections A, B, C, D and E**. Each section is compulsory.

2. **Section A** has **04 MCQ’s** and **02 Assertion-Reason based questions** of 1 mark each.

3. **Section B** has **02 Very Short Answer (VSA)-**type questions of 2 marks each.

4. **Section C** has **02 Short Answer (SA)**-type questions of 3 marks each.

5. **Section D** has **01 Long Answer (LA)**-type questions of 5 marks each.

6. **Section E** has **01** case based unit of assessment (4 marks) with sub parts.

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|  | **Section A**  **( consists of 6 questions of 1 mark each).** |  |
| 1 | The value of x for which the points(1,5) (x,1) and (4,11) are collinear is  (a) (b)0 (c)1 (d) -1 | 1 |
| 2 | The equation of the line parallel to x aixs at a distance of 5 units below it is  d)x-5=0 | 1 |
| 3 | Three persons enter a railway carriage where there are 5 vacant seats,the number of ways in which they can seat themselves is | 1 |
| 4 | If then the value of is  a)132 b)44 c)66 d) 116 | 1 |
|  | **ASSERTION- REASON BASED QUESTIONS:** In the following questions, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.  (a) Both A and R are true and R is the correct explanation of A.  (b) Both A and R are 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**.** |  |
| 5 | **ASSERTION:** The equation of line through (2,3) making equal intercepts on coordinate axis is x+y =5  **REASON:**The equation of a linte making equal intercepts on coordinate axis is | 1 |
| 6 | **ASSERTION:** The total number of ways of answering 6 multiple choice questions each question has 4 choices is  **REASON:** The number of ways of arranging n objects taking 4 at a time with repetition is | 1 |
|  | **Section B**  **(consists of 2 questions of 2 marks each)** |  |
| 7 | Find the points on x axis whose perpendicular distance from line is 4 units. | 2 |
| 8 | In how many ways can letters of the word “DAUGHTER” be arranged .In how many of them are vowels together. | 2 |
|  | **Section C**  **(consists of 2 questions of 3 marks each)** |  |
| 9 | Find the equation of straight line which passes through the point of intersection of the lines 3x+4y-1=0 and 2x-5y+7=0 and which is perpendicular to 4x-2y+3=0. | 3 |
| 10 | How many odd numbers less than 1000 can be formed using the digits 0,1,4,5,7,8 if repetition of digits is allowed. | 3 |
|  | **Section D**  **(1 question of 5 marks)** |  |
| 11 | A triangle ABC has vertices A(2,3) B(4,-1) and C(-1,2).Find the  i)Equation of altitude from A on BC  ii)Equation of median from B on AC  iii)Length of altitude from vertex A | 5 |
|  | **Section E** |  |
| 12 | **Case Study**:  A group of 5 students have to be selected for “Student Council” from 7 boys and 4 girls.  Based on the above information,answer the following  In how many ways can it be done  i) if the Council must have atleast 3 girls. (1)  ii) ) if the council must have exactly 3 girls (1)  iii)If the Council must have atmost 3 girls. (2)  or  If the Council must have atleast 2 boys | 4 |