**SINDHI HIGH SCHOOL, HEBBAL.**

**UNIT TEST I - 2024-25**

**Subject: MATHEMATICS (041)**

**Class: XI Max. Marks: 25**

**Date: 10/7/2023 Reading Time: 8:20am – 8:30 am No of printed sides: 02 Writing Time: 8:30 am- 9:30 am**

**General Instructions:**

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

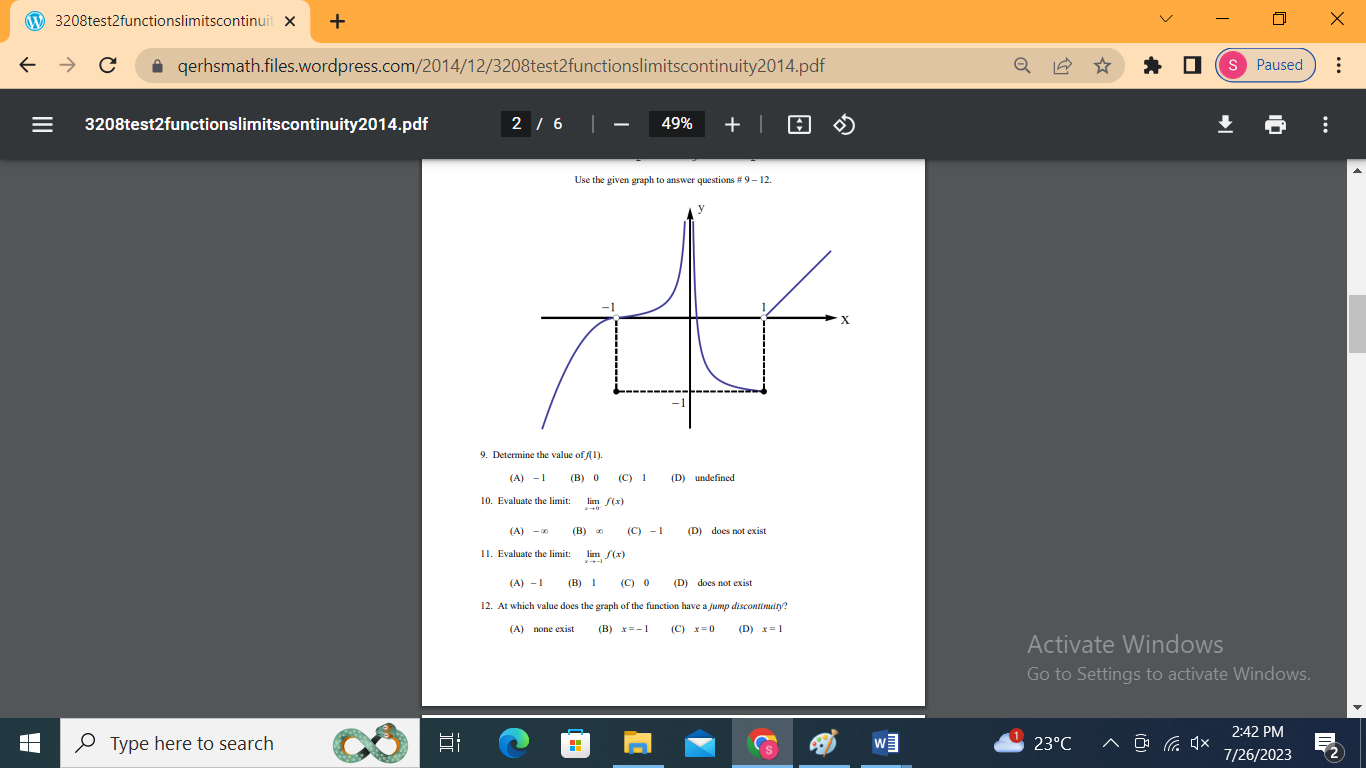
2. **Section A** has **04 MCQ’s** and **02 Assertion-Reason based questions** of 1 mark each.

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.

**SECTION-A**

1. In the graph alongside,

2. The value of is

3.  The principal value of tan ( is

4. If then the value of ‘a’ is

**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 (A):** The value of

**REASON(R):**

6.  **ASSERTION (A):** The value of

**REASON (R):**

**SECTION-B**

7. A train is travelling on a curve of 700m radius at 14km/h through what angle will

it turn in one minute?

8. Evaluate:

**SECTION-C**

9. If , lies in third quadrant find the values

10. Evaluate:

**SECTION-D**

11. Prove that

b) Simplify:

**SECTION-E**

**CASE STUDY**

12. If the left hand limit and right hand limit are equal then the

limit exists at the point x= c for the function f(x).

Let f(x) be a real valued function defined as

f(x) =

Using the above information answer the following,

(i) Find the value of the right hand limit of the function?

(ii) Find k, if limit exists for the function f(x) at x = 0.

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