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| **CLASS : XIth SUBJECT : MATHS**  **Solutions**  **DATE : DPP NO. :7** |

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| **Topic :-LIMITS & DERIVATIVES** |

1 **(b)**

We have,

[Using L’ Hospital’s Rule]

2 **(c)**

3 **(c)**

4 **(d)**

We have,

5 **(d)**

We have,

6 **(c)**

7 **(b)**

We have,

8 **(a)**

is a positive increasing function

By Sandwich theorem

9 **(c)**

LHL

And RHL

6 and 11 are the roots of equation

Required equation is

10 **(c)**

We have,

Similarly, we have

Hence,

11 **(d)**

We have,

and,

Hence, does not exist

12 **(d)**

We have,

Now,

13 **(c)**

We have,

14 **(d)**

We have,

and

Let be in the left neighbourhood of . Then,

for

and,

for

Similarly, if is in the right neighbourhood of . Then,

for and for

Thus, we have

and,

Hence, does not exist

15 **(a)**

We have,

16 **(a)**

We have,

[By L’ Hospital’s Rule]

17 **(b)**

18 **(a)**

We have,

19 **(b)**

20 **(c)**

|  |  |  |  |  |  |  |  |  |  |  |
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| **ANSWER-KEY** | | | | | | | | | | |
| Q. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **A.** | B | C | C | D | D | C | B | A | C | C |
|  |  |  |  |  |  |  |  |  |  |  |
| Q. | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| **A.** | D | D | C | D | A | A | B | A | B | C |
|  |  |  |  |  |  |  |  |  |  |  |