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SEMESTER END THEORY EXAMINATION

B. Sc. (Hons.) Horticulture

Semester	: I (NEW)	Term	: I
Course No	: U/MATH-111	Academic Year : 2021-22	
Credits	: 2 (1+1)		
Day & Date	: Friday 26/11/2021	Title: Mathematics	
Time	: 4.00-5.00	Total Marks : 40	

Note :
1. **Solve any four questions from SECTION "A".**
2. **Solve any six questions from SECTION "B"**
3. **All questions from SECTION "C" are compulsory.**

	SECTION "A"
Q.1	**Write any four property of Determinant**
Q2	**Apply Simpson's rule, Find the square meter area of the field having fallowing dimension ordinate 0, 20, 32, 36, 32, 20, 0 meter common distance 20 m.**
Q3	**Explain any Four types of Function with example.**
Q4	**Find the equation of circle, whose centre is (1, 2) and radius 5.**
Q5	**Differentiate the following function with respective to x.** i) **COS2X** ii) **$a^x \sin x$**
	SECTION "B"
Q. 6	**Answer in one sentence. (12 Marks, 2 Marks each)**
i)	**Write Simpson's rule**
ii)	**Solve $\lim_{x\to 0}(2x + cos2x)$**
iii)	**Solve $\frac{d}{dx}$ $(e^x + sinx + secx)$**
iv)	**Define quadratic equation and write method for finding roots of quadratic equation.**
v)	**Define I) Function ii) Determinant of 3rd order**
vi)	**Write equation of circle, whose centre is C (h, k) &radius r.**
vii)	**Write quadratic equation whose roots are 5 & -3**
	SECTION "C"
Q7	**Choose the correct option .Each question carries 1 marks**

1) ———————— is example of algebraic function.

a) Log x b) sin x c) x d) e^x

2) $\frac{d}{dx}$ 6

a) 6 b) 3 c) 5 d) 0

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3) $\lim_{x\to 0}(2x)$

a) 1 b) 0 c) x d) 2

4) If $x^2 + y2 = a$ then r = ----?

a) $\sqrt{a}$ b) r c) x d) a

5) The roots of quadratic equation real and equal if b^2-4ac =------?

a) 0 b) 1 c) 2 d) 4

6) Two row of determinant are same then value of determinant is ----

a) 1 b) 2 c) 0 d) 3

7) $\frac{d}{dx}$ $12x^2$

a) 24x b) 12x c) 12 d) 24

8) $\lim_{x\to 0}(\frac{1}{\sin x})$ = ------.

a) 0 b) 1 c) 2 d) x

9) The Simpson's rule can be apply only if the number of ordinate is ----------.

a) Even b) One c) Odd d) Rational

10) Limit of function if exist then it is -------

a) Same b) Unique c) Different d) Even

11) F(x) = log x +log y is ----------type function.

a) Logarithmic b) Algebraic c) Inverse d) Rational

12) The ordinate of the centre of circle $x^2 + y^2 = 16$ is ----------.

a) (1, 1) b) (0, 0) c) (2, 0) d) (1, 0)

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