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| Ans : b | 1. If the derivative of a function is zero everywhere, the function must necessarily be?   A -linear  B – Constant  C – Quadratic D – Everywhere zero | Q.1 |
| Ans : C | 1. The derivative of a function at a point is:    1. An equation    2. A function    3. A number    4. Zero | Q.2 |
| Ans : A | 1. Find the slope of (x2 + 5x)    1. 2x+5    2. 2x+5x    3. 2x    4. x2 + 5 | Q.3 |
| Ans : d | 1. Find the slope of f(x) = -3x2 – 6x at x = 1?    1. f'(x) = 6x    2. m = 0    3. f'(x) = -6x - 6    4. m = -1 | Q.4 |
| Ans : C | 1. find the derivatives of the function f(x) = | Q.5 |
| Ans : B | If f(x) = , find f'().   * 1. -1   2. 1   3. 0.5   4. -2 | Q.6 |
| Ans : A | 1. The graph of y = 2x3 – x4 has how many local maximums:    1. 1    2. 2    3. 3    4. 4 | Q.7 |
| Ans : C | 1. The point of local maxima for the function (0.46,2.87) | Q.8 |
| Ans : C | 1. Find the value of a such that the function f(x) = xeax has a critical point at x = 3    1. 3    2. -3 | Q.9 |
| Ans : B | 1. The minimum value of the function f(x)=x3−3x2−24x+100 in the interval [-3, 3] is    1. 20    2. 28    3. 16    4. 32 | Q.10 |
| Ans : A | Find the derivative of | Q.11 |
| Ans : B | Find the derivative of | Q.12 |
| Ans : A |  | Q.13 |
| Ans : B | a)  b)  c)  d) | Q.14 |
| Ans : d | , : | Q.15 |
| Ans : c | 1. None | Q.16 |
| Ans : d | has maximum value at x=   1. 0 2. 2 3. {0,2} 4. None | Q.17 |
| Ans : d | has maximum value at :   1. -1 2. 0 3. 2 4. None | Q.18 |
| Ans : a | has maximum value at:   1. X=1 2. X=3 3. A,b 4. None | Q.19 |
| Ans : b | has minimum value at:   1. X=1 2. X=3 3. A,b 4. None | Q.20 |
| Ans : b | If functions f and g are such that f(x) = g(x) + k where k is a constant, then (A) f '(x) = g '(x) + k (B) f '(x) = g '(x) (C) None of the above | Q.21 |
| Ans : b |  | Q.22 |
| Ans : b |  | Q.23 |
| Ans : b |  | Q.24 |
| Ans : A,C |  | Q.25 |
| Ans : C |  | Q.26 |
| Ans : a |  | Q.27 |
| Ans : e |  | Q.28 |
| Ans : c |  | Q.29 |
| Ans : b |  | Q.30 |
| Ans : A |  | Q.31 |
| Ans : a |  | Q.32 |
| Ans : A |  | Q.33 |
| Ans : a |  | Q.34 |
| Ans : c |  | Q.35 |
| Ans : A |  | Q.36 |
| Ans : b |  | Q.37 |
| Ans : c |  | Q.38 |
| Ans : c |  | Q.39 |
| Ans : b |  | Q.40 |
| Ans : d |  | Q.41 |
| Ans : b |  | Q.42 |
| Ans : b |  | Q.43 |
| Ans : d |  | Q.44 |
| Ans : b |  | Q.45 |
| Ans : b |  | Q.46 |
| Ans : b |  | Q.47 |
| Ans : c |  | Q.48 |
| Ans : c |  | Q.49 |
| Ans : d |  | Q.50 |
| Ans : b |  | Q.51 |
| Ans : c |  | Q.52 |
| Ans : b | If the function y(x) = x3 - 3x + 1 , then  a) y(x) is minimum at (-1,3) and maximum at (1,-1)  b) y(x) is maximum at (-1,3) and minimum at (1,-1)  c) y(x) is maximum at (-1,3) and maximum at (1,-1)  d) None of the above | Q.53 |
| Ans : c | If the function y(x) = x3 +8 , then we have  a) minimum point at (0,8)  b) negative point of inflection at (0,8)  c) positive point of inflection at (0,8)  d) None of the above | Q.54 |
| Ans : c | If the position of a particle is given by the equation of motion  f(t) = 1/(t + 1) = (t + 1)-1 , then at t = 2 seconds  a) the velocity is 1/9 m/s and speed is -1/9  b) the velocity is 1/9 and speed is 1/9 m/s  c) the velocity is -1/9 m/s and speed is 1/9  d) None of the above | Q.55 |