7 Lecture - MTH101

Important Mcqs

1. **What is the composition of two functions f and g?**
   A. f(x) + g(x)
   B. f(x)g(x)
   C. f(g(x))
   D. g(f(x))
   Solution: C

2. **What is the domain of the function f(x) = 1/x?**
   A. all real numbers except 0
   B. all real numbers
   C. all positive real numbers
   D. all negative real numbers
   Solution: A

3. **Which of the following is an example of a polynomial function?**
   A. f(x) = 1/x
   B. f(x) = x^2 + 3x - 5
   C. f(x) = ?x
   D. f(x) = e^x
   Solution: B

4. **What is the range of the function f(x) = sin(x)?**
   A. [-1, 1]
   B. (-?, ?)
   C. [0, 1]
   D. [-?/2, ?/2]
   Solution: A

5. **What is the inverse of the function f(x) = 2x - 3?**
   A. f^-1(x) = x/2 + 3/2
   B. f^-1(x) = 2x + 3
   C. f^-1(x) = (x - 3)/2
   D. f^-1(x) = 3 - x/2
   Solution: C

6. **Which of the following is an example of an odd function?**
   A. f(x) = x^2
   B. f(x) = x^3
   C. f(x) = sin(x)
   D. f(x) = cos(x)
   Solution: B

7. **What is the difference between the domain and range of a function?**
   A. There is no difference.
   B. The domain is the set of all input values, while the range is the set of all output values.
   C. The domain is the set of all output values, while the range is the set of all input values.
   D. The domain and range are the same things.
   Solution: B

8. **What is the equation of the line that passes through points (1, 2) and (3, 4)?**
   A. y = 2x - 1
   B. y = x + 1
   C. y = 2x + 1
   D. y = x - 1
   Solution: D

9. **What is the composite function of f(x) = x^2 and g(x) = x + 1?**
   A. f(g(x)) = (x + 1)^2
   B. f(g(x)) = x^2 + 1
   C. g(f(x)) = x^2 + 1
   D. g(f(x)) = (x + 1)^2
   Solution: A

10. **What is the degree of the polynomial function f(x) = 3x^4 + 2x^3 - 5x^2 + 7?**
    A. 0
    B. 2
    C. 3
    D. 4
    Solution: D