Unit No. 2 Logarithms Test # 1

Total Marks: 20 Time Allowed: 30 minutes

Section A: Multiple Choice Questions (5 × 1 = 5 Marks)

1. 1. Which law converts log(x/y) to log x − log y?
   (a) Product Law
   (b) Quotient Law
   (c) Power Law
   (d) Change of Base Law
2. 2. Antilog of 2 is:
   (a) 100
   (b) 10
   (c) 1
   (d) undefined
3. 3. log 5 + log 3 = ?
   (a) log 15
   (b) log 2
   (c) log 1
   (d) log 0
4. 4. log(0) is:
   (a) 0
   (b) 1
   (c) undefined
   (d) negative
5. 5. If log 2 = 0.3010, log 2000 = ?
   (a) 2.3010
   (b) 1.3010
   (c) 3.3010
   (d) 2.6021

Section B: Short Questions (5 × 2 = 10 Marks)

6. 1. Simplify using logarithm laws: $\log_2 18 - \log_2 9$.
7. 2. Expand using laws of logarithm: $\log(x^2y^3/z)$.
8. 3. Find antilog of 0.0065.
9. 4. Define Scientific Notation.
10. 5. Evaluate $\log_2(64 \times 2)$ without calculator.

Section C: Long Question (1 × 5 = 5 Marks)

1. Find the population year using model p(t) = 22(1.025)^t when p = 35 million.

Unit No. 2 Logarithms Test # 2

Total Marks: 20 Time Allowed: 30 minutes

Section A: Multiple Choice Questions (5 × 1 = 5 Marks)

11. 1. log 5 + log 3 = ?
    (a) log 15
    (b) log 2
    (c) log 1
    (d) log 0
12. 2. log(0) is:
    (a) 0
    (b) 1
    (c) undefined
    (d) negative
13. 3. If log 2 = 0.3010, log 2000 = ?
    (a) 2.3010
    (b) 1.3010
    (c) 3.3010
    (d) 2.6021
14. 4. The base of common logarithm is:
    (a) 2
    (b) 10
    (c) 5
    (d) e
15. 5. Scientific notation of 0.00034 is:
    (a) 3.4×103
    (b) 3.4×10^{-4}
    (c) 3.4×10^{4}
    (d) 3.4×10^{-3}

Section B: Short Questions (5 × 2 = 10 Marks)

16. 1. Express 8.04×10^{2} in ordinary notation.
17. 2. Find antilog of 0.0065.
18. 3. Define Scientific Notation.
19. 4. Evaluate $\log_2(64 \times 2)$ without calculator.
20. 5. Solve: $\log(5x - 10) = 2$.

Section C: Long Question (1 × 5 = 5 Marks)

1. Use logarithms to find: $(36.12 \times 750.9)/(113.2 \times 9.98)$.

Unit No. 2 Logarithms Test # 3

Total Marks: 20 Time Allowed: 30 minutes

Section A: Multiple Choice Questions (5 × 1 = 5 Marks)

21. 1. If log 2 = 0.3010, log 2000 = ?
    (a) 2.3010
    (b) 1.3010
    (c) 3.3010
    (d) 2.6021
22. 2. The base of common logarithm is:
    (a) 2
    (b) 10
    (c) 5
    (d) e
23. 3. Scientific notation of 0.00034 is:
    (a) 3.4 × 103
    (b) 3.4×10^{-4}
    (c) 3.4×10^{4}
    (d) 3.4×10^{-3}
24. 4. Which of the following is the characteristic of 5287?
    (a) 2
    (b) 3
    (c) 4
    (d) 1
25. 5. 34 = 81 in logarithmic form is:
    (a) log3 81 = 4
    (b) log4 3 = 81
    (c) log3 4 = 81
    (d) log4 81 = 3

Section B: Short Questions (5 × 2 = 10 Marks)

26. 1. Find the characteristic of 59.28.
27. 2. Define Scientific Notation.
28. 3. Evaluate $\log_2(64 \times 2)$ without calculator.
29. 4. Solve: $\log(5x - 10) = 2$.
30. 5. Convert $\log_5 125 = 3$ into exponential form.

Section C: Long Question (1 × 5 = 5 Marks)

1. Expand and simplify: $\log_2[(1 - a)/b]^5$ using laws of logarithm.

Unit No. 2 Logarithms Test # 4

Total Marks: 19 Time Allowed: 30 minutes

Section A: Multiple Choice Questions (4 × 1 = 4 Marks)

1. Scientific notation of 0.00034 is:
(a) 3.4 × 103
(b) 3.4×10^{-4}
(c) 3.4×10^{4}
(d) 3.4×10^{-3}
2. Which of the following is the characteristic of 5287?
(a) 2
(b) 3
(c) 4
(d) 1
3. 34 = 81 in logarithmic form is:
(a) log3 81 = 4
(b) log4 3 = 81
(c) log3 4 = 81
(d) log4 81 = 3
4. log 100 =
(a) 1
(b) 2
(c) 3
(d) 0

Section B: Short Questions (5 × 2 = 10 Marks)

1. Find the value of x in $\log_2(x + 1) - \log_2(x - 4) = 2$.
2. Evaluate $\log_2(64 \times 2)$ without calculator.
3. Solve: $\log(5x - 10) = 2$.
4. Convert $\log_5 125 = 3$ into exponential form.
5. Evaluate: $(20.46)^2 \times 2.4122 / 754.3$ using logarithm.

Section C: Long Question (1 × 5 = 5 Marks)

1. Use logarithm to calculate temperature at 500m altitude using formula
T = 20 × (0.97)^(h/100).

Unit No. 2 Logarithms Test # 5

Total Marks: 20 Time Allowed: 30 minutes

Section A: Multiple Choice Questions (2 × 1 = 2 Marks)

1. $3^4 = 81$ in logarithmic form is:

(a) $\log_3 81 = 4$

(b) $\log_4 3 = 81$

(c) $\log_3 4 = 81$

(d) $\log_4 81 = 3$

2. $\log 100 =$

(a) 1

(b) 2

(c) 3

(d) 0

Section B: Short Questions (5 × 3 = 15 Marks)

1. Find the value of x if $\log(x) = 0.0065$.
2. Solve: $\log(5x - 10) = 2$.
3. Convert $\log_5 125 = 3$ into exponential form.
4. Evaluate: $(20.46)^2 \times 2.4122 / 754.3$ using logarithm.
5. Express 3×10^5 in standard form.

Section C: Long Question (1 × 3 = 3 Marks)

1. Solve the word problem: Abdullah invested Rs.100,000 at 5% interest per annum. After how many years will the investment double using logarithms?