MASTER OF BUSINESS ADMINISTRATION – BUSINESS ANALYTICS

Sample Admission Test Questions

These sample questions are for the Mathematical Reasoning and Data Interpretation sections of the Aptitude Test. Please note it doesn’t include the entire syllabus. These sample questions are given to students only for practise, and not as an indication of the details of the actual test. The actual test paper will be different in length, difficulty level, and coverage of topics. Please refer to our website for more details and instructions.

1. If \( A^{-1} = \begin{pmatrix} 5 & 7 \\ 2 & 3 \end{pmatrix} \), then A is
   (a) \( \begin{pmatrix} 3 & -2 \\ -7 & 5 \end{pmatrix} \)
   (b) \( \begin{pmatrix} -3 & 2 \\ 7 & -5 \end{pmatrix} \)
   (c) \( \begin{pmatrix} 3 & -7 \\ -2 & 5 \end{pmatrix} \)
   (d) \( \begin{pmatrix} -3 & 7 \\ 2 & -5 \end{pmatrix} \)

2. The system of equations \( x + y - 3z = 4, 2y + 7z = 5, 2x + 4y + z = 13 \) has
   (a) a unique solution
   (b) finite number of solutions
   (c) infinitely many solutions
   (d) no solution

3. The sum of the series \( 1 + r + r^2 + r^3 + \ldots \infty \) is \( 1/(1 - r) \), provided
   (a) \( r < 1 \)
   (b) \( |r| < 1 \)
(c) $0 < r < 1$
(d) none of the above

4. Solution of the equation $\log_4(x + 4) + \log_4(x - 2) = 2$ is
(a) 4, -6
(b) 4, 6
(c) -4, 6
(d) -4, -6

5. In how many ways 4 boys and 3 girls can sit so that they alternate:
(a) 288
(b) 256
(c) 144
(d) 192

6. Indefinite integral of $\ln(x)$ is
(a) $\frac{1}{x} + c$
(b) $\log(x) + c$
(c) $x \ln(x) - 1 + c$
(d) $x \ln(x) - x + c$

Questions 7 and 8 are based on the following data:
The ages of patients visiting a particular hospital are as follows: 66, 86, 67, 68, 77, 73, 71, 70, 74, 75, 76, 69, 78, 79, 80, 81, 65, 87, 91, 92, 94, and 97.

7. Calculate the mean age of the patients.
   a) 78.0 years    b) 80.0 years    c) 77.0 years    d) 78.5 years

8. Calculate the median age of the patients.
   a) 77.0 years    b) 79.5 years    c) 76.5 years    d) 76.0 years

9. What is the chance that in selecting two cards one at a time from a deck with replacement, the second card is a face card (Jack, Queen or King), given that the first card was red?
   a) $\frac{12}{51}$  b) $\frac{2}{13}$  c) $\frac{3}{13}$  d) $\frac{3}{52}$
10. What is the probability of obtaining exactly one head when a fair coin is tossed twice?

a) $\frac{1}{4}$  

b) $\frac{1}{2}$  

c) $\frac{1}{3}$  

d) $\frac{1}{8}$

Questions 11 to 13 are based on the following information.

The below chart shows the Sales (in Rs. ’000s) of a particular product across different Regions of the country (East, West, North, South) over three different Times of the day: Morning, Evening, and Night.

11. In which Region is the Sale the maximum throughout the day?

   a) East       b) West       c) North       d) South

12. Where is the Sales the weakest in the Morning?

   a) East       b) West       c) North       d) South

13. Is there any apparent pattern of Sales during the different Times of day that holds for all the regions?

   a) Increasing in the order Morning, Evening, Night
   b) Decreasing in the order Night, Morning, Evening
   c) Decreasing in the order Evening, Morning, Night
   d) Decreasing in the order Evening, Night, Morning


**ANSWER KEY**

1 (c) 2 (c) 3 (b) 4 (a) 5 (c) 6 (d) 7 (a) 8 (c) 9 (c) 10 (b) 11 (b) 12 (c) 13 (d)