

Quantitative Aptitude Practice questions on Functions:

1. How many onto functions can be defined from the set $A = \{1, 2, 3, 4\}$ to $\{a, b, c\}$?

A. 81

B. 79

C. 36

D. 45

2. $f(x + y) = f(x)f(y)$ for all x, y , $f(4) = +3$ what is $f(-8)$?

A. $1/3$

B. $1/9$

C. 9

D. 6

3. Find the maximum value of $f(x)$; if $f(x)$ is defined as the $\text{Min} \{-(x - 1)^2 + 2, (x - 2)^2 + 1\}$

A. 1

B. 2

C. 0

D. 3

4. Consider functions $f(x) = x^2 + 2x$, $g(x) =$ and $h(x) = g(f(x))$. What are the domain and range of $h(x)$?

- A. 1
- B. 2
- C. 0
- D. 3

5. $[x]$ = greatest integer less than or equal to x . If x lies between 3 and 5, what is the probability that $[x^2] = [x]^2$?

- A. Roughly 0.64
- B. Roughly 0.5
- C. Roughly 0.14
- D. Roughly 0.36

6. Give the domain and range of the following functions:

- A. $f(x) = x^2 + 1$
- B. $g(x) = \log(x + 1)$
- C. $h(x) = 2^x$
- D. $f(x) = 1/(x+1)$
- E. $p(x) = |x + 1|$
- F. $q(x) = [2x]$, where $[x]$ gives the greatest integer less than or equal to x

7. How many elements are present in the domain of $9 - xCx + 1$?

- A. 5
- B. 6
- C. 4
- D. 7

8. $f(x + y) = f(x)f(y)$ for all x, y , $f(4) = +3$ what is $f(-8)$?

- A. $1/3$
- B. $1/9$
- C. 9
- D. 6

Answer Key –

- 1. C
- 2. B
- 3. B
- 4. Domain: $(-\infty, +\infty)$, Range $-[0, \infty]$
- 5. C
- 6. ----
- 7. B
- 8. B