

## 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 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.  $h(x) = 2x$
- 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  ${}^{9-x}C_{x+1}$ ?**

- 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