

**SETS****POWER SETS****EXERCISE**

- Q.1** Which of the following is not the element of power set of  $\{2,3\}$ ?
- (a)  $\Phi$  (b)  $\{2\}$   
(c)  $\{\{2,3\}\}$  (d)  $\{2,3\}$
- Q.2** If a set A has 3 elements then find the number of elements in power set of set A.
- (a) 1 (b) 2  
(c) 8 (d) 27
- Q.3** If set  $A = \{1,2,3\}$  then which of the following is incorrect?
- (a)  $\Phi \in A$  (b)  $\Phi \in P(A)$   
(c)  $\Phi \subset A$  (d)  $\Phi \subset P(A)$
- Q.4** If set  $X = \{2,3,5,7\}$ , then  $n[P(X)]$  is \_\_\_\_\_
- (a) 8 (b) 16  
(c) 32 (d) 64
- Q.5** How many elements are there in  $P(A)$ , if  $A = \varphi$ ?
- (a) 1 (b) 2  
(c) 3 (d) 4
- Q.6** If  $A = \{a, b, c\}$  then  $P(A) = \{\{a\}, \{b\}, \{c\}, \{a, b\}, \{b, c\}, \{a, c\}, \{a, b, c\}\}$ .
- (a) True  
(b) False
- Q.7** If  $X = \{1,2\}$  then  $P(X) = \{\varphi, \{1\}, \{2\}, \{1,2\}\}$ .
- (a) True  
(b) False

- Q.8 Cardinality of the power set of  $\{0, 1, 2, \dots, 6\}$  is \_\_\_\_\_  
(a) 1024 (b) 4096  
(c) 512 (d) 2048
- Q.9 If a set  $A = \{x: x \text{ is a prime number less than } 4\}$  then  $n[P(P(A))]$  is \_\_\_\_\_  
(a) 8 (b) 16  
(c) 32 (d) 64
- Q.10 If set  $A = \{\Phi\}$  then  $P(A)$  is \_\_\_\_\_  
(a)  $\{\Phi\}$  (b)  $\{\{\Phi\}\}$   
(c)  $\{\Phi, \{\Phi\}\}$  (d)  $\Phi$

**ANSWER KEY**

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