Assignment - 7 Solution

① Answer - (d)
Explanation- In order to search a key or integer in the Van - Emde - Boas data structure, the operation can be performed on an associative array. Hence, the time complexity for a searching a key or integer in Van Emde Boas data structure is $O(\log(\log M))$.

2. Answer- (d)
Explanation- The Van - Emde - Boas data structure is also propularly known as Van Emde Boas priority Queeue. This data structure implements the array associatively for the given integer keys. It is a non - binary type of tree.

3. Answer - (c)
Explanation- The van - Emde - Boas data structure implements an abstract data type called associative array for the given integer keys.

4. Answer - (c)

(5) Answer - (d)

(6) Answer - (d)
Explanation - Consider a sequence of n insertions. The worst case time to execute one insertion is $\theta(n)$. Therefore, the worst - case time for n insertions is $n\theta(n) = \theta(n^2)$

(7) Answer - (b)

(8) Answer - (d)

(9) Answer - (c)

(10) Answer - (b)