

1	(AABC) ₁₆ = (_____) ₈ A)123456 B) 125274 C) 127890 D)324512
2	Train numbers X12, Y23, Z34,A45,B56 enter in the given sequence in a rail yard Q which is closed at one end, two of the trains are serviced and go for their trip to another city M and stay in the yard S over there. Two more trains from yard Q leave to city N and stay in the yard T. One train C67 comes from the city F and enters the yard Q. At this stage which is the first train which will come out first from the yard Q. A) X12 B) Y23 C) A45 D) C67
3	We interchange values of variables m and n, using replacement notation by $t \leftarrow m$, $m \leftarrow n$, $n \leftarrow t$. So we use three assignments. If we want to rearrange (a,b,c,d) to (b,c,d,a) by a sequence of replacements. The new value of a is to be the original value of b & so on. How many assignments are required? A) 3 B) 5 C) 4 D) 6
4	What will be the output of the following program main() { int i,j,k,x=0; for(i=0;i<5;++i) for(j=0;j<i;++j) { k = (i+j-1); if(k%2==0) x+=k; else if(k%3==0) x+=k-2; } printf("\n%d",x); }
	A. 25 B. 16 C. 18 D. 20
5	If an in-place sorting algorithm is given a sorted array, it will always output an unchanged array in the same sequence. A) True, because elements are already sorted B) False, because sorting may not be stable C) False, because comparisons are used D) False, because Non-Comparison sorts may be used
6	for i = 1 to n-1 do min = i for j = i+1 to n do If (a[j] < a[min]) then min = j If (i < min) then swap(a[i],a[min]) The Given code is for A. Bubble sort B. Insertion sort C. Quick Sort D. Selection Sort
7	Insertion in a binary search tree is “commutative”. That is, inserting x and then y into a binary search tree leaves the same tree as inserting y and then x.. A) True B) False
8	Let P be a shortest path from some vertex s to some other vertex t in a graph. If the weight of each edge in the graph is increased by one, P will still be a shortest path from s to t. A) True B) False
9	Queue has one of the following methods A) insert before B) swap C) Enqueue D) Pop
10	If Total complexity after micro analysis is $5n^3 + 10n^2 + 100n + 400 \log n + 10$, The Big Oh complexity is A) n^2 B) n^3 C) $5n + 400 \log n$ D) $5n^3 + 10n^2 + 100n + 400 \log n + 10$