1. Which of these bests describes an array?  
   a) A data structure that shows a hierarchical behavior  
   b) Container of objects of similar types  
   c) Arrays are immutable once initialized  
   d) Array is not a data structure

Answer: b  
Explanation: Array contains elements only of the same type.

1. How do you initialize an array in C?  
   a) int arr[3] = (1,2,3);  
   b) int arr(3) = {1,2,3};  
   c) int arr[3] = {1,2,3};  
   d) int arr(3) = (1,2,3);

Answer: c  
Explanation: This is the syntax to initialize an array in C.

3. What is the output of the following piece of code?

**public** **class** array

{

**public** **static** **void** main(String args[])

{

**int** []arr = {1,2,3,4,5};

System.out.println(arr[2]);

System.out.println(arr[4]);

}

}

a) 3 and 5  
b) 5 and 3  
c) 2 and 4  
d) 4 and 2

Answer: a  
Explanation: Array indexing starts from 0.

4. What is the output of the following piece of code?

**public** **class** array

{

**public** **static** **void** main(String args[])

{

**int** []arr = {1,2,3,4,5};

System.out.println(arr[5]);

}

}

a) 4  
b) 5  
c) ArrayIndexOutOfBoundsException  
d) InavlidInputException

Answer: c  
Explanation: Trying to access an element beyond the limits of an array gives ArrayIndexOutOfBoundsException.

5. When does the ArrayIndexOutOfBoundsException occur?  
a) Compile-time  
b) Run-time  
c) Not an error  
d) Not an exception at all

Answer: b  
Explanation: ArrayIndexOutOfBoundsException is a run-time exception and the compilation is error-free.

6. Which of the following concepts make extensive use of arrays?  
a) Binary trees  
b) Scheduling of processes  
c) Caching  
d) Spatial locality

Answer: d  
Explanation: Whenever a particular memory location is referred, it is likely that the locations nearby are also referred, arrays are stored as contiguous blocks in memory, so if you want to access array elements, spatial locality makes it to access quickly.

7. What are the advantages of arrays?  
a) Objects of mixed data types can be stored  
b) Elements in an array cannot be sorted  
c) Index of first element of an array is 1  
d) Easier to store elements of same data type

Answer: d  
Explanation: Arrays stores elements of same data type and present in continuous memory locations.

8. What are the disadvantages of arrays?  
a) Data structure like queue or stack cannot be implemented  
b) There are chances of wastage of memory space if elements inserted in an array are lesser than the allocated size  
c) Index value of an array can be negative  
d) Elements are sequentially accessed

Answer: b  
Explanation: Arrays are of fixed size. If we insert elements less than the allocated size, unoccupied positions can’t be used again. Wastage will occur in memory.

9. Assuming int is of 4bytes, what is the size of int arr[15];?  
a) 15  
b) 19  
c) 11  
d) 60

Answer: d  
Explanation: Since there are 15 int elements and each int is of 4bytes, we get 15\*4 = 60bytes.

10. In general, the index of the first element in an array is \_\_\_\_\_\_\_\_\_\_  
a) 0  
b) -1  
c) 2  
d) 1

Answer: a  
Explanation: In general, Array Indexing starts from 0. Thus, the index of the first element in an array is 0.

11. Elements in an array are accessed \_\_\_\_\_\_\_\_\_\_\_\_\_  
a) randomly  
b) sequentially  
c) exponentially  
d) logarithmically

Answer: a  
Explanation: Elements in an array are accessed randomly. In Linked lists, elements are accessed sequentially.

12. Which of the following correctly declares an array?  
a) int array[10];  
b) int array;  
c) array{10};  
d) array array[10];

Answer: a  
Explanation: Because array variable and values need to be declared after the datatype only.

13. What is the index number of the last element of an array with 9 elements?  
a) 9  
b) 8  
c) 0  
d) Programmer-defined

Answer: b  
Explanation: Because the first element always starts at 0. So it is on 8 position.

14. What is the correct definition of an array?  
a) An array is a series of elements of the same type in contiguous memory locations  
b) An array is a series of element  
c) An array is a series of elements of the same type placed in non-contiguous memory locations  
d) An array is an element of the different type

Answer: a  
Explanation: Correct definition of an array is an array is a series of elements of the same type in contiguous memory locations.

15. Which of the following accesses the seventh element stored in array?  
a) array[6];  
b) array[7];  
c) array(7);  
d) array;

Answer: a  
Explanation: The array location starts from zero, So it can accessed by array[6].

16. Which of the following gives the memory address of the first element in array?  
a) array[0];  
b) array[1];  
c) array(2);  
d) array;

Answer: d  
Explanation: To get the address of ith index of an array, we use following syntax (arr + i). So as we need address of first index we will use (arr + 0) equivalent to arr.

17. What will be the output of the following C++ code?

1. #include <stdio.h>
2. #include<iostream>
3. using namespace std;
4. int main ()
5. {
6. int array[] = {0, 2, 4, 6, 7, 5, 3};
7. int n, result = 0;
8. for (n = 0; n < 8; n++)
9. {
10. result += array[n];
11. }
12. cout << result;
13. return 0;
14. }

a) 25  
b) 26  
c) 27  
d) 21

Answer: c  
Explanation: We are adding all the elements in the array and printing it. Total elements in the array is 7, but our for loop will go beyond 7 and add a garbage value.

18. What will be the output of the following C++ code?

1. #include <stdio.h>
2. #include<iostream>
3. using namespace std;
4. int main()
5. {
6. int a = 5, b = 10, c = 15;
7. int arr[3] = {&a, &b, &c};
8. cout << \*arr[\*arr[1] - 8];
9. return 0;
10. }

a) 15  
b) 18  
c) garbage value  
d) compile time error

Answer: d  
Explanation: The conversion is invalid in this array. So it will arise error. The following compilation error will be raised:  
cannot convert from ‘int \*’ to ‘int’  
This is because &a, &b and &c represent int\* whereas the array defined is of int type.

19. What will be the output of the following C++ code?

1. #include <stdio.h>
2. #include <iostream>
3. using namespace std;
4. int main()
5. {
6. char str[5] = "ABC";
7. cout << str[3];
8. cout << str;
9. return 0;
10. }

a) ABC  
b) ABCD  
c) AB  
d) AC

Answer: a  
Explanation: We are just printing the values of first 3 values.

20. What is the meaning of the following declaration?

int(\*p[5])();

a) p is pointer to function  
b) p is array of pointer to function  
c) p is pointer to such function which return type is the array  
d) p is pointer to array of function

Answer: b  
Explanation: In the above declaration the variable p is the array, not the pointer.

21. What will be the output of the following C++ code?

1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. int arr[] = {4, 5, 6, 7};
6. int \*p = (arr + 1);
7. cout << \*p;
8. return 0;
9. }

a) 4  
b) 5  
c) 6  
d) 7

Answer: b  
Explanation: In this program, we are making the pointer point to next value and printing it.

22. What will be the output of the following C++ code?

1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. int arr[] = {4, 5, 6, 7};
6. int \*p = (arr + 1);
7. cout << arr;
8. return 0;
9. }

a) 4  
b) 5  
c) address of arr  
d) 7

Answer: c  
Explanation: As we counted to print only arr, it will print the address of the array.

23. What will be the output of the following C++ code?

1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. int arr[] = {4, 5, 6, 7};
6. int \*p = (arr + 1);
7. cout << \*arr + 9;
8. return 0;
9. }

a) 12  
b) 5  
c) 13  
d) error

Answer: c  
Explanation: In this program, we are adding the value 9 to the initial value of the array, So it’s printing as 13.

24. What will be the output of the following C++ code?

1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. int i;
6. const char \*arr[] = {"C", "C++", "Java", "VBA"};
7. const char \*(\*ptr)[4] = &arr;
8. cout << ++(\*ptr)[2];
9. return 0;
10. }

a) ava  
b) java  
c) c++  
d) compile time error

Answer: a  
Explanation: In this program we are moving the pointer from first position to second position and printing the remaining value.