1. What will be the output of the following pseudo code?

1. Integer x, y, z
2. set x = 24, y =8
3. x = x / y
4. z = y << x
5.Print z

[Note: << is left shift operator, it takes two numbers, left shifts the bits of the first operand, the second operand decides the number of places to shift]

Points:1/1

- 8
- 0
- **64**
- 1

2. What will be the output of the following pseudo code?

Points:1/1

1.Integer a, b, i, c, n, j
2.Set a = 0, b = 1, n = 3
3.For(each i from 1 to n)
4.a = 0
5.b = 1
6.Print b
7.for(each j from 1 to i – 1)
8.C = a + b
9.Print c
10.a = b
11.b = c
12.End for
13.Go to next line
14.End for

A.3
2 3
1 2 3

C. 3
3 2
3 2 1

B.1
1 1
1 1 2

D. 1
1 2
1 2 3

- C
- A
- D
- **B**

3. What will be the output of the following code? Points:1/1

1. Integer a, b, c, d
2. set a = 8, b = 7 , c = 4, d = 6
3. a = b + c – d
4. b = a + d – c
5. d = a + b + d
6. 
7.print d

- 3
- 8
- 12
- **18**

4. What will be the output of the following pseudo code? Points:1/1

1. Integer x
2. set x = 259
3. if ( x EQUALS 0)
4. print “0”
5. otherwise if( x MOD 9 EQUALS 0)
6. print “9”
7. otherwise
8. print x MOD 9
9. end if

- **7**
- 8
- 16
- None

5. What will be the output of the following pseudo code? Points:1/1

1. Integer i, j, sum
2. set sum = 0
3. for ( i = 0 to 5)
4. for ( j = 0 to 2)
5. sum = i * j
6. end for
7. end for
8. print sum

- None
- **10**

- 15
- 27

6. What will be the output of the following pseudo code? Points:1/1

1. Integer rows = 4, k, l, number = 1
2. for(each k = 1 to rows)
3. for(each l = 1 to k)
4. Print number
5. Print space
6. number = number + 1
7. end for
8. Move to next line
9. end for

A.1 2 3 4

1 2 3

1 2

1

B.

```
    1
   1 1
  1 2 1
 1 3 3 1
```

C. 1

2 3

4 5 6

7 8 9 10

D.

```
      1
    2 3 2
  3 4 5 4 3
4 5 6 7 6 5 4
```

- B
- A
- D
- **C**

7. What will be the output of the following pseudo code? Points:1/1

1. Integer x, y, z, a
2. set y = 2
3. set x = ( y = y * 2 ) + ( z = a = y)
4. print x

- 9
- 5
- **8**
- 7

8. What will be the output of the following pseudo code? Points:1/1

1. Integer a, b, count
2. set a = 2, count = 0, b = 1
3. while ( b < 121)
4. b = a * b
5. count = count +1
6. b = b + 1

7. end while
8. print count

- **6**
- 7
- 127
- 120

9. What will be the output of the following pseudo code for n = 1? Points:0/1

1. void reverse ( int n)
2. if( n greater than 5 )
3. exit
4. print n
5. return reverse( Increment n by 1)
6. end function reverse()

- 1 2 4 6 8
- None of the mentioned options
- **1 2 3 4 5**
- It will print 1 infinite times

10. What will be the output of the following code? Points:0/1

1. char str[20]
2. Integer s
3. set str = “PQRSTUVWXYZ”
4. s = string_ length(str)
5. str[3] = NULL
6. s = strlen(str)
7. Print s

[Note : The string_ length() function calculates the length of a given string]

- 2
- 3
- **None**
- 4

11. If a complete binary min- heap is made by including each integer in [ 1, 1023] exactly once. The depth of a node in the heap is the length of the path from the root of the heap to that node. Thus the root is at depth 0. The maximum depth at which integer 9 can appear: Points:1/1

- 8
- 9
- **log 9**
- None

12. Which of the following statements is true regarding strictly Binary Tree?

Points:0/1

- A strictly binary tree with n leaves with ( 2n) nodes
- **A strictly binary tree with n leaves with ( 2n – 1) nodes**
- A strictly binary tree with n leaves with ( 2n + 1) nodes
- A strictly binary tree with n leaves with ( n – 1) nodes

13. What will be the output of the following pseudo code?

Points:0/1

1. Integer a = 2, b = 6, c, i
2. c = ( a + b ) – 3
3. for (each i from 0 to c – 1)
4. a = a – i
5. c = c + a
6. end for
7. print c

- **-3**
- 0
- 3
- 2

14. How many times A will be printed for n = 5?

Points:0/1

1. def fun1(int n)
2. Integer i
3. set i =0
4. If ( n greater than 1)
5. fun1( n – 1)
6. for(each i from 0 to n -1)
7. print " A"

- **13**
- 15
- 17
- 14

15. Which of the following is the correct number of minimal AVL tree of height 6?

Points:1/1

- None
- 20
- **6**
- 15

16. Consider a Binary tree having two pointers for each of its children. These pointers are set to NULL if the corresponding child is empty. How many NULL pointers does a binary tree with 'N' nodes have?

Points:0/1

- N
- The number depends on the shape of the tree

- N-1
- **N+1**

17. Given below is the pre order traversal sequence of a binary search tree, what would be the post order traversal sequence of the same tree? Points:1/1

30, 20, 10, 15, 25, 23, 39, 35, 42

- 15, 10, 23, 25, 20, 35, 42, 39, 30
- Cannot be determined
- 15, 10, 25, 23, 20, 42, 35, 39, 30
- **15, 20, 10, 23, 25, 42, 35, 39, 30**

18. What will be the output of the following pseudo code for n = 91? Points:1/1

1. int fun ( int n)
2. if ( n > 100)
3. return n – 10
4. return fun ( fun ( n + 11))

- 110
- 121
- 99
- **91**

19. What will be the output of the following pseudo code? Points:1/1

1. Integer x, y, z, a
2. set x = 2, y = 1, z = 5
3. a = ( x AND y) OR ( z + 1)
4. print a

- 3
- **1**
- 2
- 5

20. How many times “A” will be printed? Points:1/1

1. integer i, j
2. for(each i from 0 to 4)
3. for(each j from 0 to 3)
4. if( i > 1)
5. Jump out of the loop
6. end if
7. end for
8. Print A
9. End for

- Four

- **Five**
- Six
- Seven

21. What will be the output of the following pseudo code for a = 10, b = 6? Points:1/1

1. Integer func(Integer a, Integer b)
2. Integer temp
3. while(b)
4. temp = a MOD b
5. a = b
6. b = temp
7. end while
8. return a
9. } [/ code
10. 
11. [ Note: while(b) means the loop will  execute until the b is non – zero]

- 1
- 3
- **2**
- 4

22. What will be the output of the following pseudo code for c = 1? Points:0/1

1. Integer fun( Integer c)
2. print c
3. if(c < 3)
4. c = c + 2
5. fun ( fun c)
6. end if
7. return c
8. end function fun

- **1 3 3**
- 1 3 3 3
- None of the mentioned options
- 1 3 5 5

23. What would be the output of the following pseudo code for a =2, b = 3? Points:1/1

1. doSomething(Integer a, Integer b)
2. if ( b EQUALS 1)
3. return 0
4. else
5. return a + doSomething(a, b – 1)
6. End function doSomething()

- 1
- 4
- 3
- **2**

24. What will be the output of the following pseudo code? Points:1/1

1.Declare x, y, i

2.Set x = 0, y = 2

3.for i = 6 to x

4.y = y * 1

5.Print y

6.i = i - 1

7.End for

- **2 2 2 2**
- None of the mentioned options
- 2 4 8 16 32 64 64
- 4 8 16 32 64 128 128

25. What will be the output of the following pseudo code?

1. Integer arr1[10], n, ctr, p, q, r
2. set arr1[] = {1, 2, 3, 4, 5, 2, 6, 5, 9}, n = 9, ctr = 0
3. for( each p from 0 to n -1)
4. ctr = 0
5. for(each q from 0 to p – 2)
6. if(arr1[p] = arr1[q])
7. ctr = ctr + 1
8. end if
9. end for
10. for(each r from p + 1 to n – 1)
11. if(arr1[p] = arr1[r])
12. ctr = ctr + 1
13. end if
14. end for
15. if (ctr EQUALS 0)
16. print arr1[p]
17. end if
18. end for

- 1 2 3 4 5 6 9
- 1 3 4 6 9
- 2 5

- **None of the mentioned options**