1. What will be the output of the program?TreeSet map = new TreeSet();
map.add("one");
map.add("two");
map.add("three");
map.add("four");
map.add("one");
Iterator it = map.iterator();while (it.hasNext())
{
System.out.print(it.next() + "");
}
(a) one two three four (b) four three two one
(c) four one three two (d) one two three four one

2. What is the result of the following program?Class MyFirst
{
public static void main (String[] args) throws InterruptedException {
Thread f = new Thread();
f.start();
System.out.print("A");
f.wait(1000);
System.out.print("B");
}}
(a) It prints A and B with a 1000 seconds delay between them
(b) It only prints A and exits
(c) It only prints B and exists
(d) A will be printed, and then an exception is thrown

3. What is the result of the following program?class Bike{
int speedlimit = 150;
}
class Honda3 extends Bike{int speedlimit = 90;
public static void main(String args[]){ Bike obj = new Honda3();
System.out.println(obj.speedlimit);
} }
(a) 150 (b) 90 (c) Compilation error (d) 0

4. What is the result of the following program?
public class TestExceptionPropagation
{
void m()
{
int a=5/0;
}
void n()
{ m();
}
void p()
{
try
{ n();
}
catch(Exception e)
{System.out.println("exception handled");
}
}
public static void main(String args[])
{
TestExceptionPropagation obj = new TestExceptionPropagation();obj.p();
System.out.println("normal flow");
}
}
(a) Exception handled
(b) normal flow
(c) Exception handled normal flow
(d) Compilation fails

5. Which of the following integer will be returned from the function for input x = 10 & y = 7 in the givenpseudo code?
Function (input x, input y)
If x < y Then
return function(y, x)
Else If y ! = 0 Then
return (x + function(x, y – 1))
Else return 0End If
End Function
(a) 28 (b) 70 (c) 55 (d) 50

6. What will you use to include a .xls file in an MS-PowerPoint presentation?
(a) Share Option
(b) Embed Object
(c) Insert Table
(d) PowerPoint does not support this application

7. The smallest unit in a digital system is a ____
(a) Bit (b) Byte
(c) Character (d) Kilobyte

8. What steps will you take to change a line chart into a pie chart?
A. Right click on chart -> Chart Type -> Change Chart Type -> Select Pie Chart -> Click OK
B. Select full chart -> Right click on chart -> Design options -> Change Chart Type -> Select Pie Chart
C. Go to Pivot chart tools -> Design Tab -> Change Chart Type -> Select Pie -> Click OK
(a) Only A (b) Only B (c) Only C (d) A and C

9. If 8/9 is entered in a cell without any formatting, Excel will treat it as a__.
(a) Text (b) Number (c) Date (d) Fraction

10. Choose the correct option.
What does =NOW() function return?
(a) Current Date followed by Current Time
(b) Current Time followed by Current Date
(c) Current Date
(d) Current Time

11. What router command allows you to determine whether IPaccess list is enabled on a particular interface?
(a) show ip port
(b) show access-lists
(c) show ip interface
(d) show access-lists interface

12. Which of the following software applications would be the most appropriate for performing numerical and statistical calculations?
(a) Database (b) Document Processor
(c) Graphic Package (d) Spread Sheet

13. Which function in Excel tells how many numeric entries are there?
(a) NUM (b) COUNT (c) SUM (d) CHKNUM

14. When will you use VLOOKUP Match in MS Excel?
(a) When you need to extract lookup value from right to left
(b) When the data is very huge
(c) When you need to extract lookup value from right to left and the data is very huge.
(d) When you know that so many editing will be possible in future

15. Your manager is using the feature, "Track Changes" in MS Word. He performs the following activities:
1. He is viewing the edits in a document as he has made the changes in the document.
2. He is comparing the documents very often. What do you call the second activity?
(a) Greenlining (b) Redmarkers
(c) Redlining (d) Doublelining

16. In a PowerPoint presentation, a user wants to create a table that has two columns S No. and Companyname as shown in the given image. Which of the following options is the initial step while creating thetable?

S No.	Company
1	ICBC
2	Alphabet
3	IBM
4	Google
5	Facebook
6	Apple
7	Linkedln
8	Zoom
9	Microsoft
10	Amazon
11	Samsung

(a) Insert -> Table -> Select the 12 rows and 2 columns
(b) Insert -> Table -> Insert Table; Number of columns 2 and number of rows as 12 -> Ok.
(c) Insert -> Table -> Select the 11 rows and 2 columns
(d) Insert -> Table -> Insert Table; Number of columns as 2 and number of rows as 11 -> Ok.

17. What is the algorithm in the following pseudocode used for?DECLARE CHARACTER c
DECLARE INTEGER num = 0DO
READ c
IF c IS '0' THROUGH '9' THEN
num++END IF
UNTIL c IS '\n'
PRINT num
END
(a) Word count
(b) Character count
(c) To find new line character
(d)Counting digits

18. What will be the complexity for the below pseudocode?SET t = 0
READ Array A[0 . . . 9]
FOR each element e in At = t + e
END FORPRINT t
(a) Order of 10 (b) Order of 1
(c) Order of 100 (d) Order of 2

19. What will be the size of the Queue after execution of the following code with N = 10? while (Starting from i = 1 execute N time with increment of 1){
push i to the queue if(i is multiple of 2){
peek it from the queue
}
if (i is multiple of 3){ poll it from the queue

}
}
(a) 3 (b) 2 (c) 7 (d) 5

20. The Greater Than sign (>) is an example of__operator.
(a) Arithmetic (b) Logical
(c) Conditional (d) Relational

21. The following program is used to identify which type of a number.initialize a temp variable
while (i is less than half of the number){
if(reminder of the division between number and i is 0){add the value of i to the temp variable
}
}
if(temp is equal to number){return true
}else{ return false
}
(a) Prime (b) Perfect
(c) Armstrong (d) Perfect square

22. How many times the while loop will be executed for N = 8?
SET even = total = 0;
READ N
WHILE even <= N total = total + even;even = even + 2;
ENDWHILE
PRINT total
(a) 4 (b) 8 (c) 5 (d) 9

23. What should be the value of b after the pseudocode is run for user input N as 10?READ N
SET a = 0SET b = 1SET c = 1REPEAT
b = b * c
a = a + (b / c)c = c + 1 UNTIL c < N
Print b
(a) 46234 (b) 362880 (c) 10 (d) 55

24. What will be the output of the following program if the input is 'programmer'?
for (each character in the input){ push the character on to the stack
}
while (stack is not empty){output += pop the stack
}
(a) reargmmorp (b) remmargorp
(c) remorargmp (d) None of the given options

25. What will be the output of the following code if n = 4?
FUNCTION doMath(integer n)
BEGIN IF n <= 1
return nELSE
return n * doMath(n – 1);
(a) 16 (b) 12 (c) 24 (d) 64

26. Consider the following pseudocode:
What would be the output of the pseudocode if the input to the program was 15?START
Integer TotalNum, NumBoys, NumGirls, BoysPercentSET BoysPercent = 10
GET NumBoys
SET TotalNum = (NumBoys * 100)/BoysPercent
SET NumGirls = (TotalNum * (100–BoysPercent–1))/100
Print 'Total Number of pupils: ', TotalNumPrint 'Number of girls: ', NumGirls
STOP
(a) Total number of pupils: 115
Number of girls: 133
(b) Total number of pupils: 150
Number of girls: 134
(c) Total number of pupils: 125
Number of girls: 137
(d) Total number of pupils: 150
Number of girls: 136

27. In Java, what does the following code do:
var xyFile:File = File.createTempFile();
if (xyFile.isDirectory() == true)
xyFile.deleteDirectory(true) else
xyFile.deleteFile();
(a) Examines if it is a file or directory and then deletes it
(b) Creates a file or directory and then deletes it
(c) Deletes the file
(d) None of these

28. The RSA signature uses which hash algorithm?
(a) MD5 (b) SHA-1
(c) MD5 and SHA-1 (d) None of the mentioned

29. Consider you have a stack whose elements in it are as follows.
5 4 3 2 << top
Where the top element is 2.
You need to get the following stack6 5 4 3 2 << top
The operations that needed to be performed are (You can perform only push and pop);
(a) Push(pop()), push(6), push(pop())
(b) Push(pop()), push(6)
(c) Push(pop()), push(pop()), push(6)
(d) Push(6)

30. Consider the following pseudocode:
What would be the output when the given pseudocode is executed?
FUNCTION CalculateSimpleInterest(Integer P, Integer N, Integer R)
Integer SI

SET SI = (P * N * R)/100
Print 'Simple interest is: ', SI
it END FUNCTION PROGRAM START
CALL CalculateSimpleInterest(1000, 2,5)
STOP

(a) Simple Interest is: 100
(b) Simple Interest is: 500
(c) Simple Interest is: 1000
(d) Simple Interest is: 50

31. What will be the output of the following code if N = 15?

if(N is less than 0){
print "invalid number"
}
if(N is divisible by 3 AND N is not divisible by 5){
print "Type 1"
}else if(N is divisible by 5 OR N is not divisible by 3){
print Type 2"
}else if (N is divisible by 5 AND N is divisible by 3){
print "Type 3"
}

(a) Invalid number (b) Type 1
(c) Type 2 (d) Type 3

32. The following image shows some data entered in an MS-Excel sheet. What formula will you use to arrive at the desired output value of '10' in cell D1?

	A	B	C	D
1	Count number of periods where Actual is greater than Target and Actual is not 0.			10
2				
3	Period	Target	Actual	
4	Jan	30	35	
5	Feb	40	45	
6	Mar	50	55	
7	Apr	60	55	
8	May	0	5	
9	Jun	10	15	
10	Jul	30	30	
11	Aug	40	0	
12	Sep	50	55	
13	Oct	60	65	
14	Nov	70	75	
15	Dec	80	90	
16				

(a) =CountIFS(C4:C15,C4:C15>=B4:B15,C4:C15,C4:C15>0)
(b) =SUMIFS(C4:C15,B4:B15,C4:C15>=B4:B15,C4:C15,C4:C15>0)
(c) =SUM((C4:C15>=B4:B15)*(C4:C15>0))
(d) {=SUM((C4:C15>=B4:B15)*(C4:C15>0))}

33. When you add a software stack, such as an operating system and applications to the service, the model shifts to_____model.

(a) SaaS (b) PaaS
(c) IaaS (d) All of the mentioned

34. If h is any hashing function and is used to hash n keys in to a table of size m, where n<=m, theexpected number of collisions involving a particular key x is:

(a) less than 1 (b) less than n
(c) less than m (d) less than n/2

35. 6, 8, 4, 3, and 1 are inserted into a data structure in that order. An item is deleted using only a basicdata structure operation. If the deleted item is a 1, the data structure cannot be a?

(a) Queue (b) Tree
(c) Stack (d) Hash Table

36. What is the output of the code given below? Now, let us take up a small test.

#include <stdio.h>
int main()
{
char ch = 'A'; printf("%d\n", ch);
return 0;
}

(a) A (b) A' (c) 65 (d) 97

37. The filtering service in inbound response for DNS is sometimes difficult as the hostname to IP address is received from outside network. As a result, it becomes very difficult to take any security- related decisions. Which of the following solutions is incorrect in the context of filtering the DNS?

(a) Use a DNS proxy that diverts internal information to the internal DNS server
(b) Use a DNS proxy that blocks the inbound responses
(c) Keep inbound queries to DNS
(d) Use DNS proxy that diverts queries for external information to the internal DNS server

38. With what data structure can a priority queue be implemented?

(a) Array (b) List (c) Heap (d) Tree

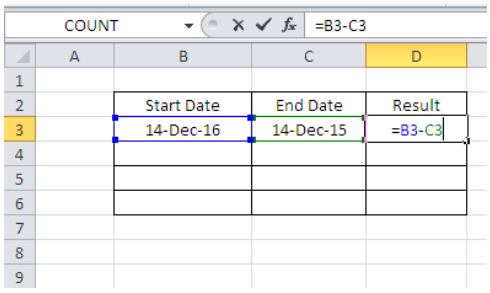
39. Assume that you have configured wireless access to the Internet using appropriate security. Which two items should be configured on the wireless client?

(a) RF Channel, BSS (b) PSK, Manual SSID
(c) WEP and Passphrase (d) SSID, IP address

40. If a binary string, '101011' is encrypted to 101111 by using CBC mode with the binary initialization vector 11, then what will be the encrypted value for 110110?

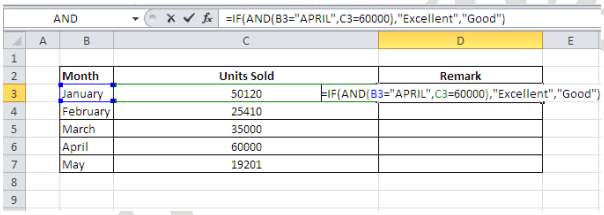
(a) 110100 (b) 101011 (c) 11010 (d) 110011

41. In the following image that shows a certain data in an MS-Excel sheet, the data in cells B3 and C3 is entered in dd/mm/yyyy format. Determine the result of the formula entered in cell D3.



(a) ERROR (b) 1 (c) 366 (d) 365

42. The following image shows a formula entered in a sheet in MS-Excel. Determine the output in cell D6 when the formula in cell D3 is copied to cell D4 through cell D7.



(a) Good (b) Excellent

(c) "Excellent", "Good") (d) None of the given options

43. You want to calculate the sum of 2 different ranges – A1:A5 and D1:D5. Considering that the cells B1:B5 contain values, which of the following options will you use for this purpose?

(a) =SUM(A1:A5)+(D1:D5)

(b) =SUM(A1:A5)+SUM(D1:D5)

(c) =TOTAL(A1:D5)

(d) None of the given options

44. What would be the output of this program if the input is 9?

START

Integer NumHours, Regular, Overtime, PayAmount, RegPay, OverPay

GET NumHours

SET Regular = 8 SET RegPay = 10

SET OverPay = 5

SET Overtime = NumHours – Regular

IF(Overtime > 0)

THEN

SET PayAmount = (Regular * RegPay) + (Overtime * OverPay)

ELSE

SET PayAmount = NumHours * RegPay

END IF

Print 'The amount to be paid is: ', PayAmount

END

(a) The amount to be paid is 90

(b) The amount to be paid is 95

(c) The amount to be paid is 80

(d) The amount to be paid is 85

45. What is the result of formula =ODD(15.5)?

(a) True (b) False (c) 15 (d) 17

46. Which of the given pseudocodes uses a correct function layout?

(a) IF number 1 is odd, output "X"
ELSE output "Y"

(b) IF x1>x2
{
IF x2>x3
{
Print "x1"
} ELSE
Print "x2"
}

(c) IF x1>x2 Print "x1"
ELSE
Print "x2"

(d) FUNCTION compare_numbers(number1, number2)
IF number1 > number2
Print "number1 is larger"
ELSE
Print "number2 is larger"
END FUNCTION

47. Provide sample pseudocode for performing an operation, multiple times, but declared only Once. Afunction routine is needed for calculator purpose.

(a) function addNumbers(int numOne, int numTwo) returns result {
return (numOne + numTwo);
}
function subNumbers(...) { }
addedValue = addNumbers(10,50), addedValue = addNumbers(123,49341);
.....

(b) function addNumbers(int numOne, int numTwo) returns result{return (numOne + numTwo);
}
function subNumbers(...) { }

(c) function addNumbers(int numOne, int numTwo) returns result {
}
function subNumbers(...){ }
addNumbers(10,50); addNumbers(123,49341);
.....

(d) function addNumbers(int numOne, int numTwo) returns result {

}

addedValue = addNumbers (10,50); addedValue = addNumbers (123,49341);

.....

48. The given pseudocode generates an array of size 15. Choose the pseudocode that does not replace every second element in the array with the value 5.

(a) Set loopcounter1 to 2
for every second element in the array
replace the existing value with 5
increment loopcounter1 by 3;
end for

(b) for loopcounter1 = 1 to size of the array
arr1[loopcounter1] = 5;
loopcounter1 = loopcounter1 + 2;
endfor

(c) Set loopcounter1 to 0
for every second element in the array
replace the existing value with 5 increment loopcounter1 by 2;
endfor

(d) for the array from 1 to size of the array
replace the existing value with 5
endfor

49. You are transitioning form an SSL based VPN to an IP sec based one for some reason. Which of thefollowing options is a valid new feature/characteristic that was not there before?

(a) It works on layer 3 now
(b) Tunneling is done now
(c) It provides flexibility by providing a level of security
(d) It can be used regardless of a traffic type now

50. The prefix of (A+B)*(C–D) is

(a) +-AB*(C-D) (b) *+-ABCD
(c) *+AB-CD (d) *AB+CD

51. Which of the following options indicate the correct pseudocode that can used to find if a given number is positive or negative using a logical operator?

(a) START Integer NumGET Num
IF (Num==) THEN
Print 'The number is neither positive nor negative'
ELSE
IF NOT (NUM > 0) THEN
Print 'The number is a negative number'
ELSE
Print 'The number is a positive number'
END IF
STOP

(b) START
GET Num
If (Num > 0) THEN
Print 'The number is a positive number'
ELSE
Print 'The number is a negative number'
END IF
STOP

(c) START Integer Num
GET Num
IF (Num==0) THEN
Print 'The number is neither positive nor negative'
ELSE
IF NOT (Num > 0) THEN
Print 'The number is a positive number'
ELSE
Print 'The number is a negative number'
END IF
END IF
STOP

(d) STARTGET Num
IF NOT (NUM > 0) THEN
Print 'The number is a positive number'
ELSE
Print 'The number is a negative number'
END IF
STOP

52. If weak keys are used in encryption by using DES, then the outcome of the permuted choice 1 (PC1) in the DES key schedule leads to round keys being either all zeros, all ones or alternating zero-one patterns. Which of the following hex representations is a weak key?

(a) 0x1F1F1F1F0E0E0E0E
(b) 0x1F1F1F1FE0E0E0E0
(c) 0xF1F1F1F10E0E0E0E
(d) 0xF1F1F1F1E0E0E0E0

53. The method to crack RSA encryption is to begin to derive the two prime numbers that are used in the RSA PKI mathematical process. Which of the following options can be used to find the two numbers. 'A' and 'B' to derive the private key?

(a) Factorization (b) Prime detection
(c) Hashing (d) Brute-force

54. The SSL record protocol operation pad_2 is –

(a) is the byte 0x36 repeated 40 times for MD5
(b) is the byte 0x5C repeated 48 times for MD5
(c) is the byte e0x5C repeated 48 times for SHA-1
(d) is the byte 0x36 repeated 48 times for MD5

55. The DSS signature uses which hash algorithm?
(a) MD5
(b) SHA-2
(c) SHA-1
(d) Does not use hash algorithm

56. Which of the following is the deployment model?
(a) public
(b) private
(c) hybrid
(d) all of the mentioned

57. Consider the following pseudo code:
START
Integer A, B, C, ResultGET A, B, C
IF NOT (NOT (A > B)) AND NOT (NOT (A > C)) THEN
SET Result = AELSE
IF NOT (NOT (B > A)) AND NOT (NOT (B > C)) THEN
SET Result = BELSE
SET result = CEND IF
END IF
Print 'The result is', Result
STOP
a. What is the result that the program is trying to output in this code when three numbers are input?
b. What will be printed when the input given to the program is 10, 20, 5?
(a) a. The program prints the number which will be found in the middle with the numbers aresorted
b. The output will be 'The result is 10'
(b) a. The program prints the largest among the three numbers input
b. The output will be 'The result is 20'
(c) a. The program prints the second smallest among the three numbers input
b. The output will be 'The result is 10'
(d) a. The program prints the smallest among the three numbers input
b. The output will be 'The result is 5'

58. Covert the infix to postfix for A-(B+C)*(D/E)
(a) ABC+DE/*- (b) ABC-DE/*-
(c) ABC-DE*/- (d) None of the above

59. What file format would you use to store emails on Outlook if you want to work on them even without a server connection?
(a) .pst file (b) .nst file (c) .ost file (d) .mst file

60. The given image shows the data of some fruits and vegetables sold entered in an MS-Excel sheet. Which of the following functions will calculate the total sale of only the fruits and return the result in cell C9?

Category	Food	Sales
Veg	Capsicum	400
Fruit	Apple	500
Fruit	Orange	800
Veg	Potato	400
Fruit	Banana	700

Category	Total Sales
Fruit	

(a) sum(A2 : A6)
(b) sumif(A2 : A6, "Fruit", C2 : C6)
(c) sumif(A2 : A6, "Fruits", C2 : C6)
(d) sumif(C2 : C6, "Fruit", A2 : A6)

61. The sequence logic will not be used while
(a) Accepting input from user
(b) Giving output to the user
(c) Comparing two sets of data
(d) Adding two numbers

62. A full binary tree with 2n+1 nodes contain
(a) n leaf nodes (b) n non-leaf nodes
(c) (n-1) leaf nodes (d) (n-1) non-leaf nodes

63. What would be the output of the following pseudocode?
Integer i, j, k
Set k = 8
for(each i from 1 to 1)
for(each j from the value of i to 1)print k+1
end forend for
(a) 2 (b) 9 (c) 7 (d) 8

64. _____refers to the location and management of the cloud's infrastructure_____
(a) Service (b) Deployment
(c) Application (d) None of the mentioned

65. _____model originally did not require a cloud to use virtualize____
(a) NEFT (b) NIST
(c) NIT (d) All of the mentioned

66. In Java 8, which of the following methods are used to store and load information from the Propertiesobject to a disk?
(a) store() and keep() (b) store() and load()
(c) stored() and loaded() (d) keep () and load()

67. You need an architectural model based on a system of pre-defined scaling conditions that trigger the dynamic allocation of IT resources from resource pools. You can use dynamic scalability architecture for that. You can

implement this architecture by scaling in a different direction. Now if you want, IT resource instances are scared out and in to handle fluctuating workloads. The automatic scaling listener monitors requests and signals resource replication to initiate IT resource duplication.

(a) Dynamic horizontal scaling

(b) Dynamic vertical scaling

(c) Dynamic relocation

(d) Not an example of dynamic scaling

68. What is the postfix form of the following prefix expression –A/B*C$DE

(a) ABCDE$*/- (b) A-BCDE$*/-

(c) ABC$ED*/- (d) A-BCDE$*/

69. The number of different directed trees with 3 nodes are

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

70. What is the output of the following program?

```
#include<stdio.h>
void f(int al[])
{
int i;
for(i=0; i<3; i++)a[i]++;
}
main()
{
int i,a[] = {10, 20, 30};
f(a);
for(i=0, i<3; ++i)
```

(a) 10 20 30 (b) 11 21 31

(c) compile error (d) runtime error

71. What type of computing technology is used to refer to services and software that usually operate on adistributed network via virtualized resources?

(a) Parallel Computing (b) Soft Computing

(c) Cloud Computing (d) Distributed Computing

72. Which of the following statements instructs the computer to get value from an input device and store it in a memory location.

(a) read (b) READ (c) write (d) WRITE

73. A file contains the line "I am a man\r\n" then on reading this line into the array str using fgets(). What will str contain?

(a) "I am a man\r\0" (b) "I am a man\n\0"

(c) "I am a man" (d) "I am a man\r\n\0"

74. Consider a scenario where a program takes the amount of money that a salesperson has earned for the company on a given day and calculates the commission that the salesperson will receive, which is equal to the difference between the amount earned and 90% of the amount earned for the given day and prints the commission amount to be paid to the person. Which of the following pseudocodes correctly implements this program?

(a) START
FLOAT moneyEarned
GET moneyEarned
SET commission = moneyEarned – (moneyEarned * 90/100)
Print 'The commission to be paid is', commission
STOP

(b) START
Float moneyEarned
GET money Earned
SET Commission = moneyEarned * (10/100)
Print 'The commission to be paid is', commission
STOP

(c) START
Float moneyEarned, commission
GET money Earned
SET Commission = moneyEarned * (90/100)
Print 'The commission to be paid is', commission
STOP

(d) None of these

75. What will be the output of the following pseudo code for arr[] = 1, 2, 3, 4, 5

initialize i, n
initialize and array of size n accept the values for the array
for o to n
arr[i] = arr[i] + arr[i + 1]
end for
print the array elements

(a) 3 5 7 9 5 (b) 3 5 7 9 1 1

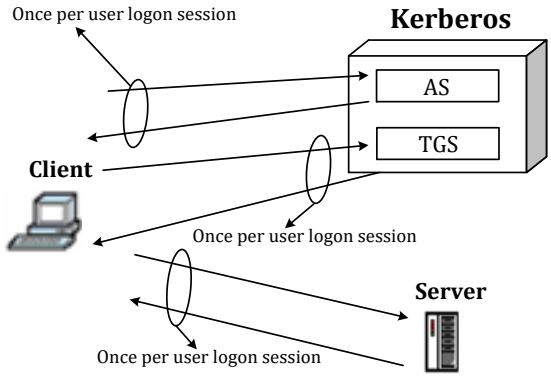
(c) 3 5 9 15 20 (d) Error

76. What will be the output of the following code?

```
Numbers = {1, 2, 3, 4, 5, 5, 6}
int num1 = numbers.size() –1;int num2 = 0;
for(each number) {
add number to num2 and assign again to num2
}
int num3 = num2 – (num1 * (num1 + 1) /2);
return num3;
```

(a) 26 (b) 5 (c) 7 (d) 21

77. Consider the Kerberos Authentication Dialogue given. Mention what will happen next when clientgets ticket and session key from AS?



(a) To decrypt incoming message from As, Workstation at Client prompts user for password and password gets used and then ticket and authenticator is sent which contains user's name networkaddress and time to TGS.

(b) A ticket-granting ticket is requested by client on behalf of the user by sending its user's ID to the AS

(c) The service-granting ticket and authenticator gets decrypted by client to be sent to AS.

(d) Client verities user's access right in database creates ticket-granting ticket and session key.

78. You want to convince your customer on the many advantages of application virtualization. Which of the following statements is true regarding application virtualization?

(a) Increases physical server utilization

(b) Supports branch office server workloads

(c) Access to data and applications for multiple users

(d) Reduce desktop images

79. An attacker provides the user name and password field as given in the below statement as SQL Injection. What will happen when the command executes? $statement = "SELECT" FROM users WHERE username = 'admin'; – 'AND password = 'anything'';

(a) – (double hyphen) instructs the SQL parser that the rest of the line is a comment and should not be executed and removes the Password verification and return admin details

(b) Select statement retrieves all the user data from the table

(c) The statement will truncate the admin access table

(d) This statement will send vulnerable data into the table

80. To make the number pad act as a directional arrow, we press

(a) Num lock (b) Caps lock

(c) Arrow lock (d) Shift

81. Which of these algorithms will be chosen for the following:

1. Telephone networks and cellular networks for routing in communication
2. To find the network model in spreading an infectious disease
3. IP routing to find Open Shortest Path First
4. To find locations of the map

(a) Prim's Algorithm (b) Krushkal Algorithm

(c) Dijkstra's Algorithm (d) Knapsack Problem

82. Statistical calculations and preparation of tables and graphs can be done using

(a) Adobe Photoshop (b) Excel

(c) Notepad (d) Power Point

83. USB is which type of storage device?

(a) Tertiary (b) Secondary

(c) Primary (d) Auxillary

84. Junk e-mail is also called

(a) Spam (b) Spoof

(c) Sniffer script (d) Spool

85. Time taken for addition of element in queue is

(a) O(1) (b) O(n)

(c) O(log n) (d) None of these options

86. Given only a single array of size 10 and no other memory is available. Which of the following operation is not feasible to implement (Given only push and pop operation)?

(a) Push (b) Pop

(c) Enqueue (d) Returntop

87. Let the following circular queue can accommodate maximum six elements with the following datafront = 2 rear = 4 queue =_____; L, M, N,_____, _____

What will happen after ADD O operation takes place?

(a) front = 2 rear = 5 queue =_____, L, M, N, O, _____

(b) front = 3 rear = 5 queue = L, M, N, O, ____

(c) front = 3 rear = 4 queue =_____, L, M, N, O, _____

(d) front = 2 rear = 4 queue = L, M, N, O, ____

88. Which of the following is a widely used form of the hash tree?

(a) B+ – tree (b) T tree

(c) Htree (d) Tiger tree hash

89. In a hash table of size 10, where is element 7 placed?

(a) 6 (b) 7 (c) 8 (d) 17

90. When the data must arrive at the receive exactly as they were sent, its called?

(a) message confidentiality

(b) message integrity

(c) message splashing

(d) message sending

91. The message must be encrypted at the sender site and decrypted at the
(a) sender site (b) site
(c) receiver site (d) conferencing

92. Which of the following is related to service provided by Cloud?
(a) Sourcing (b) Ownership
(c) Reliability (d) AaaS

93. All cloud computing applications suffer from the inherent____that is intrinsic in their WANconnectivity.
(a) propagation (b) latency
(c) noise (d) All of the mentioned

94. Which router command allows you to view the entire contents of all access lists?
(a) Router# show interface
(b) Router> show ip interface
(c) Router# show access-lists
(d) Router> show all access-lists

95. Cloud computing is a_____system and it is necessarily unidirectional in nature
(a) stateless (b) stateful (c) reliable

96. Which of these options will you use to complete the following statement:
Moon is to sodium gas as Enceladus to _____
(a) Water vapor (b) Oxygen
(c) Satrun (d) CO_2

97. Find the error, if any, in the following program:
/* Assume there is a file called 'file.c' in c:\tc directory. */
int main()
{
FILE *fp;
fp=fopen("c:\\tc\\file.c", "r");
if(!fp)
printf("Unable to open file.");
fclose(fp);return 0;
}
(a) No error, No output.
(b) Program crashes at run time.
(c) Output: Unable to open file.
(d) None of above

98. To print out a and b given below, which of the following printf() statement will you use?
float a=3.14;
double b=3.14;
(a) printf("%f %lf", a, b); (b) printf("%Lf %f", a, b)
(c) printf("%f %Lf", b); (d) printf("%Lf %Lf", a, b);

99. What will be the output of the following C code?
advertisement
#include <stdio.h>
void foo(const int *);
int main()
{
const int i = 10;
printf("%d", i);
foo(&i);
printf("%d", i);
}
void foo(const int *i);
{
*i = 20;
(a) compile time error (b) 10 20
(c) undefined value (d) 10

100. What is the output of the following code snippet?
#include<stdio.h>
main()
{
short unsigned int i = 0;
printf("%u\n", i--);
}
(a) 0 (b) compile error
(c) 65535 (d) 32767

101. What will be the output of the following C code?
#include <stdio.h>
int main()
{
const int i = 10;
int *ptr = &i;
*ptr = 20; printf("%d\n", i);
return 0;
}
(a) Compile time error
(b) Compile time warning and printf displays 20
(c) Undefined behaviour
(d) 10

102. What is the condition for priority of a node in a treap?
(a) a node's priority should be greater than its parent
(b) a node's priority should be at least as large as its parent
(c) the priority is randomly assigned and can have any value
(d) a node's priority is always given in decreasing order

103. The term "push" and "pop" is related to the
(a) Array (b) Lists
(c) Stacks (d) All of above

104. What is the intersection of a column and a row on a worksheet called?
(a) Column (b) Value
(c) Address (d) Cell

105. Which of the following refers to a small, single-site network?
(a) LAN (b) DSL (c) RAM (d) USB

106. What will be the output of the following program?
public class Test {
public static void main(String[] args) { int count = 1;
while (count <= 15) {
System.out.println(count % 2 == 1? "*****" : "+++++");
++count;
} // end while
} // end main
}
(a) 15 times ***
(b) 15 times +++++
(c) 8 times *** and 7 times +++++
(d) Both will print only once

107. What will be the output of the following pseudocode for n = 5?
Integer I, j, n
Read n
for(each i from 1 to n)for(each j from 1 to i) Print i
End for
Go to New lineEnd for
(a) 1
23
456
78910
11121314
(b) 1
22
333
4444
55555
(c) 1
12
123
1234
12345
(d) None of the mentioned options

108. What will be the output of the following pseudocode?
Integer i = 0,
j = 0 while (i < 2)
// line 2
increment i;
while (j < 3)
print 'A'
Go to line no. 2
End while
End while
(a) It will print A two times(twice)
(b) None of the mentioned options
(c) It will print A four times(twice)
(d) It will print A three times(twice)

109. What will be the output of the following pseudocode for the following set of inputs?
Integer n1, n2, n3, a
n1 = a MOD 10
n2 = a MOD 2
n3 = a/100 if(n1 + n2 > n3)
Print "Inside 1st if"
else if(n1 + n2 + n3 > n3 + 3)
Print "Inside 2nd if"
else if((n1 + n2)/n3 EQUALS 0)
Print "Inside 3rd if"
else
Print "Last if"
Inputs
1. a = 987
2. a = 341
3. a = 247
(a) 1 - Inside 2nd if
- Inside 3rd if
- Inside 1st if
(b) 1 - Inside 1st if
2 - Inside 2nd if
3 - Inside 3rd if
(c) 1 - Inside 2nd if
2- Inside 3rd if
3- Last if
(d) 1 - Last if
2 - Inside 3rd if
3 - Inside 2nd if

110. What will be the output of the following pseudocode?
Integer n, beg, end
Set beg = 5, end = 7, sum = 0
if (beg > end)
Print sum + 1
else
for(n = end; n > = beg; n = n – 1)
sum = sum + n
n = n – 1 End for loopPrint n
(a) 3 (b) 6 (c) 4 (d) 9

111. What will be the output of the following pseudocode?
Integer a, b, c
Set a = 2, b = 4, c = 9

if((5 ^ a ^ b) < (3 + b + c))
c = (a + c) + b
c = a End if
Print a + b + c
[Note-^ is the bitwise exclusive OR operator that compares each bit of its first operand to the corresponding bit of its second operand. If one bit is 0 and the other bit is 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.
(a) 17 (b) 11 (c) 8 (d) 5

112. What will be the output:
int main()
{
FILE *fp;
char ch, str[7];
fp=fopen("try.c", "r"); /* file 'try.c' contains "This is Nagpur" */
fseek(fp, 9L, SEEK_CUR);
fgets(str, 5, fp);
puts(str);
return 0;
}
(a) gpur (b) agpur (c) Nagp (d) Nagpu

113. What will be the output of the following pseudocode?
Integer a, b, c
Set a = 5, b = 10, c = 10
c = a
a = (a ^ a) + b b = (b & 3) + c
Print a + b + c
[Note- &: bitwise AND – The bitwise AND operator (&) compares each bit of the first operand to the corresponding bit of the second operand. If both bits are 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.
^ is the bitwise exclusive OR operator that compares each bit of its first operand to the correspondingbit of its second operand. If one bit is 0 and the other bit is 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.]
(a) 33 (b) 17 (c) 22 (d) 26

114. What will be the output of the following pseudocode?
Integer a, b, c
Set a = 3, b = 5, c = 6
if((c & a) < a || (b ^ c) < c)
c = (a + b) & b
End if
Print a + b + c
[Note- &: bitwise AND – The bitwise AND operator (&) compares each bit of the first operand to the corresponding bit of the second operand. If both bits are 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.
^ is the bitwise exclusive OR operator that compares each bit of its first operand to the correspondingbit of its second operand. If one bit is 0 and the other bit is 1, the corresponding result bit is set to 1. Otherwise, the corresponding result bit is set to 0.]
(a) 8 (b) 18 (c) – 10 (d) 14

115. Select the alternate notation for exponentiation
(a) ** (b) * (c) *** (d) *^

116. What would be the output of the following pseudocode for a = 2, b = 3?
doSomething(Integer a, Integer b)
if (b EQUALS 1)
return 0else
return a + doSomething(a, b – 1)
End function doSomething()
(a) 2 (b) 3 (c) 1 (d) 4

117. What will be the output of the following code for n = 2?
Integer fun(Integer n)
if(n IS EQUAL TO 4)
return nelse
return 2 *fun(n + 1)end if
(a) 4 (b) 6 (c) 2 (d) 16

118 Name the last DML statement processed during a commit transaction
(a) UPDATE (b) INSERT
(c) DELETE (d) POST

119. What will be the output of the following pseudocode for input a = 3 and b = 4?
Integer fun (Integer a, Integer b)
Integer c, nSet n = 5
If (b < 1)
return nelse
return fun (a + b + 2, b – 2)
End if
End fun()
(a) 5 (b) 7 (c) 15 (d) 9

120. What will be the output of the following pseudocode for a = 10, b = 6?
Integer func (Integer a, Integer b)
Integer tempwhile(b)
temp = a MOD b
a = b
b = temp end while
return a

End function func()

[Note: while(b) means the loop will execute until the b is non-zero]

(a) 2 (b) 3 (c) 4 (d) 1

121. What will be the output of the following pseudocode?

Integer p, q, r

Set p = 5, q = 10, r = 14

if(r > p OR (7 – 7) > (r – 7))

q = p

Else

p = 12

End if

Print p + q + r

(a) 26 (b) 35 (c) 24 (d) 22

122. What will be the output of the following pseudocode for p = 2, q = 5?

Integer funn(Integer p, Integer q)

Integer r Set r = 2 + 5

q = 2 + 5 – q

p = p + 2 + 5 – r

return p + q

End function funn()

(a) 6 (b) 4 (c) 1 (d) 14

123. A features that displays only the data in column(s) according to specified criteria

(a) Formula (b) Sorting (c) Filtering (d) Pivot

124. Name the hardware that is capable of handling sequences of instructions

(a) RAM (b) CPU (c) ALU (d) Processor

125. Which WLAN Security Technology is based on stream cipher encryption algorithm and is restricted to 64-bit encryption only?

(a) Temporal Key Integrity Protocol (b) Service Set Identifier

(c) IEEE802.1x (d) Wired Equivalent Privacy

126. Which of the following devices serve as Unified Threat Management devices?

(a) Both Firewall and Content Filtering devices

(b) Intrusion Detection System

(c) Firewall

(d) Content Filtering devices

127. Which of the following characteristic of Cloud allows it to track each user's occupancies?

(a) Resource pooling (b) Measured Service

(c) On-demand self-services (d) Rapid Elasticity

128. Through which of the following can error be detected at data link level?

(a) Hamming Code (b) Bit stuffing

(c) Equalization (d) Cyclic redundancy codes

129. What are high resolution and bit-mapped displays used for?

(a) Clearer Characters (b) More Characters

(c) Graphics (d) All of the above

130. Consider a situation where you have to choose between the major cloud service providers. Which would you choose if you need a cloud service which offers simplicity and does most of functionalities of its own?

(a) Azure (b) Oracle

(c) Alibaba Cloud (d) Google Cloud

131. What will be the output of the following pseudocode?

Integer a, b, v, c

Set a = 9, v = 27

while(v > 5)

a = a + v

c = a – 10

while(c > 7)

b = v + c

c = c – 60

end while

v = v/3

end while

Print a, c, v

(a) 89 – 41 4

(b) 45 25 3

(c) 45 25 – 3

(d) None of the mentioned options

132. The performance of a monitor depends on which of the following factors?

1. Refresh rate
2. Resolution
3. Size

(a) Only 1 and 3 (b) Only 1 and 2

(c) All 1, 2, and 3 (d) Only 2 and 3

133. Under which model does SaaS support multiple users and offer a shared data_____?

(a) Multi-tenancy (b) Multiple-instance

(c) Single-tenancy (d) None of the above

134. Which of the following statements is/are correct about archiving an email?

1. It deletes the email permanently
2. Through archiving an email, one could place emails in a folder where it will continue to exist

3. When an email is archived, it is sent to the trash folder Choose the correct answer from the options given below.

(a) Only 2 (b) All 1, 2, and 3

(c) Only 1 (d) Only 2 and 3

135. Name the shortcut key to check spelling mistake in MS Word?

(a) Func Key 2 (b) Func Key 7

(c) Func Key 5 (d) Func Key 9

136. What will be the output of the following pseudocode for a = 1, b = 1?

Integer funn(Integer a, Integer b)

a = b – ((a + b + a) – (a – b – a))

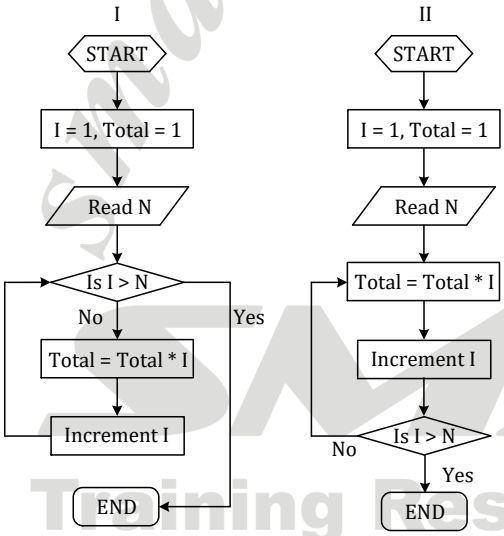
b = a – ((a + b + a) – (a – b – a))

return 100 + a + b

End function funn()

(a) 100 (b) 107 (c) 98 (d) 97

137. Which of the following Flow charts finds the Factorial of the input number N? (Assume N > 0)



(a) The first flowchart is right

(b) Both the flowcharts are right

(c) The second flowchart is right

(d) Both the flowcharts have an error

138. Consider the following statements about postfix notation:

1. The operator is written after operands.
2. The operator is written in between the operands.
3. pq – is the postfix expression of p – q.
4. p – q is the postfix expression of pq –. Which of the above statements are false?

(a) Only 1 and 3 (b) Only 1 and 4

(c) Only 2 and 3 (d) Only 2 and 4

139. What does CHAP stand for?

(a) Circuit Handshake authentication protocol

(b) Circuit Hardware authentication protocol

(c) Challenge Hardware authentication protocol

(d) Challenge Handshake authentication protocol

140. Interaction between the client and server starts via the _____message.

(a) client_hi (b) client_hello

(c) server_hello (d) server_hi

141. What are the Parallel Desktops an example of?

(a) DISPATCHER (b) INTERPRETER

(c) TYPE-1 Hypervisor (d) TYPE-2 Hypervisor

142. Find the output of the following pseudo-code:

Integer x, y, z;

x = 0

y = 1

x = y = z = 8

Print x

(a) 0 (b) 8

(c) 1 (d) None of the above

143. What will be the output of following pseudo-code?

#include<stdio.h>

int main(){ float x = 0.0;

long int y = 10;

printf("%d",sizeof(x) == sizeof(x + y));return 0;

}

(a) 1 (b) zero (c) 4 (d) 8

144. What will be the output of the following pseudocode?

Integer a ,b ,c

Set b = 2 ,a = 2

c = a ^ b

Print c

[Note-^ is the bitwise exclusive OR operator that compares each bits of its first operand to the corresponding bit of its.... Other that is 1. The corresponding result bit is set to 1. Otherwise-the corresponding result bit is set to 0]

(a) 6 (b) 4 (c) 0 (d) 2

145. Which of the following scanf() statement will you use to scan a and b?

float a;

double b;

(a) scanf("%Lf %Lf", &a, &b);

(b) scanf("%f %Lf", &, &b);

(c) scanf("%f %lf", &a, &b);

(d) scanf("%f %f", &a, *b);

146. main()
{
int x;
if (x > 4) printf("Brinda");
else if (x > 10) printf("Karthik"); else if (x > 21) printf("Pradeep");else printf("Sandeep");
}
What will be the value of x so that "Karthik" will be printed?
(a) From 10 to 21 (b) From 11 to 21
(c) Greater than 10 (d) None of these

147. What will be the output if the following pseudocode if a = 10 and b = 6?
Integer func (Integer a,Integer b)
Integer tempwhile(b)
temp = a MOD ba = b
b = temp end whilereturn a
End function func()
(a) 2 (b) 4 (c) 3 (d) 1

148. In a class, encapsulation an object of another class is called?
(a) Composition (b) Inheritance
(c) Encapsulation (d) None of these

149. The text that gets transformed using algorithm cipher is called?
(a) Complex text (b) Transformed text
(c) Plain text (d) Scalar text

150. What will be the output of the following Program?
public class Main
{
public static void main (String[] args)
{
String names[] = new String[5];
for(int x = 0, x < args.length, x++)
names[x] = args[x];
System.out.println(names[2]);
}
}
(a) Names
(b) Null
(c) Compilation fails
(d) An exception throws at runtime

151. What will be the output of the following pseudocode?
Integer arr[]={10 , 20 , 30 , 40 , 5}
Integer a , s
Set s = 0
Set a = arr[1] + arr[2]
Print a
(a) 25 (b) 5 (c) 50 (d) 40

152. By default-your documents print in_____mode
(a) Landscape (b) Portrait
(c) Page Setup (d) Print View

153. Which statement is used to close the IF block?
(a) ELSEIF (b) ELSE
(c) ENDIF (d) END

154. What will be the output of the following pseudocode?
#include<stdio.h>
int main()
{
int go = 5.0,num = 1*10;
do
{
num /=go;
} while(go–);
printf("%d\n",num);
return 0;
}
(a) Floating point exception
(b) Compilation error
(c) 3 6 7
(d) None of these

155. Predict the output.
class X
{
void display(int a)
{
System.out.println("INT");
}
void display(double d)
{
System.out.println("DOUBLE");
}
}
public class Sample
{
pulic static void main(String[] args)
{
new X() .display(100);
}
}
(a) DOUBLE (b) Compilation Fails
(c) INT (d) Ambiguity error

156. Select the output of 'file.c' after the execution of the following program
int main()
{

```
FILE *fp1, *fp2;
fp1=fopen("file.c", "w");
fp2=fopen("file.c", "w");fputc('A', fp1);
fputc('B', fp2);fclose(fp1); fclose(fp2); return 0;
}
```

(a) B (b) A B (c) B B (d) Error

157. What are the advantages of Jest over Jasmine?
(a) Automatically finds and test to execute your source code
(b) Automatically mocks dependencies when running tests.
(c) Allows to test asynchronous methods synchronously.
(d) Run your tests with fake DOM implementation.

158. What is pseudo code?
(a) Simplified programming language-that is not a specific language
(b) Complicated programming language
(c) Simple programming language-which is linked to a specific language
(d) A type of cheese

159. Trace the output.extern int P;

```
void main()
{
printf("%d",P);
}
```

(a) Error (b) 0
(c) P (d) None of the above

160. An abstract data type is defined to be a mathematical model of a user-defined type along with the collection of all_____operations on that model.
(a) Union (b) Assignment
(c) Primitive (d) None of the above

161. Which protype in React from component, will validate a value for an attribute is passed and of type function?
(a) React.Prop.func.isRequired
(b) React.Prop.func
(c) React.PropTypes.func
(d) React.PropTypes.funcisRequired

162. Which of the following data types represents many to many relations?
(a) Both plex and graph (b) Graph
(c) Plex (d) Tree

163. What does this pseudocode do?

```
print "Hello"
```

(a) Nothing
(b) Prints the word "Hello" to the output
(c) hello is print in pseudocode
(d) The code won't work

164. In TLS padding can be upto a maximum of –
(a) 79 bytes (b) 127 bytes
(c) 255 bytes (d) None of the mentioned

165. Which of the following cloud concept is related to pooling and sharing of resources?
(a) Polymorphism (b) Abstraction
(c) Virtualization (d) None of the mentioned

166. _____as a utility is a dream that dates from the beginning of the computing industry itself.
(a) Model (b) Computing
(c) Software (d) All of the mentioned

167. Which of the following is a popular programming language for developing multimedia web pages.
(a) COBOL (b) Java
(c) BASIC (d) Assembler

168. Which key exchange technique is not supported by SSLv3?
(a) Anonymous Diffie-Hellman
(b) Fixed Diffie–Hellman
(c) RSA
(d) Fortezza

169. What will be the output of the following pseudo-code?

```
Input f = 6, g = 9 and set sum = 0
Integer n if (g > f)
for (n = f, n < g; n = n + 1)
sum = sum + n
End for loopelse
print error message print sum
```

(a) 21 (b) 15 (c) 9 (d) 6

170. The minimum basic hardware components to establish a computer network is _____
(i) NIC
(ii) LAN cable/Ethernet cable
(iii) Computers
(a) All (i), (ii) and (iii) (b) Only (iii)
(c) Only (ii) (d) Only (i)

171. Select the command that will allow SMTP mail to only host 1.1.1.1
(a) access-list 10 permit smtp host
(b) access-list 10 permit tcp any host 1.1.1.1 eq smtp
(c) access-list 110 permit tcp any host 1.1.1.1 eq smtp
(d) access-list 10 permit smtp host 1.1.1.1

172. What is smallest and largest available font on formatting toolbar?
(a) Smallest 8 and Largest 70
(b) Smallest 5 and Largest 72

(c) Smallest 8 and Largest 72
(d) Smallest 5 and Largest 70

173. To save a document for the first time_____option is used.
(a) Save As (b) Save first
(c) Save on (d) Copy

174. Background color on a document is not visible in?
(a) Web layout view (b) Print Preview
(c) Reading View (d) Print Layout view

175. Which of the following usually observe each activity on the internet of the victim, gather all information in the background and second it to sentence else?
(a) Malware (b) Spyware
(c) Adware (d) All of the above

176. _____is a type of software designed to help the user's computer detect viruses and avoid them.
(a) Malware (b) Adware
(c) Antivirus (d) Both (b) and (c)

177. What will be the output if limit = 6?
Read limit
n1 = 0
n2 = 1
n3 = 1
count = 1
while count <= limit:
count = count + 1
print(n3, end = "")
n3 = n1 + n2
n1 = n2
n2 = n3
End While
(a) 112358 (b) 12358
(c) 1.23581321E8 (d) 1.2358132E7

178. Let P be a Quick Sort Program to sort numbers in ascending order using the first element as a pivot. Let t1 and t2 be the number of comparisons made by P for the inputs {1, 2, 3, 4, 5} and {4, 1, 5, 3, 2} respectively. Which one of the following holds?
(a) t1 = 5 (b) t1 < t2
(c) t1 > t2 (d) t1 = t2

179. You have an array of n elements. Suppose you implement quicksort by always choosing the central element of the array as the pivot. Then the tightest upper bound for the worst case performance is:
(a) $O(n^2)$ (b) O(nLogn)
(c) O(nLog2) (d) $O(n^3)$

180. To which of the following domain problem does the knapsack problem belong?
(a) NP-complete (b) Sorting
(c) Optimisation (d) Linear Solution

181. What does the following piece of code do?
public void func (Tree root)
{
func (root.left ());
func (root.right ());
System.out.println (root.data ());
}
(a) Preorder traversal (b) Inorder traversal
(c) Postorder traversal (d) Level order traversal

182. Recursion uses more memory space than iteration. Which of the following is/are the valid reason for the same?
A. It uses the stack instead of a queue
B. Every recursion call has to be stored
Choose the correct answer from the options given below.
(a) Only A (b) Both A and B
(c) Neither A nor B (d) Only B

183. What will be the output of the following pseudocode?
Input m = 9, n = 6,
m = m + 1;
N = n – 1;
m = m + n
if (m > n)
print m
else
print n
(a) 6 (b) 5 (c) 10 (d) 15

184. Consider the following piece of code. What will be the output?
int sum (int A[], int n)
{
int sum = 0, i;
for (i = 0; i < n; i++)
sum = sum + A[i];
return sum;
}// sizeof(int) = 2 bytes
(a) 2n + 8 (b) 2n + 4 (c) 2n + 2 (d) 2n

185. Consider a hash table with 9 slots. The hash function is h(k) = k mod 9. The collisions are resolved by changing. The following 9 keys are inserted in the order: 5, 28, 19, 15, 20, 33, 12, 17, 10. The maximum, minimum, and average chain lengths in the hash table, respectively are
(a) 3, 0, and 1 (b) 3, 3, and 3
(c) 4, 0, and 1 (d) 3, 0, and 2

186. How would you define a structured chart?
(a) A document of what is to be accomplished
(b) A hierarchical partitioning of the program
(c) A statement of requirements
(d) All of the above

187. The preorder traversal sequence of a binary search tree is 30, 20, 10, 15, 25, 23, 39, 35, 42. Which oneof the following is the post order traversal sequence of the same tree?
(a) 10, 20, 15, 23, 25, 35, 42, 39, 30
(b) 15, 10, 25, 23, 20, 42, 35, 39, 30
(c) 15, 20, 10, 23, 25, 42, 35, 39, 30
(d) 15, 10, 23, 25, 20, 35, 42, 39, 30

188. To implement the queue with a linked list, keeping track of a front pointer and a rear pointer. Which of these pointers will change during an insertion into an NON-EMPTY queue?
(a) Only front_ptr changes.
(b) Only rear_ptr changes.
(c) Neither changes.
(d) Both change.

189. What will be the output of given function func()?

```
fun()
{
int a[5] = {1, 2, 3, 4, 5};
int *ptr = a;
ptr+ = 3;
printf ("%d", *ptr);
}
```

(a) address of array (b) 4
(c) 2 (d) 1

190. What will be returned value of C function function() for given linked list 10 -> 20 -> 30 40 -> 50 withfirst node as a head?

```
int function (struct node* head){
int var = 0;
while (head -> next ! = NULL) {
var++;
head = head -> next;
}
return var;
}
```

(a) 6 (b) 4 (c) 5 (d) 3

191. What will be output of function(head) for given linked list 10 -> 20 -> 30 40 -> 50 with first node as a head?

```
void function (struct node* head){
if(head == NULL)
return;
function(head -> next);
printf("%d", head -> data);
}
```

(a) 10 20 30 40 (b) 10 20 30 40 50
(c) 50 40 30 20 (d) 50 40 30 20 10

192. In the worst case scenario, the number of comparisons needed to search a singly linked list of lengthn for a given element is
(a) log2n (b) logn (c) n/2 (d) n

193. What output will this method produce if the given input array is {2, 2, 1, 1, 1, 2, 2, 1, 2, 1}

```
public int testFunction(int[] nums) {
  int finalCount = nums.length / 2;
  for (int num : nums) {
    int count = 0;
    for (int elem : nums) {
      if (elem == num) {
        count += 1;
      }
    }
    if (count > finalCount) {
      return num;
    }
  }
  return -1;
}
```

(a) 1 (b) 2 (c) –1 (d) 0

194. What will be the level-order traversal of the tree whose array representation is P, Q, R, _, _, _, _, _, _, S?
(a) S P Q R (b) P Q R S (c) P R Q S (d) R P S S

195. Point out the error in the following code:int main()

```
{
unsigned char;FILE *fp;
fp=fopen("trial", "r");
if(!fp)
{
printf("Unable to open file");
exit(1);
}
fclose(fp);return 0;
}
```

(a) Error: unknown file pointer
(b) Error: in unsigned char statement
(c) No error
(d)None of the above

196. Select the output of this program:

```
#include <stdio.h>
```

```
#include <stdlib.h>
int main(void) {
  char x = 'A';
  char* y = &x;

  for (int i = 0; i < 26; i++) {
    printf("%c", x);
    (*y) += 1;
  }

  return 0;
}
```

(a) SDKJNSDNSKDJNSKDVNSKJD
(b) SLKFVMSLFKVSFLALKDJF
(c) ABCDEFGHIJKLMNOPQRSTUVWXYZ
(d) None of the above

197. Pick the correct statement for the following program:

```
int main()
{
FILE *fp;
char str[11], ch;int i=0;
fp = fopen("INPUT.TXT", "r");
while((ch=getc(fp))!=EOF)
{
if(ch == '\n' || ch == ' ')
{
str[i]='\0'; strrev(str); printf("%s", str);i=0
}
else str[i++]=ch;
}
fclose(fp);return 0;
}
```

(a) The code reads a text files and display its content in reverse order
(b) The code writes a text to a file in reverse order
(c) The code writes a text to a file
(d) None of the above

198. Which of the statement is true for the following program?

```
int main()
{
FILE *fptr; char str[80];
fptr = fopen("f1.dat", "w");
if(fptr == NULL)
printf("Cannot open file");
else
{
while(strlen(gets(str))>0;
{
fputs(str, fptr);
fputs("\n", fptr);
}
fclose(fptr);}
```

(a) The code copies the content of one file to another
(b) The code writes strings that are read from the keyboard into a file
(c) The code reads a file
(d) None of the above

199. Which of the following statements is definitely true for a full binary tree consisting of 15 nodes?
(a) It is a complete but not a strict binary tree
(b) It is a strict but not a complete binary tree.
(c) It is both complete as well as a strict binary tree
(d) It is neither a complete nor a strict binary tree

200. What is the degeneracy of a graph used to measure/find?
(a) Sparsity of the graph
(b) To check if there are parallel edges in the graph
(c) To detect a cycle in the graph
(d) To check if there are self loops in the graph

201. What is the end from where deletion can be done in the stack called?
(a) Top (b) Rear (c) Front (d) Middle

202. Select the command used to apply an access list to a router interface?
(a) ip access-list 101 out (b) access-list ip 101 in
(c) ip access-group 101 in (d) access-group ip 101 in

203. What will be the output of the following pseudocode?

```
Integer j, m
Set m = 2
Integer a[4] = {2, 1, 1, 1}
if (a[1] + 1 > a[3] + 3)
a[1] = 1 + a[2] + 1
End if if(1 > 0)
a[2] = 2
End if
m = m + a[3] + a[2]
print m
```

(a) 14 (b) 12 (c) 5 (d) 3

204. What will be the output of the following program? :

```
import java.util.*;
class Demo {
public static void main(String[] args)
{
ArrayList<Integer> arr = new ArrayList<Integer>();
```

```
arr.add(11);
arr.add(2);
arr.add(3);
arr.add(5);
arr.add(7);
arr.remove(new Integer(7));
arr.remove(2);
for (int i = 0; i < arr.size(); i++)
System.out.print(arr.get(i) + " ");}}
```

(a) 11 2 5 (b) 11 3 5

(c) Compilation Error (d) None of the above

205. What will be the output of the following pseudocode for p = 1, q = 3?

```
Integer funn(Integer p, Integer q)
if(p > q)
return funn(q – 1, p – 1)
Else
return p + q
End if
End function funn()
```

(a) 8 (b) 4 (c) 19 (d) –2

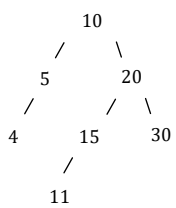
206. What will be printed after the execution of this pseudocode?

```
#include <stdio.h>
int main(void)
{
int a = (int)0b01001011;int* b = &a;
int n[10] = { (int)0b010110, 17,
-4, -13, 19, -19,
10, (int)0b11110110 };
for (int i = 0; i < 9; i++) {
printf("%c", b[0]);
b[0] += n[i];
}
}
```

(a) karnataka (b) Kerala

(c) kerala (d) Karnataka

207. Consider the following Binary Search Tree



If we randomly search one of the keys present in above BST, what would be the expected number ofcomparisons?

(a) 2.75 (b) 2.25 (c) 2.57 (d) 3.25

208. Terminal symbol in a flowchart indicates

(a) End (b) Processing

(c) Input and Output (d) Decision

209. Analyse this structure and choose the correct option.

```
typedef struct node_s
{
struct node_s * prev;
struct node_s * next;
} node_t ; ?
```

(a) This could be a node in a doubly linked list

(b) The syntax is correct

(c) The syntax is incorrect

(d) A linking error would occur because no data is present

210. To create a linked list, we can allocate space and make something point to it, by

writing:

struct-name *pointer-variable;

Which of the following statement will correctly allocate the space?

(a) pointer-variable= malloc(sizeof(*struct-name));

(b) pointer-variable = malloc(sizeof(struct struct-name));

(c) pointer-variable = alloc(sizeof(struct struct-name));

(d) pointer-variable = alloc(sizeof(*struct-name));

211. How would you make the middle node of a doubly linked list to the top of the list?

Let assume "X" is the middle node

(a) X->next->prev = x->prev x->prev->next = x->next x->next = head head->prev=x

(b) x->next = head head->prev=x

(c) X->next->prev=x->next x->prev->next = x->prev x->next = head head-> prev=x

(d) None of these

212. Skip lists are similar to which of the following datastructure?

(a) stack (b) binary search tree

(c) heap (d) balanced binary search tree

213. The concatenation of 2 lists can be performed O(1) time. Which of the following implementation of lists should be used?

(a) Singly Linked List

(b) Doubly Linked List

(c) Circular Linked List

(d) Array Implementation Of Linked List

214. Assume single linked list pseudocode as follows?

```
struct Node {
datanext
}
```

record List { Node firstNode

}

function1(List list) {

obsoleteNode = list.firstNode; list.firstNode = list.firstNode.next; free obsoleteNode;

}

function2(node node) {

obsoleteNode = node.next; node.next= node.next.next; free obsoleteNode;

}

(a) function1 removes the first node

(b) function2 removes node past this one

(c) function3 inserts newNode after node

(d) function4 inserts newNode after current first node

(e) both a and b

215. Free lists are used in

(a) static memory allocation

(b) contagious allocations

(c) dynamic memory allocation

(d) are used for speeding up linked list operations

216. What datastructures can be used in implementing a free list?

(a) only unlinked list (b) arrays

(c) trees (d) only linked list

217. How is linked list implemented?

(a) Nodes (b) Structure

(c) Referential Structures (d) None of these

218. The situation when in a linked list START=NULL is

(a) Underflow (b) Overflow

(c) Housefull (d) Saturated

219. Linked lists are best situated for

(a) relatively permanent collections of data

(b) the size of the structure and the data in the structure are constantly changing

(c) both of above situation

(d) none of above situation

220. Which among the following is true for doubly linked list?

(a) The left pointer of the right most node and no condition on the left most node

(b) The right pointer of the right most node and no condition on the left most node

(c) The left pointer of the right most node and right pointer of the left most node are null

(d) The left pointer of the left most node and right pointer of the right most node are null

221. In a circular linked list

(a) components are all unlinked together in some sequential manner

(b) there is no beginning and no end

(c) components are arranged hierarchically.

(d) forward and backward traversal within the list is permitted.

222. What does the following function return, if q contains the address of the first element?

int function(NODE *q)

{

int c = 0;

while(q != NULL)

{

q = q->link;

c++;

}

return (c);

} ?

(a) The value of the last node of the linked list

(b) The value of the first elements of the linked list

(c) The address of the last element of the linked list

(d) The number of elements in a linked list

223. Where is the hash tree used?

(a) in digital currency (b) in sorting of large data

(c) in encryption of data (d) for indexing in databases

224. The letter number the intersecting column and row is the-

(a) Cell location (b) Cell position

(c) Cell coordinates (d) Cell address

225. Which of the following are valid Minimum and Maximum zoom sizes in MS - office?

(a) 10-100 (b) 20-250

(c) 10-500 (d) 10-1000

226. To update a formula in a table, press the

(a) F9 keys (b) All + F9 keys

(c) SHIFT + F9 keys (d) F8 keys

227. You can replace the text ____

(a) Ctrl + H

(b) Ctrl + R

(c) replace from edit menu

(d) Both (a) and (c)

228. Which of the following provides development frameworks and control structures?

(a) IaaS (b) SaaS

(c) PaaS (d) All of the mentioned

229. A hash function guarantees the integrity of a message. It guarantees that the message has not be
(a) replaced (b) over view
(c) changed (d) violated

230. Which of the following is not a type of page margin?
(a) right (b) center
(c) left (d) top

231. Text in a column is generally aligned……
(a) Justified (b) Right
(c) Centre (d) Left

232. What do you mean by vertical separation between columns?
(a) orientation (b) glutter
(c) margin (d) index

233. Confidentiality with asymmetric-key cryptosystem has its own
(a) entities (b) data
(c) problems (d) translator

234. By default Footers are printed on
(a) First Page (b) Last Page
(c) All Pages (d) Even Pages

235. If a previously saved file is edited
(a) The changes will automatically be saved in the file
(b) It cannot be saved again
(c) The file will only have to be saved again if it is more than one page in length
(d) The file must be saved again to store the changes

236. Message authentication is a service beyond
(a) message confidentiality (b) message integrity
(c) message splashing (d) message sending

237. _____is a complete operating environment with applications, management, and user interface.
(a) SaaS (b) IaaS
(c) PaaS (d) All of the mentioned

238. Message confidentiality is using
(a) cipher text (b) asymmetric-key
(c) symmetric-key (d) all the above

239. When a file is saved for the first time_____.
(a) a copy is automatically printed
(b) file name and folder name must be the same
(c) it does not need a name
(d) it must be given a name to identify it

240. MAC stands for
(a) Message authentication code
(b) message arbitary connection
(c) message authentication control
(d) message authentication cipher

241. _____ provides virtual machines, virtual storage, virtual infrastructure, and other hardwareassets.
(a) IaaS (b) SaaS
(c) PaaS (d) All of the mentioned

242. To move the cursor page to page of documents.
(a) Ctrl + Page Down (b) Ctrl + page Up
(c) Both of the above (d) None of the above

243. A collection of related files is called _____
(a) Character (b) Field (c) Date base (d) Record

244. Which of the following is owned by an organization selling cloud services?
(a) public (b) private (c) community (d) hybrid

245. Which of the following operations is performed more efficiently by doubly linked list than by singly linked list?
(a) Deleting a node whose location in given
(b) Searching of an unsorted list for a given item
(c) Inverting a node after the node with given location
(d) Traversing a list to process each node

246. What among the following will you apply to get all the numbers between 0 and 100 range displayed in red colour'?
(a) Apply Conditional Formatting command on Format menu
(b) Select the cells that contain number between 0 and 100 then click Red color on Text Color tool
(c) Use =if() function to format the required numbers red
(d) All of the above

247. What is the output of the below program?

```
Class A
{
};
int main()
{
A objA;
cout<< sizeof(objA);
return 0;
}
```

(a) Compilation Error (b) Print 0
(c) Print 1 (d) Print 4

248. Consider address of x as 62fe14 and identity the output:

```
#include <stdio.h:>
int main(void)
{
int a = 100,
```

```
char* x = (char*)&a;
char**y = &x;
y[0] = (char*)0x62fe14;
print("%x\n", x);
print("%x",*y);
}
```

(a) 0x62fe14 0x62fe14 (b) 0x62fe14 0x62fe15
(c) Crash (d) 0x0010 0x1902

249. The time complexity of O(N) is used by the__sorting algorithm.
(a) Heap Sort (b) Bucket Sort
(c) Merge Sort (d) Quick Sort

250. Which one of the following statement is false regarding Conditional Formatting?
(a) Add more than one condition to check
(b) Set condition to look for Bold and apply Italics on them
(c) Apply Font, border and pattern formats that meets the specified conditions
(d) Delete any condition from Conditional Formatting dialog box if it is not required

251. Select the correct statement in relation to VPN in Network security methods.
(a) VPN typically based on IPsec or SSL
(b) VPN creating a secure, encrypted "tunnel" across the open internet.
(c) A tool that authenticates the communication between a device and a secure network.
(d) All of the above

252. Select the one hardware you cannot use with MS Office?
(a) Scanner (b) Joystick
(c) Mouse (d) Keyboard

253. In the following questions, the following letters indicate mathematical operations as indicated below:
A: Addition
V: Equal to
S: Subtraction
W: Greater than
M: Multiplication
X: Less than
D: Division
(a) 6 S 7 A 2 M 3 W 0 D 7 (b) 6 A 7 S 2 M 3 W 0 A 7
(c) 6 S 7 M 2 S 3 W 0 M 7 (d) 6 M 7 S 2 A 3 X 0 D 7

254. Will the following program run successfully? :

```
int main()
{
int n=5;
printf("n=%*d\n", n, n);
return 0;
}
```

(a) Yes (b) No

255. If the following program contains a line "Be my Friend" in the "source.txt" then what will be the output?

```
#include <stdio.h>
int main() {
  FILE *file;
  char line[100];
  file = fopen("source.txt", "r");
  // Read and print each line
  while (fgets(line, sizeof(line), file)) {
    printf("%s", line);
  }
  fclose(file);
  return 0;
}
```

(a) Friend (b) fren
(c) Be my Friend (d) Error

256. Which among the following is NOT a version of MS Office?
(a) 2003 (b) 2008 (c) 2013 (d) 2010

257. What does a web page consist of?
(a) Text and HTML tags
(b) Marked by an opening HTML tag <HTML>
(c) Marked by a closing </HTML> tag
(d) All of the above

258. Select the one which is NOT an advantage of the flowchart:
(a) Efficient Coding (b) Improper documentation
(c) Systematic Testing (d) Better Communication

259. Which one of the following TCP/IP protocol is used to transfer mail from one machine to another?
(a) FTP (b) RPC (c) SMTP (d) SNMP

260. Under which category would you put MS Office?
(a) Vertical marked Software
(b) Horizontal Market Software
(c) Open Source Software
(d) Closed Source Software