Q1:

What is the recursive step for Test3? public static int Test3(int a, int b)

{

if (a < b)

return -5;

else if (a = b)

return 5;

else

return (a + Test3(a-1, b));

}

Select one:

a. a = b

b. a<b

C. Test3(a - 1, b)

d. None of these

Q2:

What value Is retuned for fun(4)?

public int fun(int x)

{

IF(X<4)

Return(2*x);

Else

return 2+ fun(x-4)

Select one:

a.2 c.-2

b.0 d.4

Q3:

ecursive mothod

Select one:

a. must have no return value.

b.Calls itself

c. is a method written in Java

d. is actually not a method

Q4:

Like a loop, a recursive mothod must have

Select one:

a. A counter

b. A return statement

c. Some way to control the number of times it repeats itself

d. A predetermined number of times it will execute before terminating

Q5:

What is the depth of fun(2)

```
int fun(int x)
{
if(x<2)
return (2 x)
else
return fun(x-2)
```

. Select one:

a.4 c.1

b.0 d.2

Q6: What is the recursive step for Test3?

```
public static int Test3(int a, int b)
{
if (a <b)
return-5;
else if (a = b)
return 5,
eles
return (a+ Test3(a-1b) );
```

Select one:

a. a=b
b. Test3(a-1,b).
c. a<b

d. None of these

Q7: In the------- we must always reduce the problem to a smaller version of the original problem

Select one:

a. Terminal case
b. Recursive case
c. Re-accurring case
d. Final case

Q8: How many ” Hello" will print, when we call fun(2)?

```
void fun(int n)

{

 IF(n>0)

{

Console Writeline(Hello);

Fun(n+1);

}

}
```

Select one:

a.1

b. 2

c. 0

d. An infinite number of times

Q9: How many times will the following method call itself, if 10 is passed as the argument?

```
public static void message(int n)
{
If(n>0)
{
 Console Writeline("Print this line. \n');
Message(n+1)
```

Select one:

a. 10

b. 9

c. 1

d . An infinite number of times

Q10: What is returned for Test2(10, 20)?

```
 public static int Test2(int x, int y)
{
If (x < y)
return -5;
else
return ( Test2(x-y, y+5) +6);
}
```

Select one:

a. 10
b. 1
c. 6
d. -5

Q11: What is returned for fun(1, 2)?

```
public static int fun(int x, int y)
{
IF (x<y)
 return 1;
else
return fun(x-y, x+y);
}
```

Select one:

a. 1

b. -1

c. 2

d. 0

Q12: What is returned for Test3(10, 10)?

```
public static int Test3(int a, int b)
{
If(a<b)
return -5;
else if ( a = b)
```

return -5;

else

return (a + Test3(a-1, b));

}

Select one:

a.-5

b. 10

c. 30

d. 5

Q13: How many "Hello" will print, when we call fun(2)?

Void fun(int n)

{

IF(n>0)

Console.WriteLine(*Hello");

fun (n-1);

elect one:

a. An infinite number of times
b. 2
c. 0
d. 1

Q14: What is returned for Test3(8, 5)?

public static int Test3(int a, int b)

{

If(a<b)

```
return -5;
else if ( a = b)
return -5;
else
return (a + Test3(a-1, b) );
}
```

Select one:

a. 8

b.1

c. -5

d. 16

Q15: Convert the following prefix to postfix

BC+AB/"

The resulted postfix is

* +a. BC/AB

*+/b. BCAB

c. */BC+AB .

d. (B/C)(A+B)

Q16: int a[5];

For(int i=0; i<5; i++)

```
a[i] = i +2;

int result = 0;

for ( int i =1; i < 5; i++)

result += a[ i ];

Console.WriteLine( "Result is: "+result+"." );
```

The output of this program will be:

Select one:

a. Result is: 19.

b. Result is: 14

c. Result is: 18.

d. Result is: 20.

Q17: A binary tree representing the following math expression:

B^2-4ac

has the following inOrder traversal sequence:

Select one:

a. b^2-4*a*c

b. -^*b 2*C4 a

C. b^2-4ac

d. b 2 ^4 a* C* -

Q18: Queuse operations are :

a. insert and pop

b. insert and remove

C. push and remove

d. push and pop

Q19: Stacks operations are:

Select one:

a. insert and pop

b. insert and remove

C. push and remove

d. push and pop

Q20: Suppose A=5, B=8, C=2, Evaluate the following expression:

/+ AB * CB

Answer: 4

Q21: Convert the following infix expression to postfix:

(X + Y*Z)/M + N

The resulted postfix is:

+a. XYZ*+M/N

/+b. XYZ*+MN

C. +/+X*YZMN

+/+*d. XYZMN

Q22: Recursive algorithms are usually less .efficient than iterative algorithms

a. False

b. True

Q23: In all circular doubly linked lists, which statement of the following is NOT TRUE ------

a. each node references both its predecessor and its successor

b. the next reference of the last node has the value null

C. every node references a predecessor

d. every node references a Successor

Q24: Which of the following initializer lists would correctly set the elements of array noon

Select one:

a. int [ ] noon ={ 1, 2, 3 , 4, 5 };
b. int noon[5] = { 1, 2, 3, 4, 5}
c. C. array noon[int] = { 1, 2, 3, 4, 5 };
d. d. int noon = new int(1, 2, 3 , 4 , 5);

Q25: Convert the following expression to postfix:

((A/ (A + (A+A * A

The resulted posfix expression is:

Answer : /++AAAAA

Q26: Convert the following infix to prefix:

(c+d)/(a+b-c)*e

The resulted prefix is:

Select one:

a. */+-+cdabce

b. */+cd-+abce

C. /+cd-+*abce

d. /*+cd-+abce

Q27: What do the following statements do ?

double [ ]array;

array = new double[11];

a. Creates a double array containing 11 elements

b. Declares but does not create a double array

c. Creates a double array containing 10 elements

d. Creates a double array containing 12 elements

Q28: A queue is the ideal collection to use when

Select one:

a. evaluating an infix expression

b. evaluating a postfix expression

C. converting infix to postfix

d. none of these

Q29: Convert the following expression to postfix

B+B+ B)/B- B)

The resulted posfix expression is :

Answer: -BB+B+B/B

Q30: How many times will the following method call itself, if 10 is passed as the argument?

public static void message(int n)

{

IF(n>0)

{

Console.WriteLine("Print this line.\n (message(n+1)”);

a. 10

b. 1

c. An infinite number of times

Q31: To delete a node N from a linear linked list, you will need to -------

Select one:

a. set the reference link in the node that precedes N to reference

b. set the reference link in the node that precedes N to reference the node that follows N

c. set the reference link in the node that follows N to reference the node that precedes N

d. set the reference link in N to reference the node that follows N

Q32: What is the Recursive step for method test?

```
public int test(int x)

{

if (x < 8)

return (2 * x);

else

return (3 * test(x-8) + 8);

}
```

a. 2* x

b. x < 8

C. X >= 8

d. 3* test(x - 8) + 8

Q33: Stacks operate on data:

Select one:

a. LALO

b. FIFO

c. FOFO

d. LIFO

Q34: What is the recursive step for Test3?

```
public static int Test3(int a, int b)
{
IF (a<b)
return -5;
else if ( a = b)
return 5
else return (a + Test3(a-1, b) );
}
```

Select one:

a. Test3(a - 1, b)

b. a = b

c. None of these

d. a <b

Q35: Assume a linked list with head points to the first node and each node has (data and next). The following code print the content of the list:

```
{
while (head!=null)
 Console.WriteLine("Data: "+head.getData()) ;
head = head.getNext();
}
```

a. True
b. Falus

Q36: This code will delete the second node in linked list :

```
Head.setNext( );
 Head.getNext().getNext());
```

(.Head is the first node)

a.true

Q37: What is a typical application of queues?

Select one:

a. Infix Evaluation

b. Print spooling

c. Postfix Evaluation

d. Sorting

Q38: Suppose A = 5, B = 2, C = 3, The result of evaluating the following is

- + ABC

a. 4

b. 10

c. 0

d. none of these

Q39:

Convert the following prefix to postfix

BC+AB/*

:The resulted postfix is

اختر أحد الخيارات

a. *+ BC/AB

b. *+/ BCAB

c. */BC+AB

B / C) * (A + B 1. (

Q40:

Given the following processes (Time in ms)

process	Burst time	Anitva tume
P1	7	4
P2	4	2
P3	1	4
P4	4	5

in SJF preemptive (P1 waits)

Select one

a. 0ms
b. 2ms
c. 11ms
d. 9ms

Q41:

FIFO scheduling is

1 Preemptive Scheduling

2 Non Preemptive Scheduling

3 Deadline Scheduling

4. Fair share Scheduling

a.3

b.2

c.4

d.1

Q42:

Semaphore is an example of _____to solve the critical section problem

Select one

a. integer variable

b. software program

c. specific value

d. hardware component

Q43:

Concurrent access to shared data may result in___

Select one

a Data Consistency

b. Data Insecurity

c. Data lnconsistency

d.Data integrity

Q44:

The two atomic operations that uses by semaphores are:

Select one

a. Stop & resume

b..walt & signal

C. Hold & signal

d. Lock & unlock

Q45:

match the following process states

Waiting _____ The process is waiting for some event to occur (such as an 10 completion

Terminated _____The process has tinished execution

Running _____Instructions are being executed

Q46:

Type of operating systems that allow the computer to Process multiple jobs at once.

Question

Select one

a Multiuser

d. Single-stream batch

c. Multiprogramming

D. Multiprocessor

Q47:

To increase the size of the operating system and performance one of these structures is used

Select one

a microkernel

b. layer

c monolithic

d. modular

Q48:

it means that once a process has obtained a resource, the system cannot remove it from the process's control

Select one

a. Mutual exclusion condition

b. No preemption condition

c. Wait for condition

d. hold and wait condition

Q50:

One of the following algorithms uses sice time

Select one

a. Round Robin
b. Prlonty
c. SJF Preemptive
d. FCFS

Q51:

MS Dos Operating System Structure from top to tower arrangement

Select one

a. application programs, Bios device drivers, system programs, device drivers
b. application programs, device drivers system programs Bios device divers
c. application programs system programs, Device drivers, Bios device drivers
d. Bios Drivers system programs, application programs, device drivers

Q52:

One of the following is not from typicat operating system components

Select one

a. Network manager
b. Interprocess communication (IPC) manager
c. File system manager
d. Manager I/O

Q53:

One of the following is not from the PCB contents

Select one

a Pointers to locate the process data and instructions in memory

b. Address of the next process to be executed

c. A pointer to the process's parent process

d. Pointers to the process's child processes

Q54:

In the Layered Architecture operating systems Each layer communicates any other layer in the

Select one

True

False

Q55:

Dalvik virtual machine is used in

Question

Select one

a Solaris

b. Windows clos

d. Android

Q56:

Its a popular implementation of a Message Passing in which there is a region of memory protected by the OS exchange data

Select one

a. Forwars
b. Catch
c. a pipe
d. Mask

Q57:

SRTF is a

Select one

a. SJF preemptive
b. FSFC
c. SJF Non preemptive
d. FCFS

Q58:

When the quantum expires, the process transitions from_____

Select one

a. running to blocked
b. ready to running
c. blocked to ready
d. running to ready

Q59:

One of the following structures uses modular approach

Select one

a. microkemel
b. Monothic
c. Modular
d. layer

Q60:

which of the following cases non preemptive occurs

Select one

a. when process switches from ready state to running state o
b. when process switches from the waiting state to running state

c. when a process switches from running state to ready state
d. When process swiches from running state to waiting state

Q61:

One of the following is an example of interrupts that may be initiated by some event that may or may not be

Question

Select one

a. a key is pressed
b. dividing by zero
c. referencing protected memory

Q62:

When the quantum expires the process transitions from

Select one:

a. running to blocked
b. ready to running
c. blocked to ready
d. running to ready

Q63:

Semaphore is an example of _____ to solve the critical section problem

Gestion

Select one

a. integer variable

b. software program
c. a specific value
d. hardware component

Q64:

CPU scheduling is the basis of____

Select one

a. mini sized memory operating systems
b. mull-programming operating systems
c. Large memory sized systems
d. multiprocessors operating systems

Q65:

One of the problems in Consumer-producer problem is that processes are interleaved

Select one

True

False

Q66:

Which of the following statements deletes the node that curr references

a. prev.setNext(curr.getNext());
b. prev.setNext(curr);
c. curr.setNext(prev);
d. curr.setNext(curr.getNext());

Q67:

Array s={7,9,-12,0,10,3,6}, the value of s[s[1]-s[6]] is:

Select one:

a. 9
b. 0
c. 3
d. -3

Q68:

Like ------- , a recursive method must have some way to control the number of times it repeats.

Select one:

a. A GUI method

b. A loop

C. Any method

d. A rumor

Q69:

Given the following Linked List: h->[D]-> [C]->[B]->[A] Then the EXACT output after executing the following statements is: Node p = h, m = h.getNext();

Console.Write(p.getData));

Console.Write(m.getData());

Select one:

a. CB

b. A C

c. A B

d. D C

Q70:

Evaluate the following postfix

+ 5/36

The result is:

a. 8
b. 5
c. 7
d. 6

Q71:

Convert the following expression to postfix:

A - (A + (A +A)

+ - a. A A A b . none of these

c. - +C. AAA -d. A A + A

Q72:

Which of the following statements is used to insert a new node, referenced by newNode , at the end of a linear linked list, where last node is referenced by prev?

Select one:

a. newNode.setNext(head); head = newNode;

b. prev.setNext(curr); newNode.setNext(curr);

c. newNode.setLink(curr); prev.setLink(newNode);

d. prev.setNext(newNode);

Q73:

What value is returned for test(16)

```
public int test(int x)
{
if (x < 8)
return (2 *x);
else
return (3 test(x-8) +8)
```

a. 32

b. 24

c. 8

d. 16

Q74:

LinkedList L={B,E,S,T} Node P1=L,P2=P13;

P1= new Node();

P1.setData("E");

P1.setNext(P2.getNext);

Console.WriteLine(P1.getData()); // This will print:

Select one:

a. E

b. R

c. N

d. T

Q75:

Doubly Linked List L={E,A,S,T}

Node p = L;

Do{

Console.Write(p.getData());

p= p.getF().getF();

}while(p !- L);

Select one:

a. EST

b. ES

c. EAS

d. AT

Q76:

What value is returned for test(7)?

```
public int test(int x )
{
 if (x < 8)
 return (2 * x );
else
return (3 test(x-8) + 8)
```

a.7

b. -5

d. 14

c. 0

Q77:

Consider array fr, which contains 5 friends. Which statements successfully swap the values at index 3 and index 4 ?

a. Friend f = fr[3].getFriend();
   fr[3]=fr[4].getFriend();
   fr[4]=fr[3].getFriend

b. Friend f = fr[3]: fr[3]=fr[4]; fr[4]=f

c. fr[4] = fr[3]; fr[3] = fr[4];

d. None of these

Q78:

Not all data structures can be implemented with linked lists.

Select one:

True

False

Q79:

Suppose A=8, B=6, C=4, D=0, Evaluate the following expression:

+ * + A B C D

Answer: 56

Q80:

Arrays are:

a. are better than linked lists

b. variable-length objects

c. data structures that contain 5 friends

d. fixed-length objects

Q81:

Assume a class F has been defined. Which set of statements creates an array of 5 objects?

Select one:

a. F fr[]; f = new F[5];

b. F f[]; f]=new F[5];

c. Ff[] new F(5) ;

d. F [] f= new F[5];

Q82:

A stack is the ideal collection to use when

a. none of these

b. evaluating an infix expression

c. evaluating a postfix expression

d. converting infix to postfix

Q83:

Suppose A=5, B=2, C=3, Evaluate the following expression:

ABC + - A +

Answer: 5.

Q84:

Convert the following infix expression to postfix:

N+ W/ (Z.A + X)

The resulted postfix is:

Select one:

a. XYZ*+MN+/
b. +/+X*YZMN
c. XYZMN*+/+
d. XYZ*+M/NV

Q85:

A queue is the ideal collection to use when

a. converting infix to postfix

b. evaluating an infix expression

C. none of these

d. evaluating a postfix expression

Q86:

Convert the following expression to postfix:

(M + M * (N

Select one:

a. MM N +X

b. M M * N +

c. M M N * +

d. none of these

Q87:

array contains 0, 2, 4, 6 and 8. If method change Array(items, items[2]) is called. what values are stored after finished executing?

```
 public static void changeArray( int passedArray[], int value ) {
passedArray [ value ] = 12;

value = 5;

}
```

Select one:

a. 0, 2, 5, 6, 12

b. 0, 2, 12, 6, 8

c. 0, 2, 4, 6, 12

Q88:

Doubly Linked List L= {D,A,T,A}

DNode P1, P2, P3 ;

P1 = new DNode ();

P2 = new DNode ( );

P1.setF(L) ;

P2.setF(P1.getF().getB());

P2.setB(P1);

P3=P2.getF().getF();

Console.WriteLine(P3.getData()); :// This will print

a. A

b. T

C. D

d. Error

Q89:

Which expression adds 1 to the value at index i ?

a. ++g[i]
b. g[i++]
c. g++[i]
d. d. None of these