

376 PU M Tech Computer Science

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102 PU_2016_376_New

In a group of athletic teams in a certain institute, 21 are in the basketball team, 26 in the hockey team and 29 in the football team. If 14 play hockey and basketball, 12 play football and basketball, 15 play hockey and football, 8 play all the three games. How many players are there in all?

- 43
- 53
- 33
- 73

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134 PU_2016_376_New

The assembler directive EQU, when used in the instruction : Sum EQU 200 does:-

- Finds the first occurrence of Sum and assigns value 200 to it
- Assigns 200 bytes of memory starting the location of Sum
- Re-assigns the address of Sum by adding 200 to its original address
- Replaces every occurrence of Sum with 200

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122 PU_2016_376

The technique for linear probing for collision resolution can lead to _____.

- Overflow
- Underflow
- Clustering
- Efficient storage utilization

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143 PU_2016_376

Multiprogramming systems _____.

- Are easier to develop than single programming systems
- Execute more jobs in the same time
- Execute each job faster
- Are used only on large main frame computers

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138 PU_2016_376

Which of the following will determine your choice of systems software for your computer?

- a) Is the applications software you want to use compatible with it?
- b) Is it expensive?

- c) Is it compatible with your hardware?
- d) Both (a) and (c)

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139 PU_2016_376

Routine is not loaded until it is called. All routines are kept on disk in a re-locatable load format. The main program is loaded into memory & is executed. This type of loading is called _____.

- Overlays
- Static loading
- Dynamic linking
- Dynamic loading

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110 PU_2016_376_New

The total number of comparisons required to merge 4 sorted files containing 15, 3, 9 and 8 records into a single sorted file is:-

- 66
- 39
- 33
- 15

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116 PU_2016_376_New

The postfix expression for $*+ab-cd$ is?

- $ab\ cd\ +\ -\ *$
- $ab\ +\ -\ cd\ *$
- $ab\ +\ cd\ -\ *$
- $ab\ +\ cd\ * -$

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125 PU_2016_376

When a computer is first turned on or restarted a special type of absolute loader is executed called _____.

- Boot-strap loader
- Boot loader
- Relating loader
- Compile and Go loader

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198 PU_2016_376

Which of the following is NOT a benefit of using C/C++ for graphics?

- Many libraries have been created by other C/C++ users which anyone can use.
- It can call functions defined in FORTRAN or assembly
- It has no intrinsic memory handling functions
- It is efficient in its memory usage

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151 PU_2016_376

Maxthon is a _____.

- Web Browser
- Hardware
- Operating System
- Shell

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199 PU_2016_376

The color of an object refers to _____.

- a property independent of the object or the illumination used
- a property dependent only on the illumination used
- a property dependent only on the object
- a property dependent on the object and the illumination used

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127 PU_2016_376_New

The multiplicand register & multiplier register of a hardware circuit implementing booth's algorithm have (11101) & (1100). The result shall be:-

- (812)₁₀
- (-12)₁₀
- (12)₁₀
- (-812)₁₀

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163 PU_2016_376

In the layer hierarchy as the data packet moves from the upper to the lower layers, headers are:-

- Modified
- Rearranged
- Removed
- Added

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104 PU_2016_376

If the time complexity of an algorithm which computes the sum of the first 'n' Fibonacci numbers is to be expressed asymptotically, then it corresponds to which of the following _____.

- $O(n)$
- $O(n^2)$
- $\Theta(n-1)$
- $\Omega(n^2)$

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132 PU_2016_376_New

The main advantage of multiple bus organization over single bus is:-

- Reduction in the number of cycles for execution
- Better Connectivity
- Increase in size of the registers
- None of the above

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188 PU_2016_376

People overcome natural language problems by:-

- governing attributes into frames
- grouping attributes into rules
- grouping attributes into frames
- identifying with familiar situations

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177 PU_2016_376

Consider the following C function

```
void swap (int*a, int*b)
{ int temp;
temp = a
a =b;
b =temp;
}
```

In order to exchange the values of two variables x and y.

- call swap (&x, y)
- call swap (x, y)
- swap (&x,&y)
- call swap (x, &y)

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211 PU_2016_376

Dynamic Memory cell uses _____.

- Register

- DDR
- TTL gate
- Charged Capacitor

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143 PU_2016_376_New

In the Towers of Hanoi puzzle H(8, S, E, G), the configuration is Pole S: 6, 5; Pole E: 1; Pole G: 8, 7, 4, 3, 2.

What move was just made to create this configuration?

- washer 2 from E to G
- washer 2 from S to G
- washer 1 from S to E
- washer 1 from G to E

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203 PU_2016_376

The problem of depth cueing is addressed by _____.

- Hidden surface elimination techniques
- Shading Techniques
- Scan Conversion technique
- Visualization technique

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103 PU_2016_376_New

The derivative with respect to x of $2\cos^2(x^2 + 2)$ is:-

- $8x \sin(x^2 + 2) \cos(x^2 + 2)$
- $-2\sin(x^2 + 2) \cos(x^2 + 2)$
- $-8x \sin(x^2 + 2) \cos(x^2 + 2)$
- $2\sin(x^2 + 2) \cos(x^2 + 2)$

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111 PU_2016_376_New

The output of the following program is _____

```
main()
{
int i=_1_abc(9);
printf("%d\n",--i);
}
int _1_abc(int i)
{
return(i++);
}
```

- 7
- 9
- 10
- 8

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153 PU_2016_376

The HTML tag associated with graphics and animation is called:-

- <movie>
- <anim>
- <grap>
- <canvas>

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118 PU_2016_376_New

What is garbage collection in the context of Java?

- The JVM checks the output of any Java program and deletes anything that doesn't make sense.
- The operating system periodically deletes all of the java files available on the system.
- When all references to an object are gone, the memory used by the object is automatically reclaimed.
- Any package imported in a program and not used is automatically deleted.

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204 PU_2016_376

The effort required for locating and fixing an error in an operational program:-

- Testability
- Maintainability
- Efficiency

- Usability

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152 PU_2016_376

DNS stands for _____.

- Domain Node System
- Distributed Name Socket
- Domain Network System
- Domain Name System

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117 PU_2016_376_New

List in chronological order, when these languages become officially recognized as a standard

- (i)ANSI C
- (ii)ANSI COMMON LISP
- iii)ANSI Cobol
- (iv)ANSI ADA.

- i,ii,iii,iv
- iv,iii,i,ii
- i,iv,iii,ii
- i,iii,ii,iv

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105 PU_2016_376

In Quicksort, if the number of elements to the left of the pivot element is larger than the number of elements to the right of the pivot elements, then which of the following is true?

- It would take a longer time to sort the elements to the left of the pivot element than to the right of the pivot element
- The position of the pivot element is independent of the elements to be sorted
- The position of the pivot element was found in 'n' time when 'n' is the number of elements.
- The number of comparisons required on the left of the pivot element was larger than that of the right of the pivot element to bring the pivot element to the current position

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176 PU_2016_376

Which of the following is not a valid conditional inclusion in pre-processor directives of C language?

- #ifundef
- #ifdef
- Elif
- #endif

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149 PU_2016_376

The Android operating system version which preceded the Marshmallow is called _____.

- Jet
- Lollipop
- Jelly Bean
- Ice Cream Sandwich

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162 PU_2016_376

The IETF standards documents are called:-

- IETFD
- RFC
- RCF
- RTF

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109 PU_2016_376

In a multi-stage graph, the forward graph approach finds the minimum cost node in current stage using the equation $\text{cost}(i, j) = \min\{c(j, l) + \text{cost}(i+1, l)\}$, which of the following is false?

- 'i' denotes the current stage
- 'l' denotes a node in the next stage
- 'i' denotes a node in the current stage
- 'j, l' denotes an edge in the current stage

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126 PU_2016_376_New

A Program Counter contains a number 825 and address part of the instruction contains the number 24. The effective address in the relative address mode, when an instruction is read from the memory is:-

- 850
- 849
- 801
- 802

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146 PU_2016_376_New

The router algorithm takes the decision to change the route when _____.

- Router changes
- Transmission time does not change
- Topology changes
- User changes

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130 PU_2016_376

Which one of these is a code optimization activity?

- Elimination of common sub-expression
- Run time evaluation
- Dead Code Elimination
- Frequency and strength reduction

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212 PU_2016_376

The term 'baud' is a measure of the _____.

- memory capacity
- transfer capacity
- speed at which data travels over the communication line
- instruction execution time

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187 PU_2016_376

The primary method that people use to sense their environment is _____.

- Seeing
- Writing
- Speaking
- reading

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153 PU_2016_376_New

UTP Cat-5 cable normally 24 AWG with a jacket and outside sheath used at data rate:-

- 100 Mbps in WANs
- 1 Gbps in WANs
- 100 Mbps in LANs
- 1 Gbps in LANs

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138 PU_2016_376_New

The minimum number of colors needed to color a graph having $n > 3$ vertices and 2 edges is:-

- 1
- 3
- 4
- 2

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161 PU_2016_376

In computer network nodes are _____.

- the computer that originates and terminates the data
- the computer that terminates and routes the data
- the computer that originates and routes the data
- the computer that originates, terminates and routes the data

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124 PU_2016_376

In compiler design, the graph that shows basic blocks and their successor relationship is called _____.

- Flow Graph
- Directed Graph
- Directed Acyclic Graph
- Control Graph

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154 PU_2016_376_New

FDDI stands for:-

- Fiber Distributed Dual Interface
- Fiber Distributed Data Interface
- Fiber Dual Distributed Interface
- Fiber Data Distributed Interface

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202 PU_2016_376

The depth buffer algorithm for hidden surface removal works on _____.

- Image space
- Object space
- Shadows
- Pixel

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123 PU_2016_376

Inserting a new node after a given node in a doubly linked list requires:-

- Five pointers exchange
- Two pointers exchange
- One pointer exchanges

- Four pointers exchange

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145 PU_2016_376_New

100 stations on a pure ALOHA system share a 1 Mbps channel. If the frame size is 1000 bits, the throughput for each station sending 10 frames per second is _____ .

- 1.535
- 1.555
- 1.333
- 1.353

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114 PU_2016_376

A stack is implemented using an array with the following declaration.

```
int stack[100];
```

```
int stacktop= 0;
```

To perform the POP operation, which of the following is correct?

- `x = stack[--stacktop]`
- `x = stack[stacktop++]`
- `x = stack[stacktop--]`
- `x = stack[++stacktop]`

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137 PU_2016_376_New

If the address of `A[1][1]` and `A[2][1]` are 1000 and 1010 respectively and each element occupies 2 bytes then the array has been stored in _____ order.

- row major
- column major
- matix major
- none of these

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137 PU_2016_376

Round robin scheduling is essentially the preemptive version of _____.

- Shortest job first
- Longest time first
- FIFO
- Shortest remaining

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104 PU_2016_376_New

Using Bisection method, negative root of $x^3 - 4x + 9 = 0$ correct to three decimal places is:-

- 2.506
- 2.406
- 2.706
- 2.606

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186 PU_2016_376

Decision support programs are designed to help managers to make _____.

- budget projections
- business decisions
- vacation schedules
- visual presentations

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154 PU_2016_376

The client side scripts in the web pages are written inside _____ tag?

- <scr>
- <js>
- <script>
- <logic>

53 of 100

121 PU_2016_376_New

What is the output of the following code

```
char symbol[3]={'x','y','z'};
for (int index=0; index<3;index++)
cout << symbol [index];
```

- 'xyz'
- xyz
- "xyz"
- x y z

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196 PU_2016_376

Which of the following is NOT a modern application for Computer Graphics:-

- Video Games
- Computer Aided Geometric Design

- Stop-motion animation
- Scientific Visualization

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151 PU_2016_376_New

Given the IP address 201.14.78.65 and the subnet mask 255.255.255.224. What is the subnet address?

- 201.14.78.64
- 201.14.78.65
- 201.14.78.224
- 201.14.78.32

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136 PU_2016_376

At intermediate multiprogramming levels, the rate of increase of throughput with multiprogramming levels decreases. This phenomenon is best explained by the fact that as multiprogramming level increases:-

- the utilization of memory improves
- I/O activities per request remains constant
- some system resources begins to saturate (i.e., to be utilized 100%)
- the average time spent in the system by each request increases

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157 PU_2016_376_New

The technique that was introduced since a single job could not keep both the CPU and the I/O devices busy?

- Time-sharing
- Preemptive scheduling
- Multiprogramming
- SPOOLing

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178 PU_2016_376

Which is a valid statement for declaring a variable in Visual Basic?

- Const Form As Integer
- Dim myForm As Integer
- Dim Form As Integer
- Const myForm As Integer

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108 PU_2016_376

Which of the following is true about the principle of optimality?

- Every subset of the decision sequence is optimal

- Every decision is optimal with regard to the state resulting from the preceding decision
- Every subset of the decision sequence is optimal with regard to the state resulting from the first decision
- Every decision is optimal independent of the preceding or succeeding decisions

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107 PU_2016_376_New

If h is any hashing function and is used to hash n keys in to a table of size m , where $n \leq m$, the expected number of collisions involving a particular key x is :-

- less than n .
- less than $n/2$.
- less than 1.
- less than m .

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247 PU_2016_376

What is the output of the following code?

```
#include<iostream.h>
void main()
{
    int arr[2][3][2]={{2,4},{7,8},{3,4}},{{2,2},{2,3},{3,4}};
    cout<<(*(*arr+1)+2)+0)+7;
}
```

- 10
- 3
- garbage value
- Error

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244 PU_2016_376

Which of the following is NOT correct about JavaScript?

- The general-purpose core of the language has been embedded in Netscape, Internet Explorer, and other web browsers.
- JavaScript has object-oriented capabilities that allows you to build interactivity into otherwise static HTML pages.
- JavaScript has multithreading or multiprocessing capabilities
- JavaScript is a lightweight, interpreted programming language.

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222 PU_2016_376

Bounding functions are used to kill _____.

- Dead nodes
- Live nodes
- No nodes
- E-nodes

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166 PU_2016_376_New

Using Relational Algebra the query that finds customers, who have a balance of over 1000 is:-

- π Customer_name(σ balance >1000(Deposit))
- σ Customer_name(π balance >1000(Deposit))
- σ Customer_name(π balance >1000(Borrow))
- π Customer_name(σ balance >1000(Borrow))

65 of 100

258 PU_2016_376

The 4004 microprocessor was released in the year of _____.

- 1968
- 1964
- 1971
- 1972

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163 PU_2016_376_New

Process A has arrived in the system by time 0 and requires 5 time units in the CPU, process B has arrived by time 1 and requires 3 time units, process C has arrived by time 2 and requires 1 time unit. Assuming negligible processes switching time, and that all processes are CPU bound and that a new quantum starts whenever a process finishes, the average time for Round robin (Q=3) is _____.

- 2.33
- 3.33
- 4.67
- 2.89

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178 PU_2016_376_New

Which of the following macros can put a macro assembler into an infinite loop?

MACRO	M1, X
IF EQ, X	if X = 0 then...
M1 X + 1	
ENDC	
IF NE, X:	IF X ≠ 0 then...
WORD X:	Address (X) is stored here
ENDC	
<input type="radio"/> ENDM	

MACRO	M2, X
IF EQ, X	
M2 X	
ENDC	
IF NE, X	
WORD X + 1	
ENDC	
<input type="radio"/> ENDM	

- Both of the programs
- None of the above

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229 PU_2016_376

In compiler the storage manager performs the

- (i) Allocation/de-allocation of storage to programs
- (ii) Protection of storage area allocated to a program from illegal access by other programs in the system
- (iii) The status of each program:-

- (i) and (ii) only
- (ii) and (iii) only
- (i) and (iii) only
- (i),(ii) and (iii)

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172 PU_2016_376_New

Which of the following bison grammar rules will match zero or more occurrences of the letter b followed by exactly one c?

- a : a b | c;
- a : a c | b;
- a : b a | c;
- a : c a | b;

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167 PU_2016_376_New

Consider the join of a relation R with relation S. If R has m tuples and S has n tuples, then the maximum size of join is:-

- 2(m+n)
- m+n
- (m+n)/2
- mn

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162 PU_2016_376_New

Consider the following reference strings {0, 2, 4, 1, 1, 4, 5, 7} {2, 3, 2, 5, 6, 3, 2, 6} The FIFO page replacement algorithm with 3 frames would give lesser number of faults for:-

- Reference string II
- Can't determine from the given data
- Reference string I
- Both will have the same number of faults

72 of 100

246 PU_2016_376

```
#include<iostream.h>
class Base
{ int static i;
public:
  Base(){}
};
class Sub1: public virtual Base{};
class Sub2: public Base{};
class Multi: public Sub1, public Sub2 {};
void main()
{
  Multi m;
}
```

In the above program, how many times Base's constructor will be called?

- 2
- 3
- 6
- 1

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256 PU_2016_376

How much memory space does the 8086 have?

- 4M
- 1M
- 512Kb
- 256Kb

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257 PU_2016_376

How many transistors does the 8086 have?

- 110,000
- 29,000
- 129000
- 10,000

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174 PU_2016_376_New

The process of assigning load addresses to the various parts of the program and adjusting the code and data in the program to reflect the assigned addresses is called:-

- Symbol resolution
- Parsing
- Relocation
- Assembly

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230 PU_2016_376

Given the following statements :

S1 : SLR uses FOLLOW information to guide reductions.

S2: LR grammar is a larger subclass of context free grammar as compared to that SLR and LALR grammars

Which of the following is true?

- S1 is correct but S2 is not correct
- S1 and S2 are not correct.
- S1 and S2 are correct.
- S1 is not correct but S2 is correct.

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165 PU_2016_376_New

The result of the UNION operation between R1 and R2 is a relation that includes:-

- all the tuples of R1 and R2
- all the tuples of R1 and R2 which have common columns

- all the tuples of R2
- all the tuples of R1

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233 PU_2016_376

If the Disk head is located initially at 32 and find the number of disk moves required with FCFS if the disk queue of I/O blocks requests are 98, 37, 14, 124, 65 and 67.

- 324
- 310
- 321
- 315

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173 PU_2016_376_New

Assume that the SLR parser for a grammar G has n_1 states and the LALR parser for G has n_2 states. The relationship between n_1 and n_2 is:-

- n_1 is necessarily equal to n_2
- n_1 is necessarily greater than n_2
- none of the above
- n_1 is necessarily less than n_2

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177 PU_2016_376_New

What would be the output of the following?

```
#include<iostream.h>
void main()
{
    char *ptr="abcd"
    char ch;
    ch = ++*ptr++;
    cout<<ch;
}
```

- c
- b
- d
- a

81 of 100

271 PU_2016_376

In a system using paged Memory Management. The size of Logical Address spaces is 32MB. The page table entry size is 4 Bytes. What is the optimum page size?

- 16 KB
- 512 KB
- 256 KB
- 32 KB

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182 PU_2016_376_New

Which of the following is not one of the 5 core risk areas common to all projects?

- Intrinsic schedule flaw
- Specification breakdown
- Scope creep
- Strategic Alienation

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285 PU_2016_376

An estimation for the satisfaction of the identified user needs is known as:-

- Feasibility study
- Cost Estimation
- Requirements capture
- Requirements evolution

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295 PU_2016_376

Expand BINAC acronym.

- Binary Automatic Computer
- Binary Automatic Counter
- Binary Acoustic Computer
- Binary Acoustic Counter

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184 PU_2016_376_New

Consider the following language $R = \{anbncndn | n=1\}$. R is:-

- Type 0 language but not type 1
- Context free Language but not regular
- regular
- CSL but not Context free Language

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194 PU_2016_376_New

ADO.NET provides the ability to create and process in-memory databases called:-

- tables.
- views.
- relations.
- datasets.

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264 PU_2016_376

Which of the following tree structure is used for efficient access of records residing in disc memory?

- 2-3 tree
- B Tree
- AVL trees
- Binary tree

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197 PU_2016_376_New

A header in CGI script can specify:-

- Format of the document.
- New location of the document.
- New location & format of the document
- Start of the document.

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192 PU_2016_376_New

Which of the following statement is false regarding "Cookies"?

- Cookies are very helpful in keeping track of users in developing online shopping cart applications, personalized portals and in advertising on web sites.
- Cookies cannot contain more than 4Kb of dat
- Cookies are programs which run in the background of the web-client.
- Cookies usually contain data in the form of name equals value pairs.

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193 PU_2016_376_New

SOAP is a _____ to let applications exchange information over HTTP.

- JAVA-based protocol
- .NET-based protocol
- PHP-based protocol
- XML-based protocol

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183 PU_2016_376_New

RAD stands for?

- Repeated Application Development
- Relative Application Development
- Ready Application Development
- Rapid Application Development

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293 PU_2016_376

Father of Computer Hard Disk _____.

- Ray Kurzweil
- Abinawan Puracchidas
- Edgar Frank Codd
- Reynold Johnson

93 of 100

189 PU_2016_376_New

Consider the finite state machine $M = (\{s_0, s_1, s_2, s_3\}, \{0,1\}, F, \delta)$, where $F = \{fx \mid x \in \{0,1\}^*\}$ is defined by the following transition table. Let for any $w = x_1 x_2 \dots x_n$, let $fw = fx_n \circ fx_{n-1} \circ \dots \circ fx_2 \circ fx_1$. List the values of the transition function, f_{10110} .

	0	1
s_0	s_0	s_1
s_1	s_0	s_1
s_2	s_0	s_3
s_3	s_0	s_3

- $fw(s_0) = s_0, fw(s_1) = s_1, fw(s_2) = s_2, fw(s_3) = s_3$.
- $fw(s_0) = s_0, fw(s_1) = s_0, fw(s_2) = s_2, fw(s_3) = s_2$.
- $fw(s_0) = s_3, fw(s_1) = s_3, fw(s_2) = s_1, fw(s_3) = s_1$.
- $fw(s_0) = s_2, fw(s_1) = s_0, fw(s_2) = s_3, fw(s_3) = s_1$.

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188 PU_2016_376_New

Fred created a new automaton model which is a push down automaton but with two stacks and the added ability of having commands which do not read input tape but which can pop from one stack and push into the other. This new automaton can recognize (choose strongest result)

- Languages recognizable by Turing machine
- CFL
- CSL
- Regular Language

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286 PU_2016_376

In the Phong reflection model, there are 3 constants (a, b, c) which are used to describe the qualities of which of the following phenomena?

- The amount to perturb reflection vectors as they are mirrored across the normal
- The material reaction to ambient, diffuse and specular light (respectively)
- The attenuation of a point light source with distance
- The size (in each dimension) which the light is assumed to have

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274 PU_2016_376

The python library for parsing web page is called _____.

- DOM+
- Beautiful Soup
- Blue
- Jython

97 of 100

266 PU_2016_376

Which of the following definitions generates the same language as $L = \{WW^R \mid W \in \{a,b\}^*\}$?

- $S \rightarrow aSb \mid bSa \mid aSa \mid bSb \mid \epsilon$
- $S \rightarrow aSb \mid bSa \mid \epsilon$
- $S \rightarrow aSb \mid bSa \mid aSa \mid bSb$
- $S \rightarrow aSa \mid bSb \mid \epsilon$

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186 PU_2016_376_New

Which of the following is not primitive recursive but partially recursive?

- Bounded function
- Ackermann function
- Carnot function

- Riemann function

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273 PU_2016_376

Which of the following is associated with Google Chrome web browser?

- Gecko
- Trident
- Chakra
- Blink

100 of 100

196 PU_2016_376_New

DMSP stands for:-

- Distributed Message System Protocol
- Distributed Mail System Pool
- Distributed Message System Pool
- Distributed Mail System Protocol