

Osmania University Common Entrance Test

Notations :

- Options shown in green color and with ✓ icon are correct.
- Options shown in red color and with ✗ icon are incorrect.

Question Paper Name:	MSc Computer Science 9th June 2018 Shift2
Subject Name:	M.Sc. Computer Science
Creation Date:	2018-06-09 16:40:27
Duration:	90
Total Marks:	100
Display Marks:	No
Calculator:	None
Magnifying Glass Required?:	No
Ruler Required?:	No
Eraser Required?:	No
Scratch Pad Required?:	No
Rough Sketch/Notepad Required?:	No
Protractor Required?:	No

MSc Computer Science

Group Number :	1
Group Id :	359181145
Group Maximum Duration :	0
Group Minimum Duration :	90
Revisit allowed for view? :	No
Revisit allowed for edit? :	No
Break time:	0
Group Marks:	100

PART A

Section Id :	359181315
Section Number :	1
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	40
Number of Questions to be attempted:	40
Section Marks:	40
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	359181335
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 35918115011 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

If $(x)_b$ denotes that x is a number to the base b , then answer the following:

$$(11)_2 + (11)_3 = (111)_x \text{ then } x =$$

Options :

1. ✖ 4
2. ✔ 2
3. ✖ 10
4. ✖ 4

Question Number : 2 Question Id : 35918115012 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following is not a computer?

Options :

1. ✖ Thermometer
2. ✖ Mobile phone
3. ✖ Calculator
4. ✔ Pen drive

Question Number : 3 Question Id : 35918115013 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following is not an OS?

Options :

1. ✖ LINUX
2. ✖ WINDOWS
3. ✖ RTOS

4. ✓ ORACLE

Question Number : 4 Question Id : 35918115014 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

Which of the following is NOT an output device?

Options :

1. ✗ Monitor
2. ✓ Keyboard
3. ✗ Plotter
4. ✗ Printer

Question Number : 5 Question Id : 35918115015 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

ASCII stands for

Options :

1. ✓ American Standard Code for Information Interchange.
2. ✗ American Software Code for Information Interchange.
3. ✗ American System Code for Information Interchange.
4. ✗ Analytical System Code for Information Interchange.

Question Number : 6 Question Id : 35918115016 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

Which of the following is true?

Options :

1. ✗ MS-DOS is a time sharing OS
2. ✗ LINUX is a real time OS

3.  Any software requires a OS to run

4.  Android is not a OS

Question Number : 7 Question Id : 35918115017 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

What is the output of the following 'C' programming?

```
# include <stdio.h>

main()
{
    int i = 5;
    printf("%d", i++ + ++i);
}
```

Options :

1.  10

2.  11

3.  12

4.  13

Question Number : 8 Question Id : 35918115018 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following is not a data type in C?

Options :

1.  int

2.  float

3.  char

4.  record

Question Number : 9 Question Id : 35918115019 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

Which of the following is not an arithmetic operator?

Options :

1.  +

2.  ==

3.  -

4.  *

Question Number : 10 Question Id : 35918115020 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

Which of the following is not a control statement of 'C' programming?

Options :

1.  enum

2.  continue

3.  exit

4.  Break

Question Number : 11 Question Id : 35918115021 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

Which of the following is not a valid 'C' statement, when i, j already defined?

Options :

1.  i = j = 5;

2.  float i++;

3. ✖ $i^* = j;$

4. ✖ $i == 2;$

Question Number : 12 Question Id : 35918115022 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

What is the output of the following 'for' statement in 'C'?

`for( ; ; );`

Options :

1. ✔ Infinite loop

2. ✖ Syntax error

3. ✖ Execution error

4. ✖ runtime error

Question Number : 13 Question Id : 35918115023 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

If $f(0) = 1$ and $f(n) = nf(n-1)$ for , $n > 1$ then $f(5) =$ _____.

Options :

1. ✖ 600

2. ✔ 120

3. ✖ 0

4. ✖ 72

Question Number : 14 Question Id : 35918115024 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

What is the data structure used to remove recursion?

Options :

1. ☒ Stack
2. ☐ Queue
3. ☐ Linked list
4. ☐ Binary tree

Question Number : 15 Question Id : 35918115025 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Stack is also called _____.

Options :

1. ☐ FIFO list
2. ☒ LIFO list
3. ☐ TOTAL list
4. ☐ ABSTRACT list

Question Number : 16 Question Id : 35918115026 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

A deque is a data structure in which _____.

Options :

1. ☐ additions are done at one end and deletion are done at the other end
2. ☐ additions and deletions are done at only end
3. ☒ additions and deletions are done at both ends

additions are done at one end and deletions are not done

4. ✖

Question Number : 17 Question Id : 35918115027 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following is true?

Options :

All graphs are trees

1. ✖

All trees are graphs

2. ✔

No tree is a graph

3. ✖

No graph is a tree

4. ✖

Question Number : 18 Question Id : 35918115028 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following data structure is used to convert an infix expression to postfix expression?

Options :

Queue

1. ✖

Tree

2. ✖

Stack

3. ✔

Linear list

4. ✖

Question Number : 19 Question Id : 35918115029 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The worst case time complexity of bubble sort, when n elements are to be sorted, is

Options :

1. ✖ $O(n)$

2. ✔ $O(n^2)$

3. ✖ $O(n \log n)$

4. ✖ $O(n^3)$

Question Number : 20 Question Id : 35918115030 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

A circular queue is maintained in an array $c[0 \dots n-1]$ with front and rear as defined for circular queues then the number of elements in the circular queue is

Options :

1. ✖ rear-front

2. ✔ $(\text{rear} - \text{front} + n) \bmod n$

3. ✖ rear-front+1

4. ✖ $(\text{rear} - \text{front}) \bmod n$

Question Number : 21 Question Id : 35918115031 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The maximum number of nodes in a binary tree of length k is

Options :

1. ✖ 2^{k-1}

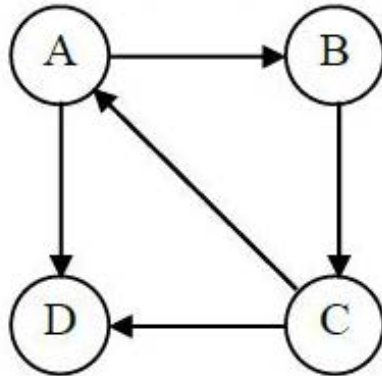
2. ✖ 2^k

3. ✖ $k+1$

4. ✓ $2^k - 1$

Question Number : 22 Question Id : 35918115032 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

The in-degree of the node A in the following graph is



Options :

1. ✓ 1

2. ✗ 2

3. ✗ 3

4. ✗ 4

Question Number : 23 Question Id : 35918115033 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

One Mega byte is equal to

Options :

1. ✓ 2^{23} bits

2. ✗ 2^{20} bits

3. ✗ 2^{10} bits

2^{10} bytes

4. ✖

Question Number : 24 Question Id : 35918115034 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following, in MS-Word enables us to send the same to different persons?

Options :

1. ✖ macros

2. ✖ templates

3. ✔ mail-merge

4. ✖ formatting

Question Number : 25 Question Id : 35918115035 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

“ctrl + right arrow” keys are used to move the cursor _____.

Options :

1. ✔ one word right

2. ✖ to the end of the line

3. ✖ to the end of the document

4. ✖ to one paragraph down.

Question Number : 26 Question Id : 35918115036 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

“ctrl + right arrow” is used to movie the cursor to the end of the _____.

Options :

1. ✖ line
2. ✔ document
3. ✖ paragraph
4. ✖ word

Question Number : 27 Question Id : 35918115037 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Portrait and Landscape are used for

Options :

1. ✖ page layout
2. ✔ page orientation
3. ✖ paper size
4. ✖ page segmentation

Question Number : 28 Question Id : 35918115038 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following is not a font style in MS-WORD?

Options :

1. ✖ Bold
2. ✖ Italics
3. ✖ Regular
4. ✔ Superscript

Correct : 1 Wrong : 0

Which option in MS-Excel tells how many numeric entries are there in a specified region?

Options :

1. ✖ NUM
2. ✔ COUNT
3. ✖ SUM
4. ✖ CHKLUM

Correct : 1 Wrong : 0

Which of the following is not a function in MS-Excel?

Options :

1. ✖ SUM
2. ✔ AVG
3. ✖ MAX
4. ✖ MIN

Correct : 1 Wrong : 0

By default, how many sheets are there in a worksheet of MS-Excel when we create a new excel file?

Options :

1. ✖ 1
2. ✖ 2

3. ✓ 3

4. ✗ 4

Question Number : 32 Question Id : 35918115042 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

All formulas in MS-Excel start with

Options :

1. ✗ &

2. ✗ +

3. ✓ =

4. ✗ %

Question Number : 33 Question Id : 35918115043 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

A typical MS-Excel worksheet has _____ number of columns.

Options :

1. ✗ 128

2. ✓ 256

3. ✗ 512

4. ✗ 1024

Question Number : 34 Question Id : 35918115044 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

How do you display current date and time in MS-Excel?

Options :

1. ✗ Today-Date()

2. ✖ Time & Date()

3. ✔ Now()

4. ✖ Today()

Question Number : 35 Question Id : 35918115045 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

The decimal equivalent of the binary number 11111 is

Options :

1. ✖ 5

2. ✖ 15

3. ✖ 16

4. ✔ 31

Question Number : 36 Question Id : 35918115046 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

Which of the following is not a memory device?

Options :

1. ✖ Magnetic tape

2. ✖ Flash drive

3. ✖ Compact disk

4. ✔ Spreadsheet

Question Number : 37 Question Id : 35918115047 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

How many bits per character that ASCII code use?

Options :

- 1. ✖ 6
- 2. ✖ 9
- 3. ✔ 7
- 4. ✖ 12

Question Number : 38 Question Id : 35918115048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

What is the value of x after the execution of the following C language statement?

$x = 14\% - 4;$

Options :

- 1. ✖ 10
- 2. ✖ 2
- 3. ✔ -2
- 4. ✖ -3.5

Question Number : 39 Question Id : 35918115049 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

In C language, the statement

$\text{tax} = (x < 40000) ? 0 : 0.25 * x;$

is executed with $x = 60000$ then the value of tax is

Options :

- 1. ✖ 0
- 2. ✖ 40000

3. ✖ 60000

4. ✔ 150000

Question Number : 40 Question Id : 35918115050 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

In C language, after executing the following statements:

```
number = "2018";
```

```
year = atoi(number);
```

Options :

1. ✖ we have nothing because the first statement has wrong syntax

2. ✖ we have nothing because the second statement has wrong syntax

3. ✖ we have the year with value "2018"

4. ✔ we have the year with value 2018

PART B

Section Id :	359181316
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	60
Number of Questions to be attempted:	60
Section Marks:	60
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	359181336
Question Shuffling Allowed :	Yes

Question Number : 41 Question Id : 35918115051 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

Equivalent hexadecimal number in C language for the decimal number 69 is

Options :

1.  0x45

2.  0x69

3.  0x96

4.  0x54

Question Number : 42 Question Id : 35918115052 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

What is the output of the following C-program segment?

```
int i = 7;  
printf(“%d”, i++ * i--);
```

Options :

1.  56

2.  49

3.  7

4.  48

Question Number : 43 Question Id : 35918115053 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

What is the output of the following C program for n = 1234?

```
#include <math.h>
#include <stdio.h>
main()
{
    int sum, n;
    scanf("%d", &n);
    sum = 0;
    do {
        sum += n%10;
        n /= 10;
    } while (n/10 > 0);
    Printf("%d", sum);
}
```

Options :

- 1. ✖ 15
- 2. ✔ 10
- 3. ✖ 12
- 4. ✖ 18

Question Number : 44 Question Id : 35918115054 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

How many elements can be stored in the array marks if it is declared in C language as

```
int marks [3][100][5];
```

Options :

- 1. ✖ 1499

2. ✖ 1497

3. ✔ 1500

4. ✖ 300

Question Number : 45 Question Id : 35918115055 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

What is the maximum number of characters that will be read from the input device if we have the following C-statements?

```
char myname[15];  
scanf("%d", myname);
```

Options :

1. ✖ 15

2. ✔ 14

3. ✖ 16

4. ✖ 30

Question Number : 46 Question Id : 35918115056 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

j, i are two integer type variables and ptr is a pointer to an integer variable. What is the value of j after the execution of the following C code?

```
i = 3;  
j = 4;  
ptr = &i;  
j = *ptr;  
ptr = &j;  
i = 5;  
*ptr = i+3;
```

Options :

1. ✓ 8

2. ✗ 4

3. ✗ 5

4. ✗ 7

Question Number : 47 Question Id : 35918115057 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

What is the output of the following piece of C-code?

```
int a[2] = { 10, 20 };  
int *p = a;  
printf(“%d”, %d\n”, *p, *p+1);
```

Options :

1. ✓ 10,11

2. ✗ 11,12

3. ✗ 10,20

4. ✗ 11,21

Question Number : 48 Question Id : 35918115058 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

In a DBMS, a candidate key which is not a primary is called

Options :

1. ✗ super key

2. ✗ foreign key

3. ✓ alternate key

compound key

4. ✖

Question Number : 49 Question Id : 35918115059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

In a relational database management system the data is represented as

Options :

1. ✔ a set of tables
2. ✖ a set of null values
3. ✖ a set of queries
4. ✖ a set of domains

Question Number : 50 Question Id : 35918115060 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

If every non-prime attributes of a relation R is fully functionally dependent on the primary key then the relation is said to be in

Options :

1. ✖ First normal form
2. ✔ Second normal form
3. ✖ Fourth normal form
4. ✖ Third normal form

Question Number : 51 Question Id : 35918115061 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

If a relation is in BCNF then it is in

Options :

1. ✔ 3 NF

2. ✖ 4 NF

3. ✖ 5 NF

4. ✖ 6 NF

Question Number : 52 Question Id : 35918115062 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

IBM's Information Management System (IMS) is an example of

Options :

1. ✖ Relational Database Management System

2. ✖ Network Database Management System

3. ✔ Hierarchical Database Management System

4. ✖ A relative file system

Question Number : 53 Question Id : 35918115063 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

CODASYL model is

Options :

1. ✔ A standardization of network data model

2. ✖ an example of hierarchical data model

3. ✖ an instance of relational data model

4. ✖ an occurrence of a sequential file organization

Question Number : 54 Question Id : 35918115064 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

In the relation EMPLOYEEES (EMP_ID, EMP_NAME, DEPT_GRADE, SALARY) what could be chosen a primary key?

Options :

1.  EMP_ID
2.  EMP_NAME
3.  SALARY
4.  DEPTT_GRADE

Question Number : 55 Question Id : 35918115065 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Referential integrity is with reference to

Options :

1.  Primary key
2.  Super key
3.  Foreign key
4.  Alternate key

Question Number : 56 Question Id : 35918115066 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The number of CODD rules which characterize an RDBMS is

Options :

1.  32
2.  12
3.  20

Question Number : 57 Question Id : 35918115067 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The questions numbered 57 to 61 are based on the following relation schema.

sailors (sailor_id, sailor_name, age);

boats (boat_id, boat_name, colour);

reserves (sailor_id, boat_name, day);

The SQL query

SELECT COUNT (*) FROM sailors;

gives

Options :

1. ✖ Name of all sailors
2. ✔ Number of sailors
3. ✖ Names and ages of sailors
4. ✖ sailor_id, sailor_name and of all tuples of the sailors relation.

Question Number : 58 Question Id : 35918115068 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The questions numbered 57 to 61 are based on the following relation schema.

sailors (sailor_id, sailor_name, age);

boats (boat_id, boat_name, colour);

reserves (sailor_id, boat_name, day);

Which of the following SQL-queries represent the statement “All the ages of sailors whose name begins and ends with B and has at least three characters”

Options :

1. ✔ SELECT S.age FROM sailors S WHERE S.sailor_name LIKE 'B_%B';

2. ✖ SELECT S.age FROM sailors WHERE S.sailor_name LIKE 'B_%B';
3. ✖ SELECT age FROM sailors WHERE sailor_name AS (CHAR) >= 3;
4. ✖ SELECT age FROM sailors WHERE sailor_name AS MIN(CHAR) = 3;

Question Number : 59 Question Id : 35918115069 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The questions numbered 57 to 61 are based on the following relation schema.

sailors (sailor_id, sailor_name, age);

boats (boat_id, boat_name, colour);

reserves (sailor_id, boat_name, day);

The average age of sailors can be represented in SQL as

Options :

1. ✔ SELECT AVG (S.age) FROM sailors S;
2. ✖ SELECT AVERAGE (S.age) FROM sailors S;
3. ✖ SELECGT AVERAGE(*) FROM sailors;
4. ✖ SELECT ALL AVG(age) FROM sailors;

Question Number : 60 Question Id : 35918115070 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The questions numbered 57 to 61 are based on the following relation schema.

sailors (sailor_id, sailor_name, age);

boats (boat_id, boat_name, colour);

reserves (sailor_id, boat_name, day);

What does the following SQL query imply?

```
SELECT S.sailor_name FROM sailors S WHERE S.sailor_id IN  
(SELECT R.sailor_id FROM reserves R WHERE R.boat_id = 103);
```

Options :

1. ✖ The names of the sailors who are reserved for the boat number 103
2. ✔ The names of the sailors who have reserved boat number 103
3. ✖ The names of the sailors whose names are same as that of boat names
4. ✖ The names of the sailors who are sailing presently in boat number 103

Question Number : 61 Question Id : 35918115071 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The questions numbered 57 to 61 are based on the following relation schema.

sailors (sailor_id, sailor_name, age);

boats (boat_id, boat_name, colour);

reserves (sailor_id, boat_name, day);

What does the following query represent?

```
SELECT S.sailor_name FROM sailors S, boats B, reserves R  
WHERE S.sailor_id = R.sailor_id AND R.boat_id = B.boat_id AND  
R.boat_id = B.boat_id AND (B.colour = 'red' OR B.colour = 'green');
```

Options :

1. ✖ The names of the sailors who are travelling by a red or a green boat

2. ✖ The names of the sailors who have reserved both a red and a green boat
3. ✖ The names of the sailors who have a red boat not a green boat
4. ✔ The names of the sailors who have reserved a red or a green boat

Question Number : 62 Question Id : 35918115072 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Any public key crypto-system will have

Options :

1. ✔ one private key and one public key
2. ✖ one private key and two public keys
3. ✖ two private keys and two public keys
4. ✖ two private keys and one public key

Question Number : 63 Question Id : 35918115073 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The concept of serializability in a Data Base Management System is related to

Options :

1. ✖ secret key cryptography
2. ✖ normalization of relations
3. ✔ concurrency control
4. ✖ E-R models

Question Number : 64 Question Id : 35918115074 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

In a particular bank, a loan can belong to only one customer and a customer can have several loans then the relationship from customer to loan is

Options :

1. ✖ many to many
2. ✖ many to one
3. ✖ one to one
4. ✔ one to many

Question Number : 65 Question Id : 35918115075 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Linear probing is a method of

Options :

1. ✔ resolving collisions in hashing
2. ✖ mapping cardinalities
3. ✖ normalizing tables
4. ✖ database recovery

Question Number : 66 Question Id : 35918115076 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

A database system consisting of a collection of sites where each site provides local database management support is called

Options :

1. ✖ remote database system
2. ✖ Parallel data base system

3. ☒ Distributed data base system

4. ☐ Centralized database system

Question Number : 67 Question Id : 35918115077 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

A database schema is specified by a set of definitions special language called

Options :

1. ☐ Data manipulation Language

2. ☒ Data Definition language

3. ☐ Data insertion Language

4. ☐ Data driven Language

Question Number : 68 Question Id : 35918115078 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following is a characteristic of an object oriented programming language?

Options :

1. ☐ Forward reasoning

2. ☐ Concurrency contest

3. ☒ Polymorphism

4. ☐ Byte code

Question Number : 69 Question Id : 35918115079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following statements is true?

Options :

1. ✖ C is an objected oriented language
2. ✖ C++ is a platform independent language
3. ✔ JAVA is an object oriented language
4. ✖ C is a platform independent language

Question Number : 70 Question Id : 35918115080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

When a Java programing is complied, the file produced by the complier ends with the _____ file extension.

Options :

1. ✖ .Java
2. ✔ .class
3. ✖ .exe
4. ✖ .jdbc

Question Number : 71 Question Id : 35918115081 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

The file produced by the Java complier contains _____ that are executed by the Java virtual Machine.

Options :

1. ✖ procedures
2. ✖ functions
3. ✖ routing
4. ✔ byte codes

Question Number : 72 Question Id : 35918115082 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following type format is used to output values of type double?

Options :

1.  %f

2.  %d

3.  %c

4.  %ff

Question Number : 73 Question Id : 35918115083 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following is correct in Java?

Options :

```
1) int sum(int x, int y)
    {
        int result;
        result = x + y;
    }
```

1. 

```
int sum(int x, int y)
{
    result = x + y;
    return result;
}
```

2. 

```
int sum(int x, int y)
{
    return x + y;
}
```

3. 

```
int sum(int x, int y)
{
    return = x + y;
}
```

4. 

Question Number : 74 Question Id : 35918115084 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following statements of Java is syntactically wrong?

Options :

1.  `x+ = 1;`

2.  `while (c <= 5) {product *=c; ++c;}`

3.  `if (count > 10) system.out.println("count is less than 10");`

4.  `x++ = y;`

Question Number : 75 Question Id : 35918115085 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

What is the output of the following Java segment?

```
sum = 0
for(cont = 1; cont <= 9; cont+ = 2)
    sum+ = cont;
```

Options :

1.  25

2. ✖ 55

3. ✖ 45

4. ✖ 16

Question Number : 76 Question Id : 35918115086 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

What is the output of the following Java segment?

```
import static java.lang.math.*;

{

    public class StaticImportTest

    {

        public static void main(String[] args)

        System.out.printf("ceil( -9.8 ) = %.1f\n, ceil( -9.8) );

    }

}
```

Options :

1. ✔ -9.0

2. ✖ -10.0

3. ✖ 9.0

4. ✖ 10.0

Question Number : 77 Question Id : 35918115087 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

_____ is a form of software reusability in which new classes acquire the members of existing classes and embellish those classes with new capabilities.

Options :

- 1. ☒ Inheritance
- 2. ☐ Polymorphism
- 3. ☐ Overloading
- 4. ☐ Type casting

Question Number : 78 Question Id : 35918115088 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following is true?

Options :

- 1. ☐ All methods in an abstract class must be declared as abstract methods.
- 2. ☐ Invoking a subclass-only method through a subclass variable is not allowed.
- 3. ☐ if a superclass declares an abstract method, a subclass must implement that method.
- 4. ☒ An object of a class that implements an interface may be thought of as an object of that interface type.

Question Number : 79 Question Id : 35918115089 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Try and catch in Java are related to

Options :

- 1. ☐ control statement
- 2. ☐ program preprocessing
- 3. ☐ 'finally' block
- 4. ☒ exception handling

Correct : 1 Wrong : 0

In JAVA program, a resource leak occurs when _____.

Options :

1. 

an executing program does not properly release a resource when it is no longer needed

2.  unwanted resources overload the system

3.  two or more complimentary processes work together

4.  no resource is allocated

Correct : 1 Wrong : 0

If s_1 and s_2 are two strings in JAVA, then the result of the statement $s_1 += s_2$; is

Options :

1.  The number of characters of s_2 are added to the number of characters of s_2

2.  The string s_2 is appended to s_1

3.  A Syntax error

4.  Identifying when both s_1 and s_2 are of same length or not

Correct : 1 Wrong : 0

What does the following JAVA code?

```
public int mystery (int a, int b)
{
    if (b==1)
        return a;
    else
        return a + mystery (a,b-1);
}
```

Options :

1. ✖ $a + b$
2. ✖ a/b
3. ✖ $a - b$
4. ✔ $a*b$

Question Number : 83 Question Id : 35918115093 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Java applets begin execution with a series of three method calls: _____, _____
and _____.

Options :

1. ✔ int, start, paint
2. ✖ start, begin, end
3. ✖ begin, execute, end
4. ✖ start, execute, end

Question Number : 84 Question Id : 35918115094 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

In Java multithreading, keyword synchronized indicates that only one thread at a time should execute on an object

Options :

1. ☐ running
2. ☐ waiting
3. ☒ Synchronized
4. ☐ sleeping

Question Number : 85 Question Id : 35918115095 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

An object of class InetAddress contains a IP Address

Options :

1. ☐ DatagramSocket
2. ☒ InetAddress
3. ☐ PolyAddress
4. ☐ IOException

Question Number : 86 Question Id : 35918115096 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following statements is false?

Options :

1. ☒ UDP is a connection-oriented protocol
2. ☐ With stream sockets a process establishes a connection to another process
3. ☐ A server waits at a port for connections from a client.

Datagram packet transmission over a network is reliable

4. ✖

Question Number : 87 Question Id : 35918115097 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

‘ACID’ properties are related to

Options :

1. ✖ a distributed database application
2. ✔ a transaction in DBMS
3. ✖ Null values of a query of a database
4. ✖ preprocessing of a database query

Question Number : 88 Question Id : 35918115098 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

_____ helps solve concurrency process.

Options :

1. ✖ Two phase commit
2. ✖ Transaction monitor
3. ✖ Locking
4. ✔ Serializability

Question Number : 89 Question Id : 35918115099 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

In a two-phase locking protocol a transaction release locks in _____ phase.

Options :

1. ✔ shrinking

2. ✖ growing

3. ✖ running

4. ✖ initial

Question Number : 90 Question Id : 35918115100 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

Commit and roll back are related to _____.

Options :

1. ✖ data integrity

2. ✔ data consistency

3. ✖ data sharing

4. ✖ data security

Question Number : 91 Question Id : 35918115101 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct : 1 Wrong : 0

The full form of OLAP is _____.

Options :

1. ✔ Online analytical processing

2. ✖ Online advanced processing

3. ✖ Online advanced preparation

4. ✖ Online analytical performance

Question Number : 92 Question Id : 35918115102 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The data is stored, retrieved and updated in _____.

Options :

1. ✖ OLAP
2. ✔ OLTP
3. ✖ SMTP
4. ✖ FTP

Question Number : 93 Question Id : 35918115103 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The process of managing simultaneous operations on the database without having them interfere with one another is

Options :

1. ✖ Serializability
2. ✖ Recoverability
3. ✔ Concurrency control
4. ✖ Transaction management

Question Number : 94 Question Id : 35918115104 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

A schedule where the operations of each transaction are executed consecutively without any other interference from other transactions is called

Options :

1. ✖ Non-serial schedule
2. ✔ Serial schedule

Recoverable schedule

3. ✖

Non-recoverable schedule

4. ✖

Question Number : 95 Question Id : 35918115105 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following is not a deadlock handling strategy?

Options :

Deadlock prevention

1. ✖

Timeout

2. ✖

Deadlock detection and recovery

3. ✖

Deadlock annihilation

4. ✔

Question Number : 96 Question Id : 35918115106 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following refers to the size of the data item chosen as the unit of protection by a concurrency control program?

Options :

Granularity

1. ✔

Lock

2. ✖

Starvation

3. ✖

Timestamp

4. ✖

Question Number : 97 Question Id : 35918115107 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following hashing techniques allows a hash file to expand and shrink its number of buckets dynamically without needing a directory?

Options :

1. ✖ Linear hashing
2. ✔ Extensible hashing
3. ✖ Internal hashing
4. ✖ External hashing

Question Number : 98 Question Id : 35918115108 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

Which of the following indexes is based on the values being uniformly distributed using a mathematical function?

Options :

1. ✖ Ordered index
2. ✔ Hashed index
3. ✖ Dense index
4. ✖ Sparse index

Question Number : 99 Question Id : 35918115109 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

The entity integrity rule states that

Options :

1. ✔ No primary key attribute can be null
2. ✖ Referential integrity must be maintained across all entities

3. ✖ Each entity must have a primary key

4. ✖ A primary key must have only one attribute

Question Number : 100 Question Id : 35918115110 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct : 1 Wrong : 0

A transaction completes its execution is said to be

Options :

1. ✔ Committed

2. ✖ Aborted

3. ✖ Rolled back

4. ✖ Failed