



## SLC Brush-Up Exam - 2011

### Answer Key

Round: #1 : Set: B

#### Group 'A'

[Fundamentals - 22 marks]

**1. Answer the following question:**

(5×2=10)

- a) "Computer network reduces cost". Give any two points to support this statement.
- The word 'Network' refers to an interconnected system which reduces the cost.  
The two points to support this statement are:
    - i) Hardware sharing: In organizations, offices there may be more than one computer and they may need to produce hardcopy outputs, scan documents and send faxes. But it is impractical for each individual computer to have expensive hardware like printer, scanner, fax machines etc. So, to reduce the cost, computers are kept on the network.
    - ii) Data and Software sharing: A computer on the network can legally and easily share the copies of software and programs with computers which reduces the economic cost. Data and information on a network can be used by other computers on the network.
- b) What is computer security? Mention any two software security measures.
- The security given to the computer for the protection of hardware, software and data is called computer security. It is a complex problem which includes policies, tools and techniques designed to protect a computer and its resources.  
The two software security measures are:
    - i) Protection from computer viruses
    - ii) Backup data
- c) Define e-commerce and Internet telephony.
- E-commerce is the process of doing business online through the Internet. It refers to conduct business activities, transferring fund from one place to another, accessing business information by using Internet.  
Internet telephony is a system that allows the user to make telephone communication or voice communication through the Internet. It is one of the cheaper and reliable services provided by the Internet.
- d) What is antiviral software? Name any two types of virus.
- Antiviral software is a type of software which is designed to detect and remove viruses from computer system to ensure a virus free environment. It can be a memory resident. Whenever the computer system is booted the antiviral program starts. It checks the virus in all the files in the computer.  
Two types of viruses are: i) Macro Virus ii) Multipartite Virus
- e) What is cyber law? Write any two ethical values for computer operators.
- The law, which is related with the Internet and Cyber space, is called cyber law. It was introduced in 2061 B.S.(2004). Cyber law is very important to controls cybercrimes and misuse of computer.  
The two ethical values for computer operators are:
    - i) You shouldn't use computer to harm other people.
    - ii) You shouldn't make duplicate of someone's work (software, design etc.)

**2. a) Perform the following Binary calculation:**

(2×1=2)

i)  $(101) \times (11) + (1101)$

➤  $(11100)$

ii)  $110101 \div 111$

➤ (Quotient = 111 Remainder = 100)

**b) Perform as indicated:**

(2×1=2)

i)  $(10101110)_2$  into Decimal

➤  $(256)_8$

ii)  $(A5B)_{16}$  into Octal

➤  $(5133)_8$

[Note: Students have to show the whole process to get full marks.]

**3. Select the correct answer:**

(4×0.5=2)

- a) It allows user to make communication with each other in real time ----- .  
i) Browsing      ii) **IRC**      iii) E-Mail      iv) None
- b) Cyber law refers to the laws regarding the ----- .

- i) Hardware & Software      ii) Computer system
- iii) **Internet & Cyberspace**      iv) Computer Programmer
- c) Which is the network operating system?
  - i) MS-DOS      ii) Windows 7      iii) MS-UNIX      iv) **Windows NT**
- d) An example of anti-virus is ----- .
  - i) PC-tool      ii) Smart Editor      iii) **MCAfee**      iv) DAP

**4. Write the full form of the following:** (4×0.5=2)

- a) UTP = Unshielded Twisted Pair
- b) MAC = Media Access Control
- c) ASCII = American Standard Code for Information Interchange
- d) HTTP = Hyper Text Transfer Protocol

**5. Match the following:** (4×0.5=2)

- | ➤ <u>Group A</u> | <u>Group B</u>  |
|------------------|---|
| a) Hub           | (i) Broadcasts the signals to all the connected node              |
| b) Router        | (ii) Forwards the request to the appropriate network              |
| c) Repeater      | (iii) Amplifies the incoming signals and creates a new copy of it |
| d) Gateway       | (iv) Connects to the outer network                                |

**6. Give the appropriate technical terms of the following:** (4×0.5=2)

- a) A program that corrupts useful data and programs. = **Virus**
- b) A device that connect two different networks. = **Router**
- c) A business through Internet. = **E-commerce**
- d) The scattering of the parts of the same disk file over different locations. = **Fragmentation**

**Group 'B'**  
[Database Management - 10 Marks]

**7. Answer the following question:** (3×2=6)

- a) List any four features of MS-Access.
  - Four features of MS-Access are:
    - i) It shares data with other applications such as Word, Excel or Web pages.
    - ii) It incorporates Structured Query Language (SQL), macros and Visual Basic (VB).
    - iii) It is Relational Database Management System (RDMS).
    - iv) Has several objects such as query, table, report, forms, macros, modules etc.
- b) What is the importance of Query in database?
  - A query is search or question that we make for a record or an item. Queries help to investigate about data records. We can filter, delete, update and insert the records into the tables from query.
- c) Mention any four options that field properties pane consists.
  - The four options that field properties pane consists are:
    - i) Field Size
    - ii) Format
    - iii) Caption
    - iv) Validation Rule

**8. Choose the correct answer [Choose all that apply]:** (4×0.5=2)

- a) Which is/are data type(s) of MS-Access?
  - i) **Memo**      ii) **Hyperlink**      iii) Word      iv) **Lookup Wizard**
- b) Memory Space used by Auto Number data type is ----- .
  - i) 1 Byte      ii) 2 Bytes      iii) **4 Bytes**      iv) 8 Bytes
- c) The primary key can not contain ----- value.
  - i) **Null**      ii) No Null      iii) Number      iv) Auto Number
- d) MS-Access supports ----- types of data.
  - i) 7      ii) 8      iii) 9      iv) **10**

**9. Match the following:** (4×0.5=2)

- | ➤ <u>Group A</u> | <u>Group B</u>                 |
|------------------|--------------------------------|
| a) Table         | (i) Information on one subject |
| b) Memo          | (ii) Data Type                 |
| c) Sort Query    | (iii) Easy to search           |
| d) One to One    | (iv) Relationship              |

**Group 'C'**  
**[Programming - 18 Marks]**

10. a) List any two advantages of modular programming. (1)  
➤ The two advantages of modular programming are:  
i) Easy to debug the program.  
ii) Program will be simple and manageable.
- b) Write down any two features of C language. (1)  
➤ Any two features of C language are:  
i) C contains very less number of keywords (altogether 32).  
ii) C has ability to extend itself by adding more functions to its library.

11. Write down the function of the following statements: (2×0.5=1)

- a) **KILL**  
➤ This statement is used to erase file in QBASIC.  
Eg. **KILL "ABC.DAT"**
- b) **DATE\$ statement**  
➤ This statement is used to set the system date in QBASIC.  
Eg. **DATE\$="02/11/2011"**

12. Write the output of the following program. (2)

```
DECLARE SUB Show (N)
CLS
FOR I = 1 TO 5
    READ N
    CALL Show (N)
NEXT I
DATA 21,15,81,20,42
END
=====
SUB Show (N)
X = N MOD 3
X1 = N MOD 5
IF X = 0 AND X1 <> 0 THEN PRINT N;
END SUB
```

- The output of the above program is  
21 81 42  
[Note: The memory table should be shown to obtain full marks.]

13. Re-write the given program after correcting the bugs. (2)

```
REM to check the number palindrome or not
DECLARE SUB check (n)
CLS
INPUT "Any number "; n
CALL check (n)
END
=====
SUB check (x)
x=a
WHILE x <> 0
    r = x MOD 10
    s = s + r *10
    x = x - 10
WEND
IF x = s THEN
    PRINT "Palindrome"
ELSE
    PRINT "Not Palindrome"
END IF
END SUB
```

➤ The corrected code is given below:

```
REM to check the number palindrome or not
DECLARE SUB check (n)
CLS
INPUT "Any number "; n
CALL check (n)
END
=====
SUB check (x)
a = x
WHILE x <> 0
    r = x MOD 10
    s = s * 10 + r
    x = x \ 10
WEND
IF a = s THEN
    PRINT "Palindrome"
ELSE
    PRINT "Not Palindrome"
END IF
END SUB
```

14. Study the following program and answer the given questions.

(2×1=2)

```
DECLARE SUB test (a, b)
CLS
x = 4: y = 6
CALL test(x, y)
PRINT x, y
END
=====
SUB test (p, q)
FOR i = p TO q
    p = p + q
    q = q + p
NEXT i
END SUB
```

a) What is the output of the above program?

➤ 68 110

b) If CALL test(x,y) is modified as CALL test(x, (y) ), then what will be the output?

➤ 68 6

15. a) Write a program to display the below output using a SUB procedure.

(3)

```
*
**
***
****
*****
*
**
***
****
*****
*
*
*
*
*
```

```
DECLARE SUB display ()
CLS
CALL display
END
=====
```

```

SUB display
FOR i = 1 TO 5
    FOR j = 1 TO i
        PRINT "*";
    NEXT j
    PRINT
NEXT i
FOR i = 1 TO 5
    FOR j = 1 TO i
        PRINT "*";
    NEXT j
    PRINT
NEXT i
FOR i = 1 TO 5
    PRINT "*"
NEXT i
END SUB

```

- b) Write a program that asks Principal Amount (P), Time (T) and Rate of Interest (R) and calculates the Total Amount (T) using a **FUNCTION** procedure. Total Amount (T) = P(Principal Amount) + I (Simple Interest) (3)

```

DECLARE FUNCTION amount (P, T, R)
CLS
INPUT "Principal Amount "; P
INPUT "Time "; T
INPUT "Rate of Interest "; R
PRINT "Total Amount = "; amount(P, T, R)
END

```

```

=====
FUNCTION amount (P, T, R)
I = (P * T * R) / 100
amount = P + I
END FUNCTION

```

- c) A sequential data file "class.dat" has several records with fields students' name, roll and class. Write a program that reads all the records and displays only those records whose roll number is less than 10. (3)

```

➤ OPEN "class.dat" FOR INPUT AS #1
CLS
WHILE NOT EOF(1)
INPUT #1, s$, r, c
IF r < 10 THEN PRINT s$, r, c
WEND
CLOSE #1
END

```

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