



## SLC Brush-Up Exam - 2011

### Answer Key

Round: #2 Set: A

Group 'A'- [Fundamentals - 22 marks]

1. Answer the following question: (5×2=10)

- a) Define network topology. Write any two disadvantages of computer network.
- The arrangement or connection pattern of computer or nodes and other devices of network are known as network topology.
- Advantages of network:
- Computer in a network system share different software packages.
  - Data in a network environment can be updated from any computer.
- Disadvantages of network:
- Network failure cause loss of data.
  - System opens to hackers.
- b) Explain WWW.
- The World Wide Web (WWW) is one of the services provided by Internet. The WWW service can be accessed by using a protocol called HTTP. It provides information on various topics through different web sites using text, image, animation, video, sound and other media. It is often referred to as the Internet.
- c) How can software prevent data loss?
- Software prevent data loss by following ways:
- Antivirus software can detect and remove viruses from computer.
  - Software for scan disk checks files, folders, bad sectors and any other errors of the specific disk and fix them.
  - Software for backup helps in securing the information by keeping the important computer data or files in another location.
- d) Write down the role of multimedia technology in classroom.
- Multimedia is the integration or combination form of different media. The word multimedia is made up of two separate words 'multi' and 'media' which means many and materials through which information may be provided to the people. Classroom presentation becomes more interactive with the use of multimedia technology because it presents the information in the variety of forms with effective explanation of the related subject matter to the students. The learner is also able to learn the subject matter easily.
- e) List any four steps taken to protect a computer from a virus.
- The steps taken to protect a computer from a viruses are:
- Use updated anti-virus software.
  - Scan the mail or unknown files of Internet before opening in the computer.
  - Do not install pirated software.
  - Do not use free distributed software.

2. a) Perform the following Binary calculation: (2×1=2)

i)  $(101101) + (1111) - (10110)$

➤  $(100110)$

ii)  $101101 \div 101$

➤ (Quotient = 1001 Remainder = 0)

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

b) Perform as indicated: (2×1=2)

i)  $(305)_8$  into Decimal

➤  $(197)_{10}$

ii)  $(CAF)_{16}$  into Binary

➤  $(110010101111)_2$

3. Select the correct answer: (4×0.5=2)

- a) ----- is the main line of defense between a local network, or intranet, and the Internet.
- i) USB port      ii) Encryption key      iii) **Firewall**      iv) None
- b) ----- is someone who uses a computer and a network Internet connection to intrude into another computer of system to perform an illegal act.
- i) Programmer      ii) **Hacker**      iii) Terrorist      iv) Spammer
- c) ----- means any kind of multi way communication carried out in real time using telecommunication or computer network equipment.
- i) Video Conferencing      ii) Data Conferencing
- iii) **Teleconferencing**      iv) Serial Conferencing
- d) Each computer on the Internet has a unique address called a(n) ----- .
- i) domain name      ii) protocol address      iii) **IP address**      iv) URL

4. Write the full form of the following: (4×0.5=2)
- BNC = British Naval Connector
  - AVG = Anti-Virus Guard
  - UPS = Uninterruptible Power Supply
  - BBS = Bulletin Board System

5. Match the following: (4×0.5=2)
- |                  |  |
|------------------|--|
| ➤ <u>Group A</u> | <u>Group B</u>                               |
| a) Duplex        | (i) two way of communication Online business |
| b) E-commerce    | (ii) Online business a network component     |
| c) Router        | (iii) a network component                    |
| d) Virus         | (iv) destructive program                     |

6. Give the appropriate technical terms of the following: (4×0.5=2)
- Medium that carries data without physical path. = Unguided Medium
  - A secret word that gives a user access to a particular program and system. = Password
  - A technology that makes teaching-learning easier in a classroom. = Multimedia Technology
  - A program that controls the functions of the hardware device. = Operating System Software

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

7. Answer the following question: (3×2=6)
- What is database Management System? Give any two example of Database management system software.  
➤ DBMS (Database Management System) is a software that defines a database, stores the data and supports a query language, produces reports, and creates data entry forms.  
Some DBMS software are MS-Access, Oracle and FoxPro etc.
  - Differentiate between Select query and Action query.  
➤ A select query retrieves information that we want from one or more tables in a database.  
An action query is a query that makes changes to or moves many records in just one operation. Some action queries are Delete, Append and Update.
  - Identify a record, field and value from the following table structure.

Roll	Name	Marks
1	Sarika Pradhan	46
2	Utsav Khadka	45

➤ Record:

1	Sarika Pradhan	46
---	----------------	----

Field:

Marks
46
45

Value: 46, Utsav Khadka etc.

8. Write True or False (4×0.5=2)
- A group of related field that describe a person, place, or thing is called a field.  
➤ False
  - MS Access can import tables from other application.  
➤ True
  - Field name can be up to 64 characters long.  
➤ True
  - Removing a primary key does not delete a field.  
➤ True

9. Match the following: (4×0.5=2)
- |                  |   |
|------------------|---|
| ➤ <u>Group A</u> | <u>Group B</u>  |
| a) Caption       | (i) A descriptive name for the field.                       |
| b) Field Size    | (ii) Setting the maximum size for data stored.              |
| c) Default Value | (iii) A value that is automatically entered for new record. |
| d) Format        | (iv) Specifies how the field will be displayed.             |

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

10. a) How do you define global & local variable in QBASIC. Give an example. (1)
- The following statements are used to define global variable in QBASIC.  
DIM SHARED  
COMMON SHARED  
SHARED  
For eg.  
COMMON SHARED A\$

In QBASIC, by default the variables are local. We also can define local variable using the DIM statement.  
For eg. DIM A as INTEGER

- b) List any three keywords of C language. (1)  
➤ Any three keywords of C language are **int**, **float**, **printf**.

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

- a) **FILES** - **FILES** command is used to list the files and directories from the current location.  
b) **SHARED** - **SHARED** statement is used to define global variables in sub modules.  
For eg. **SHARED A\$**

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

```
DECLARE SUB show (abc$)
CLS
abc$ = "ZHTUOMENXSA"
CALL show(abc$)
END
```

```
=====
SUB show (abc$)
y = 48
FOR I = 1 TO 5
    n = y MOD 7
    PRINT MID$(abc$, n, 1);
    y = y - 1
NEXT I
END SUB
```

- The output of the above program is:

**MOUTH**

[Note: The memory table should be shown to obtain full marks.]

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

```
REM To add records in an existing file
CLS
OPEN "record.dat" FOR OUTPUT AS #1
aa:
INPUT "Name, class & roll "; n$, c, r
INPUT #2, n$, c, r
INPUT "more records "; y$
IF y$ = "y" THEN GOTO aa
CLOSE "record.dat"
END
```

- 

```
REM To add records in an existing file
CLS
OPEN "record.dat" FOR APPEND AS #2
aa:
INPUT "Name, class & roll "; n$, c, r
WRITE #2, n$, c, r
INPUT "more records "; y$
IF y$ = "y" THEN GOTO aa
CLOSE #1
END
```

14. Study the following program and answer the given questions. (2×1=2)

```
REM check the supplied no. is perfect square or not
DECLARE FUNCTION check (a)
CLS
INPUT "type any number: "; n
IF check(n) = 0 THEN
    PRINT "Perfect Square"
ELSE
    PRINT "Not Perfect Square"
END IF
END

=====
FUNCTION check (x)
s = SQR(x)
IF s = FIX(s) THEN
    check = 1
ELSE
```

```

        check = 0
END IF
END FUNCTION

```

a) Does the program run without any mistakes? If not, why?

➤ No, the program contains the logical error. The line

```
IF check(n) = 0 THEN
```

Should be

```
IF check(n) = 1 THEN
```

Or need same type of correction in Sub module.

b) Does the program give same output if **FIX()** function is replaced by **INT()** function?

➤ Yes, the program will have no different in their output.

15. a) Write a program to generate the below series using a **SUB** procedure. (3)

5 10 15 25 40 65 105 ... .. up to 10<sup>th</sup> terms.

➤ **DECLARE SUB display ()**

```
CLS
```

```
CALL display
```

```
END
```

```
=====
```

```
SUB display
```

```
a = 5: b = 10
```

```
PRINT a; b;
```

```
FOR i = 1 TO 8
```

```
    c = a + b
```

```
    PRINT c;
```

```
    a = b
```

```
    b = c
```

```
NEXT i
```

```
END SUB
```

b) Write a program that asks any 3 numbers and displays the difference between the greatest and the smallest value among the 3 supplied numbers using a **FUNCTION** procedure. (3)

➤ **DECLARE FUNCTION diff (a, b, c)**

```
CLS
```

```
INPUT "Type any 3 numbers "; a, b, c
```

```
PRINT "Difference = "; diff(a, b, c)
```

```
END
```

```
FUNCTION diff (x, y, z)
```

```
IF x > y AND x > z THEN
```

```
    G = x
```

```
ELSEIF y > x AND y > z THEN
```

```
    G = y
```

```
ELSE
```

```
    G = z
```

```
END IF
```

```
IF x < y AND x < z THEN
```

```
    S = x
```

```
ELSEIF y < x AND y < z THEN
```

```
    S = y
```

```
ELSE
```

```
    S = z
```

```
END IF
```

```
diff = G - S
```

```
END FUNCTION
```

c) Write a program that asks item's name, rate and quantity and stores into "sales.txt". The user can supply 10 records in each execution of the program. (3)

➤ **OPEN "O", #2, "sales.txt"**

```
CLS
```

```
FOR i = 1 TO 10
```

```
    INPUT "Item's name "; p$
```

```
    INPUT "Rate "; r
```

```
    INPUT "Quantity "; q
```

```
    WRITE #2, p$, r, q
```

```
NEXT i
```

```
CLOSE #2
```

```
END
```

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