X/21/CSc

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COMPUTER SCIENCE

(FOR CANDIDATES WITH INTERNAL ASSESSMENT)

Full Marks : 80

Pass Marks : 24

(FOR CANDIDATES WITHOUT INTERNAL ASSESSMENT)

Full Marks : 100

Pass Marks : 30

Time : 3 hours

(FOR ALL CATEGORIES OF CANDIDATES)

General Instructions :

(i) The candidates are advised to attempt all questions accordingly.

(ii) Marks allocated to every question are indicated against each.

(iii) Sections A and B are to be answered by all Candidates.

(iv) Section C is to be answered by Candidates without internal marks.

[P.T.O.

(2)

SECTION—A

(*Maximum Marks* : 30)

(Objective-type Questions)

1. Choose and write the correct answer for the following (any *ten*) :   1×10=10

   (a) Which of the following is not an operating system?

      (i) MS-DOS

      (ii) MS-Word

      (iii) Windows

      (iv) Linux

   (b) Disk defragmenter is a/an

      (i) database program

      (ii) presentation program

      (iii) operating system

      (iv) utility software

   (c) DNS stands for

      (i) Data Name System

      (ii) Domain Network Service

      (iii) Device Name System

      (iv) Domain Name System

(3)

(d) HTML document can be displayed in

    (i) Web server

    (ii) Web browser

    (iii) Web editor

    (iv) Web page

(e) Int main() is a/an _____ declaration.

    (i) main

    (ii) data

    (iii) function

    (iv) integer

(f) Which statement causes the program to skip the rest of the loop?

    (i) continue

    (ii) break

    (iii) skip

    (iv) goto

(g) Which of the following is a Java IDE?

    (i) Eclipse

    (ii) NetBeans

    (iii) Both *(i)* and *(ii)*

    (iv) Creator

[P.T.O.

(h) _____ is the Java file extension.

   (i) .Java

   (ii) .beans

   (iii) .JSP

   (iv) .class

(i) _____ is the software that can replicate itself and spread to other computers.

   (i) Virus

   (ii) Antivirus

   (iii) Firewall

   (iv) Email

(j) Which of the following is not an antivirus program?

   (i) Trojan

   (ii) Norton

   (iii) AVG

   (iv) McAfee

(k) Which of the following is not an audio data?

   (i) Sound

   (ii) Voice

   (iii) Music

   (iv) Motion

(l) Which attribute of <A> tag is used to create a named anchor?

   (i) HREF

   (ii) NAME

   (iii) SRC

   (iv) ALT

(m) A C++ file is saved with which extension?

   (i) .C

   (ii) .CP

   (iii) .CPP

   (iv) .C++

(Short Answer-type Questions)

2. Answer any *three* questions in *2–3* sentences each : 2×3=6

(a) What is the use of presentation software?

(b) How many KB are there in 2 MB?

(c) What is encryption?

(d) What does the A–F refer to in hexadecimal number system?

(e) Convert $(1111)_2$ into its decimal equivalent.

(f) Name any two network operating systems.

(6)

3. Answer any *three* questions in *2–3* sentences each :   2×3=6

(a) Name the protocols used for transport of data in a network.

(b) Differentiate between Web site and Web page.

(c) Define a URL and name its three parts.

(d) Give suitable tag for the following :

   (i) To add an image to an HTML document

   (ii) To list the items with numbers in a Web page.

     Example :

     1. Mango

     2. Apple

(e) Name them :

   (i) Text only browser which started in 1992

   (ii) First successful graphical browser

(f) Write the purposes of the following :

   (i) <DT>...</DT>

   (ii) <DD>...</DD>

4. Answer any *two* questions in *2–3* sentences each :   2×2=4

(a) Evaluate the following expressions and display the output :

int p, q=5, r=7;

   (i) p=(q>r)? r : q;

     cout<<p;

   (ii) p = ++q–r%5;

     cout<<p;

(b) Which loop statement is called an exit controlled loop and why?

(c) Write any two jump statements in C++.

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(d) Convert the following into equivalent C++ statements using increment/decrement/assignment operators :

(i) a=a−b;

(ii) n=n∗5;

5. Answer any *two* questions in *2–3* sentences each : 2×2=4

(a) Differentiate between Encapsulation and Abstraction.

(b) What are the steps involved to write Java program using Notepad?

(c) Write the steps to evaluate the following expression :
$$x=5-(y+z/2);$$

(d) Explain automatic memory management feature in Java.

SECTION—B

(*Maximum Marks* : 50)

(Descriptive-type Questions)

[Computer Fundamentals]

6.   *Either*

(a) What is the use of utility software on the basis of operating system? Write the names of common utility programs supplied as the part of operating system. 6

Or

(b) Write the commands in operating system to perform the following operations : 1½×4=6

(i) Display all the files beginning with RA followed by any character and with any extension name.
(in DOS)

(ii) Write the command to remove an empty directory TEMP.

(in DOS)

(iii) Display the contents of a file **exam.txt**.

(in Linux)

(iv) Allow the user to remove a file **exam.txt**.

(in Linux)

7. *Either*

(a) Add the following binary numbers after converting them into their equivalent decimal numbers :   6

$(111101)_2$, $(10111)_2$, $(1001)_2$

Or

(b) What are the various number systems that are used in computer? Explain each of them.   1½×4=6

[Internet Basics]

8. *Either*

(a) How does the Internet work? What are the things you need to connect a computer system to the internet?   2+3=5

Or

(b) What is HTML tag? Explain the types of tags.   3+2=5

9.   *Either*

(a) Debug the following HTML codes which are written in bold letters :   1×5=5

   (i) <HEAD><TITLE>MY WEB PAGE</**HEAD**>
                                              </**TITLE**>

   (ii) <FONT **TYPE**="VERDANA">

   (iii) <BODY **BACKGROUND**="YELLOW"
                             TEXT COLOR="GREEN">

   (iv) <FONT SIZE="**5**" **FONT** COLOR="BLUE">

   (v) <DL>**<LI>** MS WORD </DL>

                              Or

(b) Write an HTML code to display the table as shown below (without using color) :   5

MARK REGISTER			
Roll No.	Student Name	Unit–1	Unit–2
1.	Rakseng Sangma	15	21
2.	Jeram Lyngdoh	12	25

[Object-Oriented Programming I—C++]

10.   *Either*

(a) Write a program in C++ to display the multiples of 5 up to 100. (Using FOR Loop)   6

                              Or

(b) Write a program in C++ to accept two numbers and find which is greater or both are equal.   6

11.   *Either*

(a) Write the output generated by the following program in C++ :   6

```cpp
#include<iostream.h>
using namespace std;
void main()
{
  for(int n=10; n>0; n--)
  {
    if (n==4) continue;
    cout<<n<<";";
  }
    cout<<"Go!\n";
    getch();
}
```

Or

(b) What are escape sequences? Write some common escape sequences with their purposes.   6

[Object-Oriented Programming II—Java]

12.   *Either*

(a) Write a program in Java to generate serial numbers like 1 2 3 4...up to a number which user wants.   5

Or

(b) Write a program in Java to print odd numbers from 1 to 100.   5

13. *Either*

(a) Write the output generated by the following program code in Java : 5

```
import java.util.*;
class output
{
        public static void main (String[]args)
        {
           char ch;
           for(ch>='a'; ch<='z'; ch++)
           {
                System.out.println(ch);
           }
        }
}
```

Or

(b) Write a program in Java to display the current date. 5

[Societal Impacts of IT–II]

14. *Either*

(a) Define the following terms : 2×3=6

   (i) SPAM

  (ii) File infector virus

 (iii) Direct action virus

Or

(b) Write six signs that a computer system is infected with spyware. 6

(12)

SECTION—C

[For Candidates without Internal Assessment]

(*Maximum Marks* : 20)

15. Answer any *five* from the following questions :   2×5=10

(a) Write the steps for conversion of decimal to binary.

(b) Define Web server and Web address.

(c) Who developed C++ and why?

(d) Which compiler converts Java critical byte code to native code instruction?

(e) What is Trojan virus?

(f) What is data?

(g) Write the syntax of switch statement in C++.

16. Answer any *two* from the following questions :   5×2=10

(a) Convert the decimal numbers into binary numbers :
2½+2½=5

 (i) $(17)_{10}$

 (ii) $(65)_{10}$

(b) Define HTML editor, Text editor and Web page editor.   1+2+2=5

(c) Explain comma operator and sizeof operator in C++.   2½+2½=5

(d) Write five reasons to launch a cyber attack.   5

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