

PUGAL

+1 COMPUTER SCIENCE

2, 3 & 5 MARK QUESTION BANK

Name :

STD : XIth STD

Subject : COMPUTER SCIENCE

COMPILED BY

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1. Introduction to Computers

Very Short Answers

1. What is a computer?
2. Distinguish between data and information.
3. What are the components of a CPU?
4. What is the function of an ALU?
5. Write the functions of control unit.
6. What is the function of memory?
7. Differentiate Input and output unit.
8. Distinguish Primary and Secondary memory.

Short Answers

1. What are the characteristics of a computer?
2. Write the applications of computer.
3. What is an input device? Give two examples.
4. Name any three output devices.
5. Differentiate optical and Laser mouse
6. Write shortnote on impact printer
7. Write the characteristics of sixth generation.
8. Write the significant features of monitor.

Explain in detail

1. Explain the basic components of a computer with a neat diagram.
2. Discuss the various generations of computers.
3. Explain the following
 - a. Inkjet Printer
 - b. Multimedia projector
 - c. Bar code / QR code Reader

2. Number Systems

Very Short Answers

1. What is data?
2. Write the 1's complement procedure.
3. Convert $(46)_{10}$ into Binary number
4. We cannot find 1's complement for $(28)_{10}$. State reason.
5. List the encoding systems for characters in memory.

Short Answers

1. What is radix of a number system? Give example
2. Write note on binary number system.
3. Convert $(150)_{10}$ into Binary, then convert that Binary number to Octal
4. Write short note on ISCII
5. Add a) $-22_{10}+15_{10}$ b) $20_{10}+25_{10}$

Detail Answers

1. a) Write the procedure to convert fractional Decimal to Binary
b) Convert $(98.46)_{10}$ to Binary
2. Find 1's Complement and 2's Complement for the following Decimal number
a) -98 b) -135
3. a) Add $1101010_2+101101_2$
b) Subtract $1101011_2 - 111010_2$

PART – II

1. What is Boolean Algebra?
2. Write a short note on NAND Gate.
3. Draw the truth table for XOR gate.

4. Write the associative laws?
5. What are derived gates?

Part – III

1. Write the truth table of fundamental gates.
2. Write a short note on XNOR gate.
3. Reason out why the NAND and NOR are called universal gates?
4. Give the truth table of XOR gate.
5. Write the De Morgan's law.

PART – IV

1. Explain the fundamental gates with expression and truth table.
2. How AND and OR can be realized using NAND and NOR gate.
3. Explain the Derived gates with expression and truth table.

3. Computer Organization

Part – II

- (1) What are the parameters which influence the characteristics of a microprocessor?
- (2) What is an instruction?
- (3) What is a program counter?
- (4) What is HDMI?
- (5) Which source is used to erase the content of a EPROM?

Part – III

- (1) Differentiate Computer Organization from Computer Architecture.
- (2) Classify the microprocessor based on the size of the data.
- (3) Write down the classifications of microprocessors based on the instruction set.
- (4) Differentiate PROM and EPROM.
- (5) Write down the interfaces and ports available in a computer.
- (6) Differentiate CD and DVD
- (7) How will you differentiate a flash memory and an EEPROM?

Part – IV

- (1) Explain the characteristics of a microprocessor.
- (2) How the read and write operations are performed by a processor? Explain.
- (3) Arrange the memory devices in ascending order based on the access time.
- (4) Explain the types of ROM.

4. Operating Systems

Part II

- 1) What are the advantages of memory management in Operating System?
- 2) What is the multi-user Operating system?
- 3) What is a GUI?
- 4) List out different distributions of Linux operating system.
- 5) What are the security management features available in Operating System ?
- 6) What is multi-processing?
- 7) What are the different Operating Systems used in computer?

Part III

- 8) What are the advantages and disadvantages of Time-sharing features?
- 9) Explain and List out examples of mobile operating system.
- 10) What are the differences between Windows and Linux Operating system?
- 11) Explain the process management algorithms in Operating System.

Part IV

- 12) Explain the concept of a Distributed Operating System.
- 13) Explain the main purpose of an operating system.
- 14) Explain advantages and disadvantages of open source operating systems.

5. Working with Typical Operating System (Windows & Linux)

PART II

1. Differentiate cut and copy options.
2. What is the use of a file extension?
3. Differentiate Files and Folders.
4. Differentiate Save and save As option.
5. What is Open Source?
6. What are the advantages of open source?
7. Mention the different server distributions in Linux OS.
8. How will you log off from Ubuntu OS?

PART III

1. Analyse: Why the drives are segregated?
2. If you are working on multiple files at a time, sometimes the system may hang. What is the reason behind it. How can you reduce it?
3. Are drives such as hard drive and floppy drives represented with drive letters? If so why, if not why?
4. Write the specific use of Cortana.
5. List out the major differences between Windows and Ubuntu OS.
6. Are there any difficulties you face while using Ubuntu? If so, mention it with reasons.
7. Differentiate Thunderbird and Firefox in Ubuntu OS.
8. Differentiate Save, Save As and Save a Copy in Ubuntu OS.

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PART IV

1. Explain the versions of Windows Operating System.
2. Draw and compare the icon equivalence in Windows and Ubuntu.
3. Complete the following matrix

Navigational method Located on Ideally suited for

Start button Task bar

Desktop Exploring your disk drives and using system tools

Windows Explorer Seeing hierarchy of all computer contents and resources in one window.

Quick Launch

4. Observe the figure and mark all the window elements. Identify the version of the Windows OS.
5. Write the procedure to create, rename, delete and save a file in Ubuntu OS. Compare it with Windows OS.

6.Specification and Abstraction

Part II Very Short Answers

1. Define an algorithm.
2. Distinguish between an algorithm and a process.
3. Initially, farmer, goat, grass, wolf = L, L, L, L and the farmer crosses the river with goat. Model the action with an assignment statement.
4. Specify a function to find the minimum of two numbers.
5. If $\sqrt{2} = 1.414$, and the square_root() function returns -1.414, does it violate the following specification?

-- square_root (x)

-- inputs: x is a real number , $x \geq 0$

-- outputs: y is a real number such that $y^2=x$

Part III Short Answers

1. When do you say that a problem is algorithmic in nature?
2. What is the format of the specification of an algorithm?
3. What is abstraction?
4. How is state represented in algorithms?
5. What is the form and meaning of assignment statement?
6. What is the difference between assignment operator and equality operator?

Part IV Explain

1. Write the specification of an algorithm hypotenuse whose inputs are the lengths of the two shorter sides of a right angled triangle, and the output is the length of the third side.
2. Suppose you want to solve the quadratic equation $ax^2 + bx + c = 0$ by an algorithm.

quadratic_solve (a, b, c)

-- inputs : ?

-- outputs: ?

You intend to use the formula and you are prepared to handle only real number roots.

Write a suitable specification.

$x =$

$-\frac{b \pm \sqrt{b^2 - 4ac}}{2a}$

3. Exchange the contents: Given two glasses marked A and B. Glass A is full of apple drink and glass B is full of grape drink. For exchanging the contents of glasses A and B, represent the state by suitable variables, and write the specification of the algorithm.

7. Composition and Decomposition

Part II

1. Distinguish between a condition and a statement.
2. Draw a flowchart for conditional statement.
3. Both conditional statement and iterative statement have a condition and a statement. How do they differ?
4. What is the difference between an algorithm and a program?
5. Why is function an abstraction?
6. How do we refine a statement?

Part III

1. For the given two flowcharts write the pseudo code.
2. If C is false in line 2, trace the control flow in this algorithm.

1 S1

2 -- C is false

3 if C

4 S2

5 else

6 S3

7 S4

3. What is case analysis?
4. Draw a flowchart for -3case analysis using alternative statements.
5. Define a function to double a number in two different ways: (1) $n + n$, (2) $2 \times n$

Part IV

1. Exchange the contents: Given two glasses marked A and B. Glass A is full of apple drink and glass B is full of grape drink. Write the specification forexchanging the contents of glasses A and B, and write a sequence of assignments to satisfy the specification.

2. Circulate the contents: Write the specification and construct an algorithm to circulate the contents of the variables A, B and C as shown below: The arrows indicate that B gets the value of A, C gets the value of B and A gets the value of C. A B C
3. Decanting problem. You are given three bottles of capacities 5, 8, and 3 litres. The 8L bottle is filled with oil, while the other two are empty. Divide the oil in 8L bottle into two equal quantities. Represent the state of the process by appropriate variables. What are the initial and final states of the process? Model the decanting of oil from one bottle to another by assignment. Write a sequence of assignments to achieve the final state.
4. Trace the step-by-step execution of the algorithm for factorial(4).

factorial(n)

-- inputs : n is an integer , $n \geq 0$

-- outputs : $f = n!$

f, i := 1, 1

while $i \leq n$

f, i := $f \times i$, $i+1$

8. Iteration and recursion Very Short Answers

1. What is the difference between a slide and a slide show?
2. How many in-built slide layouts does Impress consist of?
3. What do you understand by a presentation?
4. Define a template in Impress.
5. What do you understand by the slide layout?

Short Answers

1. How many types of views are provided by Impress to its users?
2. Who uses the presentation software and why?
3. Define the Slide Sorter view and its significance.
4. What is a Normal view? Explain.
5. How are transition effects helpful in creating an effective presentation in Impress?

Detail Answers

1. Valarmathi's teacher asks her to create a presentation in OpenOffice Impress. As Valarmathi has never worked in Impress before, help her to perform the following tasks:
 - a. She wants that except for the first slide, all the slides should have the same design. For this, what does she need to do?
 - b. To easily communicate with her audience, she wants to provide them with a hard copy of the slides of the presentation. What should she create for it?
 - c. She wants to insert some pictures and movie files in some slides. How can she do that?
 - d. Suggest her the view that would be the most suitable for showing the presentation to the audience.
 - e. To make her presentation more attractive, she wants to add some effects in it. How can she do it? Suggest.
2. Explain how a presentation can help a salesperson to promote his/her products.
3. Sivabalan created a presentation to be shown at his school's Annual Function. Just 5 minutes before the presentation, he noticed that he has misspelt the name of the school, which is appearing in all the 30 slides of the presentation. How can he rectify this mistake in all the slides in one-shot?
4. List some advantages of using templates.

9. Introduction to C++

Answers to all the questions (2 Marks):

1. Write a short note const keyword with an example.
2. What is the use of setw() format manipulator?
3. Why is char often treated as integer data type?

4. What is a reference variable? What is its use?

5. Consider the following C++ statement. Are they equivalent?

```
char ch = 67;
```

```
char ch = 'C';
```

6. What is the difference between 56L and 56?

7. Determine which of the following are valid constant? And specify their type.

(i) 0.5 (ii) 'Name' (iii) '\t' (iv) 27,822

8. Suppose x and y are two double type variable that you want add as integer and assign to an integer variable. Construct a C++ statement for the doing so.

9. What will be the result of following if num=6 initially.

(a) cout << num;

(b) cout << (num==5);

10. Which of the following two statements are valid? Why? Also write their result.

```
int a;
```

(i) a = 3,014; (ii) a=(3,014);

Part – III

Answers to all the questions (3 Marks):

1. What are arithmetic operators in C++? Differentiate unary and binary arithmetic operators. Give example for each of them.

2. Evaluate $x += x + ++x$; Let $x=5$;

3. How relational operators and logical operators related to one another?

4. Evaluate the following C++ expressions where x, y, z are integers and m, n are floating point numbers. The value of $x = 5$, $y = 4$ and $m=2.5$;

(i) $n = x + y / x$;

(ii) $z = m * x + y$;

(iii) $z = (x++) * m + x$;

10. Flow of Control Part – II

Answers to all the questions (2 Marks):

1. What is a null statement and compound statement?
2. What is selection statement? write it's types?
3. Correct the following code sigment:

```
if (x=1)
```

```
p= 100;
```

```
else
```

```
p = 10;
```

4. What will be the output of the following code:

```
int year;
```

```
cin >> year;
```

```
if (year % 100 == 0)
```

```
if ( year % 400 == 0)
```

```
cout << "Leap";
```

```
else
```

```
cout << "Not Leap year";
```

If the input given is (i) 2000 (ii) 2003 (iii) 2010?

5. What is the output of the following code?

```
for (int i=2; i<=10 ; i+=2)
```

```
cout << i;
```

6. Write a for loop that displays the number from 21 to 30.
7. Write a while loop that displays numbers 2, 4, 6, 8.....20.
8. Compare an if and a ? : operator.

Part – III

Answers to all the questions (3 Marks):

1. Convert the following if-else to a single conditional statement:

```
if (x >= 10)
```

```
a = m + 5;
```

```
else
```

```
a = m; 100
```

2. Rewrite the following code so that it is functional:

```
v = 5;
```

```
do;
```

```
{
```



```
total += v;  
cout << total;  
while v <= 10
```

3. Write a C++ program to print multiplication table of a given number.
4. Write the syntax and purpose of switch statement.
5. Write a short program to print following series:
(a) 1 4 7 10..... 40

Part – IV

Answers to all the questions (5 Marks):

1. Explain control statement with suitable example.
2. What entry control loop? Explain any one of the entry control loop with suitable example.
3. Write a program to find the LCM and GDC of two numbers.

Part – II

Answers to all the questions (2 Marks):

1. What is a null statement and compound statement?
2. What is selection statement? write it's types?
3. Correct the following code sigment:

```
if (x=1)          p= 100;          else          p = 10;
```

4. What will be the output of the following code:

```
int year;      cin >> year;  if (year % 100 == 0)          if ( year % 400 == 0) cout << "Leap";  
else  cout << "Not Leap year";
```

If the input given is (i) 2000 (ii) 2003 (iii) 2010?

5. What is the output of the following code?
for (int i=2; i<=10 ; i+=2) cout << i;
6. Write a for loop that displays the number from 21 to 30.
7. Write a while loop that displays numbers 2, 4, 6, 8.....20.
8. Compare an if and a ? : operator.

Part – III

Answers to all the questions (3 Marks):

1. Convert the following if-else to a single conditional statement:

```
if (x >= 10)          a = m + 5;  else          a = m;
```

2. Rewrite the following code so that it is functional:

```
v = 5;      do;      {          total += v;          cout << total;          while v <= 10
```

3. Write a C++ program to print multiplication table of a given number.

4. Write the syntax and purpose of switch statement.
5. Write a short program to print following series:
(a) 1 4 7 10..... 40

Part – IV

Answers to all the questions (5 Marks):

1. Explain control statement with suitable example.
2. What entry control loop? Explain any one of the entry control loop with suitable example.
3. Write a program to find the LCM and GDC of two numbers.
4. Write programs to find the sum of the following series:

(a) $x - \frac{x^2}{2!} + \frac{x^3}{3!} - \frac{x^4}{4!} + \frac{x^5}{5!} - \frac{x^6}{6!}$

(b) $x + \frac{x^2}{2} + \frac{x^3}{3} + \dots + \frac{x^n}{n}$

5. Write a program to find sum of the series

$$S = 1 + x + x^2 + \dots + x^n$$

CHAPTER 11
Part –II

Answer to all the questions (2 Marks):

1. Define Functions.
2. Write about strlen() function.
3. What are importance of void data type.
4. What is Parameter and list its types?
5. Write a note on Local Scope.

Part – III

Answer to all the questions (3 Marks):

1. What is Built-in functions ?

2. What is the difference between `isuppr()` and `toupper()` functions ?
3. Write about `strcmp()` function.
4. Write short note on `pow()` function in C++.
5. What are the information the prototype provides to the compiler ?
6. What is default arguments ? Give example.

Part -IV

Answer to all the questions (5 Marks):

1. Explain Call by value method with suitable example.
2. What is Recursion? Write a program to find GCD using recursion.
3. What are the different forms of function return? Explain with example.
4. Explain scope of variable with example.
5. Write a program to accept any integer number and reverse it.

12.Arrays and Structures

Answer to all the questions (2 Marks):

1. Define structure .What is its use?
2. To store 100 integer number which of the following is good to use?

Array or Structure State the reason.

3. What is the error in the following structure definition.

```
struct employee{ inteno;charename[20];char dept;}
```

```
Employee e1,e2;
```

4. Write a structure definition for the structure student containing

examno, name and an array for storing five subject marks.

5. Why for passing a structure to a function call by reference is advisable to us?

6. What is the size of the following highlighted variable in terms of byte if it is compiled in dev c++

```
struct A{ float f[3]; char ch[5];long double d;};
```

```
struct B{ A a; int arr[2][3];}b[3]
```

7. Is the following snippet is fully correct. If not identify the error.

```
struct sum1{ int n1,n2;}s1;
```

```
struct sum2{int n1,n2}s2;
```

```
cin>>s1.n1>>s1.n2;
```

```
s2=s1;
```

8. Differentiate array and structure.

9. What are the different ways to initialize the structure members?

10. What is wrong with the following C++ declarations?

A. struct point (double x, y)

B. struct point { double x, double y };

C. struct point { double x; double y }

D. struct point { double x; double y; };

E. struct point { double x; double y; }

PART – III

Answer to all the questions (3 Marks):

1. How will you pass a structure to a function ?

2. The following code sums up the total of all students name starting with ‘S’ and display it.Fill in the blanks with required statements.

```
struct student {int exam no,lang,eng,phy,che,mat,csc,total;char name[15];};
```

```
int main() { student s[20]; for(int i=0;i<20;i++) { ..... //accept student details  
} for(int i=0;i<20;i++) { ..... //check for name starts with letter “S”  
..... // display the detail of the checked name } return 0; }
```

3. What is called nested structure.Give example

4. Rewrite the following program after removing the syntactical error(s),if any.

Underline each correction.

```
struct movie { charm_name[10]; charm_lang[10]; float ticket cost  
=50;};
```

```
Movie; void main() { gets(m_name); cin>>m_lang; return 0; }
```

5. What is the difference among the following two programs?

```
(a) #include <iostream.h> struct point { double x; double y; }; int main() {
```

```
struct point test;      test.x = .25; test.y = .75;      cout<<test.x<<test.y;      return 0;      }
```

```
(b) #include <iostream.h>      struct { double x; double y; } Point; int main(void) {      Point test={.25,.75};  
return 0; }
```

6. How to access members of a structure? Give example.

7. Write the syntax and an example for structure.

8. For the following structure definition write the user defined function to accept data through keyboard.

```
struct date{ int dd,mm,yy};
```

```
struct item { int item id;char name[10];float price;date date_manif;}
```

9. What is called anonymous structure .Give an example

10. Write a user defined function to return the structure after accepting value through keyboard. The structure definition is as follows

```
struct Item{int item no;float price;};
```

Part – IV

Answer to all the questions (5 Marks):

1. Explain array of structures with example

2. Explain call by value with respect to structure.

3. How call by reference is used to pass structure to a function .Give an Example

4. Write a C++ program to add two distances using the following structure definition

```
struct Distance{      int feet;      float inch;      }d1 , d2, sum;
```

5. Write a C++ Program to Add two Complex Numbers by Passing Structure to a Function for the following structure definition

```
struct complex      {      float real;      float imag;      };
```

The prototype of the function is

```
complex add Complex Numbers(complex, complex);
```

6. Write a C++ Program to declare a structure book containing name and author as character array of 20 elements each and price as integer. Declare an array of book .Accept the name ,author,price detail for each book. Define a user defined function to display the book details and calculate the total price. Return total price to the calling function.

7. Write a c++ program to declare and accept an array of professors. Display the details of the department="COMP.SCI" and the name of the professors start with 'A'. The structure "college" should contain the following members .

prof_id as integer

name and Department as character array

8. Write the output of the following c++ program

```
#include<iostream>          #include<stdio>          #include <string>          #include<conio>
using namespace std;      struct books {          char name[20], author[20];  } a[50];
int main()    {    clrscr();    cout<< "Details of Book No " << 1 << "\n"; cout<< "-----\n";
cout<< "Book Name : "<<strcpy(a[0].name,"Programming ")<<endl;
cout<< "Book Author : "<<strcpy(a[0].author,"Dromy")<<endl;
cout<< "\nDetails of Book No " << 2 << "\n";
cout<< "-----\n";
cout<< "Book Name : "<<strcpy(a[1].name,"C++programming" )<<endl;
cout<< "Book Author : "<<strcpy(a[1].author,"BjarneStroustrup ")<<endl;
cout<< "\n\n";
cout<< "-----\n";
cout<< " S.No\t| Book Name\t|author\n";
cout<< "-----";
for (int i = 0; i < 2; i++) {
cout<< "\n " << i + 1 << "\t" << a[i].name << "\t" << a[i].author;
}    cout<< "\n-----"; return 0;    }
```

9. Write the output of the following c++ program

```
#include <iostream>          #include <string>          using namespace std; struct student
{    introll_no;    char name[10];    long phone_number; };    int    main(){    studentp1    =
{1,"Brown",123443}; student p2, p3;    p2.roll_no = 2;    strcpy(p2.name , "Sam");
p2.phone_number = 1234567822;
p3.roll_no = 3;
```

```
strcpy(p3.name,"Addy");  
  
p3.phone_number = 1234567844;  
  
cout<< "First Student" <<endl;  
  
cout<< "roll no : " << p1.roll_no <<endl;  
  
cout<< "name : " << p1.name <<endl;  
  
cout<< "phone no : " << p1.phone_number <<endl;  
  
cout<< "Second Student" <<endl;  
  
cout<< "roll no : " << p2.roll_no <<endl;   cout<< "name : " << p2.name <<endl;  
  
cout<< "phone no : " << p2.phone_number <<endl; cout<< "Third Student" <<endl;  
  
cout<< "roll no : " << p3.roll_no <<endl;   cout<< "name : " << p3.name <<endl;  
  
cout<< "phone no : " << p3.phone_number <<endl; return 0;   }
```

10. Debug the error in the following program

```
#include <istream.h>      struct PersonRec      {      char lastName[10];      char firstName[10];  
int age;      } PersonRecPeopleArrayType[10]; void LoadArray(PersonRec peop); void main()  
{      PersonRecord people;      for (i = 0; i < 10; i++) {      cout<<people.firstName<<  
<<people.lastName <<setw(10) <<people.age;      }      }      LoadArray(PersonRec peop)  
  
{      for (int i = 0; i < 10; i++)      {      cout<< "Enter first name: "; cin<<peop[i].firstName;  
cout<< "Enter last name: "; cin>>peop[i].lastName;      cout<< "Enter age: ";  
  
cin>> people[i].age;      }
```

13. Introduction to Object Oriented Programming Techniques

Answer to all the questions (2 Marks):

1. How is modular programming different from procedural programming paradigm?
2. Differentiate classes and objects.
3. What is polymorphism?
4. How is encapsulation and abstraction are interrelated?
5. Write the disadvantages of OOP.

PART III

Answer to all the questions (3 Marks):

1. What is paradigm ?Mention the different types of paradigm.
2. Write a note on the features of procedural programming.
3. List some of the features of modular programming
4. What do you mean by modularization and software reuse?

5. Define information hiding.

PART IV

Answer to all the questions (5 Marks):

1. Write the differences between Object Oriented Programming and procedural programming
2. What are the advantages of OOPs?
- 3 Write a note on the basic concepts that supports OOPs?

14.Classes and objects

PART II

Answer to all the questions (2 Marks):

1. What are called members?
2. Differentiate structure and class though both are user defined data type.
3. What is the difference between the class and object in terms of oop?
4. Why it is considered as a good practice to define a constructor though compiler can automatically generate a constructor ?
5. Write down the importance of destructor.

PART III

Answer to all the questions(3 Marks):

1. Rewrite the following program after removing the syntax errors if any and underline the errors:

```
#include<iostream> #include<stdio.h> classmystud { intstudid =1001; char name[20];  
public mystud() { } void register () {cin>>stdid;gets(name); }  
void display () { cout<<studid<<": "<<name<<endl;} } int main() { mystud MS;  
register.MS(); MS.display( ); }
```

2. Write with example how will you dynamically initialize objects?
3. What are advantages of declaring constructors and destructor under public accessability?
4. Given the following C++ code, answer the questions (i) & (ii).

```
class TestMeOut { public: ~TestMeOut() //Function 1  
{cout<<"Leaving the examination hall"<<endl;} TestMeOut() //Function 2 {cout<<"Appearing for  
examination"<<endl;} void MyWork() //Function 3 {cout<<"Attempting Questions//<<endl;} };
```

 - (i) In Object Oriented Programming, what is Function 1 referred as and when doesit get invoked / called ?
 - (ii) In Object Oriented Programming, what is Function 2 referred as and when doesit get invoked / called ?

5. Write the output of the following C++ program code :

```
#include<iostream> using namespace std; class Calci { char Grade; int Bonus; public:
```



```
Calci() {Grade='E'; Bonus=0;} //ascii value of A=65      void Down(int G)  {      Grade-=G;  }
void Up(int G)      {      Grade+=G;  Bonus++;  }      void Show() {
Cout<<Grade<<"#"<<Bonus<<endl;
}      };
int main()      {      Calci c;      c.Down(3);  c.Show();  c.Up(7); c.Show();  c.Down(2);
c.Show();      return 0;      }
```

PART IV

Answer to all the questions (5 Marks):

1. Explain nested class with example.
2. Mention the differences between constructor and destructor
3. Define a class RESORT with the following description in C++ :

Private members:

Rno // Data member to store room number

Name //Data member to store user name

Charges //Data member to store per day charge

Days //Data member to store the number of days

Compute () // A function to calculate total amount as Days * Charges and if the
//total amount exceeds 11000 then total amount is 1.02 * Days *Charges

Public member:

getinfo() // Function to Read the information like name , room no, charges and days

dispinfo () // Function to display all entered details and total amount calculated

//using COMPUTE function

4. Write the output of the following

```
#include<iostream>
#include<stdio.h>

using namespace std;

class sub
{
int day, subno;
public :
sub(int,int); // prototype
void printsub()
{ cout<<" subject number : "<<subno;
cout<<" Days : " <<day;
}
};
sub::sub(int d=150,int sn=12)
{ cout<<endl<<"Constructing the object "<<endl;
day=d;
sub no=sn;
}
class stud
{
int rno;
float marks;
public:
stud( )
{ cout<<"Constructing the object of students "<<endl;
rno=0;
marks=0.0;
}
void getval()
{
cout<<"Enter the roll number and the marks secured ";
```

```

cin>>rno>>marks;
}
void printdet()
{   cout<<"Roll   no   :   "<<rno<<"Marks   :
"<<marks<<endl;
}
};
class admission {
sub obj;
stud objone;
float fees;

public :
add mission ( )
{ cout<< "Constructing the object of admission
"<<endl;
fees=0.0;
}
void printdet ( )
{ objone.printdet();
obj.printsub ( );
cout<<"fees : "<<fees<<endl ;
}
};
int main()
{system("cls");
admission adm;
cout<<endl<< "Back in main ( )";
return 0; }
5. Write the output of the following
#include<iostream>
#include<stdio.h>

using namespace std;
class P
{ public:
P ( )
{ cout<< "\nConstructor of class P "; }
~ P ( )
{ cout<< "\nDestructor of class P "; }
};
class Q
{ public:
Q ( )
{ cout<< "\nConstructor of class Q "; }
~ Q ( )
{ cout<< "\nDestructor of class Q "; }
};
class R
{ P obj1, obj2;
Q obj3;
public:
R ( )
{ cout<< "\nConstructor of class R "; }
~ R ( )
{ cout<< "\nDestructor of class R "; }
};
int main ( )
{
Ro R;
Q oq;
P op;
return 0;
}

```

15.Polymorphism

PART II

Answer to all the questions (2 Marks):

1. What is function overloading?
2. List the operators that cannot be overloaded.
3. class add{int x; public: add(int)}; Write an outline definition for the constructor.
4. Does the return type of a function help in overloading a function?

5. What is the use of overloading a function?

PART III

Answer to all the questions (3 Marks):

1. What are the rules for function overloading?
2. How does a compiler decide as to which function should be invoked when there are many functions? Give an example.
3. What is operator overloading? Give some example of operators which can be overloaded.
4. Discuss the benefit of constructor overloading ?
5. class sale (int cost, discount ;public: sale(sale &); Write a non inline definition for constructor specified;

PART IV

Answer to all the questions (5 Marks):

1. What are the rules for operator overloading?
2. Answer the question (i) to (v) after going through the following class.

```
classBook
{
intBookCode ; char Bookname[20];float fees;
public:
Book() //Function 1
{
fees=1000;
BookCode=1;
strcpy (Bookname,"C++");
}
void display(float C) //Function 2
{
cout<<BookCode<<":"<<Bookname<<":"<<fees<<endl;
}
~Book() //Function 3
{
cout<<"End of Book Object"<<endl;
}
Book (intSC,char S[ ],float F) ; //Function 4
};
```

- (i) In the above program, what are Function 1 and Function 4 combined together referred as?

(ii) Which concept is illustrated by Function3? When is this function called/ invoked?

(iii) What is the use of Function3?

(iv) Write the statements in main to invoke function1 and function2

(v) Write the definition for Function4 .

3. Write the output of the following program

```

include<iostream>
using namespace std;
class Seminar
{
int Time;
public:
Seminar()
{
Time=30;cout<<"Seminar starts now"<<endl;
}
void Lecture()
{
cout<<"Lectures in the seminar on"<<endl;
}
Seminar(int Duration)
{
Time=Duration;cout<<"Welcome to Seminar
"<<endl;
}
}
Seminar(Seminar &D)
{
Time=D.Time;cout<<"Recap of Previous Seminar Content "<<endl;
}
~Seminar()
{
cout<<"Vote of thanks"<<endl;
}
};
int main()
{
Seminar s1,s2(2),s3(s2);
s1.Lecture();
return 0;
}

```

4. Debug the following program

```

#include<iostream>
using namespace std;
class String
{
public:
charstr[20];
public:
void accept_string
{
cout<<"\n Enter String : ";
cin>>str;
}
}

```

```

display_string()
{
cout<<str;
}
String operator *(String x) //Concatenating
String
{
String s;
strcat(str,str);
strcpy(s.str,str);
goto s;
}
}
int main()

```

```

{
String str1, str2, str3;
str1.accept_string();
str2.accept_string();
cout<<"\n\n First String is : ";
str1=display_string();
cout<<"\n\n Second String is : ";
str2.display_string();
str3=str1+str2;
cout>>"\n\n Concatenated String is : ";
str3.display_string();
return 0;
}

```

5. Answer the questions based on the following program

```

#include<iostream>
#include<string.h>
using namespace std;
class comp {
public:
chars[10];
void getstring(char str[10])
{
strcpy(s,str);
}
void operator==(comp);
};
void comp::operator==(comp ob)
{
if(strcmp(s,ob.s)==0)
cout<<"\nStrings are Equal";

```

```

else
cout<<"\nStrings are not Equal";
}
int main()
{
comp ob, ob1;
char string1[10], string2[10];
cout<<"Enter First String:";
cin>>string1;
ob.getstring(string1);
cout<<"\nEnter Second String:";
cin>>string2;
ob1.getstring(string2);
ob==ob1;
return 0;
}

```

- (i) Mention the objects which will have the scope till the end of the program.
- (ii) Name the object which gets destroyed in between the program
- (iii) Name the operator which is over loaded and write the statement that invokes it.
- (iv) Write out the prototype of the overloaded member function
- (v) What types of operands are used for the overloaded operator?
- (vi) Which constructor will get executed? Write the output of the program

16. Inheritance

PART II

Answer to the all questions (2 Marks):

1. What is inheritance?
2. What is a base class?
3. Why derived class is called power packed class?
4. In what multilevel and multiple inheritance differ though both contains many base class?
5. What is the difference between public and private visibility mode?

PART III

Answer to the all questions (3 Marks):

1. What are the points to be noted while deriving a new class?
2. What is difference between the members present in the private visibility mode and the members present in the public visibility mode
3. What is the difference between polymorphism and inheritance though are used for reusability of code?
4. What do you mean by overriding?
5. Write some facts about the execution of constructors and destructors in inheritance

PART IV

Answer to the all questions (5 Marks):

1. Explain the different types of inheritance
2. Explain the different visibility mode through pictorial representation

3. #include<iostream>

#include<string.h>

#include<stdio.h>

using namespace std;

class publisher

```
{
char pname[15];
char hoffice[15];
char address[25];
double turnover;
protected:
char phone[3][10];
void register();
public:
publisher();
~publisher();
void enter data();
void disp data();
};
class branch
{
charbcity[15];
char baddress[25];
protected:
intno_of_emp;
public:
charbphone[2][10];
branch();
~branch();
void have data();
void give data();
};
class author: public branch, publisher
{
intaut_code;
charaname[20];
float income;
public:
author();
~author();
voidgetdata();
voidputdata();
};
```

Answer the following questions based on the above given program:

- 3.1. Which type of Inheritance is shown in the program?
- 3.2. Specify the visibility mode of base classes.
- 3.3 Give the sequence of Constructor/Destructor Invocation when object of class author is created.
- 3.4. Name the base class(/es) and derived class (/es).
- 3.5 Give number of bytes to be occupied by the object of the following class:

(a) publisher (b) branch (c) author

3.6. Write the names of data members accessible from the object of class author.

3.7. Write the names of all member functions accessible from the object of class author.

3.8 Write the names of all members accessible from member functions of class author.

4. Consider the following c++ code and answer the questions

```
class Personal
{
int Class,Rno;
char Section;
protected:
char Name[20];
public:
personal();
void pentry();
void Pdisplay();
};
class Marks:private Personal
{
float M{5};
protected:
char Grade[5];
public:
Marks();
void M entry();
void M display();
};
class Result:public Marks
{
float Total,Agg;
public:
char FinalGrade, Commence[20];
Result();
void R calculate();
void R display();
};
```

4.1. Which type of Inheritance is shown in the program?

4.2. Specify the visibility mode of base classes.

4.3 Give the sequence of Constructor/Destructor Invocation when object of class Result is created.

4.4. Name the base class(/es) and derived class (/es).

4.5 Give number of bytes to be occupied by the object of the following class:

(a) Personal (b) Marks (c) Result

4.6. Write the names of data members accessible from the object of class Result.

4.7. Write the names of all member functions accessible from the object of class Result.

4.8 Write the names of all members accessible from member functions of class Result.

5. Write the output of the following program

```
#include<iostream>
using namespace std;
class A
{
protected:
int x;
public:
void show()
{
cout<<"x = "<<x<<endl;
}
A()
{
cout<<endl<<" I am class A "<<endl;
}
~A()
{
cout<<endl<<" Bye ";
}
};
class B : public A
{
protected:
int y;
public:
B(int x, int y)
{
this->x = x; //this -> is used to denote the objects datamember
this->y = y; //this -> is used to denote the objects datamember
}
B()
{
cout<<endl<<" I am class B "<<endl;
}
~B()
{
cout<<endl<<" Bye ";
}
```

```

}
void show()
{
cout<<"x = "<<x<<endl;
cout<<"y = "<<y<<endl;
}
};
int main()
{
A objA;
B objB(30, 20);
objB.show();
return 0;
}

```

6. Debug the following program**Output**

```

-----
15
14
13
Program :
-----

```

```

#include(iostream.h)
#include<conio.h>
Class A
{
public;
int a1,a2:a3;
Void getdata[]
{
a1=15;
a2=13;a3=13;
}
}
Class B:: public A()
{
PUBLIC
voidfunc()
{
int b1:b2:b3;
A::getdata[];
b1=a1;
b2=a2;
a3=a3;
cout<<b1<<'t'<<b2<<'t'<<b3;
}
}
void main()

```

```
{
clrscr()
B der;
der1:func();
getch();
}
```

CHAPTER 17**2 MARKS:**

1. Write about information leakage in E-Commerce.
2. Write a short note on typopiracy.
3. Define non-repudiation.
4. List the different types of security technologies in E-Commerce
5. Write about digital signature

3 MARKS:

1. Write a note on certification authorities (CA)
2. List some E-Commerce Security Threats?
3. Differentiate asymmetric and symmetric algorithms.
4. Write a note on PGP.
5. Explain 3D secure payment protocols

5 MARKS:

1. Write about dimensions of E-Commerce Security.
2. Explain encryption technology.
3. Differentiate digital signatures and digital certificates.
4. Define Secure Electronic Transaction (SET) and its features.
5. Briefly explain SSL.

CHAPTER 18**2 MARKS:**

1. Define EDI.
2. List few types of business documents that are transmitted through EDI.
3. What are the 4 major components of EDI?
4. What is meant by directories in EDIFACT?
5. Write a note on EDIFACT subsets.

3 MARKS:

1. Write a short note on EDI.
2. List the various layers of EDI.
3. Write a note on UN/EDIFACT.
4. Write a note on EDIFACT message.
5. Write about EDIFACT separators

5 MARKS:

1. Briefly explain various types of EDI.
2. What are the advantages of EDI?
3. Write about structure of EDIFACT.

Your success depends mainly upon what you think of

Yourself and whether you believe in yourself.”

ALL THE BEST