KULACHI HANSRAJ MODEL SCHOOL
CLASS XII
HOLIDAYS HOMEWORK
COMPUTER SCIENCE (Session 2015-16)

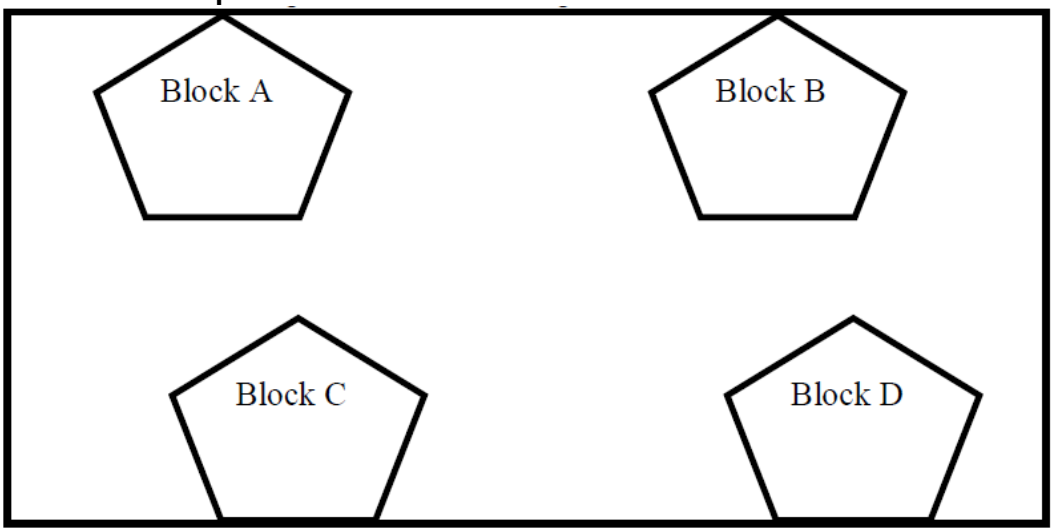
Q. 1:	Differentiate between Internet and Intranet.
Q. 2:	Define the following switching techniques: (i) Circuit Switching (ii) Message Switching (iii) Packet Switching
Q. 3:	Define the term Bandwidth. Give unit of Bandwidth.
Q. 4:	Write two advantages and two disadvantages of the following Transmission media/communication channel: (i) Twisted Pair (ii) Co- axial (iii) Optical Fiber (iv) Radio Waves (v) Microwave Waves (vi) Satellite link
Q. 5:	Define the following Network devices: (i) MODEM (ii) Hub (iii) Switch (iv) Gateway (v) Bridge (vi) Repeater (v) Router
Q. 6:	Write two advantages and two disadvantages of the following Network Topologies:- (i) STAR (ii) BUS (iii) TREE
Q. 7:	Define the following types of Network: (i) LAN (ii) MAN (iii) WAN
Q. 8:	Define the following Network Security Concepts: **(i)** Viruses **(ii)** Worms **(iii)** Trojan horse **(iv)** Spams
Q. 9:	What do you understand by the terms Cookies and Firewall?
Q. 10:	What is significance of Cyber Law? Where cyber crimes are registered?
Q. 11:	How is a Hacker different from a Cracker?
Q. 12:	Expand the following terms: FLOSS, FOSS, GNU, FSF, OSI, HTML, XML, HTTP, URL, PHP, ASP, JSP, TCP / IP, FTP, PPP, GSM, CDMA, WLL, 3G, SMS, LAN, MAN, WAN, W3C, SMTP, POP, Wi-Fi, VOIP,DHTML
Q. 13:	Define the following giving two examples and 2 advantages of each with their application (i) Free Software (ii) Open Source Software

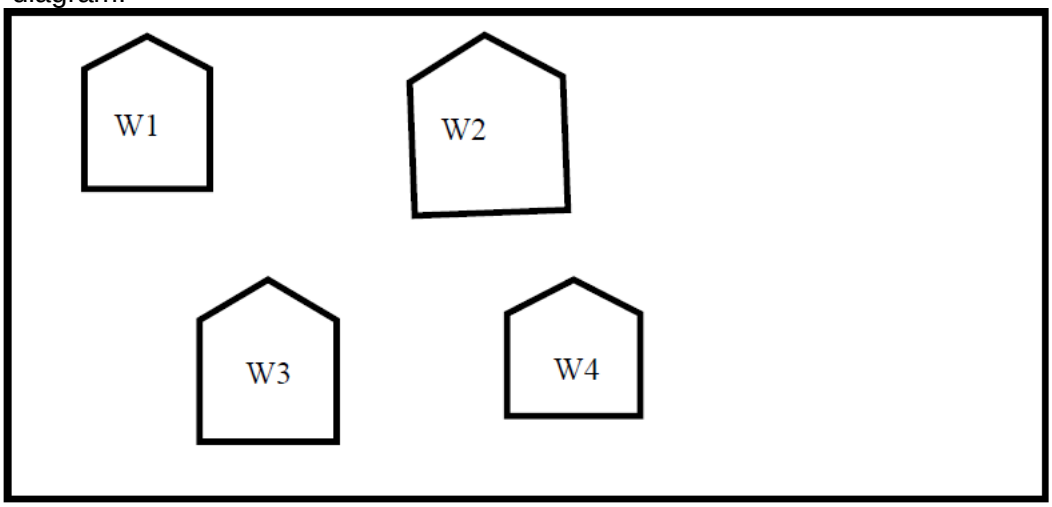
	(ii) FLOSS (iii) Proprietary software (iv) Freeware (v) Shareware
Q14.	Define communication protocol. Define the following communication protocols:- (i) FTP (ii) HTTP (iii) TCP/IP
Q 15.	What is Web scripting? Name 2 client –side and 2 server side scripting languages
Q 16.	What do you mean by Spam Mails? How can you protect your mailbox from Spam?
Q17.	Define the following(in one line):- (i) VOIP (ii) SMS (iii) WLL (iv) 3G (v) GSM
Q18.	Define the following and give 2 example of each: (i) Web Browser (ii) Web Server(no need to give example) (iii) Web site (iv) URL (v) Domain name
Q19.	What is web hosting? Define types of web hosting?
Q20	Define different protection method. What are IPR issues? Give 2 examples of cyber crimes.

SECTION - B

Tips to solve Questions based on Networking

1. **Where Server should be placed**: Server should be placed in the building where the number of computers is **maximum**.
2. **Suggest a suitable cable layout of connection**: A suitable cable layout can be suggested in the following two ways:-
   - **(i)** **On the Basis of Server:** First the location of the Server is found out. Server is placed in that building where the number of computers are maximum (According to 80 – 20 rule). After finding the server position, each building distance is compared with the Server building directly or indirectly (taking other building in between). The shortest distance is counted whether it is through directly or indirectly.
   - **(ii)** **On the Basis of Distance from each building:** The distance between the each building is compared to all other buildings either directly or indirectly. The shortest distance is counted whether it is directly or through some other building.
3. **Where the following devices be placed**:
   - (i) **MODEM :** For internet connection.
   - (ii) **HUB / SWITCH : Definition:** A **network switch** is a small hardware device that joins multiple computers together within one local area network (LAN). Technically, network switches operate at layer two (Data Link Layer) of the OSI model.
   - (iii) **BRIDGE :** a bridge is a product that connects a local area network (LAN) to another local area network that uses the same protocol
   - (iv) **REPEATER**: It is used if the distances higher than 70 m. It regenerates data and voice signals.
   - (v) **ROUTER**: When one LAN will be connected to the other LAN.

Q. 21	ABC Carporation has set up its new center at Delhi for its office and web based activities. It has 4 blocks of buildings as shown in the diagram below: **Center to center distances between various blocks** Black A to Block B 50 m Block B to Block C 150 m Block C to Block D 25 m Block A to Block D 170 m Block B to Block D 125 m Block A to Block C 90 m **Number of Computers**  **Center to center distances between various blocks** Black A to Block B 50 m Block B to Block C 150 m Block C to Block D 25 m Block A to Block D 170 m Block B to Block D 125 m Block A to Block C 90 m **Number of Computers** Black A 25 Block B 50 Block C 125 Block D 10 a) Suggest a cable layout of connections between the blocks. b) Suggest the most suitable place (i.e. block) to house the server of this organization with a suitable reason. c) Suggest the placement of the following devices with justification i) Repeater ii) Hub/Switch d) The organization is planning to link its front office situated in the city in a hilly region where cable connection is not feasible, suggest an economic way to connect it with reasonably high speed?

Q 22	A company in Reliance has 4 wings of buildings as shown in the diagram:  Center to center distances between various Buildings: W3 to W1 50m W1 to W2 60m W2 to W4 25m W4 to W3 170m W3 to W2 125m W1 to w4 90m Number of computers in each of the wing: W1 150 W2 15 W3 15 W4 25 Computers in each wing are networked but wings are not networked. The company has now decided to connect the wings also. i) Suggest a most suitable cable layout & topology of the connection between the wings. ii) The company wants internet accessibility in all the wings. Suggest an economic technology . iii) Suggest the placement of the following devices with justification if the company wants minimized network traffic : 1)Repeater 2) Hub / Switch
Q 23	Hindustan Connecting World Association" is planning to start their offices in four major cities in India to provide regional IT infrastructure support in the field of Education & Culture. The company has planned to set up their head office in New Delhi in three locations and have named their New Delhi offices as "Sales Office", "Head Office" and "Tech Office". The company's regional offices are located at "Coimbatore", "Kolkata" and "Ahmedabad". A rough layout of the same is as follows: Approximate distances between these offices as per network survey team is as follows: Place From Place To Distance Head Office Sales Office 10 KM Head Office Tech Office 70 Meter Head Office Kolkata Office 1291 KM Head Office Ahmedabad Office 790 KM Head Office Coimbatore Office 1952 KM In continuation of the above, the company experts have planned to install the

	following number of computers in each of their offices: Head Office 100 Sales Office 20 Tech Office 50 Kolkata Office 50 Ahmedabad Office 50 Coimbatore Office 50 (i) Suggest network type (out of LAN, MAN, WAN) for connecting each of the following set of their offices: - Head Office and Tech Office - Head Office and Coimbatore Office (ii) Which device will you suggest to be procured by the company for connecting all the computers within each of their offices out of the following devices? - Modem - Telephone - Switch/ Hub (iii) Which of the following communication media, will you suggest to be procured by the company for connecting their local offices in New Delhi for very effective and fast communication? - Ethernet Cable - Optical Fiber - Telephone Cable (iv) Suggest a cable/ wiring layout for connecting the company's local offices located in New Delhi. Also, suggest an effective method/ technology for connecting the company's regional offices at "Kolkata", "Coimbatore" and "Ahmedabad".

Questions based on constructor & destructor

1. Answer the questions (i) and (ii) after going through the following program:

```
#include <iostream.h>
#include<string.h>
class bazaar
{ char Type[20] ;
char product [20];
int qty ;
float price ;
bazaar() //function 1
{
strcpy (type , .Electronic.) ;
strcpy (product , .calculator.);
qty=10;
price=225;
}
public :
void Disp() //function 2
{
cout<< type <<.-.<<product<<.:. <<qty<< .@. << price << endl ;
}
};
void main ()
{
Bazaar B ; //statement 1
B. disp() ; //statement 2
}
```

(i) Will statement 1 initialize all the data members for object B with the values given in the function 1 ? Justify your answer suggesting the correction(s) to be made in the above code.

(ii) What shall be the possible output when the program gets executed? (Assuming, if required _ the suggested correction(s) are made in the program).

2. Define a class Tour in C++ with the description given below

Private Members:

TCode of type string
No of Adults of type integer
No of Kids of type integer
Kilometers of type integer

Public Members:

A constructor to assign initial values as follows:
TCode with the word .NULL.
No of Adults as 0
No of Kids as 0
Kilometers as 0
TotalFare as 0

A function AssignFare() which calculates and assigns the value of the data member Totalfare as follows

For **each** Adult

Fare (Rs)	***For Kilometers***
500	>=1000
300	<1000 & >=500
200	<500

For **each** Kid the above Fare will be 50% of the Fare mentioned in the above table

For Example:
If Kilometers is 850, Noofadults =2 and NoofKids =3
Then TotalFare should be calculated as
Numof Adults *300+ NoofKids *150
i.e., 2*300+ 3 *150 =1050

A function EnterTour() to input the values of the data members TCode, NoofAdults, NoofKids and Kilometers ; and invoke the AssignFare() function.

A function ShowTour() which displays the content of all the data members for a Tour.

3. Answer the following questions (i) and (ii) after going through the following class.

```
class Interview
{
int Month;
public:
interview(int y) {Month=y;} //constructor 1
interview(Interview&t); //constructor 2
};
```

(i) Create an object, such that it invokes Constructor 1.
(ii) Write complete definition for Constructer 2.

4. Answer the following questions (i) and (ii) after going through the following class.

```
class Test
{
char Paper[20];
int Marks
public:
Test() //Function 1
{
strcpy(Paper,.Computer.);
Marks=0;
} //Function 2
Test(char P[])
{
strcpy(Paper,P);
```

```
Marks=0;
} //Function 3
Test(int M)
{
strcpy(Paper,.Computer.);
Marks=M;
}
Test(char P[],int M) //Function 4
{
strcpy(Paper,P);
Marks=M;
}
Test(Test &T); //Function 5
~Test()   //Function 6
{       cout<<"\n over";
        }
};
```

(i) Which feature Object Oriented Programming is demonstrated using Function 1, Function 2, Function 3 and Function 4 in the above class text?

(ii) Write statements in C++ that would execute Function 2 and Function 4 of class Text.

(iii) Write statements in C++ that would execute Function 1 and Function 3 of class Text.

(iv) Complete the definition of function 5

(v) When function 6 will be executed.

INHERITANCE

1. Consider the following declarations and answer the questions given below:

```
#include <iostream.h>
        class book
        {char title[20];
        char author[20];
        int noof pages;
        public:
                void read();
                void show();};
        class textbook: private textbook
        {int noofchapters, noofassignments;
        protected:
        int standard;
        void readtextbook();
        void showtextbook();};
        class physicsbook: public textbook
        {char topic[20];
        public:
        void readphysicsbook();
        void showphysicsbook();};
```

(i) Name the members, which can be accessed from the member functions of class physicsbook.

(ii) Name the members, which can be accessed by an object of Class textbook.

(iii) Name the members, which can be accessed by an object of Class physicsbook.

(iv) What will be the size of an object (in bytes) of class physicsbook.

2.Answer the questions (i) to (iv) based on the following:

```
class parent
{
        char name[20];
protected:
        int son;
public:
        void inputdata();
        void outputdata();
};
```

```
class father : protected parent
{
        int daughter;
protected:
        int baby;
public:
        void readdata();
        void writedata();
};
```

```
class mother : public father
{
        int child;
public:
        void fetchdata();
        void dispdata();
};
```

i) In case of the class father, what is the base class of father and what is the derived class of father?
(ii) Write the data member(s) that can be accessed from function dispdata().
(iii) Write the member function(s), which can be accessed by an object of mother class.
(iv) Is the member function outputdata() accessible to the objects of father c

3.Answer the questions (i) to (iv) based on the following:

```
class person
{
        char name[20], address[20];
protected:
        int x;
public:
        void enter_person();
        void disp_person();
};
```

```
class client : private person
{
        int resource;
public:
        int get_resource();
        void free_resource();
};
```

```
class doctor : public person
{
        char speciality[20];
public:
        void input();
        void disp();
};
```

(i) What type of inheritance is depicted by the above example?
(ii) Write the member functions, which can be called by the object of class client.
(iii) What is the size in bytes of the object of class doctor and client respectively?
(iv)Write the data members, which can be used by the member functions of the class doctor

4.Answer the questions (i) to (iv) based on the following

```
class Student
{ int Rollno;
char SName[20];
float Marks;
protected:
void Result( );
public:
Student( );
void Enroll ( );
void Display ( );
};
class Teacher
{ long TCode;
char TName [ 20];
protected :
float Salary;
public :
Teacher( );
void Enter ( );
void Show ( );
};
class Course : public Student, private Teacher
```

```
{ long CCode[10];
```

```
char CourseName[50];
char StartDate [8], EndDate[8];
public:
Course( );
void Commence( );
void CDetail( );
};
```
(i) Write the names of member functions, which are accessible from objects of class Course

(ii) Write the names of all data members, which is/are accessible from member function Commence of class Course

(iii) Write the names of all the members, which are accessible from objects of class teacher.

(iv) Which type of inheritance is illustrated in the above C++ code?

CLASS and OBJECT

1.	The members of a class, by default, are A. public B. protected C. private D. mandatory to specify
2.	Which of the following statements are true in c++? A. Classes can not have data as public members. B. Structures can not have functions as members. C. Class members are private by default. D. None of these.
3.	Member functions, when defined within the class specification: A. are always inline. B. are not inline. C. are inline by default, unless they are too big or too complicated. D. are not inline by default.
4.	Which of the following concept of oops allows compiler to insert arguments in a function call if it is not specified? A. Call by value B. Call by reference C. Default arguments D. Call by pointer
5.	Which of the following term is used for a function declared inside a class? A. Member Variable B. Member function C. Class function D. Classic function
6.	Which of the following is an abstract data type? A. int B. Double C. string D. Class
7.	Which of the following is correct about class and structure? **A.** class can have member functions while structure cannot. **B.** class data members are public by default while that of structure are private. **C.** Pointer to structure or classes cannot be declared. **D.** class data members are private by default while that of structure are public by default.
8.	Which of the following two entities (reading from Left to Right) can be connected by the dot operator? **A.** A class member and a class object. **B.** A class object and a class. **C.** A class and a member of that class. **D.** A class object and a member of that class.
9	Which of the following keywords is used to control access to a class member? **A.** Default **B.** Break

	C. protected **D.** Asm
10.	Which of the following can access private data members or member functions of a class? A. Any function in the program. B. All global functions in the program. C. Any member function of that class. D. Only public member functions of that class.
11.	Which of the following also known as an instance of a class? A. Friend Functions B. Object C. Member Function d. Member Variable
12.	Scope resolution operator is represented by **A.** ~ B. :: c. : d. ;
13.	Constructor is executed when _____. **A.** an object is created **B.** an object is used **C.** a class is declared **D.** an object goes out of scope.
14.	Use of _____ protects data from inadvertent modifications. A. private access specifier B. class protection operator, @ C. none of these D. public access specifier
15.	Which of the following statements is correct? **A.** Data items in a class must be private. **B.** Both data and functions can be either private or public. **C.** Member functions of a class must be private. **D.** Constructor of a class cannot be private.
16.	Which of the following is the only technical difference between structures and classes in C++? **A.** Member function and data are by default protected in structures but private in classes. **B.** Member function and data are by default private in structures but public in classes. **C.** Member function and data are by default public in structures but private in classes. **D.** Member function and data are by default public in structures but protected in classes.
17.	**Which of the following is user defined data type?** A. int B. Private C. Class D. A & B Both
18.	**The Object is not declared for which class?** A. Parent B. Base C. Abstract D. Derived

19.	**Data member is also called?** A. Attribute B. Method C. Class D. Object
20.	**A Class can have how many destructors?** A. 1 B. 2 C. 3 D. 4
21.	State true of false. i) We cannot make the function inline by defining a function outside the class. ii) A member function can be called by using its name inside another member function of the same class, this is known as nesting of member function. A) True, True B) True, False C) False, True D) False, False
22.	…… is a way to bind the data and its associated functions together which allows the data and functions to be hidden. A) Structure B) Class C) Enum D) Both A and B

23.	What happens when we try to compile the class definition in following code snippet?
	#include<iostream.h>
	void main()
	{
	class Birds {};
	class Peacock : protected Birds {};
	}
	
	A. It will not compile because class body of Eagle is not defined.
	
	B. It will not compile because a class cannot be protectedly inherited from other class.
	
	C. It will compile successfully.
	
	D. It will not compile because class body of Birds is not defined.

24.	Which of the following can access private data members or member functions of a class? **A.** Any function in the program. **B.** All global functions in the program. **C.** Any member function of that class. **D.** Only public member functions of that class.
25.	Which of the following type of data member can be shared by all instances of its class? A. Public

	B. Inherited C. protected D. Private
26.	How many specifiers are present in access specifiers in class? A. 1 B. 2 C. 3 D. 4
27.	Which is used to define the member of a class externally? A. : B. :: C. # D. none of the above

28.	What is the output of this program?
	#include <iostream.h>
	
	classrect
	{
	int x, y;
	public:
	voidval(int, int);
	int area ()
	{
	return(x * y);
	}
	};
	voidrect::val(int a, int b)
	{
	x = a;
	y = b;
	}
	int main ()
	{
	rectrect;
	rect.val(3, 4);
	cout<<"rect area: "<<rect.area();
	return0;
	}
	A. rect area:12
	B. rect area: 12
	C. rect area:24
	D. rect area:42

29.	Which of the following is a valid class declaration? A. class A { int x; }; B. class B { } C. public class A { } D. object A { int x; };

30.	When struct is used instead of the keyword class means, what will happen in the program? A. access is public by default B. access is private by default C. access is protected by default D. none of the mentioned
31.	How to access the members through class object? A. scope resolution operator B. ternary operator C. direct member access operator (.) D. none of the mentioned
32.	Which of these following members are not accessed by using direct member access operator(.)? A. public B. private C. protected D. Both b & c

33.	What is the output of the following program?
	#include <iostream.h>
	class Box
	{
	public:
	double length;
	double breadth;
	double height;
	};
	void main()
	{
	Box Box1;
	double volume;
	Box1.height=5;
	Box1.length=6;
	Box1.breadth=7.1;
	volume = Box1.height* Box1.length* Box1.breadth;
	cout<<"Volume of Box1 : "<< volume <<endl;
	}
	A. 210
	B. 213
	C. 215
	D. 217

34.	What is the output of the program?
	#include <iostream.h>
	
	classRect
	{
	int x, y;
	public:
	voidset_values(int,int);
	int area ()
	{
	return(x * y);
	}
	};
	voidRect::set_values(int a, int b){
	x = a;
	y = b;
	}
	int main ()
	{
	Rect recta, rectb;

	recta.set_values(5, 6);
	rectb.set_values(7, 6);
	cout<<"recta area: "<<recta.area();
	cout<<"rectb area: "<<rectb.area();
	return0;
	}
	
	A. recta area: 30 rectb area: 42
	B. recta area: 20 rectb area: 34
	C. recta area: 30 rectb area: 21
	D. none of the mentioned

35.	How many objects can created of a class? A. 1 B. 2 C. 3 D. as many as possible
36.	Pick out the other definition of objects. A. member of the class B. associate of the class C. attribute of the class D. instance of the class

37.	What is the output of this program?
	#include <iostream.h>
	class sample
	{
	private:
	intvar;
	public:
	void input()
	{
	cout<<var;
	}
	void output()
	{
	cout<<"Variable entered is ";
	cout<<var<<"**\n**";
	}
	};
	void main()
	{
	sample object;
	object.var=5;
	object.input();
	object.output();
	
	}
	A. Variable entered is 5
	B. runtime error
	C. private member access by object
	D. none of the mentioned

38.	Which special character is used to mark the end of class? A. ; B. : C. # D. $

39.	What is the output of this program?
	#include <iostream.h>
	
	class number
	{
	inti;
	public:
	intgeti();
	voidputi(int j);
	};
	int number::geti()
	{
	returni;
	}
	void number::puti(int j)
	{
	i= j;
	}
	void main()
	{
	number s;
	s.puti(10);
	cout<<s.geti();
	}
	A. 10
	B. 11
	C. 20
	D. 22

40.	Which is true for this keyword
	A. this.member B. this->member C. this*.member D. *this.member

CONSTRUCTORS & DESTRUCTORS

1.	Which of the following is not a type of constructor? A. Copy constructor B. Friend constructor C. Default constructor D. Parameterized constructor
2.	Which of the following statement is correct? A. A constructor is called at the time of declaration of an object. B. A constructor is called at the time of use of an object. C. A constructor is called at the time of declaration of a class. D. A constructor is called at the time of use of a class.
3.	Which of the following is correct about function overloading? A. The types of arguments are different. B. The order of argument is different. C. The number of argument is same. D. Both A and B.
4.	Given a class named ***Book,*** which of the following is not a valid constructor? **A.** Book ( ) { } **B.** Book (Book b) { } **C.** Book (Book &b) { } **D.** Book (char* author, char* title) { }
5.	How many constructors can a class have? A. 0 B. 1 C. 2 D. any number
6.	Which of the following is not the characteristic of constructor. **A.** They should be declared in the public section. **B.** They do not have return type. **C.** They can not be inherited. **D.** They can't be of same name as that of a class.
7.	A copy constructor takes **A.** no argument **B.** one argument **C.** two arguments **D.** arbitrary no. of arguments
8.	A constructor that accepts _____ parameters is called the default constructor. **A.** one **B.** two **C.** no D. five
9.	What happens when a class with parameterized constructors and having no default

	constructor is used in a program and we create an object with no-arguments? **A.** Compile-time error. **B.** Preprocessing error. **C.** Runtime error. **D.** Runtime exception.
10.	Destructor has the same name as the constructor and it is preceded by _____ . **A.** ! **B.** ? **C.** ~ **D**. &
11.	Constructors and destructors are called implicitly when the objects of the class is ..... **A.** Created and releases memory **B.** inherit parent class **C.** are constructed **D.** are destroyed
12.	Which constructor function is designed to copy objects of the same class type? **A.** Create constructor **B.** Object constructor **C.** Dynamic constructor **D.** Copy constructor
13.	Which of the following statement is correct? **A.** Constructor has the same name as that of the class. **B.** Destructor has the same name as that of the class with a tilde symbol at the beginning. **C.** Both A and B. **D.** Destructor has the same name as the first member function of the class.
14.	Which of the following statement is incorrect? **A.** Constructor is a member function of the class. **B.** The compiler always provides a zero argument constructor. **C.** It is necessary that a constructor in a class should always be public. **D.** Both B and C.

15.	When are the Global objects destroyed? **A.** When the control comes out of the block in which they are being used. **B.** When the program terminates. **C.** When the control comes out of the function in which they are being used. **D.** As soon as local objects die.
16.	Copy constructor must receive its arguments by _____ . **A.** either pass-by-value or pass-by-reference **B.** only pass-by-value **C.** only pass-by-reference **D.** only pass by address
17.	A function with the same name as the class, but preceded with a tilde character (~) is called _____ of that class. **A.** constructor **B.** destructor **C.** function **D.** object
18.	Which of the following gets called when an object goes out of scope? **A.** constructor **B.** destructor **C.** main **D.** virtual function
19.	Which of the following statement is correct? **A.** Destructor destroys only integer data members of the object. **B.** Destructor destroys only float data members of the object. **C.** Destructor destroys only pointer data members of the object. **D.** Destructor destroys the complete object.
20.	_____ is used to make a copy of one object to another object of the same class type. **A.** constructor **B.** copy constructor **C.** destructor **D.** default constructor
21.	Constructors _____ to create objects in different ways.

	A. cannot overloaded **B.** can be overloaded **C.** can be called **D.** can be nested
22.	Which of the following statement is correct? **A.** A destructor has the same name as the class in which it is present. **B.** A destructor has a different name than the class in which it is present. **C.** A destructor always returns an integer. **D.** A destructor can be overloaded.
23.	Which of the following are NOT provided by the compiler by default? **A.** Zero-argument Constructor **B.** Destructor **C.** Copy Constructor **D.** A & B
24.	It is a _____ error to pass arguments to a destructor. **A.** logical **B.** virtual **C.** syntax **D.** linker
25.	If the programmer does not explicitly provide a destructor, then which of the following creates an empty destructor? **A.** Preprocessor **B.** Compiler **C.** Linker **D.** main() function
26.	A constructor having parameters with default values is known as ..... **A.** default constructor **B.** copy constructor **C.** Constructor with default values. **D.** None of these
27.	How many default constructors per class are possible? **A.** Only one **B.** Two

	C. Three **D.** Unlimited
28.	Which of the following statement is correct about destructors? **A.** A destructor has void return type. **B.** A destructor has integer return type. **C.** A destructor has no return type. **D.** A destructors return type is always same as that of main().
29.	Which of the following statement is correct? **A.** A constructor has the same name as the class in which it is present. **B.** A constructor has a different name than the class in which it is present. **C.** A constructor always returns an integer. **D.** A constructor cannot be overloaded.
30.	Which of the following implicitly creates a default constructor when the programmer does not explicitly define at least one constructor for a class? **A.** Preprocessor **B.** Linker **C.** Loader **D.** Compiler
31.	A destructor takes _____ arguments. **A.** one **B.** two **C.** three **D.** no
32.	Destructor calls are made in which order of the corresponding constructor calls? **A.** Reverse order **B.** Forward order **C.** Depends on how the object is constructed **D.** Depends on how many objects are constructed
33.	Which of the following never requires any arguments? **A.** Member function **B.** Friend function

	C. Default constructor **D.** const function
34.	A class's _____ is called when an object is destroyed. **A.** constructor **B.** destructor **C.** assignment function **D.** copy constructor
35.	Destructors _____ automatically when the program terminates with a call to function exit or function abort. **A.** are called **B.** are inherited **C.** are not called **D.** are created
36.	Which of the following statement is correct? **A.** A constructor of a derived class can access any public and protected member of the base class. **B.** Constructor cannot be inherited but the derived class can call them. **C.** A constructor of a derived class cannot access any public and protected member of the base class. **D.** Both A and B
37.	Which of the following statements are correct? **A.** Constructor is always called explicitly. **B.** Constructor is called either implicitly or explicitly, whereas destructor is always called implicitly. **C.** Destructor is always called explicitly. **D.** Constructor and destructor functions are not called at all as they are always inline.
38.	How many times a constructor is called in the life-time of an object? **A.** Only once **B.** Twice

	C. Thrice **D.** Depends on the way of creation of object
39.	Which of the following statement is correct about constructors? **A.** A constructor has a return type. **B.** A constructor cannot contain a function call. **C.** A constructor has no return type. **D.** A constructor has a void return type.
40.	Which of the following statement is correct whenever an object goes out of scope? **A.** The default constructor of the object is called. **B.** The parameterized destructor is called. **C.** The default destructor of the object is called. **D.** None of the above.

41.	Answer the questions (i) and (ii) after going through the following program
	#include<iostream.h>
	#include<string.h>
	class Bazar
	{
	char Type[20];
	char Product[20];
	int Qty;
	float Price;
	Bazar() //Function 1
	{
	strcpy (Type,"Electronic");
	strcpy (Product,"Calculator");
	Qty = 10;
	Price=225;
	}
	
	public:
	void Disp( ) //Function 2
	{
	cout<<Type<<"-"<<Product<<":"<<Qty<<"@"<<Price<<endl;
	}
	
	};
	void main( )
	{
	Bazar B; //Statement 1
	B.Disp(); //Statement 2
	}
	
	(i) Will Statement 1 initialize all the data members for object B with the values given in the Function 1? Justify your answer suggesting the correction(s) to be made in the above code.
	
	A. Yes
	B. No

(ii) What shall be the possible output when the program gets executed? (Assuming, if required – the suggested correction(s) are made in the program).

A. Electronic-Calculator:10@225
B. Electronic Calculator ::10@250
C. Electronic Calculator :10@250
D. Electronic-Calculator::10@225

42. **Answer the questions (i) and (ii) after going through the following class:**

```
class Seminar
{
  int Time;
 public:
   Seminar()                    //Function 1
    {
      Time=30;cout<<"Seminar starts now"<<end1;
    }
 void Lecture()                 //Function 2
 {
  cout<<"Lectures in the seminar on"<<end1;
 }
Seminar(int Duration)//Function 3
 {
  Time=Duration;cout<<"Seminar starts now"<<end1;
 }

  ~Seminar()          //Function 4
    {
     cout<<"Vote of thanks"<<end1;
    }
};
```

(i) In Object Oriented Programming, what is **Function 4** referred as ?

A. Copy Constructor

B. Constructor

C. Destructor

D. Default Constructor

(ii) In Object Oriented Programming, when does Function 4 get invoked/called?

A. When user calls it.

B. It is invoked as soon as the scope of the object gets over.

C. It can'be invoked.

D. A & C

(iii) In Object Oriented Programming, which concept is illustrated by

	Function 1 and Function 3 together? Write an example illustrating the calls for these functions. A. Inheritance B. Encapsulation C. Constructor Overloading (Polymorphism) D. Data hiding **(iv) What is the correct code to call Function 1?** A. Seminar S1 B. Seminar S1; C. S1; D. A & C **(v) What is the correct code to call Function 3?** A. Seminar S2(90); B. Seminar S2; C. S2; D. B & C
43.	In which case is it mandatory to provide a destructor in a class? A. Almost in every class B. Class for which two or more than two objects will be created C. Class for which copy constructor is defined D. Class whose objects will be created dynamically
44	Constructor Overloading implements ..... feature of OOPs A. Polymorphism B. Inheritance C. Abstraction D. None
45	What happens when following statements are executes assuming Book is a class Book a,b; -------- a=b; A. Copy Constructor is called. B. Default Constructor C. Assignment Operation D. None

INHERITANCE

1.	**The process of building new classes from existing one is called _____.**

	A. Polymorphism **B.** Structure **C.** Inheritance **D.** Cascading
2.	**Mechanism of deriving a class from another derived class is known as____** **A.** Polymorphism **B.** Single Inheritance **C.** Multilevel Inheritance **D.** Message Passing
3.	**If a class C is derived from class B, which is derived from class A, all through public inheritance, then a class C member function can access** **A.** Protected and public data only in C and B **B.** Protected and public data only in C **C.** Private data in A and B **D.** Protected data in A and B
4.	**The base class access specification determines how _____ members in the base class may be accessed by derived classes.** **A.** Private **B.** Public **C.** Protected **D.** All of the above
5.	**A base class may also be called a** **A.** Child class **B.** Subclass **C.** Derived class **D.** Parent class
6.	**Which of the statements are true ?** **I. Function overloading is done at compile time.** **II. Protected members are accessible to the member of derived class.** **III. A derived class inherits constructors and destructors.** **IV. A friend function can be called like a normal function.** **V. Nested class is a derived class.** **A.** I, II, III **B.** II, III, V **C.** III, IV, V **D.** I, II, IV
7.	**In multiple inheritance -** **A.** The base classes must have only default constructors **B.** Cannot have virtual functions **C.** Cannot have virtual classes **D.** None of the above
8.	**When a sub class is inherited from only one super class .It is known as** **A.** Single inheritance **B.** Multiple inheritance

	C. Hierarchical inheritance **D.** Multilevel inheritance
9.	_____ **members of a base class are never accessible to a derived class.** **A.** Private **B.** Public **C.** Protected **D.** All of the above
10.	**What part of object-oriented technology defines superclass and subclass relationships?** **A.** Inheritance **B.** Scalability **C.** Encapsulation **D.** Polymorphism
11.	In a student grading system, objects from different classes communicate with each other. These communications are known as _____. **A.** Inheritance **B.** Scalability **C.** Encapsulation **D.** Polymorphism
12.	What common technique attempts to save time and energy by reducing redundant work in object-oriented programming? **A.** Reduce lines of programming **B.** Reuse of code **C.** Reduce size of systems being developed **D.** Merging different systems together
13.	Which of the following term is used for a function defined inside a class? A. Member Variable B. Member function C. Class function D. Classic function
14.	Which of the following is the valid class declaration header for the derived class **b** with base class **a** and derived class **c** with base class **b**? **A.** class **b** : public **a** { }; class c : public b{ }; **B.** class **d** : class **b1**, class **b2** **C.** class **a** : public **b** { }; class b : public c{ }; **D.** class **d** : **b1**, **b2** **E.**
15.	Which of the statements is true in a protected derivation of a derived class from a base class? **A.** Private members of the base class become protected members of the derived class **B.** Protected members of the base class become public members of the derived class **C.** Public members of the base class become protected members of the derived class **D.** Protected derivation does not affect private and protected members of the derived class.
16.	Which of the following is the valid class declaration header for the derived class **d** with base

	classes**b1** and **b2**? **A.** class **d** : public **b1**, public **b2** **B.** class **d** : class **b1**, class **b2** **C.** class **d** : public **b1**, **b2** **D.** class **d** : **b1**, **b2**
17.	The major goal of inheritance in c++ is: A. To facilitate the conversion of data types. B. To help modular programming. C. To extend the capabilities of a class. D. To hide the details of base class.

18.	Consider the following class definitions:
	class a
	{
	};
	class b: protected a
	{
	};
	What happens when we try to compile this class?
	A. Will not compile because class body of a is not defined.
	B. Will not compile because class body of b is not defined.
	C. Will not compile because class a is not public inherited.
	D. Will compile successfully.

19.	In access control in a protected derivation, visibility modes will change as follows: A. private, public and protected become protected B. only public becomes protected. C. public and protected become protected. D. only private becomes protected.
20.	Which allows you to create a derived class that inherits properties from more than one base class? A. Multilevel inheritance B. Multiple inheritance C. Hybrid Inheritance D. Hierarchical Inheritance
21.	Which feature in OOP allows reusing code? A. Polymorphism B. Inheritance C. Encapsulation D. Data hiding
22.	To hide a data member from the program, you must declare the data member in the _____ section of the class A. concealed B. confidential C. hidden D. private
23.	When you derive a class privately, a protected base class member becomes A. private B. public C. not inherited D. protected
24.	Irrespective of type of derivation_____members of a base class are never accessible in derived class.

	A. (b), (d) and (e) B. private C. none of these D. protected E. public
25.	A class inherited from an existing class is known as _____. A. derived class B. inheritee C. child class D. A and C
26.	When two or more classes serve as base class for a derived class, the situation is known as _____. A. multiple inheritance B. polymorphism C. encapsulation D. None of these
27.	Which type of inheritance is depicted in the given example? **class school : public student, private teacher** A. Multilevel Inheritance B. Multiple Inheritance C. Single Level Inheritance D. None of these
28.	When derived class and base classes both contain constructors, the base constructor is executed first and then the constructor in the derived class is executed. A. True B. False C. All of the above D. None of the above

29.	How Many bytes will be required by an object of the class SHOP?
	class CUSTOMER
	{
	intCust_no;
	char Cust_Name[20];
	};
	class SALESMAN
	{
	intSalesman_no;
	char Salesman_Name[20];
	protected:
	float Salary;
	};
	class SHOP : private CUSTOMER, public SALESMAN
	{
	char Voucher_No[10];
	char Sales_Date[8];
	};
	A. 56 bytes
	B. 18 bytes
	C. 88 bytes
	D. 66 bytes

30.	Which type of inheritance is shown in the following example?
	class olympics
	{
	int no_of_events; char country_name[25];
	};
	class outdoorgame : public olympics
	{
	char eventname[20];
	inteventcode;
	};
	class hockey : public outdoorgame
	{
	intno_of_players;
	char venue[25];
	};
	A. Multilevel Inheritance
	B. Multiple Inheritance
	C. Single Level Inheritance
	D. None of these

31.	consider the following class declaration and answer the question below :
	class university {
	intnoc;
	protected;
	char uname[25];
	public:
	university();
	char state[25];
	};
	class college:public university{
	int nod;
	char cname[25];
	public:
	college();
	};
	class department:public college{
	char dname[25];
	intnof;
	public:
	department();
	};
	Which class's constructor will be called first at the time of declaration of an object of class department?
	A. university
	B. department
	C. college

	D. No class constructor will be called

32.	consider the following class declaration and answer the question below :
	class university {
	int noc;
	protected;
	char uname[25];
	public:
	university();
	char state[25];
	};
	class college:public university{
	int nod;
	char cname[25];
	public:
	college();
	};
	class department:public college{
	char dname[25];
	intnof;
	public:
	department();
	};
	(i) How many bytes does an object belonging to class college, university and department require respectively?
	A. 79, 52,106
	B. 52,106,79
	C. 106,79,52
	D. 79,54,106
	(ii) Which data member will be accessible from the object of class department?
	A. noc
	B. dname
	C. nof
	D. state

33.	What is the output of this program? #include <iostream.h> class A { public: A(int n)

	{
	cout<< n;
	}
	};
	class B:public A
	{
	public:
	B(int n, double d)
	: A(n)
	{
	cout<< d;
	}
	};
	class C:public B
	{
	public:
	C(int n, double d, charch)
	: B(n, d)
	{
	cout<<ch;
	}
	};
	int main()
	{
	C c(5, 4.3, 'R');
	return0;
	}
	A. 54.3R
	B. R4.35
	C. 4.3R5
	D. None of the mentioned

34.	What is the output of this program?
	#include <iostream.h>
	
	classBaseClass
	{
	protected:
	inti;
	public:
	BaseClass(int x)
	{
	i= x;
	}
	~BaseClass()
	{
	}
	};
	classDerivedClass:publicBaseClass
	{
	int j;
	public:
	DerivedClass(int x, int y):BaseClass(y)
	{
	j = x;
	}

	~DerivedClass()
	{
	}
	void show()
	{
	cout<<i<<" "<< j <<endl;
	}
	};
	int main()
	{
	DerivedClassob(3, 4);
	ob.show();
	return0;
	}
	A. 3 4
	B. 4 3
	C. 4
	D. 3

35	What is the output of this program?
	#include <iostream.h>
	
	class Base
	{
	public:
	int m;
	Base(int n=0)
	: m(n)
	{
	cout<<"Base"<<endl;
	}
	};
	class Derived:public Base
	{
	public:
	double d;
	Derived(double de =0.0)
	: d(de)
	{
	cout<<"Derived"<<endl;
	}
	};
	int main()
	{
	cout<<"Instantiating Base"<<endl;
	Base cBase;
	cout<<"Instantiating Derived"<<endl;
	Derived cDerived;
	return0;
	}
	
	A. Instantiating Base
	Base
	Instantiating Derived
	Base

	Derived B. Instantiating Base Instantiating Derived Base Derived C. Instantiating Base Base Instantiating Derived Base D. None of the mentioned

36.	What is the output of this program?
	
	#include <iostream.h>
	class Parent
	{
	public:
	Parent (void)
	{
	cout<<"Parent()**\n**";
	}
	Parent (inti)
	{
	cout<<"Parent("<<i<<")**\n**";
	};
	Parent (void)
	{
	cout<<"~Parent()**\n**";
	};
	};
	class Child1 :public Parent {};
	class Child2 :public Parent
	{
	public:
	Child2 (void)
	{
	cout<<"Child2()**\n**";
	}
	Child2 (inti): Parent (i)
	{
	cout<<"Child2("<<i<<")**\n**";
	}
	~Child2 (void)
	{
	cout<<"~Child2()**\n**";
	}
	};
	int main (void)

	{
	Child1 a;
	Child2 b;
	Child2 c(42);
	return0;
	}
	A. Parent()
	Parent()
	Child2()
	Parent(42)
	Child2(42)
	~Child2()
	~Parent()
	~Child2()
	~Parent()
	~Parent()
	B. Error C. runtime error D. None of the mentioned