रां भी राज्य कार्या है । हारा के कारण विकास है। हिस्सा है। the choractricities . Lebaviages of bose doss ore posseppe to active to a retained on the der activity of the spices of were close one whented to Donivedo close di arangires : holdlow Adopt, I do Characteristic ASSIGNMENT chanaderistics: X yabatal Rehaviorals Janes (2000 Comos

By What is meant by function overloading Refer Assignment 13 810 02] why function overloading is considered as compile time polymorphism. fonction overloading allows multiple functions having same name but different parameter lists. It is considered as compile time polymorphism because the decision about which overloaded function to call is made by the compiler at compile time. The compiler determines the appropriate function to call during the compilation process by analyzing the organients provided in the function call. & #include (iostream> of rate base 21 solov using namespace std; void display (int a) & cout << "Integer: " (Karrend); void display (double a) ? cout « "Double: " « a < r end); Jon sivice stated another of shitters exolo parbooliero int main() { introport not per biotromatic display (5-); should seem to be to see the display (5.5); some and the probability of the return o; 1 soil stig (10) at estinguaritie ! It demonstrates compile time volumenties. The the cascorate Jourstly Demotrog gland as

93] What do you near by Name Mangling / Naming Decarate Refer Assignment 14 0,5 (14) Why return value is not considered as function overload, criteria ? The return value is not considered as function overloading criteria because function calls are resolved at compile time based on their name & norameter list is It the compiler relied on the return type to differentiate between overloaded functions, it would create ambiguity & int. tonc(); Hoat func(); fun c(); // Compiler Ambiguity which function to can 27 The return value is used after the function call complety. However, function everloading is resolved before execution. 95] Lihy & What is the use of function overloading? Why => > Code Readability & Revsibility: function overloading allows multiple functions with the same name to co-exist differentiated by their parameter list.

Function overloading allows multiple tonations with the same name to co-exist differentiated by their parameter list.

2> to enables the same function name to handle different types without researing multiple distinct function names.

3> Polymorphism in compile Time:

It demonstrates compile time polymorphism, where the came fonction name performs different operations depending on the arguments.

Handling Different Data Types: Handling can perform the same logical operation on various phondion such as int, float, double etc. data types such as Int, float, double etc. averying no. of Arguments: fortions can be overloaded to accept different nos of parameters 37 Poponing Code Reusability: overloading eliminates the need to create multiple function names for similar operations isimplifying code maintainence 86] What are the scenarios in which we cannot perform function overloading? > When functions differ only by return type, As discussed return type is not pent of signature used for overloading ex Ambigous Overloads: overloading with default arguments can create ambiguity s> functions differing obj by "const": Non-constant & constant variables of a function cannot be overload unless used in classes with othis, pointer 91] What are the scenamias in which we can overload the function? > Different Parrameter Types void print (inta); void print (double d); 22 Different no. of Parameter void mint (inta); void mint (intach);

```
3> Different Parameter Order:
                               olof domit if pall
     Void print (int a, doubleb);
                           וו נוסף כאף פניוסות אוב למר
     void mint (double a, int h);
                              holfs dat so by the
                             damped to or pages.
4) with ref or Pointer Parameters:
void print (Int 20);
                           endilitorus (sho) propone
       Void print (int *a);
· Roles was one of the real terroral so byte for the solow
1> Names of all functions should be some
2) Doda Types of parameters should be different
3> No. of Parameters should be different
4> We cannot coverload function by changing its neturn value.
We can overload function by Changing:
                  the biggers Overtoods overlooding with dela
1> No. of Arguments
2> bequence of doguments
                      (1200) phy do primitibe conduct co
3> Deta Type of Arguments
                       Non-contant & constant x condition
08] Predict 0/p of below mogram
 # include < iostream>
 using namespace old;
                             25 pt Pornotto 1402
 class Demo ?
  Public :
  void for (int i)
                            now of Porometer
   cout << 66 first definition 99;
  void fun (inti, inti)
```

```
cout 166 second definition;
 int main ()
 Deno obj ();
 obj. fun(10);
 obj. fun (10, 20);
  rewrno;
olp: First definition Second definition
09] Predict o/p
                    initial definition to the bookerond
#include < iosbeam >
 using namespace std;
                    equator its internal - Egolain type of
 class Demo
  public:
                                        codepor 1
  void fun (int *P)
  coutex 66 first definition";
  void for (float * p)
  couter 6 second definition";
 void fon (int no)
1; coût x 66 Third definition?
                         laterite Boye publish public 1508 g
                              भार : कार्यकात व्यक्त : अन्य
```

```
int main ()
     int no = 10;
     float f = 12-3;
     Demo obj ();
     obj. for (no);
     obj. fon (lno);
     obj. fun(2+);
     return o;
                              actinition become definition
OIP: Third definition first definition becond definition
aro] Draw object layout & class diagram of below code &
    explains its internal . Explain type of inheritance in below
    code.
> Closees & Members:
17 Class Base:
Non static data members: i, j.
Static data member: K
Constructor: Pnittalizes 1=10, j=20
```

2> Class Derived:

Inherits Base publicy (public Base) means Base's public & motected members one accessible as public & motected in Derived).

Member function: void fun(), prints 66 Base fun 09.

Adds new douted members: x,y

Constructor: Initializes 9=100, 9=200 member Londion: void gon()

Types of Inheritarice: public Inheritance: The derived class inherits all public and

motioned members of the Base class.

Object Layout: memory lowout for Base Object:

THEIR	Tune :	Value (after construction)
member	Type :	Letter 21 10 outened 2000 -11
i i-	int	
K	static int	12 (shared by all objects)

Memory Layout for Derived Object:

member	Type	value (After Construction)
Base :: i	int	10
Base :: j	int	20
Derived: 2	int	100
Derived :: y	int	200
Base !! K	static int	12

Internal Working:

1> Static Memberk:

Ris a class level variable 2 shared across all objects.
Base 2 Derived.

2> Single Phheritance:

The Derived class can access the public members of Base, including funcs.

The Derived class adds its own members (214) & method go

hereby Louisof for Derived Object:

dal attors

3> Object Instantiation.

When a derived object is created:

(moistant 10) rotta) sulov

The Bose Construction is called first to initialize is.

Then He Derived Constructor initializes or by.

Static let 12 (showed by on objects)