

DOON UNIVERSITY, DEHRADUN School of Technology

Integrated MCA, Second Semester, Mid Semester Examination, 2016 STM-513: Object Oriented Programming (C++)

ime Allowed: 2 Hours	Maximum Marks: 30
ECTION A (Short Answer Type Questions)	(Total Marks: 06)
1. State True/False.	(2)
a) A friend function can access the protected members of the class.	
b) Every function can be inlined.	•
c) Constructors can't be overloaded.	and the second s
d) A static data member exists before any object of its class is created.	
2. What output does the following program produce? Give the order of various functions	ion calls. (2)
class test {	
int id;	,
public:	•
test(int x) { id = x; cout << "\nConstructing" << id; }	
~test() { cout << "\nDestructing " << id; }	
void setId(int x) { id = x; }	
int getId() { return id; }	•
The second of th	
void fun(test o) {	•
o.setId(2);	•
cout << endl << o.getid;	
} int main() {	•
test ob(1);	
fun(ob); cout << endl << ob.getId;	
return 0;	
}	, ,
3. Choose the correct option(s).	(2)
a) The <i>new</i> operator can be used to allocate memory for	•
A) an array of objects	
B) a single object	
C) an array of pointers	
D) an array of references	,
b) Which of the following are inherited by a derived class?	
A) friends	
B) constructor and destructor	
C) private members	
D) none	

	c)	Which of the f	following is used	I to keep the call by	reference value as	intact?	
		A) enum					
		B) static			4		
		C) const					
		D) #define		and the second of the first			
	d)	What is the de	efault visibility m	node for class memb	ers?		
			•				
		• •		Association and Electrical	the second second		
		• •				+ +	
		o, none					
TION	I R /1	one Answer Ty	vne Questions)				Total Marks: 4 x 3 = 12
	**	The second		** * * * * * * * * * * * * * * * * * * *		•	
1.	a)	_		and the second of the second o	s, with examples, v	where friend	I functions are needed.
	b)	Explain the co	ncept of this poi	inter.			emie dienes of the state
					and the second s		
2.				-			
	b)	How are station	data members	of a class defined? E	xplain the usage o	f static mem	bers using a suitable
		example.	and the second				
3.	a)	•	_	-	n examples.		
	b)	What is an ab	stract class? Hov	w are they useful?			
	_						
4.	Con				data members:		
		int x;					•
		int y;					
	Def	ine the following	ng overloaded o _l	perators:			
	a) 🗀	prefix decrem	ent operator tha	at would decrement	x and y by 1 each.		
	b)	postfix decren	nent operator th	at would decremen	t x and y by 1 each	but return t	he original value.
	c)	compound ass	signment operat	or +=.			
TION	I C (\	ery Long Answ	ver Type Questic	ons)		ť	Total Marks: 3 x 4 = 12
	C a m		, h	"Defectly anatomical		a ahawhan	d form of function
1.			ne statement,	Default arguments	s can be used as	a shorthan	iu tonn of function
	ove	rioading."	•				
2.	Exp	lain any two of	f the following a	spects of C++ langu	age. Use short cod	e fragments	to complement your
	exp	lanation:					7
	a)	Inheritance an	nd virtual functio	ons			
100				the state of the s			
			•				
_			· -,		· · · · · · · · · · · · · · · · · · ·		
3.	a)		-			fine a copy o	constructor for a class
			=				•
		char *p;		_			
		int len;	// len h	olds the length of th	e string		•
		•		1.00			
	h١	•	e useful to defin	e the assignment on	erator for a C++ class	c? Define ou	erloaded assignment
	b)	Why might it b		e the assignment ope ing-object-to-a-String		ss? Define ov	verloaded assignment
	2. 3. 4.	d) TION B (I 1 a) b) 2. a) b) 4. Cor Def a) b) c) TION C (V 1. Con ove 2. Exp exp a) b) c)	A) enum B) static C) const D) #define d) What is the di A) private B) protected C) public D) none TION B (Long Answer To 1.—a) Define friend b) Explain the co 2. a) Define inline f b) How are static example. 3. a) Compare fund b) What is an ab 4. Consider the class int x; int y; Define the followin a) prefix decrem b) postfix decrem c) compound ass TION C (Very Long Answ 1. Comment upon to overloading." 2. Explain any two or explanation: a) Inheritance ar b) Overloaded func C) Exception han 3. a) State the nece String that use	A) enum B) static C) const D) #define d) What is the default visibility m A) private B) protected C) public D) none TION B (Long Answer Type Questions) 1.—a) Define friend function. Mention b) Explain the concept of this po 2. a) Define inline function. How do b) How are static data members example. 3. a) Compare function overloading b) What is an abstract class? How 4. Consider the class point with the foint x; //x-conint y; //y-con Define the following overloaded o a) prefix decrement operator the b) postfix decrement operator the c) compound assignment operator TION C (Very Long Answer Type Question 1. Comment upon the statement, overloading." 2. Explain any two of the following a explanation: a) Inheritance and virtual function b) Overloaded functions and oper c) Exception handling 3. a) State the necessity of defining string that uses following two	A) enum B) static C) const D) #define d) What is the default visibility mode for class memb A) private B) protected C) public D) none TION B (Long Answer Type Questions) 1. a) Define friend function. Mention two circumstance b) Explain the concept of this pointer. 2. a) Define inline function. How do you inline class me b) How are static data members of a class defined? E example. 3. a) Compare function overloading and overriding with b) What is an abstract class? How are they useful? 4. Consider the class point with the following two private int x; //x-coordinate int y; //y-coordinate int y; //y-coordinate Define the following overloaded operators: a) prefix decrement operator that would decrement b) postfix decrement operator that would decrement c) compound assignment operator +=. TION C (Very Long Answer Type Questions) 1. Comment upon the statement, "Default argument: overloading." 2. Explain any two of the following aspects of C++ langue explanation: a) Inheritance and virtual functions b) Overloaded functions and operators c) Exception handling 3. a) State the necessity of defining a copy constructor String that uses following two private data members	A) enum B) static C) const D) #define d) What is the default visibility mode for class members? A) private B) protected C) public D) none TION B (Long Answer Type Questions) 1. a) Define friend function. Mention two circumstances, with examples, to Explain the concept of this pointer. 2. a) Define inline function. How do you inline class member functions explain the usage of example. 3. a) Compare function overloading and overriding with examples. b) What is an abstract class? How are they useful? 4. Consider the class point with the following two private data members: int x; //x-coordinate int y; //y-coordinate Define the following overloaded operators: a) prefix decrement operator that would decrement x and y by 1 each. b) postfix decrement operator that would decrement x and y by 1 each. c) compound assignment operator +=. TION C (Very Long Answer Type Questions) 1. Comment upon the statement, "Default arguments can be used as overloading." 2. Explain any two of the following aspects of C++ language. Use short cod explanation: a) Inheritance and virtual functions b) Overloaded functions and operators c) Exception handling 3. a) State the necessity of defining a copy constructor for a C++ class? Destring that uses following two private data members:	A) enum B) static C) const D) #define d) What is the default visibility mode for class members? A) private B) protected C) public D) none TION B (Long Answer Type Questions) (1.—a) Define friend function. Mention two circumstances, with examples, where frience b) Explain the concept of this pointer. 2. a) Define inline function. How do you inline class member functions explicitly. b) How are static data members of a class defined? Explain the usage of static memexample. 3. a) Compare function overloading and overriding with examples. b) What is an abstract class? How are they useful? 4. Consider the class point with the following two private data members: int x; //x-coordinate int y; //y-coordinate Define the following overloaded operators: a) prefix decrement operator that would decrement x and y by 1 each. b) postfix decrement operator that would decrement x and y by 1 each but return to c) compound assignment operator +=. TION C (Very Long Answer Type Questions) 1. Comment upon the statement, "Default arguments can be used as a shorthan overloading." 2. Explain any two of the following aspects of C++ language. Use short code fragments explanation: a) Inheritance and virtual functions b) Overloaded functions and operators c) Exception handling 3. a) State the necessity of defining a copy constructor for a C++ class? Define a copy of String that uses following two private data members: