

III SEMESTER B.TECH. (INFORMATION TECHNOLOGY/ COMPUTER AND COMMUNICATION ENGINEERING) END SEMESTER EXAMINATIONS, March, 2021

SUBJECT: OBJECT ORIENTED PROGRAMMING [ICT 2155]

REVISED CREDIT SYSTEM (1/ 03 /2021)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

✤ Answer ALL the questions.

✤ Missing data if any, may be suitable assumed.

Create a swing UI to accept a number from the user and on click of the button: 1A. i. First verify if the user has entered a valid number, if not display a message to the user asking him to input a valid number. ii. If the number is valid display square of the number and also state if the number is prime or not. The message should be displayed in a label. The contents of the label is empty initially. 5 1**B**. Create a class Vehicle, derive classes Ship & Plane from class Vehicle. In main method create objects of Vehicle, Ship & Plane and when the display method is called it should display "moves on land" for Vehicle object. "moves in air" for plane object & "moves on water" for ship object. The following conditions should be strictly considered while defining the classes: i. The display method is present only in the Vehicle class ii. No usage of constructors in any of the class 3 1C. Write the output for the given code snippets: i. public class Test { public static void leftshift(int i, int j) ł $i \ll j;$ public static void main(String args[]) int i = 4, j = 2;2 leftshift(i, j); System.out.println(i); } }

	ii. class SC2 {						
	public static void main(String [] args) {						
	SC2 s = new SC2();						
	s.start(); }						
	void start() {						
	int $a = 3$; int $b = 4$;						
	System.out.print(" " $+7+2+$ " "):						
	System.out.print($a + b$):						
	System.out.print(" $+ a + b + "$ "):						
	System.out.print(foo() + $a + b + ""$):						
	System.out.println($a + b + foo()$); }						
	String foo() { return "foo": }}						
2A	Write a java program to do the following:						
	i Accept a word from the user, create two threads						
	ii In the first thread arrange the characters of the word alphabetically & display the						
	word						
	iii In the second thread, count the no, of yowels in the word and display it						
	iv Once the two threads are complete display "WORK COMPLETED"						
	1. Once the two threads are complete, display working contraction ELTED	5					
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2B	Create a list of 5 book objects. Each book object is associated with a Title, Author, Price and						
	ISBN. Write a complete Java program to arrange the 5 books in alphabetical order of their						
	title and display them (display all fields of each book).	3					
2C	Write the output for the following code snippet with proper justification:						
20	while the output for the following code shipper with proper justification.						
	i, public class ex_ha {						
	static String str= "a":						
	public static void main(String args[]){						
	new ex_ha() method1():						
	System out println(str):						
	void method1() {						
	try {						
	method?():						
	$\langle catch(Exception e) \rangle$						
	str +- "b":						
	$\int \frac{du}{du} = 0, f$						
	void method2() throws Exception{						
	try { method3():						
	str += "c"						
	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$						
	throw new Exception():						
	$\frac{1}{3} \frac{1}{3} \frac{1}$						
	method3().						
	$\int \int dr $						
	$ \int \int \nabla u \tau = v , $						
	yoid method3() throws Exception	1					
	throw new Exception():	1					
		2					

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4C.	What is dynamic method dispatch? How does it differ from compile time polymorphism?							
5A.	Write a Java program to read a character matrix of dimension greater than 3 x 3 and an word (String). In the entered matrix find if the given word is present in horizontal forward, horizontal backward, vertical forward and vertical backward direction. Example: Input to the program:							
	В	А	Т	С	Т			
	Т	Ο	Р	S	E			
	Х	Y	А	W	A			
	А	E	W	Ζ	X			
	If search word = TOP Expected Ouput : "TRUE" Horizontal Forward If search word = TEA Expected Ouput : "TRUE" Vertical Forward If search word = WAY Expected Ouput : "TRUE" Horizontal Backward If search word = APT Expected Ouput : "TRUE" Vertical Backward And so on							
5B.	What	t is meth	nod ove	rloadin	g and method overriding? Explain with a suitable example	3		
5C.	Two	String of	bjects v	with ide	ntical values are not equal when == operator is used. Explain	. 2		