### Savitribai Phule Pune University

(Formerly University of Pune)



### **Booklet of Practical Skeleton Papers for**

**B.Sc.** (Computer Science)

(Choice Based Credit System) (2019 Pattern)

F.Y.B.Sc. (Computer Science)

SEMESTER -II

**LAB COURSE CS-123** 

(Advanced 'C' Programming

&

Relational Database Management Systems)

### Important instructions to examiners:

- 1. It is compulsory to conduct all practicals on Linux operating system. For database practicals, use PostgreSQL.
- 2. All slips are to be used for every batch.
- 3. Examiners should check one section each.
- 4. Program print-outs should be attached with the practical examination slip.
- 5. Written work for RDBMS table normalization may be done on the back side of the slip or additional Answer sheet / supplement may be given.
- 6. The question-wise marks are to be written on the practical slip and signed by each examiner.

### **Laboratory Course CS-123**

Du	rati	on: 3 Hours		Maximum Marks: 35				
Day and	l Da	te:		Signature	of Invigilator			
Seat No	:	Seat No (in words	):					
Marks	S			Signature	Examiner 1			
	_	$\frac{15}{15} + \frac{15}{15} + \frac{1}{5} = -\frac{1}{5}$	35	_	Examiner 2			
Section	I : A	Advanced 'C' Programmii	ıg			[15 marks]		
		Write a program to fine     Write a program to cor     array using pointer.	d maxim		-	[5 marks]		
Q 1)	A	Write a C program to ac percentage) using structumaximum percentage.	cept deta					
		Relational Database Man	agement	Systems		[15 marks]		
		no integer, name varchar(	30), addr	ess varchar(50)	, class varchar(10	))		
	1	de varchar(10), subject nan	· ·	· í		,		
Student-	Sub	ject are related with M-M re	elationsh	ip with attribute	es marks_scored.			
` /	A B	Create the above database Execute any two of the folion.  Write a function which details of that student.  Write a function using subject and print the rethat subject.  Write a trigger which student-subject table. appropriate message and	lowing under the will account of the will acco	esing PL/pgSQI cept the roll no which will accep ame and marks ed when inserting scored is less t	and print all the of the name of the of all students for on is made in the han 0, give	[10 marks]		
Q 3)		Viva				[5 marks]		

### Laboratory Course CS-123

,	ion: 3 l	Hours	ng & Kei	ational Datab	_	•	Marks: 35
Day and Da	ite:			Signature	of Invigilator		
Seat No:		_ Seat No (in word	s):				
Marks				Signature	Examiner 1		
_	15 +	15 + 5 =	35	-	Examiner 2		
Section I : .	Advanc	ed 'C' Programmi	ng				[15 marks]
Q 1) A		Write a program to reverse order.	C	he command li	ne arguments in	L	[5 marks]
	ii.	Write a program to		contents of file OR	"a.txt" on the sc	reen.	[10 marks]
Q 1) A	strings	a menu driven pro using standard libr Convert string to u	ary function		llowing operation	ons on	[15 marks]
	2. 3.	Copy one string to Compare two strin Concatenate two s	another gs				
		onal Database Man	agement	Systems			[15 marks]
		pacity int, depot_n	ame varch	nar(20))			
Route (route	e_no int	, source varchar(20)	), destinati	on varchar(20)	), No_of_station	s int)	
Bus and Ro	ute are r	elated with many to	many rel	ationship.			
Q 2) A B	Execute i. ii.	the above database any two of the followrite a stored functional print all the det Write a trigger which made to the Route that allow the insertion	lowing using toon which ails of thatch will be able. If No	ing PL/pgSQL will accept the troute. executed every o_of_stations i	e route_no from time insertion is less than 2 there	user	[5 marks]
Q 3)		Write a stored funct all routes on which	_		will give details	of	[5 marks]
•							

### **Laboratory Course CS-123**

D	urat	ion: 3	Hours				Maxim	num Marks: 35	
Day ar	nd Da	ate:				Signature			
Seat N	o:		_ Seat No	(in word	ds):				
Marl	KS					Signature	Examiner 1		
	-	15	15 +	5 =	35	_	Examiner 2		
Section	n I :	Advano	ced 'C' Pr	ogramm	ing			[15 marl	ks]
Q 1)	A	i.	Write a properties of the second seco		to calculate	e length of strir	ng using standard	library [5 marks	;]
		ii.			nts and cal	culate their sur	nically for n integ n and average.	gers. [10 mark	cs]
Q 1)	A	conta		r structur	clare a str e birthdate		(name, address) year). Accept the	<b>-</b>	κs]
			onal Datal		nagement	Systems		[15 marl	ks]
			·		specializa	ation varchar(3	5), charges int)		
	. —		h name va		-	·	c), eget)		
•	` -	_	_	`	•	e relationship.			
Q 2)	A	Create	e the above	e databas	e in PostG	reSQL and inse	ert sufficient reco	rds. [5 marks]	
	В	Execu	ite any two	of the f	ollowing u	sing PL/pgSQI	- L	[10 marks]	
		i.				*	etor table. Raise		
		ii.	Write a f	unction v			ne of the doctor are	nd	
		iii.	Write a f	unction u		or to accept the	city name and pr	int	
Q 3)		Viva						[5 marks]	

## Laboratory Course CS-123 (Advanced 'C' Programming & Relational Database Management Systems)

Durati	ion: 3	Hours Maximum	Maximum Marks: 35					
Day and Da	te:	Signature of Invigilator						
Seat No:		_ Seat No (in words):						
Marks		Signature Examiner 1						
_	15 +	$\frac{15}{15} + \frac{1}{5} = \frac{35}{35}$ Examiner 2						
Section I : A	Advanc	ed 'C' Programming	[15 marks]					
Q 1) A	i.	Write a program to calculate sum of two numbers. Pass the numbers as command line arguments.	[5 marks]					
ii. Write a program to create student structure having fields roll no, name. Accept details of one student and write a function to display the details.								
		OR						
Q 1) A		a program to copy contents of file a.txt to b.txt by changing the feach alphabet.	e [15 marks]					
		onal Database Management Systems ring database	[15 marks]					
		archar (25), release_year integer, budget money)						
Actor (a_na	me varc	char(30), role varchar(30), charges money, a_address varchar(30)	)					
Movie and A	Actor ar	re related with many to many relationship.						
- ´		the above database in PostGreSQL and insert sufficient records.						
В		te any two of the following using PL/pgSQL	[10 marks]					
	i.	Write a function which will accept the movie name as input and prints its release year and budget.						
	ii.	Write a function using cursor, which will accept the actor name and print the names of all movies in which that actor has acted.						
	iii.	Write a trigger which will be executed whenever an actor is deleted from the actor table, display appropriate message.						
Q 3)	Viva		[5 marks]					

### **Laboratory Course CS-123**

Durat	ion: 3	Hours			Maximum Marks: 35				
Day and Da	ite:				Signature	of Invigilator			
Seat No: _		_ Seat N	o (in word	ds):					
Marks					Signature	Examiner 1			
_	15	15	+ =	35	_	Examiner 2			
Section I :	Advanc	ed 'C' P	rogramm	ning			[15 marks]		
Q 1) A			C	C	nga two numbe	ers using pointers			
Q I) A	ii.	Write a strings u	program	to perform dard librar	_	operations on tw			
					OR				
Q 1) A				the content ds in the fi		and count the nu	imber of [15 marks]		
Section II :				nagement	Systems		[15 marks]		
		•		(20), city v	archar(20))				
Account (a	_no int,	a_type_va	archar(10	), opening_	_date date, bala	nce money)			
Customer a	nd Acco	ount are re	elated wit	h one to m	any relationshi	p			
Q 2) A	Create	the abov	e databas	e in PostG	reSQL and inse	ert sufficient reco	ords. [5 marks]		
В	Execu	te any tw	o of the f	ollowing u	sing PL/pgSQI		[10 marks]		
	i.		function vils of that		pts account no	as input and prin	nts		
	ii.	Write a prints al	function to laccount	using curso	hat customer.	s customer name If the customer n			
	iii.	Write a the acco	trigger wl unt table.	hich is executed If the bala	cuted whenever	r update is made ess than 1000, pr han 1000.			
Q 3)	Viva						[5 marks]		

### **Laboratory Course CS-123**

Du	•	ion: 3	Hours	n Datab		•	Iarks: 35
Day and	Da	te:	Si	gnature	of Invigilator		
Seat No:	:		_ Seat No (in words):				
Marks	S		Sig	nature	Examiner 1		
	_	15	$\frac{15}{15} + \frac{1}{5} = \frac{35}{15}$		Examiner 2		
Castion	Τ.	A day a sa	ed (C) Due growning				[15 montes
Section	1: /	Auvanc	ed 'C' Programming				[15 marks]
Q 1)	A	i.	Write a C program to compare two function.	strings	using standard	library	[5 marks]
		ii.	Write a C program to copy content OR	ts of one	file to another t	file.	[10 marks]
Q 1)	A	details a.	a C program to create structure emptor of n employees and perform the following Display all employees.  Display details of all employees has	llowing	operations:	). Ассер	t [15 marks]
Section	II :	Relatio	onal Database Management Syster	ms			[15 marks]
			ring database				
,	_		rchar (25), release_year integer, bud	_			
Produce	r (p	_id inte	ger, pname vachar(30), p_address va	archar (3	30))		
Movie a	nd I	Produce	r are related with many to many rela	ationship	).		
Q 2)	A	Create	the above database in PostGreSQL $$	and inse	ert sufficient rec	ords.	[5 marks]
	В	Execu	te <b>any two</b> of the following using Pl	L/pgSQl	L		[10 marks]
		i.	Write a stored function which acce			nd	
		ii.	Write a stored function using curso movie name and print the names of produced that movie.	or, which	n will accept the		
		iii.	Write a trigger which will be execumade to the movie table. If the bud not allow the insertion. Give appro	lget is le	ss than 1,00,000		
Q 3)		Viva	and motivation one uppro	F-1000 III			[5 marks]

#### **Laboratory Course CS-123**

D	Duration: 3 Hours							Maximum Marks: 35				
Day an	nd Da	ıte:						Signature of Invigilator				
Seat N	o:		Sea	t No	(in wo	rds):						
Mark	KS							Signature	Examiner 1			
	_	15	+ -15	- +	5	= -35	5	C	Examine			
Section	n I :	Advan	ced 'C	' Pro	ogrami	ming						[15 marks]
Q 1) Q 1)		ii. V " Write	Vrite a squares e a C p calcula	C pro	ogram t file. m to a	co store t	the so	num of two nuquares of num  OR  ents using dyn  of the elemen	bers 1 to n in	n y al	locatio	[5 marks] [10 marks]  in [15 marks]
Section	n II :			atab	oase M	anagem	ent \$	Systems				[15 marks]
Project	yee ( t(p_n	e_no ii o int, p	nt, e_na o_name	me v varc	archar har (25	5), start_	date	date_of joinii date, status va e relationship	archar(10))			
Q 2)	A B		Writ deta Writ mad shou Writ	e a fulls of e a tree to the ld note a full to the ld note a full more a full to the ld note a full to the ld	of the inction the project be all inction	following which a bject who which will bloyee tallowed.	ng us accep ich th ill be ible, i	eSQL and insecting PL/pgSQl of the employee of executed wheeling age is less that the which will according to the employees working the executed wheeling age is less that the end of the employees working age is less than the employees working age.	name and printed on the control of t	nts tion ition	he s name	[5 marks]
Q 3)		Viva										[5 marks]

### **Laboratory Course CS-123**

Dura	tion: 3	Hours		Maximum Marks: 35					
Day and D	ate:			Signature	of Invigilator				
Seat No: _		_ Seat No (in word	ls):						
Marks				Signature	Examiner 1				
-	15	<u>15</u> + <u>5</u> =	35	-	Examiner 2				
Section I :	Advan	ced 'C' Programm	ing				[15 marks]		
Q 1) A	i. ii.	Write a C progra Write a C prog consonants in a	ram to cou string.			ters	[5 marks] [10 marks]		
Q 1) A	struct a.	a C program to acture. Perform the for Display all items Search for an item	cept detail llowing op having pri	ls of n items (coerations:	code, name, pric	e) using	g [15 marks]		
Consider tl Teacher( t_	ne follov _no int, t	onal Database Mar wing database t_name varchar(20), s name varchar(15))	age int, y	•	nt)		[15 marks]		
_	_	ct are related with m		ny relationship	)				
Q 2) A B		the above database ate <b>any two</b> of the for Write a function we having maximum Write a stored fun subject name and subject. Write a trigger between	ollowing unvhich will experience ction using print the number of the the num	sing PL/pgSQl display the det e. g cursor which ames of all tea /update on Tea	ails of the teacher will accept the chers teaching the cher table. Age	er	[5 marks] [10 marks]		
Q 3)	Viva	Should not be < 21	i. Timit all	appropriate III	ossago.		[5 marks]		

## Laboratory Course CS-123 (Advanced 'C' Programming & Relational Database Management Systems)

Dura	tion: 3	Hours		Maximum Marks: 35					
Day and Da	ate:			Signature					
Seat No: _		_ Seat No (in words	):						
Marks				Signature	Examiner 1				
-	15	15 + 5 =	35		Examiner 2				
Section I :	Advanc	eed 'C' Programmii	1g				[15 marks]		
Q 1) A		Write a C program reverse order.		command lin	e arguments in t	he	[5 marks]		
	ii.	Write a user define Use this function in	n main.	n to calculate t OR	he length of a str	ring.	[10 marks]		
Q 1) A	rollno percer	a C program to creat, name and marks on tage. Create an arts and display the de	te a struct of 3 subjection of stray	ure named stu ects. Calculate	the total of ma	ırks and	1		
Section II	: Relatio	onal Database Man	agement (	Systems			[15 marks]		
Item ( <u>itemr</u> Supplier( <u>su</u>	<u>10</u> intege 1pplier_r	ving Item-Supplier da er, itemname varchar no integer, supplier_r M relationship with ra	(20)) name varc	` /-	` //	scriptive	e attributes.		
Q 2) A B	Execu i. ii. iii.	the above database te <b>Any two</b> of the fo Write a function to quantity. Write a cursor to di Write a trigger bef less than or equal to	llowing u display the splay the ore insert	sing PL/pgSQ ne item name v names of supp or update on r	L vith maximum bliers in 'Pune' c ate field. If the r	ity.	[5 marks]		
Q 3)	Viva						[5 marks]		

### **Laboratory Course CS-123**

Durati	ion: 3 Hours	Maxımun	n Marks: 35						
Day and Da	te:	Signature of Invigilator							
Seat No:	Seat No (in words):								
Marks		Signature Examiner 1							
_	$\frac{1}{15} + \frac{1}{15} + \frac{1}{5} = \frac{35}{15}$	Examiner 2							
Section I : A	Advanced 'C' Programming		[15 marks]						
Q 1) A	i. Write a C program to concatenation.	ate two strings using standard libra	ry [5 marks]						
ii. Write a C program to store and display the name, rollno and fees of a student using structure. Pass the member of structure variable to a function called display() to display the contents  OR									
Q 1) A	Write C program to copy contents of each alphabet and replacing digit		case [15 marks]						
	Relational Database Management	•	[15 marks]						
	e following Student-Subject database								
	lno integer, name varchar(30), city va								
•	<u>de</u> varchar(10),subject_name varchanglect :M-M relationship with description								
	Create the above database in PostGr	_	. [5 marks]						
В	Execute <b>Any two</b> of the following u	-	[10 marks]						
	i. Write a function to accept stude								
	details of that student.  ii. Write a cursor to display the na subject .	mes of students who have taken							
		ent deleting students from 'Pune'							
Q 3)	Viva		[5 marks]						

### Laboratory Course CS-123

D		Advanction: 3		lational Database Managem Maxi	imum Marks: 35
Day ar	nd Da	ate:		Signature of Invigilator	
Seat N	o:		_ Seat No (in words):		
				G:	1
Marl		15	$-\frac{15}{15} + \frac{1}{5} = \frac{35}{15}$	Signature Examiner 1 Examiner 2	
Section	n I :	Advano	ced 'C' Programming		[15 marl
Q 1)	A	i.		d the area of a circle by using	g PI as [5 marks]
		ii.		gram to perform the following ing standard library functions: y	
			(	OR	
Q 1)	A		a program to accept details on all the details. Also, search	f n employees (id, name, salar for an employee by name.	ry). [15 marks]
Section	n II :	: Relati	onal Database Management	Systems	[15 marl
Consid	ler th	e follov	ving Customer- Account data	base.	
Custor	ner (	<u>cno</u> inte	ger, cname varchar(20), city	varchar(20))	
Accou	nt ( <u>a</u>	ccno in	teger, acc_type varchar(10),	opening_date date, balance me	ioney)
Custor	ner a	nd Acc	ount are related with a one to	many relationship	
Q 2)	A	Create	e the above database in PostG	reSQL and insert sufficient re	ecords. [5 marks]
	В		te Any two of the following		[10 marks]
		1.	Write a function to display opening date is before 03/0	the number of accounts whose 7/2015'.	2
		ii.	Write a cursor to display the	e account details of all custom	ners
		iii.		ng an account record from Acplay the message "Account re	
Q 3)		Viva	-		[5 marks]

### **Laboratory Course CS-123**

D	urat	ion: 3	Hours	Maximum Marks: 35					
Day ar	nd Da	ite:		Signature	of Invigilator				
Seat N	o:		_ Seat No (in words):		-				
Marl				Signature	Signature Examiner 1				
	_	15	$-\frac{1}{15} + \frac{1}{5} = \frac{35}{35}$	3	Examiner 2				
Section	n I :	Advanc	eed 'C' Programming			[1:	5 marks]		
<ul><li>Q 1) A i. Write a C program to interchange two numbers using pointers.</li><li>B ii. Write a C program to count the vowels and consonants in a string.</li></ul>									
				OR					
Q 1)	A	author	a C program to creater_name and price) and discreper format by passing the	e a structure nan splay all book deta	nils having price	>	5 marks]		
Section	n II :	Relation	onal Database Managem	ent Systems		[1:	5 marks]		
Consid	ler th	e follow	vingr Department-employe	ee database.					
Depart	ment	t ( <u>dno</u> in	iteger, dname varchar(20),	city varchar(20))					
Emplo	yee (	eno int	eger, ename varchar(20), s	salary money)					
Depart	ment	t and En	nployee are related with a	one to many relation	onship				
Q 2)	A	Create	the above database in Pos	stGreSQL and inse	ert sufficient rec	ords. [5 m	narks]		
	В	Execu	te Any two of the following	ng using PL/pgSQ	L	[10 1	marks]		
		i.	Write a function to accep			ırns			
		ii.	Write a cursor to display employees whose salary	the department-w	ise names of				
		iii.	Write a trigger before ins Employee table. Raise an	serting an employe	ee record in the				
Q 3)		Viva		^	-	[5 m	narks]		

### **Laboratory Course CS-123**

D	urat	ion:	3 Hours	Maximum Marks: 35			
Day an	d Da	ıte: _		Signature of			
Seat N	o:		Seat No (in words):				
Mark				Signature	Examiner 1		
	_	15	+ 15 + 5 = 35		Examiner 2		
Section	1 I :	Adva	nced 'C' Programming			[15 marks]	
Section		1410	need C 110gramming			[10 marks]	
Q 1)	A	i	Write a C program to accept a (roll number, name, percentag			[5 marks]	
		ii	Write a program to copy conte	ents of one te	xt file to another.	[10 marks]	
			Ol	R			
Q 1)	A	pro occ	te a C program that accepts a sgram will call a function, which urrence of the character in the structure of the character is not all the character is not the character in the character is not the character in the character is not the character in the character in the character is not the character in the character in the character in the character is not the character in the character	ch will searding and return	ch for the position on its position. Func	of	
Section	ı II :	Rela	tional Database Management Sy	stems		[15 marks]	
Consid	er th	e foll	owing Project-Employee database				
Project	(pnc	<u>inte</u>	ger, pname varchar (30), ptype var	char (20), du	ration integer)		
Emplo	yee (	<u>eno i</u>	nteger, ename varchar(20), qualific	cation varcha	r(15), salary float, jo	ining_date date)	
Relation no_of_			ween Project and Employee is m rked.	any to many	with descriptive at	tribute start_date,	
Q 2)	A	Cre	ate the above database in PostGreS	SQL and inse	rt sufficient records.	[5 marks]	
	В	Exe	cute Any two of the following usi	ng PL/pgSQl	L	[10 marks]	
		i.	Write a function to accept project number of employees working on	the project.			
		ii. iii.	Write a cursor to display all proje Write a trigger before insert or up no_of_hours_worked is less than display the appropriate message.	date on no_o	of_hours field. If the		
Q 3)		Viv	a			[5 marks]	

## Savitribai Phule Pune University F.Y.B.Sc. Computer Science Practical Examination

### Semester II (2019 pattern)

### Laboratory Course CS-123

Duration: 3 Hours				Maximum Marks: 35					
Day and	l Da	te:				Signature	of Invigilator		
Seat No	:		_ Seat No (	in words	):				
Marks						_	Examiner 1		
		15	15	5	35		Examiner 2		
g	_	A 1	1.C1 P						[47]
Section	1: /	Advanc	ed 'C' Pro	grammır	ıg				[15 marks]
Q 1)	A	i.		of two n			MAX which g to find the max	•	
		ii.	Write a C named "Pr		to accept	names of n ci	ties and search t	for city	[10 marks]
						OR			
Q 1)	A					no, name, pero e following:	eentage) using s	structure	. [15 marks]
			Display al Display al			percentage > _			
Section	II:	Relatio	onal Databa	ase Mana	agement	Systems			[15 marks]
Conside	r the	e follow	ing Custom	ner- Acco	unt datab	oase.			
Custom	er ( <u>c</u>	no integ	ger, cname	varchar(2	(0), city v	rarchar(20))			
Account	t ( <u>ac</u>	cno int	eger, acc_ty	ype varcl	har(10), c	pening_date d	ate, balance mo	ney)	
Custome	er aı	nd Acco	unt are rela	ted with	a one to 1	nany relations	hip		
Q 2)	A	Create	the above of	database	in PostGı	eSQL and inse	ert sufficient rec	ords.	[5 marks]
	В	Execu	te Any two	of the fo	llowing u	sing PL/pgSQ	L		[10 marks]
		i.			_		input and give the	he	
		ii.		rsor to di		of that type. count details of	`all customers o	f	
		iii.	Write a tri	gger befo		ng an account valance is <500	record in Accou	ınt	
Q 3)		Viva			_				[5 marks]

## Laboratory Course CS-123

Dι	,		Hours	rogramm	iing & Ker	ationai Datab	ase Management Maximt	am Marks: 35	
Day and Date:						Signature of Invigilator			
Seat No	:		_ Seat No	o (in wor	ds):				
Mark	S					Signature	Examiner 1		
	_	15	15	5 =	35	-	Examiner 2		
Section	I:	Advano	ced 'C' Pı	rogramn	ning			[15 marks	
Q 1)	A	i. ii.	function Write a	ı. C prog	ram to aco	_	egers as comman	library [5 marks]  Id line [10 marks]	
Q 1)	A	that	uppercase	alphabe	opy the con	ntents of one nverted to lo	text file to anothe owercase, lowerca	er such [15 marks] ase to	
					inagement mployee da	•		[15 marks	
			0 1						
•			•		ar(20), city ar(20), salaı	varchar(20))			
1 2	\-		•		` //	to many relati	onship		
Q 2)	A B		Write a waverage Write a waverage Write a waverage with a waverage	yo of the function to salary of cursor to epartment trigger be see table.	following use to accept design the design of the temployees display the templore updation Raise a notion of the control of the	epartment name in that department names of empartment an employed ice and display	e and display the ment. loyees who works	[10 marks]	
Q 3)		Viva	Embio	yee recor	d is being u	ipuaieu .		[5 marks]	

## Savitribai Phule Pune University F.Y.B.Sc. Computer Science Practical Examination

### Semester II (2019 pattern)

#### **Laboratory Course CS-123**

Duration: 3 Hours				Maximum Marks: 35				
Day ar	nd Da	ate:			Signature of Invigilator			
Seat No: Seat No (in words):								
Marl	ks				Signature	Examiner 1		
	_	15	15 + 5 =	35	_	Examiner 2		
Castia	T.	A dayon a	and (C) Dungungung					[15 montrol
Secuo	n 1 :	Auvanc	ced 'C' Programmi	ing				[15 marks]
Q 1)	A	i.	Write a C program Pancard number of			•	n as his	[5 marks]
		ii.	Write a C program text file.				ines in a	[10 marks]
					OR			
Q 1)	A		a program to perfored functions:	m the foll	owing operation	ons on strings us	ing user	[15 marks]
			Length of string					
			Copy one string to Convert string to u					
		С.	convert string to t	пррегензе				
Sectio	n II :	: Relatio	onal Database Man	nagement	Systems			[15 marks]
			ving Item-Supplier d	_	·			
Item( <u>it</u>	temne	o intege	r, itemname varchar	(20))				
Suppli	er( <u>su</u>	pplier_r	<u>no</u> integer, supplier_	name varo	char(20), city v	rarchar(20))		
Item-S	uppl	ier: M-N	M relationship with 1	rate(mone	y) and quantity	(integer) as des	scriptive	attributes.
Q 2)	A	Create	the above database	in PostGr	eSQL and inse	ert sufficient reco	ords.	[5 marks]
	В	Execu	te Any two of the fo	ollowing u	sing PL/pgSQ	L		[10 marks]
		i.	Write a function to	-	-	input and return	s the	
		ii.	number of supplier			as xyhoso roto is r	moro	
		11.	Write a cursor to d than 500.	nspiay me	names of item	is whose rate is i	11016	
		iii.	Write a trigger bef less than 50 then ra				ate is	
Q 3)		Viva		•		_		[5 marks]

### **Laboratory Course CS-123**

Duration: 3 Hour	rs	Maximum Marks: 35			
Day and Date:		Signature of	of Invigilator		
Seat No: Se	eat No (in words):				
Marks		Signature	Examiner 1		
15 + 15	5 + 5 = 35		Examiner 2		
Section I : Advanced '(	C' Programming			[15 marks]	
	program to find the lengtl	h of a string us	ing standard library	[5 marks]	
ii. Write a	program to read a text fr case is reversed (upper to			such [10 marks]	
display all	ogram to accept 'n' emplo employee details whose s ructure to the function.	•	• /		
Section II: Relational I	Database Management S	Systems		[15 marks]	
Consider the following of	database				
` =	o int, Sname varchar (20)	`	(0))		
· —	nt, Tname char (20), Exp				
Student and Teacher are	related with many to man	ny relationship	with the descriptive	e attribute Subject.	
Q 2) A Create the a	above database in PostGr	eSQL and inse	rt sufficient records.	[5 marks]	
B Execute an	y two of the following us	sing PL/pgSQL		[10 marks]	
table.	a trigger before insert the If the Roll_No is less the red and displays the mess.	an or equal to	zero then the trigg		
ii. Write input a	a cursor to accept the sand display names of all to	tudent's name eachers teachin	from the user as a g that student.		
	a stored function to cou ence > 10 years	unt the numbe	er of teachers havir	ng	
Q 3) Viva				[5 marks]	

## Laboratory Course CS-123 (Advanced 'C' Programming & Relational Database Management Systems)

Γ		ion: 3 Hours	tional Datab		n Marks: 35
Day aı	nd Da	te:	Signature	of Invigilator	
Seat N	lo:	Seat No (in words):			
Mar	ks		Signature	Examiner 1	
	_	<u>15</u> + <u>15</u> + <u>5</u> = <u><b>35</b></u>		Examiner 2	
Sectio	n I :	Advanced 'C' Programming			[15 marks]
Q 1)	A	<ul> <li>i. Write a program to calculate area of</li> <li>ii. Write a program to perform the forstandard library functions:</li> <li>a. Copy one string to another</li> <li>b. Convert a string to uppercase</li> </ul>	llowing opera		[5 marks] g [10 marks]
Q 1)	A	A file "student.txt" contains rolln program to read this file to display all		_	te a [15 marks]
Sectio	n II:	Relational Database Management S	ystems		[15 marks]
Consid	Stuc Teac The	e following database ent (Roll_No int, Sname varchar (20), ther (T_No int, Tname char (20), Expe Student and Teacher are related with oute Subject.	erience int)	,,	th the descriptive
Q 2)	A B	Create the above database in PostGree Execute <b>any two</b> of the following use i. Write a trigger before inserting table. Experience should be a min years trigger gets fired and displa ii. Write a cursor to accept the stude and give list of subjects taken by iii. Write a stored function to fire experienced teacher.	ing PL/pgSQI the teacher nimum of 4 years an approprient name from the student.	record into a teach ears. If it is less than iate message. m the user as an inp	[10 marks] er 4
Q 3)		Viva			[5 marks]

## Savitribai Phule Pune University F.Y.B.Sc. Computer Science Practical Examination

### Semester II (2019 pattern)

## Laboratory Course CS-123 (Advanced 'C' Programming & Relational Database Management Systems)

Γ		ion: 3 Hours	Maximum	
Day aı	nd Da	te:	Signature of Invigilator	
Seat N	lo:	Seat No (in words):		
Mar			Signature Examiner 1	
	_	<u>15</u> + <u>15</u> + <u>5</u> = <u><b>35</b></u>	Examiner 2	
Section	n I ·	Advanced 'C' Programming		[15 marks]
seemo		invanced C 110gramming		[13 marks]
Q 1)	A	i. Write a C program to store the informumber or Aadhar card number using	-	ard [5 marks]
		ii. Write a program to copy contents of	of one file to another.	[10 marks]
Q 1)	A	<ul> <li>Write a menu driven program using s</li> <li>To find Length of string</li> <li>To compare two strings</li> <li>To copy one string to other.</li> <li>To concatenate two strings</li> </ul>	tandard library function	[15 marks]
Sectio	n II:	Relational Database Management Sy	vstems	[15 marks]
Consid		e following database		
	-	ect (pno int, pname char (30), ptype cha		
	Rela	ployee (eno int, ename char (20), salary tionship between Project and Emplodate.	· /	criptive attribute
Q 2)	A	Create the above database in PostGre	SQL and insert sufficient records.	[5 marks]
	В	Execute any two of the following using	ng PL/pgSQL	[10 marks]
		and displays the names of project	nt all employees who have joined nat if an employee's salary entered	d
Q 3)		Viva		[5 marks]

### Laboratory Course CS-123

Duration: 3 Hours					ing & Kei	Maximum Marks: 35			
Day ar	nd Da	ate:				Signature of Invigilator			
Seat N	Seat No: Seat No (in words):								
Marl	ks					Signature	Examiner 1		
	-	15	+ 15	+ =	35	-	Examiner 2		
Sectio	n I :	Advan	ced 'C' P	rogramm	ing				[15 marks]
Q 1)	A	ii. W		ram to ac	cept and distructure.	vo numbers usi splay details of	ing pointers.  f 5 students (roll	no,	[5 marks] [10 marks]
Q 1)	A					e as command and lines in it.	line argument a	ınd	[15 marks]
Sectio	n II:	Relati	onal Data	base Mai	nagement S	Systems			[15 marks]
Consid	Proj Emj	ject (pn ployee	(empno in	ne char (3 t, ename o	char (20), jo	har (20), durat pining_date da nployee is ma	ŕ	h descr	iptive attribute
Q 2)	A B	Exection With the Ring Win	write a stormer user and aise an extended to the a tracket of the accuracy of	red function of count in ception if igger before duration sor to according to the country of the	on to accept the number the employone insert/is <=0.	sing PL/pgSQI of empno as an or of projects of or ee number is in update on pro-	input parameter of a given emp	r from loyee.	[5 marks] [10 marks]
Q 3)		Viva							[5 marks]

## Laboratory Course CS-123 (Advanced 'C' Programming & Relational Database Management Systems)

D	urat	ion: 3 Hours	Maximum	Marks: 35		
Day an	ıd Da	ate: Signature of Invig	Signature of Invigilator			
Seat N	o:	Seat No (in words):				
Marl	<b>KS</b>	Signature Exan	niner 1			
	_	$\frac{15}{15} + \frac{15}{15} + \frac{1}{5} = \frac{35}{35}$ Exam	niner 2			
G 4•		1 (C) D		45		
Section	n I : .	Advanced 'C' Programming		[15 marks]		
Q 1)	A	i. Write a program to calculate length of string using pred ii. Write a program to copy the contents of one file to ano		on. [5 marks] [10 marks]		
		OR	uici.	[10 marks]		
Q 1)	A	Write a program to accept names of 'n' cities. Find the na having maximum characters.	me of the city	[15 marks]		
Section	n II:	Relational Database Management Systems		[15 marks]		
Consid	ler th	ne following database				
		son (pno int, name varchar (20), birthdate date, income mon	ey)			
	Area	a (aid int, aname varchar (20), area_type varchar (5))				
		person and area related to many to one relationship. The les either 'urban' or 'rural'.	attribute 'are	a_type' can have		
Q 2)	A	Create the above database in PostGreSQL and insert suffice	cient records.	[5 marks]		
	В	Execute any two of the following using PL/pgSQL		[10 marks]		
		<ul> <li>i. Write a cursor to accept a month as an input paramete and display the names of persons whose birthday particular month.</li> <li>ii. Write a trigger before inserting the record into the arr</li> </ul>	falls in tha	nt		
		ii. Write a trigger before inserting the record into the ar area name is null then the trigger should get fired a appropriate message.				
		iii. Write a stored function that accepts the area nam parameter from the user and displays the count of pe that area.	_			
Q 3)		Viva		[5 marks]		

Ι		Advanced 'C' Programming & Relation: 3 Hours		ystems) n Marks: 35
Day a	nd Da	ite:	Signature of Invigilator	
Seat N	lo:	Seat No (in words):		
Mar	ks	S	Signature Examiner 1	
	_	<u>15</u> + <u>15</u> + <u>5</u> = <u><b>35</b></u>	Examiner 2	
Sectio	n I :	Advanced 'C' Programming		[15 marks]
Q 1)	A	i. Define a macro EQUALNUM which gives 1 if they are equal a	*	
		ii. Write a program to accept deta using structure and display the o	details.	rice) [10 marks]
Q 1)	A	Write a function which accepts a numb number is even set first flag to 1. If nur and if number is divisible by 3 or 7 set flags to the function.)	per and three flags as parameters mber is prime set second flag to	1
Sectio	n II:	Relational Database Management Syst	tems	[15 marks]
Consi	der th	e following database		
		son (pno int, pname varchar (20), birthda	ate date, income money)	
	Area	a (aid int,aname varchar (20), area_type v	varchar (5))	
		person and area related to many to one es either 'urban' or 'rural'.	relationship. The attribute 'are	ea_type' can have
Q 2)	A	Create the above database in PostGreS0	QL and insert sufficient records.	[5 marks]
	В	Execute any two of the following using	g PL/pgSQL	[10 marks]
		<ul><li>i. Write a stored function to update the rural area by 10%.</li><li>ii. Write a trigger before deleting a partiable. Raise a notice and display the</li></ul>	person's record from the person	ı's
		deleted". iii. Write a cursor to display the names	of persons living in urban area	
0 3)		Viva	or persons fiving in urban area.	[5 marks]

### **Laboratory Course CS-123**

Duration: 3 Hours	Maximum Marks: 35			
Day and Date:	Signature of Invigilator			
Seat No: Seat No (in words):				
Marks	Signature Examiner 1			
$\frac{15}{15} + \frac{15}{15} + \frac{5}{5} = \frac{35}{35}$	Examiner 2			
		[15]		
Section I : Advanced 'C' Programming		[15 marks]		
Q 1) A i. Write a program to create a structure of the percentage. Initialize values for	eture student (rollno, name, one student and display the same.	[5 marks]		
<ul><li>ii. Write a program to print maximuline argument. Display error mesarguments.</li></ul>	um of three numbers using command ssage if user gives less number of	[10 marks]		
	OR			
Q 1) A Write a menu driven program for the a. Calculate the length	<b>E</b> 1	[15 marks]		
b. Copy one String to a	•			
(Write separate user defined function				
Section II: Relational Database Management S	Systems	[15 marks]		
Consider the following database				
Bus (bus_no int, capacity int, depot_name varch	nar(20))			
Route (route_no int, source varchar(20), destinati	on varchar(20), No_of_stations int)			
Bus and Route are related with many to many rela	ationship.			
Q 2) A Create the above database in PostGr	reSQL and insert sufficient records.	[5 marks]		
B Execute <b>any two</b> of the following us	sing PL/pgSQL	[10 marks]		
print all the details of that route.	ill accept the route_no from user and			
ii. Write a trigger which will be exe to the Bus table. Raise exception	if Capacity is <= 0.			
iii. Write a stored function using cur buses on route from "Station" to				
Q 3) Viva		[5 marks]		

### **Laboratory Course CS-123**

D	urat	ion: 3 Hours	Maximum Marks: 35			
Day an	d Da	te:	_ Signature of Invigilator			
Seat No	o:	Seat No (in words):				
Mark			Signature Examiner 1			
	_	15 + 15 + 5 = 35	Examiner 2			
Section	ı I ;	Advanced 'C' Programming		[15 marks]		
Q 1)	A		a string and an index from user an	d [5 marks]		
		displays the character at th  ii. Write a program to accept argument and display the c	the name of a file as command line	e [10 marks]		
Q 1)	A	Write a program to accept details Display all the details. Also displa	of 'n' books (bno, bname, price).	[15 marks]		
Consid	er th	Relational Database Management e following database: name varchar (25), release_year inte		[15 marks]		
,	_	me varchar(30), role varchar(30), cl		30))		
Movie	and .	Actor are related with many to many	y relationship.			
Q 2)	A B	ii. Write a function using cursor, prints the names of all actors in	using PL/pgSQL ve the average charges of an actor. which will accept the movie name in that movie. executed whenever a movie is delet	[10 marks]		
Q 3)		Viva		[5 marks]		

### Laboratory Course CS-123

D		Advanced 'C' Programming & Relion: 3 Hours	Relational Database Management Systems)  Maximum Marks: 35				
Day an	nd Da	nte:	Signature of Invi				
Seat N	o:	Seat No (in words):					
Marl		15 + 15 + 5 = <b>35</b>	Signature Exar Exar	miner 1			
		Advanced 'C' Programming			[15 marks]		
Q 1)	A	i. Define a macro MAX which give this macro to find the maximum of ii.Write a program to count the tota	two numbers.		[5 marks]		
Q 1)	A	Write a program to accept details of type = 1 (batsman), accept batting number_wickets. Use nested union and bowlers.	_average. If type=2 (	bowler), accept	[15 marks]		
Section	n II	Relational Database Management	Systems		[15 marks]		
		e following database:					
	_	imber, pname, birthdate, income),					
An are	a car	ne,area_type).  In have one or more persons living in in the a_type' can have values either 'urba		s to exactly one	area. The		
Q 2)	A	Create the above database in PostG	reSQL and insert suff	cient records.	[5 marks]		
	В	Execute any two of the following u	sing PL/pgSQL		[10 marks]		
		<ul><li>i. Write a stored function to accept names of Person living in that at area name.</li><li>ii. Write a trigger before Deleting at a stored function to accept names of Person living in that at a stored function to accept names of Person living in that at a stored function to accept names of Person living in that at a stored function to accept names of Person living in that at a stored function to accept names of Person living in that at a stored function to accept names of Person living in that at a stored function to accept names of Person living in that at a stored function to accept names of Person living in that at a stored function to accept names of Person living in that at a stored function to accept names of Person living in that at a stored function to accept names of Person living in that at a stored function to accept names.</li></ul>	rea. Raise an exception	n for an invalid			
		message "Record has been Dele iii. Write a cursor to print names of 50000 and 100000.		come between			
Q 3)		Viva			[5 marks]		

### Savitribai Phule Pune University F.Y.B.Sc. Computer Science Practical Examination

### Semester II (2019 pattern)

### **Laboratory Course CS-123** (Advanced 'C' Programming & Relational Database Management Systems) Maximum Marks: 35

	mai.	ion. 3 Hours Maximum M	Wiaximum Waiks. 55					
Day and	l Da	te: Signature of Invigilator						
Seat No	:	Seat No (in words):						
Mark		Signature Examiner 1						
	_	$\frac{15}{15} + \frac{15}{15} + \frac{5}{5} = \frac{35}{35}$ Examiner 2						
Section	I:	Advanced 'C' Programming	[15 marks]					
Q 1)	Q 1) A i. Write a C program to compare one string to another using standard library function.  ii. Write a program in C to display the contents of an array in the reverse order using pointer.							
Q 1)	A	OR Write a program to create a structure employee (id, name, salary). Accept	[15 marks]					
details of n employees and write a menu driven program to perform the following operations.								
		<ul><li>i) Search by name</li><li>ii) Display all</li></ul>						
Section	II:	Relational Database Management Systems	[15 marks]					
		e following database:						
		nt, owner varchar(20), model varchar(10), color varchar(10)						
· ·		ver_no int, driver_name varchar(20), license_no int, d_age int, salary float) ver are related with many to many relationship						
		Create the above database in PostGreSQL and insert sufficient records.	[5 marks]					
,	В	Execute any two of the following using PL/pgSQL	[10 marks]					
		i. Write a function which accepts the driver name and counts the number of cars driven by the driver.						
		ii. Write a stored function with cursor which accepts the color and						
		prints the names of all owners who own a car of that color.  iii. Write a trigger before insert/update on Driver. Raise exception if driver salary is negative or zero.						
Q 3)		Viva	[5 marks]					

## Laboratory Course CS-123 (Advanced 'C' Programming & Relational Database Management Systems)

D	urat	ion: 3 Hours	Maximum Marks: 35				
Day ar	nd Da	ate: Signature of	Invigilator				
Seat N	o:	Seat No (in words):					
Marl	ks	Signature	Examiner 1				
	_	$\frac{1}{15} + \frac{1}{15} + \frac{1}{5} = \frac{35}{}$	Examiner 2				
Section	n I :	Advanced 'C' Programming		[15 marks]			
Section		Trogramming		[10 mar no]			
Q 1)	CRO. [5 marks]						
		ii.Write a menu driven program to perform the fo strings using standard library functions: i)Length ii OR		tions on [10 marks]			
Q 1)	A	Write a program to accept details of 'n' cricket p type = 1 (batsman), accept batting_average. If tynumber_wickets. Use nested union. Display informand bowlers.	pe=2 (bowler)	), accept			
Section	n II :	Relational Database Management Systems		[15 marks]			
Consid	ler th	e following database :					
-	• `	Name varchar(30),address (50),city varchar(20), share	_value money	<i>r</i> )			
	•	me varchar(30),pcity varchar (20))					
Compa	any_l	Person are related with M to M relationship with description	riptive attribut	e No_of_shares			
Q 2)	A	Create the above database in PostGreSQL and insert	sufficient rec	ords. [5 marks]			
	В	Execute any two of the following using PL/pgSQL		[10 marks]			
		i. Write a stored function using cursors to accept per		nput			
		<ul><li>and print company names and shares owned by th</li><li>ii. Write a stored function to update the share_values</li></ul>	_	erson			
		" ".	3 0 y 20 7 0 101 1	<b>C</b> 13011			
		iii. Write a trigger before deleting company record.	isplay appropr	riate			
Q 3)		message to the user. Viva		[5 marks]			
~ <i>3)</i>		1114		[5 marks]			

### **Laboratory Course CS-123**

D	urat	ion: 3 Hours	Maximum Marks: 35				
Day an	d Da	te:	Signature of Invigilator				
Seat No	o:	Seat No (in words):					
Mark	KS		Signature Examiner 1				
	_	$\frac{1}{15} + \frac{1}{15} + \frac{1}{5} = \frac{35}{}$	Examiner 2				
Section	1 I ·	Advanced 'C' Programming		[15 marks]			
Q 1)		i. Write a C program to calculate SQU	JARE of given number using	[5 marks]			
<b>V</b> 1)		MACRO.	The or grown number using	[S marns]			
		ii. Write a menu driven C program to jon strings using standard library functions.		[10 marks]			
		<ul><li>a. Convert string to lowercase</li><li>b. Compare two strings</li></ul>					
		OR					
Q 1) A Write a C program to accept file name and character as command line arguments and count number of occurrences of given character in the file.							
Section	ı II :	Relational Database Management Sy	ystems	[15 marks]			
Consid	er th	e following database :					
		lno integer, name varchar(30),class vard					
-	•	de varchar(10), subject name varchar(20					
Studen Q 2)	t and A	subject are related with M-M relationsl Create the above database in PostGreS	-	[5 marks]			
Q 2)	В	Execute any two of the following using		[10 marks]			
		<ul><li>i. Write a stored function using cursor and display the details of the studen</li><li>ii. Write a cursor to display subject-wi</li><li>iii. Write a trigger before insert/update</li></ul>	rs, to accept class from the user ats of that class. ise average marks_scored.				
		exception if Marks are negative.	the marks_scored. Raise				
Q 3)		Viva		[5 marks]			

### **Laboratory Course CS-123**

D	urat	tion: 3 Hours Maximum	Maximum Marks: 35					
Day an	d Da	ate: Signature of Invigilator						
Seat N	o:	Seat No (in words):						
Mark		Signature Examiner 1						
	_	$\frac{15}{15} + \frac{15}{15} + \frac{5}{5} = \frac{35}{35}$ Examiner 2						
Section	1 I :	Advanced 'C' Programming	[15 marks]					
Q 1)	[5 marks]							
		ii. Write a C program to accept and display information of 5 customer (customer_no, customer_name, customer_phone) using structure.  OR	s [10 marks]					
Q 1)	Jse [15 marks]							
Section	ı II :	:Relational Database Management Systems	[15 marks]					
Item (i Supplie	temn er(su	ne following database: no integer, Itemname varchar(20), quantity integer) upplierno integer ,Supplier name varchar(20),city varchar(20)) upplier are related with many to many relationship. Rate is descriptive at	tribute.					
Q 2)	A	Create the above database in PostGreSQL and insert sufficient records	s. [5 marks]					
	В	Execute any two of the following using PL/pgSQL	[10 marks]					
		<ul> <li>i. Write a stored function using cursors, to accept Item name from the user and display the Rate and Supplier Name for that Item.</li> <li>ii. Write a stored function to delete records of the Item name "PEN".</li> <li>iii. Write a trigger before update on rate field. If the difference in the rate and new rate is more than Rs 2000, raise an exception and display the corresponding message.</li> </ul>						
Q 3)		Viva	[5 marks]					

### **Laboratory Course CS-123**

Durat	tion: 3 Hours	Maximum Marks: 35				
Day and Da	ate: Signature of In	nvigilator				
Seat No: _	Seat No (in words):					
Marks	Signature E	xaminer 1				
_	$\frac{15}{15} + \frac{15}{15} + \frac{5}{5} = \frac{35}{15}$	xaminer 2				
Section I :	Advanced 'C' Programming	[15 marks]				
Q 1) A	<ul><li>i. Write a program to find length of a string using pre</li><li>ii. Write a program to display the elements of an array</li></ul>					
	integers in the reverse order using a pointer to the arra  OR					
Q 1) A	Create a structure employee (id, name, salary). A employees and find the details of employee havin Write separate function.					
Consider th	: Relational Database Management Systems ne following database	[15 marks]				
•	(cno integer, cname varchar(20), city varchar(20))					
` -	_no int, a_type varchar(10), opening_date date, balance and Account are related with one to many relationship	money)				
~ /	Create the above database in PostGreSQL and insert s Execute <b>any two</b> of the following using PL/pgSQL  i. Write a function which accepts customer name as the total number of accounts of that customer.  ii. Write a function using cursor which accepts city naprints the details of all customers in that city  iii. Write a trigger which does not allow deletion of actype.	[10 marks] input and counts ame as input and				
Q 3)	Viva	[5 marks]				

#### **Laboratory Course CS-123**

Duration: 3 Hours						Maximum Marks: 35				
Day an	d Da	nte:				Signature	of Invigilator			
Seat No	o:		_ Seat	No (in wor	ds):					
Mark	KS					Signature	Examiner 1			
		15	15	+ - =	35	-	Examiner 2			
Section	1 I :	Advand	ed 'C'	Programn	ning			[15	marks]	
			te a pro	_	_	line arguments	for addition of t	-	[5 marks]	
		ii. Write a program to read contents of a text file and display it on screen OR							[10 marks]	
Q 1)	A	string	s using	driven pro user define ii)Copy	gram to per	rform the follow	wing operations	on	[15 marks]	
Section	ı II :	Relati	onal Da	tabase Ma	nagement	Systems		[15 1	marks]	
Consid	er th	e follov	ving De	partment-ei	mployee da	tabase.				
Depart	ment	t ( <u>dno</u> ir	iteger, d	lname varcl	har(20),city	varchar(20))				
Emplo	yee (	eno int	eger, en	ame varcha	ar(20), sala	ry money)				
Depart	ment	t and En	nployee	are related	with a one	to many relati	onship			
Q 2)	A	Create	the abo	ove databas	se in PostG	reSQL and inse	ert sufficient reco	ords.	[5 marks]	
	В	Execu	te Any	two of the	following u	using PL/pgSQ	L		[10 marks]	
		i.	numbe	er of emplo	yees of tha	t department.	e and return the			
		ii.	emplo	yees having	g salary > t	hat value.	display the nam	es of		
		iii.					record. Display erted.			
appropriate message when the record is inserted.  Q 3) Viva									[5 marks]	

#### **Laboratory Course CS-123**

1	Jurati	on: 3	Hours		Maximum Marks: 33				
Day a	nd Dat	e:			Signature				
Seat N	lo:		_ Seat No (in wor	ds):					
Mar					Signature	Examiner 1			
		15 +	15 + 5 =	35	_	Examiner 2			
Sectio	on I : A	dvanc	ed 'C' Programm	ning			[15 marks]		
			te a program to sun	C	nbers in an arra	y using pointer.	[5 marks]		
` ,			ite a program to co				[10 marks]		
		,,,,,		• •	OR		[10 mams]		
			percentage) using using menu: Display all studer Display all studer	nts		0 1	8		
Sectio	n II : I	Relatio	onal Database Ma	nagement	Systems		[15 marks]		
			ing Person-Area d	_	·		. ,		
			teger, pname varch		date date,incor	ne money)			
Area(	aname	varcha	r(20),area_type va	rchar(10))					
An are	ea have	e one o	r more persons livi	ing in it, bu	t a person belo	ngs to exactly one	e area.		
The at	tribute	area_t	type can have value	es either 'u	rban' or 'rural'				
Q 2)	A	Crea	ite the above datab	ase in Post	GreSQL and in	sert sufficient rec	ords.[5 Marks]		
	В	Exec	cute any two of the	e following	using PL/pgS0	QL	[10 Marks]		
		i. ii. iii.	Write a trigger	which will	prevent deletir	are born in monthing persons from an user and count per	ea		
Q 3)	Viva						[5 Marks]		

### Laboratory Course CS-123

Durat	ion: 3 Ho	urs		Maximum Marks: 35				
Day and Da	ıte:			Signature of	of Invigilator			
Seat No:	S	Seat No (in word	ds):					
Marks				Signature	Examiner 1			
_	15 + -	15 + 5 =	35	_	Examiner 2			
Section I :	Advanced	'C' Programm	ninσ			[15 m	arksl	
	ii. Wav	rite a program verage. Use dyn	to accept n amic memo	integers and ca ory allocation. OR ts of a text file:	num of two num alculate their sur	n and	[5 marks] [10 marks] [15 marks]	
Section II :	Relationa	l Database Ma	nagement	Systems		[15 m	arks]	
Driver (driv	nt, owner v	archar(20), mod	rchar(20), l	license_no int,	nar(10) d_age int, salary	float)		
- 1		write a function cars of that moderate a trigged exception if downtoe a cursor details of all of	collowing us on which a odel.  The before intriver age is rewhich accepts that this	sing PL/pgSQI accepts the modes sert/update on $3 < 21$ . cepts the driver	name and prints	nts all	[5 marks] [10 marks]	
Q 3)	Viva					I	[5 marks]	

## Laboratory Course CS-123

Duration: 3 Hours  Maximum N									
Day an	ıd Da	ate:				Signature	of Invigilator		
Seat No: Seat No (in words):									
Marl						Signature	Examiner 1		
	_	15	++	5	35	-	Examiner 2		
7 4.			1 (C) D		•			r4.#	1.1
Section	n I :	Advan	ced 'C' Pro	grammı	ıng			[15 1	marks]
Q 1)	A	i.				nd display info DHAR number	ormation of one by using union.	person	[5 marks]
		ii.		_		the sum and a ory allocation.	overage of elem	ents in	[10 marks]
						OR			
Q 1) A Write a program to perform the following operations of defined functions.						ons on strings u	sing use	r [15 marks]	
			Copy one Calculate	_					
Section	n II :	: Relati	ional Datab	ase Mar	nagement	Systems		[15 1	marks]
Consid	ler th	e follo	wing databas	se					
			•		year integ	er, budget mor	ney)		
Actor (	a_na	ame var	char(30), ro	le varcha	ar(30), cha	irges money, a	_address varcha	ır(30))	
Movie	and	Actor a	re related w	ith many	to many	relationship.			
Q 2)	A	Creat	e the above	database	in PostGı	eSQL and inse	ert sufficient rec	ords.	[5 marks]
	В	Exec	ate any two	of the fo	ollowing u	sing PL/pgSQl	L		[10 marks]
			Vrite a funct harges.	tion whic	ch will giv	e actor details	with maximum		
		ii. V	Vrite a funct		•		ept the actor nar	ne and	
		iii. V	Vrite a trigg	er which	will be ex		ver an actor is c	leleted	
Q 3)		I Viva	ioni me acto	or table, (	uispiay ap	propriate mess	age.		[5 marks]
<i>\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ </i>									[2]

## Savitribai Phule Pune University F.Y.B.Sc. Computer Science Practical Examination

### Semester II (2019 pattern)

### Laboratory Course CS-123 (Advanced 'C' Programming & Relational Database Management Systems)

Duration: 3 Hours  (Advanced 'C' Programming & Relational Database Management S  Maximum								•	,
Day ar	nd Da	ıte: _				Signature			
Seat N	o:		Seat N	o (in wor	ds):				
Marl	ks					Signature	Examiner 1		
	_	15	- + <del>- 15</del>	+ =	35	-	Examiner 2		
Section	n I :	Adv	anced 'C' P	rogramm	ning				[15 marks]
Section I: Advanced 'C' Programming  Q 1) A i. Write a program to interchange two numbers using pointers.  ii. Write a program to accept and display details of 5 employees (id, name, salary) using structure.  OR									[5 marks]
Q 1)	A		rite a prograr emory allocat				he result. Use d	ynamic	[15 marks]
Section	n II:	Rela	ational Data	base Mai	nagement S	Systems			[15 marks]
Consid	ler th	e fo	llowing datab	oase					
	-		-	,	,	har (20), durat	· ·		
	_	-	• •		, , -	oining_date da	*		
	The start		•	ween Proj	ject and Er	nployee is ma	ny to many wi	th descr	iptive attribut
Q 2)		_		e databas	e in PostGr	eSOL and inse	ert sufficient rec	ords.	[5 marks]
• /	В					sing PL/pgSQI			[10 marks]
		i.					as an input and ocception if the		
		ii.					sert/update on Display appr		
		iii.	Write a curs				input paramete rees working o		
Q 3)		Vi	va						[5 marks]

(Advanced 'C' Programming & Relational Database Management Duration: 3 Hours  Maxim									nt Systems) num Marks: 35			
Day an	d Da	nte:				Signature						
Seat No	o:		_ Seat No	(in word	ds):							
Mark						Signature	Examiner 1					
	_	15 +	<del>15</del> +	5 =	35	-	Examiner 2					
Section	ı I :	Advanc	ed 'C' Pro	ogramm	ing				[15 marks]			
Q 1)	A	i. ii.	Write a C	prograi	n to count ters in a str	the number of	imbers using po uppercase and	inters	[5 marks] [10 marks]			
Q 1)	A	perfor a.	m the follo Display a	owing op all books	ept details	of 'n' books  ce > p.	(bno, bname, p	rice) an	d [15 marks]			
Section	ı II :	Relatio	onal Datab	oase Ma	nagement	Systems			[15 marks]			
Teache	r( t_	no int, t	ring databa _name varo name varo	char(20)	, age int, y	e_exp int)						
-	. —	_	_	, ,		ny relationship	1					
Q 2)	A B	Create Execution i. Write disting iii. Write exp	the above te any two rite a funct splay all tea rite a trigge perience < rite a funct	databas of the f ion which achers te er before 0. ion which ion which	e in PostGrollowing uch will acceptate insert/upd	reSQL and inso sing PL/pgSQl ept subject nan t subject. late on teacher ept experience	ert sufficient red L ne as parameter . Raise exception as input and pri	and on if	[5 marks]			
O 3)		tea Viva	cher name	s having	experienc	e more than th	e given value.		[5 marks]			

### **Laboratory Course CS-123**

D	urat	ion: 3 Hours Maximum	Maximum Marks: 35					
Day and	d Da	te: Signature of Invigilator						
Seat No	o:	Seat No (in words):						
Mark		Signature Examiner 1						
	_	$\frac{15}{15} + \frac{15}{15} + \frac{1}{5} = \frac{35}{35}$ Examiner 2						
Section	1 I : A	Advanced 'C' Programming	[15 marks]					
Q 1)	A	i. Write a program to display elements of an array using pointer.	[5 marks]					
,	[10 marks]							
Q 1)	A	Define an appropriate structure for student information - roll number birthdate, percentage. Birthdate contains three fields - day, month a year. Write a program to accept details of n students and display them.						
Section	ı II :	Relational Database Management Systems	[15 marks]					
Conside	er th	e following database						
Doctor	(d_n	o int, d_name varchar(30), specialization varchar(35), phone_no int, charge	ges int)					
Hospita	al(h_	no int, h_name varchar(20), city varchar(10))						
Doctor	and	Hospital are related with many to one relationship.						
Q 2)	A	Create the above database in PostGreSQL and insert sufficient records.	[5 marks]					
	В	Execute any two of the following using PL/pgSQL	[10 marks]					
		i. Write a trigger before insert/update on Doctor. Raise exception						
		<ul><li>if charges are &lt;0.</li><li>ii. Write a function which will accept the name of the hospital and calculate the average charges of doctors visiting that hospital.</li></ul>						
		iii. Write a function using cursor to accept the specialization and print the details of all doctors with that specialization.						
Q 3)		Viva	[5 marks]					

#### **Laboratory Course CS-123**

Duration: 3 Hours  Day and Date:  Seat No: Seat No (in words):						Maximum Marks: 35  Signature of Invigilator					
						Marks					
	-	15	15	+ =	35	_	Examiner 2				
Section	1 I :	Advand	red 'C' I	Programm	ning				[15 marks]		
			<ul> <li>i. Write a C program to compare two strings using standard libr function.</li> <li>ii. Write a C program to accept details of n items (id, name, pri using structure and display the details.</li> </ul>								
Q 1)	A	that	uppercas	se alphabe	opy the co	onverted to lo	text file to anoth wercase, lowerd		[15 marks]		
					nagement	•			[15 marks]		
			• 1		nployee da						
-		•	-		, ,	varchar(20)) ry money)					
	`		<b>O</b>		. //	to many relati	onship				
Q 2)	A B		Write a maxim Write a employ Write a	wo of the a function to um salary a cursor to yees.	following to so accept do of an empl display the	using PL/pgSQ epartment name oyee in that detended department-w/update on an e	e and display the		[5 marks] [10 marks]		
Q 3)		Viva	Tuibe C	meephon i	Sului y 10	•			[5 marks]		

### **Laboratory Course CS-123**

D	urat	10n: 3	Hours			Maximum Marks: 35					
Day and Date:						_ Signature of Invigilator					
Seat N	o:		_ Seat N	o (in word	ds):						
Mark						Signature Exar	Examiner 1	xaminer 1			
	_	15	15	+ =	35	-	Examiner 2				
Section	n I ·	Advan	and (C') D	rogramm	ninα				[15 marks]		
Q 1)		Advanced 'C' Programming  i. Write a program to concatenate two strings (use predefined function.									
Q 1)	А		[5 marks]								
			-	_	-	nployees using	structure.		[10 marks]		
			1 _ /	1_		OR					
Q 1)	A	Write Copy alpha	[15 marks]								
Section	n II :	Relati	onal Data	ıbase Ma	nagement	Systems			[15 marks]		
Newsp City (p Newsp	aper inco aper	(title varc	har(6), nar ty are havi	, languag me varcha	ar(20), state	e varchar(20))	archar(20),cost r	• /			
Q 2)	A	Creat	e the abov	e databas	e in PostG	reSQL and inse	ert sufficient reco	ords.	[5 marks]		
	В	Execu	ite any tw	o of the f	ollowing u	sing PL/pgSQI			[10 marks]		
		na an ii. W sta iii. W	ames of No invalid C rite a trigg ate. Displa	ewspapers fity name. ger which ay approprisor to access	s available will preve	in that City. Rant deleting cition	nput and print the sise an exception es from Maharas print all newspar	n for shtra			
Q 3) Viva									[5 marks]		

### **Laboratory Course CS-123**

Duration: 3 Hours						Maximum Marks: 35					
Day and Date:						Signature					
Seat No	o:		_ Seat N	o (in wor	ds):				_		
Mark	KS					Signature Examiner 1				_	
	_	15	15	+ =	35	-	Examiner 2			_	
Q4°	. т.	A J	1 (C) D		•				[15]	_ 	
			ed 'C' P	_	_	•	ase using standa		[15 marks	ŀ	
Q 1)	А		[5 marks]								
library function.  ii. Write a C program to accept and display information (player_nateam_name, average, highest_score,) of 5 cricketers using structur  OR									[10 marks]		
Q 1)	A	Write text fi	[15 marks]								
Section	ı II :	Relation	onal Data	ıbase Ma	nagement	Systems			[15 marks	;]	
Supplio Part (p	er (S _id in er-Pa	_no int, nt, p_na .rt has N	me varch	varchar(20) ar(20), p_ionship w	weight floa ith descript	nt, unit int , colive attribute Q	_city varchar(20 lor varchar(10)) quantity . ert sufficient rec	-	e number) [5 marks]		
<b>~</b> -)	В	Execu	[10 marks]								
	_		Write a		function to l	0 10	Suppliers who		[10]		
		ii.	Write a	stored fun	ction using	cursors to acce appliers in that	pt name of city a city.	s			
		iii.		_Part tabl		-	uantity field in that and print a messa				
Q 3)		Viva									