	Gui	Department of C	neering College, Ludhia omputer Science & E ng	gineering		
		B.Tech.(CSE)	Semester	4		
Program Subject		PCCS-103	Subject Title	Discrete Mat	nematics	
	nester ation (MSE)	1	Course Coordinator(s)	Dr. Manpreet Prof. Shailja		d
No.	- Jan	24	Time Duration	I hour 30 min		
Max. M Date of		12 th Feb, 2024	Roll Number	2203	54 82	
Q.	ttempt all questi	Qu	estion		COs, RBT	Marks
A L F	et U = {1,2,3,4, ind (i) (A U B) °	5,6,7,8,9}, A= {1,2 (ii) (B-C) °.	$\{2,3,4\}, B = \{2,4,6,8\} \text{ and } \{2,4,6,8\}$	$C = \{3,4,5,6\}.$	CO1, L2	2
12 5	etermine the val	lidity of following a	rgument: $[(p \rightarrow q) \land \neg q]$ –	→ ¬ p.	CO2, L5	2
AL	et R be a binary	relation defined as nmetric, transitive a	R: $\{(a, b) \in R: (a-b) \le 3\}$	}. Find whether	CO1, L2	4
A	a. In how m b. In how m contains: c. In how m sample co	nany ways can a sam many ways can a 2 good bulbs and 2 c many ways can a sa contains 3 good ones	ample of 4 bulbs be sele and 1 defective one? ample of 4 bulbs be sele	cted so that the	CO3 L3	4
	10 0 T (1) -	1 and T (2) =2	+ T(k-1) - 5T(k-2) + 3			4
	solve the recurre	ence relation $A_r - 9$ ase conditions $A_0 = -$	$A_{r-1} + 20A_{r-2} = 0$ for $n \ge 2$ 3 and $A_1 = -10$.	using generatin	CO4, L5	8
Course	e Outcomes (CC))				
	ts will be able to	1 Constinue to	solve problems.		reja de	4
2 0	Construct mather	matical proofs to vend truth tables.	erity the correctness of a			itional lo
2 /	andy counting to	echniques and comb	inatorics to determine dis	screte probabilit	у.	31 - 1 - 1 · 1
1	1.1	-valuing recurrence	relations and generating	functions.		
7	orro probronto n	e entire of alge	braic structures in analys	is and interpret	ation of d	ata to pro
5 F	rove elementary	properties of arge	oraic artiotation in army			

RBT	Lower Order T	LOTS)	S) Higher Order Thinking Levels (HC			
RBT Level	LI	L2	L3	L4	L5	L6
RBT Level	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

	Gui	u Nanak Dev Er	ngineering College, Ludhia			
-		artment of Comp	outer Science and Engineer	ina ina		-
Program		B-Tech CSE	Semester Semester	4 th		
Subject	Code	PCCS-104	Subject Title	Computer Architecture		cture &
Mid Ser No.	mester Exam (MSE)	1	Course Coordinator(s)	Er. Va Er. La	processor andna akhvir Kaur (arminder Ka	
Max. M	larks	24	图 7	1	1 1	
Date of	MSE		Time Duration	1 hou	r 30 minutes	
		13 th Feb.,2024	Roll Number	220	03492	,
Q. No.	ttempt all questions		7			
Q1,	Diff	Ques			COs, RBT	Marks
~. ,	Control.	een Hardwired	Control and Microprogra	mmed	CO3, L2	2
Q2'	bit signed 2's comp	lement representa	ns $(+40) + (-15)$ in binary us ation for negative numbers.	sing 8-	CO1, L4	2
Q3 ,	Explain in detail the	e different mappir	ngs used for cache memory.		CO6, L2	4
Q4•	Discuss the metho system? Give an ex	d to perform ari ample for binary	thmetic addition in the confixed-point addition.	mputer	CO1, L2	4
Q5 ′	Identify the step by	step procedure to	multiply two numbers		CO2, L4	4
	$\{(-7) \times (-3)\}$ using	ng booth's multiple	ication algorithm.		303,127	4
Q6·	Design a diagram to	represent the rel n bus system. Also	ationship between various co o, elaborate the basic organiza	omputer ation of	CO3, L4	8
Course O	utcomes (CO) Students				1 most	
	Explain the binary n	umber system an	d its representations in com	puter sy	stem.	
	Implement Arithme	tic, Logical and S	hift micro operations using	Registe	er Transfer I	anguage
	Describe the structu	re and organization	on of basic computer using	instruct	ion set archi	tecture
	Elaborate instruction	າ formats, RISC ຄ	and CISC architectures and	address	ing modes	
	Solve basic binary n	nath operations th	rough programming of 808	5 miere	nrocessor	- 2 7 -
	161 6	y manned and I/C	mapped interfacing in mic			

RBT Classification	Lower Order T	hinking Levels (L	OTS)	Higher Ord	er Thinking I	Levels (HOTS)
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

	A Property of the second	Guru Nana	k Dev Engineer	ring College, 1	ginee	ring		
of the same	3	Department	of Computer S	science and En	gmee	4 th	F . T . T . S . S . S	
Progr	ram	B.Tech.(CSE) Semes				ing Systems	
	ect Code	PCCS-10	Subje Subje	ct Title	<u></u>			ngh Brar
	Semester Examinatio	n 1	Cours	se Coordinator	r(s)		manpreet Si	iigii Biai
(MSI	E) No.	-			* ,		ljit Singh	. 7.7
`							Iarkomalpree	tKaur
Max.	. Marks	. 24	Time	Duration			30 minutes	
Date	of MSE	14th Feb		Number		22	03472	
Note:	: Attempt all questions	3						
Q. No.			Question				COs, RBT	Marks
QI	Classify the different sharing Operating sy	ce between]	Real time Operat	ing system and	Time		CO1, L2	2
Q2	Difference between demonstration.	kernel level	thread and user	level thread with	h		CO3, L4	2
Q3	Demonstrate the Pro	ocess control	block with reen	ect to process at	atec		CO3, L2	4
Q4	Explain the differen	t types of on	erating system a	rehitecture in 4	atoil		CO3, L2	4
Q5	Compare and contra	est different	types of system a	colla Justificarit	etan.			
~~	appropriate example	es.					CO1, L4	4
Q6	Arrival and Burst ti	me of four p	rocesses P1, P2,	P3, P4 are give	n.		CO2, L4	8
	1.Draw Gantt Chart	and Evaluat	te Average Wait	ing time and tu	rnarou	nd time	-	
	using FCFS, SJF (preemptive,	non-preemptive	e), Priority(pree	mptiv	e, non-	- Committee of the Comm	
	preemptive) and RR							
	2. What is the waiting	•			ve alo	withm?		
	3. Which algorithm				ro aig	J. 1611111.		
			T	waiting time!				
	Note:- Assume 1 to				NEST T	14.		
	Process	Burst Tin	ne Arrival	time P	riority	1		AL CA
	Pl	5	0		2			
	P2	15	1		3			
	Р3	10	2		1			
			1				Company of	T. at
	one Outcomes (CO)	Students will	be able to		-			1
Cou	urse Outcomes (CO)S	Students will	be able to	tems	77	and the same of	- The state of the	The state of the s
1	1	d functions	of operating sys	tems.	rces i	nvolve	1 in process	creation a
Cou 1	Explain the types an Evaluate different	d functions	of operating sys	tems. nd list resour	rces i	nvolve	d in process	creation a
1	Explain the types an Evaluate different	d functions scheduling	of operating sys Techniques a	na list resour				
1	Explain the types an Evaluate different management	d functions scheduling	of operating sys Techniques a	na list resour	on a	voidanc	e. detection	and recov
2	Explain the types are Evaluate different management Discuss inter-proc	scheduling ess commu	of operating sys Techniques a inication, dead innisms of OS to	lock preventice o handle proces	on a	voidanc	e. detection	and recov
2	Explain the types an Evaluate different management Discuss inter-proc techniques. Understa	scheduling ess commund the mecl	of operating sys Techniques a inication, dead nanisms of OS to	nd list resoul lock prevention o handle process management	on, a	voidanc id threa	e. detection	and recov
3	Explain the types an Evaluate different management Discuss inter-proc techniques. Understa	scheduling ess commund the mecl	of operating sys Techniques a inication, dead nanisms of OS to	nd list resoul lock prevention o handle process management	on, a	voidanc id threa	e. detection	and recov
3 4 5	Explain the types an Evaluate different management Discuss inter-proc techniques. Understate Comprehend the me Apply file management	ess commund the mechanisms und the mechanisms und the dechanisms under the dechanisms and the dechanisms are dechanisms.	of operating sys Techniques a inication, dead nanisms of OS to sed in memory to send in for efficient	nd list resound lock prevention to handle process management ncy and perforr	on, a sses ar mance	voidanc ad threa	e, detection ds and their c	and recov
1 2 3 4 5 6	Explain the types an Evaluate different management Discuss inter-proc techniques. Understate Comprehend the me Apply file management	ess commund the mechanisms und the mechanisms und the dechanisms under the dechanisms and the dechanisms are dechanisms.	of operating sys Techniques a inication, dead nanisms of OS to sed in memory to send in for efficient	nd list resound lock prevention to handle process management ncy and perforr	on, a sses ar mance	voidanc ad threa	e. detection	and recov
3 4 5 6 RB	Explain the types and Evaluate different management Discuss inter-procestechniques. Understate Comprehend the mean Apply file management Make use of disk so the comprehend the mean agent Make use of disk so the comprehend the mean agent Make use of disk so the comprehend the mean agent Make use of disk so the comprehend the mean agent Make use of disk so the comprehend the mean agent Make use of disk so the comprehend the mean agent Make use of disk so the comprehend	ess commund the mechanisms und the mechanisms und the dechanisms under the dechanisms and the dechanisms are dechanisms.	of operating sys Techniques a inication, dead nanisms of OS to sed in memory to isms for efficient	nd list resound lock prevention to handle process management ncy and perforr	on, a sses ar mance	voidanc ad threa	e, detection ds and their c	and recov
1 2 3 4 5 6 RB Cla	Explain the types and Evaluate different management Discuss inter-procestechniques. Understate Comprehend the mean Apply file management Make use of disk so assification	ess commund the mechanisms und the duling the duling als wer Order	of operating sys Techniques a inication, dead nanisms of OS to sed in memory to sisms for efficient gorithms Thinking Level	lock prevention handle process management ncy and performs (LOTS)	on, a sses ar mance	voidance de threa	e, detection ds and their c	and recovery
1 2 3 4 5 6 RB Cla	Explain the types are Evaluate different management Discuss inter-proceutechniques. Understate Comprehend the mean Apply file management Make use of disk so assification Explain the types are in the types are in the process of the	ess commund the mechanisms und the mechanisms und the dechanisms under the dechanisms and the dechanisms are dechanisms.	of operating sys Techniques a inication, dead nanisms of OS to sed in memory to send in for efficient	nd list resound lock prevention to handle process management ncy and perforr	on, ar sses ar mance	voidance de threa	e, detection ds and their c	and recovery munication and re
1 2 3 4 5 6 RB Cla RB	Explain the types and Evaluate different management Discuss inter-proce techniques. Understate Comprehend the mean agen Apply file managen Make use of disk so To Love assification The Love and Love are assification The Love are assification ar	ess commund the mechanisms under mechanisms under the duling algorithms and the duling algorithms.	of operating sys Techniques a inication, dead nanisms of OS to sed in memory to isms for efficient gorithms Thinking Level L2	lock preventice handle process management ncy and performs (LOTS)	on, a sses ar mance	voidance de threa	e, detection ds and their c Thinking L	and recovery munication and re
1 2 3 4 5 6 RB Cla RB Nu	Explain the types and Evaluate different management Discuss inter-procestechniques. Understate Comprehend the mean Apply file management Make use of disk so assification The Low	ess commund the mechanisms und the duling the duling als wer Order	of operating sys Techniques a inication, dead nanisms of OS to sed in memory to sisms for efficient gorithms Thinking Level	lock preventice handle process management ncy and performs (LOTS)	on, ar sses ar mance	voidance de threa	e, detection ds and their c	and recovery and r

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	_	Departme	nt of Compu	ter Science &	Engineeri			
rogram		B.T	ech.(CSE)	Semester		4 th		J , J,
ubject C	ode	PC	CS-106	Subject Title		Data Structures Supreet Kaur, Jasmine		
- V	ester Exami	ination 1	the state from the	Course Coor	dinator(s)			
MSE)No					The same	Kaur		
Max. Ma		24		Time Durati	on		30 minutes	
Date of N		. 15-	-02-2023	Roll Number		220	3482.	
	empt all que	estions					F-6-	J. 100
Q. No.			Question	ns			COs, RBT level	Marks
Q1	Write an a	lgorithm to dele	ete an element	at end in dou	bly linked li	st.	CO2 _L 3	2
Q2	push(54),p Consider t enqueue(2 dequeue(2	natically show t	oush(55),push equence of ope ,dequeue(),en	(62), s=pop(); eration on an e queue(28),enc	mpty queue ueue(32),q=	and the state of	CO3, CO4 L5	2
Q3	Explain th	ne operations the plications of pr	at can be perfe	ormed on prio	rity queues.	Also	CO5, L2	4
S	Given an size of ea	array, arr[1:9, ach element is 2 arr[5][-1][8] w	-4:1, 5:10] w	ith a base value of the	address of		CO2, L3	4
Q5	determin	an algorithm to the Worst cas	e Time Comp	lexity of this a	Igorithm.		CO1, CO2, L6	4
0	a) With t	the help of stack	s convert the	following infi	x expression	to	CO3, L5	8
¥ <	postfix a-b-d* b) Justify	x expression an *e/(f+b)*c y how stacks giv	d evaluate it. where a=3	0, b=1, c=3, d=	=2, e=3, f=1.			
	for 3			1 19	To Call	1	- F	
Cours	e Outcomes	(CO)	119	10-41		TO SHARL SOLL	Contract to	
Studer	its will be ab	the appropriate o	lata structura t	o provide soluti	on with redu	ced space	and time com	plexity.
Y								127
1-	Implama	ent the storage o	f linear data in	arrays, linked lis	t and hashing	g techniqu	ie.	117
2	Impleme	tacks for solving	problems that y	works on the pri	nciple of recu	irsion.	THE THE	
3		- Farmania a la ca	Juina problems	having sequen	tiai processin	Б•	The goals	1. 1.
4	Make us	ent the concept o	f non linear de	ta structures-tr	ee and graph	in real wo	orld problems.	1 - 1
5	Implem	ent the concept of	non-linear da	s for searching	and sorting.			# 19
6	Analyse	efficiency of diff	erent algorithm	de (LOTS)	Higher Or	der Thin	king Levels	(HOTS)
RBT	1	Lower Order T	hinking Leve	is (LOTS)	Inghor or			
RBT	sification Level	Ll	L2	L3	L4	L5		L6
	nber Level	Remembering	Understandir	ng Applying	Analyzing	Evaluat	ing Creating	

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Name

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Progr	am		Dep	artment of Compute	er Science and E	Ludhiana			
	et Code		B.Tech.(CSE)	Se	mester	ngineering			
	Semester Exam (MCELN	PCCS-107	Su	bject Title		4 th	• -	
	omester Exam (MSE) No.	1		ourse Coordinate		Software Eng		
					o mor coordinate	or(s)	Dr. Kiran Jyo	oti	
lax.	Marks		24		4		Er. Jasdeep k	Caur	
	of MSE		16th Feb, 2024	Ti	me Duration		Dr. Hardeep	Singh Kang	
Note:	Attempt all quest	ions	10" Feb, 2024	Re	oll Number		1 hour 30 mi 220 34	nutes	
Q. No				0 1			1-20 34	62.	
1	Illustrate the	immonto		Question				CO. DPTI	
	"The appelan	importance of te	asibility study i	n requirement analy	vsis			COs, RBT level	Marks
	amphasin-	is of explorator	ry programmin	n requirement anal- g is error corrections? Justify your energy	on while coftun			CO1, CO2, L2	2
7//	"Sa financial on	error preventior	ı" Do you agree	g is error correction? Justify your answ	ver .	are enginee	ering practice	CO1, L4	
-	Software de	elopment projec	ct estimation is	? Justify your answ often laborious and sed in 'C' programs	time consumi	11.0		CO1, L4	2
1	stand - alone	software utility	is to be develop	often laborious and bed in 'C' programme of this software in	ming by a tar-	ig." Comme	ent. A simple	-4	
0.3	computer run	ning Linux and	the overall size	ed in 'C' programme of this software is cative and expone	is estimated to	of software	experts for a		
Q3	Considering ((a, b) = (2.4, 1.5)	05) as multipli	e of this software is cative and expone 38) as multiplicative	ntiation factor	be 20,000 I	lines of code.		
	effort estimat	on equation and	l(c, d)=(2.5, 0.7)	38) as multiplicativ	e and expense	for the bas	ic COCOMO	CO3, L3	4
	COCOMO de	evelopment time	estimation ear	cative and expone 38) as multiplicative uation, approximate	ely how !	iation factor	r for the basic		7
	take to compl	ete?		action, approximat	ery now long d	loes the sof	tware project	4	8
Q4	List several se	oftware process	paradioma Eve	alain Lauri d	2.11			7	13
124	be accommod	ated in the spira	I process and	olain how both wat	erfall model and	d prototypis	ng model can	GO.	
			1					COI, LZ	4
İ	Create a Soft	ware Requireme	nt Specification	n (SRS) for "sched	uling the course	og in g gam			- 1
	department, b	ased on the inp	ut about classr	ooms, lecture times	s and time must	farance of	iputer science		
1	instructors" th	nat includes the f	following:	rotate time.	s, and time pre	rerences of	the different	4	
Q5	I. A d	etailed descript	tion of both i	iser and system	raquiramento	A		100 A	
i	requi	rements and fou	ır (4) system rec	quirements should b	requirements.	At least fo	our (4) user	CO2, L6	4
	2. A de	tailed description	on of both fund	ctional and nonfun	oe provided.			1	
	funct	ional requireme	nts and four (4)	nonfunctional requ	icuonal requirer	ments. At I	least four (4)	F 1	9
	Following fig	nire sets out a	number of	i iii	mements should	d be provide	ed.		
	Network diag	ram using AOA	number of ac	tivities, durations	and dependence	cies. Design	n an activity	4	(0)
-	The state of the	lities of Project	OF ACUN and a	GANT chart show	ving the project	schedule. A	Also describe	57	
	the responsion	Task	Manager.		32 87 107 211 2	7	87.2		
		TI		ation(days)	Dependencies	8		and the second	
	(10	10000000000000000000000000000000000000	for the supplier	41	James and and		100
		T2	J 15 .	المستقالين البران	T1	and want	13.		200
		T3	10	AF EL A	T1, T2				7.71
]		T4	20	191 P	-/	F 492			C.
		T5	10	Ed 4 P	R				
Q6		T6	15	1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P	T3, T4	3.1		7_ VIET	まる。
~		T7	10	1	T3	4		CO3, L6	8
		T8	35	1 100	T7 -	14 5 0		11.19	1
		Т9	15	#	T6	V 01 2			1 3 21
] }		T10	5	100 m	T5, T9				
1		TII	10	12	T9	1794		5 2.5	1
1		T12	20	2 60	T10	100			1
		T13	35		T3, T4	-01-0		less in the	11
				17:				0.00	
		T14	10	4	T8, T9				A.
ļ. l		T15	20	W.	T12, T14			4 78 6	2 5 6
		TI6	10	E.	T15			1200	3
		: Students will be			,	A		Salah Parana	70-20 VI
COL	Explain softwa	are process model:	s and fundaments	als of software engine	eering to use suita	able process	model for a giv	en scenario.	11 15 17 1 17 1
CO2	Analyse softw	are requirements t	for designing SR!	S documents	1.15	or and	华 1 1 1		7.5
CO3				n, and then realize th	at design practica	ally using an	appropriate co	fruora anginagina	- mathadalagy
CO4	Apply softwar	e design strategies	s to translate SRS	to software design	ar assign prastice	arry, dame di	appropriate so	itware engineering	inethodology.
COS						ant assolution	200	V 100	The second second
				r a given software de		A 200 M	W. Life and	parties and a second	
CO6	Recognize the	importance of sof	ftware maintenan	ce , PSP, Six Sigma a	and re-engineerin	ng		I do	
RBT Cla	ssification	Lower Order Thi	inking Levels (LO	TS)		Higher Or	der Thinking Le	vels (HOTS)	Property 1
RBT Lev	el Number		.1	L2	L3	L4	elest aL:		to the same
RBT Lev		Remembering		Understanding	Applying	Analyzing	Evaluatin		
KDT ZT		110777777		0	1.41.57.0	, mary sing	2741444	6	-
								2	

			gineering College, Ludhia				
	Depa		uter Science and Engineer	ing			
Program		B.Tech. (CSE)	Semester	4th (A,	, B & C)		
	Subject Code MCCS-101 Subject Title Envir						
Mid Seme	ester Exam (MSE)	1	Course Coordinator(s)	1	Pf. Kuljit Kaur		
No.	•		Market and the second		want Singh		
				Er. Van	THE RESERVE AND ADDRESS OF THE PERSON NAMED IN		
Max. Mai		24	Time Duration	1 hour	30 minutes		
Date of M	ISE	16/02/2024	Roll Number	22	03402	•	
Note: Atte	empt all questions					{	
Q. No.		Ques	tion	-	COs, RBT level	Marks	
Q1	Differentiate renev	vable and non-ren	ewable resources.		L2, CO1	2	
$\frac{\chi^2}{Q^2}$	Analyze how hum				L4, CO2	2	
Q3	Give an account of	f the effects of tim	ber extraction, mining dams	on	L2, CO5	4	
ζ-	forests and tribal p						
Q4	Discuss the use an	d over-utilization	of surface and ground water		L2, CO3	4	
Q5	Consider a scenari	o in which a new	species, introduced accident	ally	L5, CO4	4	
16.1	into an existing ec	osystem, begins to	outcompete native species	for			
	resources. Explain	the potential cons	sequences of this introduction	n on			
	the overall stabilit	v of the ecosystem	1.		7.1.005		
Q6	Imagine a scenario	where a rapidly	growing urban population d	emands	L4, CO5	8	
	more land for hou	sing and infrastruc	cture development. The gove	ernment			
	is considering cle	aring a significant	portion of a nearby forest	to meet		1	
		iscuss the potent	ial environmental conseque	nices of			
	such a decision.			-		Za Tra	
	utcomes (CO) Studen	to will be able to					
Course O	Mageure environt	nental variables an	d interpret results.	8,000g	and the second	The state of the	
2.	Evaluate local	regional and glo	bal environment topics r	elated t	o resource	use and	
2.	management						
3.	Propose solutions	to environmental	problems related to resource	use and	managemen	t.	
4.	Interpret the resul	ts of scientific student	dies of environmental proble	ems.			
5.	Describe threats to	o plobal biodivers	ity, their implications and po	tential s	olutions.		
	Describe un cats t	0.000					

RBT	Lower Order T	hinking Levels (L	OTS)	Higher Ord	ler Thinking	Levels (HOTS)
Classification RBT Level	L1	L2	L3	L4	L5	L6
Number					Toutuating	Creating
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

