		Department of	Information Technology			
	d.el.	B.Tech.(IT)	Semester	4		
Program	bject Code Id Semester Test (MST) Id Semester Test (MST) Id Attempt all questions In No.	PCIT-105	Subject Title		n Programmi	ng
Subject (Mid Sem	ester Test (MST)	1	Course Coordinator(s)		eetKaur	
No.	The second of th	201	Time Duration	1 hou	r 30 minutes	
		24 20/3/2022	Roll Number			
Note: At Q. No.	tempt all questions	Que	stion		COs, RBT level	Marks
Q. 1.0.		A COLUMN TO A COLU			CO1, L1	2
OX.	What is platform in	ndependence in p	ython?		CO2, L2	2
Q1 Q2 Q3	What are the Muta Write a program to	explain the conc	oython? ept of isdecimal(), isdigit() an	d	CO3, L3	4
9x	isnumeric() string	function.	from a user and calculate the		CO2, L4	4
Q\$	Why Python is be	coming popular d	number.(e.g. if n=56, Output ay by day? Compare it with ot	her	CO4, L5	4
1 4/2	programming lang	guages. t note on Operato	r Precedence vs. Operator		CO3, L6	8(4+4)
Q6	Write show				AT WATER	

Course	Outcomes (CO)
Student	s will be able to
1	The state of the s
1	t i i amazia alang with basic object oriented principles.
2	Discuss methods and arrays along-with basic object of the property of the prop
3	Implement Exception handling, multilineading, string handling,
	interfaces for interaction of the user with a GIII
4	Create an event handling techniques for interaction of the user with a GUI.
5	Decimalizations using socket programming and database conflectivity.
6	Identify and solve complex problems in the environment of Java programming.

RBT	Lower Order	Thinking Levels	(LOTS)	Higher Or	der Thinking	g Levels (HOTS)
Classification RBT Level	L1	L2	L3	L4	L5	L6
Number RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

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		Department of I	nformation Technology			
Program		B.Tech.(IT)	Semester	4		
Subject C		PCIT-105	Subject Title	Pytho	n Programmi	ng
Mid Sem	ester Test (MST)	1	Course Coordinator(s)	Harpr	eetKaur	
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Max. Ma		24	Time Duration	1 hou	r 30 minutes	
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Note: Att	tempt all questions	1 1				
Q. No.					COs, RBT level	Marks
Q1	What is platform in	dependence in pytl	non?		CO1, L1	2
Q2					CO2, L2	2
Q3				5		4
Q4				sum	CO2, L4	4
Q5	Why Python is become	PCIT-105 Subject Title Python Programmi est (MST) 1 Course Coordinator(s) HarpreetKaur 24 Time Duration 1 hour 30 minutes 20/3/2022 Roll Number Roll Number COs, RBT level is platform independence in python? CO1, L1 are the immutable data types in python? CO2, L2 a program to explain the concept of index() and find() string on. a program to accept a number from a user and calculate the sum numbers from 1 to the given number. Python is becoming popular day by day? Compare it with other amming languages. Write short note on Operator Precedence vs. Operator Associativity How to Read and Write into a Text files in Python mes (CO)				
Q6	1) Write short	note on Operator F	Precedence vs. Operator		CO3, L6	8(4+4)
	Associativi	ty				
		nd and Write into a	Text files in Python			
	Outcomes (CO) s will be able to				1	T-Market
1	Use primitive data	types, operators an	d control statements to write	prograi	ms	
2	Discuss methods a	nd arrays along-wit	th basic object oriented princ	iples.		
3	interfaces					ges and
4	Create an event har	ndling techniques f	or interaction of the user wit	h a GUI	l	
5	Design client/serve	r applications usin	g socket programming and d	atabase	connectivity	-
6	Identify and solve	complex problems	in the environment of Java p	rogram	ming.	<u> </u>

RBT Classification	Lower Order	Thinking Levels	(LOTS)	Higher Or	der Thinking	g Levels (HOTS)
RBT Level	L1	L2	L3	L4	L5	L6
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RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

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)		B.Tech.(IT)	Semester	4		
rogram	odo	PCIT-105	Subject Title	Pytho	n Programmir	
Subject C	ster Test (MST)	2	Course Coordinator(s)	-	eet Kaur	-6
	ster rest (11151)	7 1	()			
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Date of M	51	20/3/2022	Kon Hamber			
Note: Atte	mpt all questions					
Q. No.	*	Que	estion		COs, RBT level	Marks
Q1	What is difference		CO1, L1	2		
Q2	Output? List = ['a				CO2, L2	2
Q2		reverse=True)				
	print(Lis					
	print(Lis					
Q3	Write a program to	find LCM of tw	o numbers using function.		CO3, L3	4
04	Write a program u	sing function to r	nultiply all the numbers in a lis	st.	CO2, L4	4
Q4	Sample List: [8, 2		pected Output: -336			
Q5	Write short note o			WAR IT	CO4, L5	4
Q3	a) Constructo					
* + ** at	b) Multilevel					and the second
06	Dagian GULusina	Tkinter to order	a Pizza from Domino's. Choose	e data	CO3, L6	8
Q6 :	and widgets accor	dingly	arizza nom z omno			
	Outcomes (CO) will be able to	•		14		
1	Use primitive data	a types, operators	and control statements to write	progra	ms	
2	Discuss methods	and arrays along-	with basic object oriented princ	iples.		H
3	interfaces		lltithreading, string handling, ev			es and
4			es for interaction of the user with			
5			sing socket programming and d			
6	Identify and solve	complex probler	ns in the environment of Java p	rogram	ming.	

RBT Classification	Lower Order	Thinking Levels	(LOTS)	Higher Ord	der Thinking	g Levels (HOTS)
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

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Please check that this question paper contains 09 questions and 02 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4

Name of Subject: Python Programming

Subject Code: PCIT-105

Paper ID: 16234.

Max. Marks: 60

MORNING

6 JUN 2023

Time Allowed: 03 Hours

NOTE:

1) Parts A and B are compulsory

2) Part C has Two Questions Q8 and Q9. Both are compulsory but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- What are the advantages of using Python as a programming language? a)
- What is the purpose of setting up path and environment variables for Python? b)
- Explain the difference between a string and a numeric data type in Python.
- How can syntax errors be detected and corrected in Python? d)
- What is the purpose of a command button in a graphical user interface (GUI)? e)
- What is the difference between a class and an object in Python? f)

Part - B

[Marks: 04 each]

- Elaborate on the difference between a list and a dictionary in Python. Discuss their Q2. respective characteristics, use cases, and how they are accessed and manipulated in Python.
- Write a Python code to calculate income tax based on the user's input. Q3.
- What are the different types of loops and selection statements available in Python? **Q4.**
- Write a Python program to approximate the square root of a given number using a while Q5. loop.

Page 1 of 2

[Marks: 12 each]

- Q6. Explain the concept of recursive functions in Python and provide an example that demonstrates their usage. Discuss the key elements required for designing recursive functions and highlight the importance of defining base cases.
- Q7. How to analyze a given text file and perform a text analysis using Python.

Part - C

programming. Explain the differences between definite iteration and conditional iteration using suitable examples. Furthermore, explain how loops and selection statements can be used in conjunction with strings and text file manipulation, highlighting their significance in real-world scenarios. Provide code snippets to support your explanations.

OR

Imagine you are designing a task management application in Python. Discuss the design considerations and implementation strategies for efficiently storing and managing tasks using lists, dictionaries, functions, and classes. Explain how you would design and implement a function that adds new tasks to the task list, a function that sorts and displays tasks based on priority, and a class that represents a task with various attributes and methods. Provide code snippets and examples to support your explanations

Q9. Design a graphical user interface (GUI) program in Python that allows users to input a series of numbers and calculate their average. The program should include windows, input fields, and buttons for user interaction. Discuss the steps involved in designing and implementing this GUI program, including the use of instance variables, event handling, and data validation. Provide a detailed explanation of the code and highlight the key features and functionalities of the program.

OR

Design a program in Python to accomplish the following tasks:

- i. Read a text file containing a paragraph of text.
- ii. Implement a loop to iterate over each word in the paragraph to count the occurrences of each unique word and store the word count in a dictionary.
- iii. Use selection statements to filter out common words and exclude them from the word count.
- iv. Write the updated word count dictionary to a new text file, with each word and its count on a separate line.

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Please check that this question paper contains 09 questions and 02 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4

Name of Subject: Python Programming

Subject Code: PCIT-105

Paper ID: 16234

Time Allowed: 03 Hours

EVENING

Max. Marks: 60

NOTE:

1 2 JAN 2023

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- a) Suppose your script attempts to print the value of a variable that has not yet been assigned a value. How does the Python interpreter react?
- b) Discuss four string manipulation methods.
- c) In Python, what is the distinction between a list and a tuple?
- d) In what way is a recursive design different from a top-down design?
- e) What is object instantiation? What are the options at the programmer's disposal during this process?
- f) Describe two fundamental differences between terminal-based user interfaces and GUIs.

Part - B

[Marks: 04 each]

Q2. Assume that the variable data refers to the list [5, 3, 7]. Write the values of the following expressions:

a.	data [2]	b. data [-1]	c. len (data)	d. data [0:2]	e. 0 in data	f. data + [2, 10, 5]
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- Q3. Write a while loop in python that computes the factorial of a given integer N.
- Q4. A student complains that defining functions to use in his programs is a lot of extra work. He says he can finish her programs much more quickly if he just writes them using the basic operators and control statements. State three reasons why his views is shortsighted.

Page 1 of 2

- Q5. Why is it a good idea to write and test the code for laying out a window's components before you add the methods that perform computations in response to events.
- Q6. Class B extends class A. Class B defines an __str__ method that returns the string representation of its instance variables. Class B defines a single instance variable named age, which is an integer. Write the code to define the __str__ method for class B. This method should return the combined string information from both classes. Label the data for age with the string "Age: ".
- Q7. What are the different ways to generate random numbers in Python? With Example

Part – C [Marks: 12 each]

Q8. Elaborate various operators available in Python with proper code. **EVENING**OR 1 2 JAN 2023

Write a GUI-based program that allows the user to convert temperature values between degrees Fahrenheit and degrees Celsius. The interface should have labelled entry fields for these two values. These components should be arranged in a grid where the labels occupy the first row and the corresponding fields occupy the second row. At start-up, the Fahrenheit field should contain 32.0, and the Celsius field should contain 0.0. The third row in the window contains two command buttons, labeled >>>> and <<<<. When the user presses the first button, the program should use the data in the Fahrenheit field to compute the Celsius value, which should then be output to the Celsius field. The second button should perform the inverse function.

Q9. Write a script named dif.py. This script should prompt the user for the names of two text files and compare the contents of the two files to see if they are the same. If they are, the script should simply output "Yes". If they are not, the script should output "No", followed by the first lines of each file that differ from each other. The input loop should read and compare lines from each file. The loop should break as soon as a pair of different lines is found.

OR

Define and test a function myRange. This function should behave like Python's standard range function, with the required and optional arguments, but it should return a list. Do not use the range function in your implementation

Please check that this question paper contains 09 questions and 02 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 04

Name of Subject: Python Programming

Subject Code: PCIT-105

Paper ID: 16234

Scientific calculator is NotAllowed

Detail of allowed codes/charts/tables etc. NIL

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

01.

- a) What are the features of python?
- b) Write a Python program that prints (displays) your name, address, and telephone number.
- c) Explain the relationship between a function and its arguments.
- d) What happens when the print function prints a string literal with embedded newline characters?
- e) How can you open a file in python?
- f) When would you make a data field read-only, and how would you do this?

Part - B

[Marks: 04 each]

- Q2. With a suitable program, elaborate compilation and linking process in python.
- Q3. Write a program to print the multiplication table of a given number entered by the user.
- Q4. Write a program to accept a number from 1 to 12 and display the name of the month and days in that month like 1 for January and the number of days 31 and so on.
- Q5. Write a Python program to search a specific part of a string for a substring.
- Q6. What roles do the parameters and the return statement play in a function definition?

Q7. What are the benefits of inheritance? Create a child class *Bus* that will inherit all of the variables and methods of the *Vehicle* class.

Part - C

[Marks: 12 each]

Q8. Elaborate the concept of Dictionaries in python. How will you add and access elements to a Dictionary? Write a Python program to concatenate the following dictionaries to create a new one.

Sample Dictionary:

dic1={1:10, 2:20}

dic2={3:30, 4:40}

dic3={5:50,6:60}

Expected Result: {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

OR

What is meant by the state of an object, and how does the programmer access and manipulate it? Explain the differences between instance variables and temporary variables. Focus on their visibility in a class definition, and on their roles in managing data for an object of that class.

Q9. Write a Python program that accepts a string and calculate the number of digits and letters.

Sample Data: Python 3.2

Expected Output:

Letters 6

Digits 2

OR

Define what is a class? How to create a class? Define what is a method, how to do object instantiation? Describe how to create instance attributes in Python. Also elaborate structure of basic python program.

Please check that this question paper contains_ questions and printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 2]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4

Name of Subject: Python Programming

Subject Code: PCIT-105

Paper ID: 16234

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- What is slicing in Python? Explain with example.
- b) Why is the "pass" keyword used for in Python?
- c) What are iterators in Python?
- d) How do you write comments in python?
- What is the scope of a variable? Give an example. e)
- Why do we use join() function in Python? f)

Part - B

[Marks: 04 each]

- Q2. What is the difference between list and tuple?
- Q3. How are classes created in Python? Explain with coding example.
- Q4. Describe the costs and benefits of defining and using a recursive function.
- Q5. What is the usage of help() and dir() function in Python? Give progarming example.
- Q6. Assume that a file contains integers separated by newlines. Write a code segment that opens the file and prints the average value of the integers.
- Write a program that computes and prints the average of the numbers in a text file. Q7. You should make use of two higher-order functions to simplify the design.

Part - C

[Marks: 12 each]

Q8. Describe the basic phases of software development : analysis, design, coding, and testing with example.

OR

Explain the Loops and Selection Statements used in Python with coding examples.

Q9. Write a Python program using classes and objects to simulate result preparation system for 20 students. The data available for each student includes: Name, Rollno, and Marks in 3 subjects. The percentage marks and grade are to be calculated from the following information:

Marks Precentage	Grade
80 to 100	A
60 to 80	В
45 to 60	С
Less than 45	D

OR

Write a program that allows the user to obtain information about the file system. You must follow the software development process.

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Q. No.			Quest	ion		a Jea	COs,	level	Mark
<u> </u>	Explain how multiprocessing	environ		g improves i			CO4. I		2
Q2/ Q3/	Support the star the help of real t	ement " time app	The use of microplications.	processor makes	daily life o	asier" with	C06, I	.5	2
. Q4/				Illustrate the need and significance of memory hierarchy.					
ン	b) How m	ic the fot	al number of cells MB memory chi	in CARLED	mory chip, to build t	he memory	CO3, L CO1, L		4
Q5/	b) How m capacity Differentiate Micropr	of 4GB	al number of cells MB memory chi RAM? and microcontrol and Cache Memory	s in 64 Kb*8 me ps are required der	to build t	he memory	CO1, L	L4	4
レ 	b) How m capacity Differentiate Micropr	of 4GB	al number of cells MB memory chi RAM? and microcontrol and Cache Memory	s in 64 Kb*8 me ps are required der	to build t	he memory	CO1, L	.5 L4 L4	
Q5 Q6	b) How m capacity Differentiate Micropr b) Virtual Draw the pin di	of 4GB	al number of cells MB memory chi RAM? and microcontrol and Cache Memory	s in 64 Kb*8 me ps are required der	to build t	he memory	CO1, L	.5 L4 L4	4
Q5 Q6 Course	b) How m capacity Differentiate Micropr b) Virtual Draw the pin di cach pin. Outcomes (CO) s will be able to	any 256 of 4GB rocessor Memory lagram o	al number of cells MB memory chi RAM? and microcontrol and Cache Memory f 8051 microcon	s in 64 Kb*8 me ps are required ler ory troller and expl	to build t	tionality of	CO1, L CO6, I CO1, I	L4 L4 L6	8
Q5 Q6 Course Students	b) How m capacity Differentiate Micropr b) Virtual l Draw the pin di cach pin. Outcomes (CO) s will be able to Identify compute	any 256 of 4GB rocessor Memory lagram of	al number of cells MB memory chi RAM? and microcontroll and Cache Memory f 8051 microcon	s in 64 Kb*8 me ps are required der ory troller and expl	ain the fun	ctionality of	CO1, L CO6, I CO6, I	L4 L4 L6	8
Q5 Q6 Course Students	b) How m capacity Differentiate Micropr b) Virtual Draw the pin di cach pin. Outcomes (CO) s will be able to	any 256 of 4GB rocessor Memory lagram of	al number of cells MB memory chi RAM? and microcontrol and Cache Memory f 8051 microcon ans, memory organ ats, RISC and CIS	in 64 Kb*8 me ps are required ber ory troller and expl	ain the fun	etionality of	CO1, L CO6, I CO6, I	L4 L4 L6	8
Q5 Q6 Course Student:	b) How m capacity Differentiate Micropr b) Virtual Draw the pin di each pin. Outcomes (CO) s will be able to Identify compute Clarify instruction Solve basic binary	any 256 of 4GB rocessor Memory lagram of	at number of cells MB memory chi RAM? and microcontroli and Cache Memory f 8051 microcon ans, memory organ ats, RISC and CIS operations by usi	s in 64 Kb*8 me ps are required ler ory troller and expl	ain the fun	etionality of	CO1, L CO6, I CO6, I	L4 L4 L6	8
Q5 Q6 Course Students 1 2 3	Differentiate Micropr b Virtual Draw the pin di each pin. Outcomes (CO) s will be able to Identify compute Clarify instruction Solve basic binar Compare between	rocessor Memory lagram of er system on forma ry math en pipelin d, well c	al number of cells MB memory chi RAM? and microcontrol and Cache Memory f 8051 microcon as, memory organ as, RISC and CIS operations by usining and parallel	s in 64 Kb*8 me ps are required ler ory troller and expl nization, Microp C architecture and the instruction	ain the fun	etionality of and assembly and addressing	CO1, L CO6, I CO6, I CO6, I	L4 L4 L6	4 8
Q5 Q6 Course Student: 1 2 3 4	Differentiate Micropr b Virtual I Draw the pin di cach pin. Outcomes (CO) s will be able to Identify compute Clarify instructic Solve basic binar Compare between Design structured real world proble	rocessor Memory lagram of er system on forma ry math en pipelin d, well cems	al number of cells MB memory chi RAM? and microcontroll and Cache Memory f 8051 microcon ans, memory organ ats, RISC and CIS operations by using and parallel commented, under	s in 64 Kb*8 me ps are required the ps are required to be provided to be ps are required to be provided to be ps are required to be ps are required to be provided to be ps are required to be provided to be prepresentable to be provided to be provided to be provided to be p	ain the fun	nd assembly of addressing oprocessor.	CO1, L CO6, I CO6, I CO6, I	L4 L4 L6	8 sammin
Q5 Oourse Student: 1 2 3 4 5	Differentiate Micropres (CO) Swill be able to Identify compute Clarify instruction Solve basic binary Compare between Design structured real world problet Classify the trend	of 4GB rocessor Memory lagram of roma ry math en pipelin d, well cems ds and de	at number of cells MB memory chi RAM? and microcontroli and Cache Memory f 8051 microcon as, memory organ as, RISC and CIS operations by usi ning and parallel ommented, unde	s in 64 Kb*8 me ps are required ler ory troller and expl mization, Microp C architecture and the instruction ism. restandable asse	ain the fun	nd assembly of addressing oprocessor.	CO1, L CO6, I CO6, I CO6, I	L4 L4 L6	4 8 rammin rutions t
Q5 Oourse Student: 1 2 3 4 5	Differentiate Micropres Micropres (CO) Similar be able to Identify compute Clarify instruction Compare between Design structure real world problect Classify the trend cation Lower O	of 4GB rocessor Memory lagram of ror system on forma ry math en pipelin d, well cems ds and de	al number of cells MB memory chi RAM? and microcontroll and Cache Memory f 8051 microcon ans, memory organ ats, RISC and CIS operations by using and parallel commented, under	s in 64 Kb*8 me ps are required ler ory troller and expl mization, Microp C architecture and the instruction ism. restandable asse	ain the fun	nd assembly of addressing oprocessor.	CO1, L CO6, I CO6, I CO6, I language modes.	L4 L4 L6 e progr	4 8 rammin rutions t

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Q1			parallel processi	ng improves	the perfor	mance of	CO4, L2	2
Q2	S	ultiprocessing envi	ronment.	processor 1			CO (I 5	2
Q2	the	e help of real time	nt "The use of micro	processor make	es daily life e	easier" with	CO6, L5	2
Q3	- CIN	a) Illustrate the	need and significan	e of memory l			CO1, L3	4
QJ		h) Discuss the r	nain objective of mu	ltiprocessor	nerarchy.		CO1, L3	7
Q4	_	a) Calculate the	total number of cell	s in 64 Kh*o			CO3, L3	4
QT	- 1	b) How many 2	256MB memory ch	ins are require	nemory chip.		CO3, L3	
		capacity of 4	GR RAM?	ips are require	ed to build i	ine memory	CO1, L3	
		capacity of 4	OB IGUIVI:			يرد الأن من ين		
Q5	Dif	ferentiate						4
		a) Microprocess	or and microcontrol	ler —			CO6, L4	A STATE OF THE STATE OF
			ry and Cache Meni				CO1, L4	
Q6	Drav	v the pin diagram	of 8051 microcon	troller and exp	plain the fur	ectionality of	CO6, L	5
	each	pin.						
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1	Ident	ify computer syste	ems, memory organ	ization, Micro	oprocessor a	nd assembly	language	program
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F	rogram	B.Tech. (IT)	nak Dev Engineering Col	lege, Ludhiana		1		
S	ubject Code		mation T	echnology	/			
	A STATE OF THE STA	PCIT-108	- Carter	4	74- 70-31			
	IST No.	1	Subject Title	Computer A rate	Computer Architecture & Micror			
M	lax. Marks		Course	Dr. Amir IV	lecture & Micro	processors		
7.0		24	Coordinator(s)	Dr. Amit Kamra	/ Er. Gitanjaliz	13		
	ate of MST	24 March 2023	Time Duration	1 hour 30 minute	and the same of the same of			
No	ote: 1. Attempt all	the questions in serial c	Roll Number	No. 2	Maria de la companya del companya de la companya del companya de la companya de l			
Q. No.	10.00			100	T. 100	· Hereine		
	Question							
Q1	Demonstrate th	ne execution of the folk addr ii) ADC r ii)CN		Profession and the	COs, RBT level	Ma		
72	LDA a	CO3, L3						
Q2	Differentiate m	addr ii) ADC r ii)CN	OSH rp.		203, L3	1		
Q3					CO1,L4			
	instruction of In	itel 8085? Fyriain d	the location of the operan n with the help of example	d is specified in an	CO2,L2 ·			
4	Describe the dif	ferent store of	n with the help of example	es.	CO2,L2			
5	Write an assemb	one steps of instruct	ion cycle with the help of	flow chart.	CO1,L2			
	ussellit.	ny language program (o add two 8-bit numbers w	vithout the carry.	C05,16.			
6	Draw and explai	n the architecture of the	ne 8085 microprocessor.	r	44			
					CÖ1,L6			
)) Students will be abl	1.00		The same of			
	dentify computer	systems, memory or	ganization, Microprocesso	or and assembly lang	uage programi	ning		
						8		
	iainy instruction	formats, RISC and C	CISC architecture and diff	erent addressing mo	des	¥ .		
So	lve basic binary	math operations by a	using the instructions of m	nicroprocessor	5 E (5) k			
		pipelining and paralle				do F		
					and the same of			
Des	ign structured, w	vell commented, und	derstandable assembly lar	nguage programs to	provide solut	ions to		
WOI	ld problems							
Clas	sify the trends a	nd developments of	microprocessor technolo	ogy	11 - 10 10 10 10 10 10 10 10 10 10 10 10 10			
T	Love	er Order Thinking	I evels (LOTS)	Higher Order	Thinking Lev	els (H		
	on Low	er Order Thiaking	g Deveis (LOTs)	inglier Order	I minking Lev			
cati		12	L3	L4	L5			
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		and the second s	Department of Information	Technology	Commence of the same of the same		
Pro	gram	B.Tech. (IT)	Semester	4			
Sub	ject Code	PCIT-108	Subject Title	Computer Arc	rchitecture & M		
MST No.			Coordinator(s	Dr. Amit Kamı	ra / Er. Gitanja		
Max	c. Marks	24	Time Duration	1 hour 30 minu	ıtes		
Date	e of MST	24 March 2023	Roll Number	210455.	1		
Note	: 1. Attempt all	the questions in se					
Q. No.			Question		COs, RBT level		
QI	Demonstrate (i) LDA	nonstrate the execution of the following instructions LDA addr ii) ADC r ii)CMA iii) PUSH _{rp} .					
Q2		Differentiate microprocessor and microcontroller.					
Q3	Discuss the different ways in which the location of the operand is specified in an instruction of Intel 8085? Explain them with the help of examples.						
Q4			struction cycle with the help o		CO1,L2		
25			gram to add two 8-bi numbers		CO5,L6		
06.	Draw and exp	lain the architecture	e of the 8085 microprocessor.		CO1,L6		
Cours	e Outcomes (CO) Students will be	e able to:				
H .	Identify compu	ter systems, memor	ry organization, Microprocess	sor and assembly langua	age programmin		
(Clarify instruct	ion formats, RISC a	and CISC architecure and dif	ferent addressing mode	S		
S	Solve basic bina	ary math operations	s by using the instructions of	microprocessor			
C	Compare betwe	en pipelining and pa	arallelism				
D	esign structure orld problems	d, well commented	, understandable assembly la	nguage programs to pro	ovide solutions t		
C	lassify the tren	ds and development	ts of microprocessor technologic	ogy	4		
RB assifi	T]	Lower Order Thin	king Levels (LOTS)	Higher Order Thin	king Levels (H		
BT Le	evel	L1	L2 L3	L4	L5 - 1		

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rogr	am	B.Tech.(IT)	Semo		ology				
		PCIT-108		ect Title	Commuter Aughite	0.14			
AST		1		rse Coordinator(s	Computer Archite	cture & Micropi	ocessors		
	Marks	24		e Duration					
	of MST	25 March 2022		Number	1 hour 30 minute	es			
		all the questions in	serial order	rumber					
Q. No.		1 - 1	Question			COs, RBT level	Mark		
Q1	assembly 1	anguage over mad	chine language?	ge? What are the		CO1, L1	2		
Q2	$((\underline{(3+4)} * 1)$	Convert the following numerical arithmetic expression into reverse Polish notation and show the stack operations for evaluating the numerical result. $((3+4)*10+2)*8+6)*4$ A computer register T of 8-bits is having hexadecimal 72 as its initial value.							
Q3	immediate	CO1, L5	4						
Q4	register R	contains the nun	of the address figure 100. Evaluate struction is (a) direction is (b) direction is (c) dire	is stored at location of the stored at location of the stored and stored at location of the stor	00 A processor	CO2, L5	4		
Q5	Write 1-a	address and zero	address instruction	ns for: (A*B)+(C*		CO2, L5	1		
	If the val	ue of R flip flop	is 1, this means th	at control will as	through an interrup	002, 13	4		
Q6	Cycle. III	such cases, expli	cate the sequence	of micro-operation	through an interrup	CO1, L2	8		
Cou	irse Outcome	es (CO) Students will	be able to:		And the second second				
1	Identify of	computer systems,	memory organizati	on, Microprocessor	and assembly langua	e programmin			
2	Clarify in	struction formats,	RISC and CISC are	chitecture and differ	ent addressing modes	P. Grammill	5		
3	Solve bas	sic binary math ope	erations by using th	e instructions of mi	croprocessor				
4	Compare	between pipelining	g and parallelism		orobrocessor				
5	Design st	ructured, well com	mented, understan	dable assembly lang	guage programs to pro	vide solutions	to real-		
6			elopments of micro	processor technolog	TV .				
	RBT		wer Order Thinkin		Higher Order T	hinking I	TYOMS		
C	lassification		(LOTS)		Anguer Order 1	minking Levels ((HOTS)		
	Level No.	Ll	L2	L3	L4	L5	L6		
	Γ Level Nam	e Remembering	Understanding	Applying	Analyzing	Evaluating			

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34 +10 #2 +8 #6 +4# C=> 7=0 S=1 v=0 1

		Gui	ru Nanak Dev l	Engineering College, L	logy			
			Department of	f Information Techno	Iogy A			
Progr	am .	B.Tech.(IT)		emester	Computer' Architect	ure & Micropro	ocessors	
Cubinat Code PCIT-108			ubject Title	Er. Yadvir Kaur	omputer'Architecture & Microprocessors			
MST		2		Course Coordinator(s)	1 hour 30 minutes			
Max.	Marks	.24		Time Duration	1 Hour 50 Hillians			
ate	of MST	30th May, 2022		Roll Number				
Note:	1. Attempt a	all the questions in	serial order.			COs,	124	
Q. No.			Quest			RBT level	Marks	
Q1				Problem? Give an exan		COI, LI	2	
Q2	Discuss the	difference betwee	n tightly couple	d and loosely coupled r	multiprocessors.	CO1, L3	2	
Q3	A non-pipe six-segmen 10 tasks an	CO4, L5	4					
Q4	What is the	e need and signific n order of their fea	ance of memory	hierarchy? Also illustr comparative analysis	ate the memory	CO1, L5	4	
Q5				rchitecture of 8051.		CO6, L5	4	
Q6	What is the diagrams.	e need of cache m	emory? Explain	different types of cache	mapping using	CO1, L2	8	
Cour	rse Outcomes	s (CO) Students will	l be able to:					
1	Identify co	omputer systems,	memory organiz	cation, Microprocessor a	and assembly languag	e programmii	ng	
2	Clarify ins	struction formats,	RISC and CISC	architecture and difference	ent addressing modes			
3	Solve basi	c binary math ope	erations by using	g the instructions of mic	roprocessor .			
4			1 11-line	22		vide solutions	to real-	
5	1	1		tandable assembly lang		The solutions	.5.001	
6	Classify th	turnda and deve	lopments of mi	croprocessor technolog	Higher Order T	ninking Levels	(HOTS)	
	RBT	Lo	wer Order Tilli (LOTS	S		.15	1.6	
	ssification		L2	L3	L4	L5	L6	
RRT	Level No.	L1 Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	

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[Total No. of Questions: 09] Uni. Roll No.

[Total No. of Pages: 02] 12 SEP 2022

Program: B.Tech. (Batch 2018)

Semester: 4th

Name of Subject: Computer Architecture and Microprocessor

Subject Code: PCIT-108

Paper ID: 16237

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1. Parts A and B are compulsory

2. Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3. Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

1.

- a. What is an instruction code?
- b. Explain the role of control unit in memory.
- c. Define pipelining with suitable example.
- d. Differentiate software and hardware interrupt.
- e. Mention what are the basic components of a Microprocessor.
- f. Determine the number of clock cycles that it takes to process 200 tasks in a 6-segment pipeline.

Part - B

[Marks: 04 each]

- 2. Differentiate Direct Addressing and Indirect Addressing.
- 3. Illustrate applications of Microprocessor.
- 4. Compare Hardwired and Microprogrammed Control Unit.
- 5. Explain Status bit Register conditions in detail.
- 6. Non pipelined system takes 130ns to process an instruction. A program of 1000 instructions is executed in non-pipelined system. Then same program is processed with processor with 5 segment pipelines with clock cycle of 30 ns/stage. Determine speed up ratio of pipeline.
- 7. Explain Reduced Instruction Set Computer (RISC) and Complex Instruction Set Computer (CISC).



Part - C

[Marks: 12 each]

8. Explain different types of mapping processes OR

Draw and explain microcontroller- 8051 architecture.

9. Explain various Addressing modes with suitable example of each.

OR

Demonstrate the flowchart of Instruction Pipeline.

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[Total No. of Questions: 09] Uni. Roll No.

7 7 JUN 2023

[Total No. of Pages: 02]

Program: B.Tech. (Batch 2018)

Semester: 4th

Name of Subject: Computer Architecture and Microprocessors

Subject Code: PCIT-108

Paper ID: 16237

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1. Parts A and B are compulsory

2. Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3. Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- a. Compare microcontroller with microprocessor.
- b. How many 128 Kb RAM chips are required to build 1Mb RAM?
- c. Differentiate direct and indirect address instructions.
- d. Elaborate LDA AC and Store AC instructions with syntax.
- e. Compare and contrast RISC and CISC architecture.
- f. Write 1-address and zero address instruction for the given expression (A+B)*(C+D).

Part - B [Marks: 04 each]

- Q2. Compare different types of instruction formats.
- Q3. Write a short note on High-End-High- Performance Processors.
- Q4. What is the need and significance of memory hierarchy? Also illustrate the memory hierarchy in order of their comparative analysis.
- Q5. Illustrate Inter processor Communication in a shared multiprocessor environment.
- Q6. If the value of R flip flop is 1, this means that the control will go through and an interrupt cycle. In such cases explicate the sequence of micro-operations that would occur. Draw the flow chart for interrupt cycle.
- Q7. With the help of pin diagram, elaborate the functionality of each pin of 8051 microcontroller.

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Part - C

[Marks: 12 each]

Q8. Define microprocessor. Explain with the help of block diagram architecture of 8085 microprocessor in detail.

OR

Consider a pipeline having 4 phases with duration 60, 50, 90 and 80 ns. Given latch delay is 10 ns. Calculate-

- 1. Pipeline cycle time
- 2. Non-pipeline execution time
- 3. Speed up ratio
- 4. Pipeline time for 1000 tasks
- 5. Sequential time for 1000 tasks
- 6. Throughput
- Q9.a) Write a program to perform subtraction operation for two 8-bit numbers.
 - b) Write a program to find 1's complement of 8-bit number.

OR

Elaborate the different types of addressing modes with help of examples.

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Please check that this question paper contains 09 questions and 02 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Computer Architecture and Microprocessors

Subject Code: PCIT-108

Paper ID: 16237

Detail of allowed codes/charts/tables etc. Nil Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

- 1) Parts A and B are compulsory
- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- a) Distinguish between register and memory.
- b) How many bits are required for 4096 words of memory?
- c) Point out the purpose of program counter.
- d) What do you meant by cycle stealing mode in DMA.
- e) List the advantages of assembly language.
- Write the meaning of LDA and LXI instructions.

Part - B

[Marks: 04 each]

- Q2. What is the need of control unit in computer? Draw the control unit of a basic computer. Discuss how fetch and decode phases are carried out.
- Q3. Write a program to exchange the data at 5000M and 6000M locations.
- Q4. Elaborate the various types of flag registers in 8085.
- Q5. Specify the applications of microprocessor in household, consumer/electronics and in medical sciences.
- Q6. Discuss the various types of interrupts in 8085 with an example of each.

Page 1 of 2

Q7. How parallel processing works? Discuss the various types of parallel processors.

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Part - C

[Marks: 12 each]

Q8. Discuss the architecture of 8085 with the help of labelled diagram.

OR

Write the meaning and explanation of following instructions a) SIM b) CMP c) XRI d) JC e) STA

Q9. Write an assembly language program to find maximum of two 8 bit numbers in 8085 microprocessor.

OR

Write an assembly language program to swap two 8-bit numbers stored in an 8085 microprocessor.

2 0 JAN 2023

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No.

Program: B.Tech. (Batch 2018)

Semester: 4th

Name of Subject: Computer Architecture and Microprocessor

Subject Code: PCIT-108

Paper ID: 16237

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1. Parts A and B are compulsory

2. Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3. Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

a. Compare operation code and operand with suitable example.

- b. Determine the number of clock cycles that it takes to process 300 tasks in a 6-segment pipeline.
- c. Differentiate software and hardware interrupt.
- d. Elaborate MOV and MVI instructions with suitable example of both.
- c. Define Embedded Systems.
- f. What do you mean by Cache Coherence?

Part B

[Marks: 04 each]

- Q2. Compare 1-byte, 2-byte and 3-byte instructions.
- Q3. Write an assembly language program to swap two numbers.
- Q4. Differentiate Hardwired and Microprogrammed Control Unit
- Q5. Elaborate the different phases of Instruction Cycle.
- Q6. Explain Auxiliary Memory and its devices.
- Q7. Discuss the various Memory Reference Instructions.

PAGE 1 OF 2

2 0 JAN 2023

Part - C

[Marks: 12 each]

Q8. Explain how RISC and CISC architectures differ. Describe some major characteristics of RISC architecture.

OR

What is micro controller? Discuss the architecture of 8051 microcontroller.

Q9. Explain various Addressing modes with suitable example of each.

OR

Consider a pipeline having 4 phases with duration 60, 50, 90 and 80 ns. Given latch delay is 10 ns. Calculate-

- 1. Pipeline cycle time
- 2. Non-pipeline execution time
- 3. Speed up ratio

The State of the

- 4. Pipeline time for 1000 tasks
- 5. Sequential time for 1000 tasks
- 6. Throughput

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Computer Architecture and Microprocessors

Subject Code: PCIT-108

Paper ID: 16237

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- a) Differentiate between register and memory.
- b) What do you mean by cache coherence?
- c) What do you understand by programmed I/O?
- d) What is Interrupt?
- e) How RISC is different from CISC?
- f) How auxiliary memory is different from associative memory?

Part - B

[Marks: 04 each]

- Q2. Discuss the different characteristics of multiprocessors.
- Q3. Elaborate the function of timing and control unit in a basic computer.
- Q4. Briefly discuss the steps followed in designing a CPU.
- Q5. How pipelining improves performance of a microprocessor?
- Q6. What is the need of microprocessor? How microprocessor is different from microcontroller?
- Q7. Evaluate the different phases of instruction cycle.

[Marks: 12 each]

- Q8. Question Write a short note on
 - a) Embedded System
 - b) Virtual Memory

OR

Explain the architecture of 8051 with the help of labelled diagram.

Q9. Write a program in assembly language to find larger of two 8 bit numbers stored at different memory locations.

OR

What is the difference between a direct and an indirect address instruction? How many references to memory are needed for each type of instruction to bring an operand into a processor register?

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No. Dr. Bury T.L

Program: B.Tech. (Batch 2018)

Semester: 4th

Name of Subject: Computer Architecture and Microprocessors

Subject Code: PCIT-108

Paper ID: 16237

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1. Parts A and B are compulsory

- 2. Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3. Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- a. Compare microcontroller with microprocessor.
- b/ How many 128 Kb RAM chips are required to build 1Mb RAM?
- C/ Differentiate direct and indirect address instructions.
- d Elaborate LDA AC and Store AC instructions with syntax.
- e Compare and contrast RISC and CISC architecture.
- f. Write 1-address and zero address instruction for the given expression (A+B)*(C+D).

Part - B [Marks: 04 each]

- Q2 Compare different types of instruction formats.
- Write a short note on High-End-High- Performance Processors.
- Q4. What is the need and significance of memory hierarchy? Also illustrate the memory hierarchy in order of their comparative analysis.
- [05] Illustrate Inter processor Communication in a shared multiprocessor environment.
- . If the value of R flip flop is 1, this means that the control will go through and an interrupt cycle. In such cases explicate the sequence of micro-operations that would occur. Draw the flow chart for interrupt cycle.
- Q7:With the help of pin diagram, elaborate the functionality of each pin of 8051 microcontroller.

Part - C

[Marks: 12 each]

Q8. Define microprocessor. Explain with the help of block diagram architecture of 8085 microprocessor in detail.

OR

Consider a pipeline having 4 phases with duration 60, 50, 90 and 80 ns. Given latch delay is 10 ns. Calculate-

- 1. Pipeline cycle time
- 2. Non-pipeline execution time
- 3. Speed up ratio
- 4. Pipeline time for 1000 tasks
- 5. Sequential time for 1000 tasks
- 6. Throughput
- Q9.a) Write a program to perform subtraction operation for two 8-bit numbers.
 - b) Write a program to find 1's complement of 8-bit number.

OR

Elaborate the different types of addressing modes with help of examples.

QUESTION BANK OF COMPUTER ARCHITECTURE AND MICROPROCESSOR (CAM)

SECTION-B SYLLABUS

- 1) Differentiate between the basic architectures which microprocessor and microcontroller follows.
- 2) Elaborate the architecture of 8051 microcontroller with the help of block diagram.
- 3) With the help of pin diagram, elaborate the functionality of each pin of 8051 microcontroller.
- 4) What is the size of the internal memory in 8051 microcontroller? Can we interface external memory in microcontroller? If yes, what is its size?
- 5) How PSEN pin differs in functionality from RD/WR pins of microcontroller?
- 6) State the function of ALE pin.
- Differentiate between microprocessor and microcontroller.
 - 8) List the features of 8051.
 - 9) Show and explain the interfacing of stepper motor with 8085 microprocessor.
 - 10) Draw the block diagram of the architecture of the 8051. Explain the function of each block. X
 - 11) Draw the circuit for interfacing external memory to 8051 and explain it.
 - 12) Find the total number of cells in 64 Kb*8 memory chip?
 - 13) Write a short note on
 - a. Main Memory
 - b. Auxiliary Memory
 - c. Cache Memory
 - 14) Differentiate between Virtual Memory and Cache Memory.
 - 15) With the help of applications, State how the use of microprocessor makes daily life easier.
 - 16) Elaborate the Basic structure of an Embedded system. Also state the advantages and disadvantages of the embedded system.
 - 17) Write a short note on High-End-High-Performance Processors.
 - 18) Brief about the characteristics of Multiprocessor.
 - 19) Differentiate between multiprocessor and multicomputer.
 - 20) Explain the memory Hierarchy with the help of diagram.
 - 21) Write short note on
 - a. ADC
 - b. DAC
 - 22) How many 128*8 memory chips are required for the memory capacity of 4096*16?
 - 23) Write a short note on interfacing of 8051 to LCD.
 - 24) What do uh understand by cache coherence Problem? Give an example.
 - 25) State Word size with the help of an example.
 - 26) How many 256MB RAM chips are required to build 4GB RAM?
 - 27) Discuss the Memory Hierarchy in computer System with respect to Speed, Size and Cost?
 - 28) Write about the Auxiliary memory devices.
 - 29) Explain the mechanism involved in Magnetic Disks and Magnetic Tapes.
 - 30) List out the importance for interfacing.
 - 31) Explain Inter processor Communication in a shared multiprocessor Environment.

- 32) Explain in detail about
 - a. Crossbar Switching
 - b. Multistage Switching network
 - c. Hypercube System
- 33) Explain how the parallel processing improves the performance of multiprocessing environment.
- 34) Classify the organization of computers using Flynn's Criteria.
- 35) Write about
 - a. Time shared Common Bus
 - b. Multiport Memory

		Dej	partment of Info	ormation Te	chnology			-
Progran	n	B.Tech.(I'	Γ)	Semester		4		
Subject Code		PCIT-107		Subject Ti	tle	W	eb Technolo	gies
	nester Test	1		Course Co			r. Hanit Karw	al
Max. Ma	arks	24		Time Dura	ation	1	hour 30 minu	tes
Date of I	MST	21 March	2022	Roll Numl	oer			
Note: 1.	Attempt all	the questions in	serial order.					
Q. No.			Question				COs, RBT level	Marks
Q1	What is th	e difference bety	veen HTML & X	HTML?			CO1, L1	2
Q2	Differenti	ate between GET	and POST meth	ods			CO1, L3	2
22	How tables are created in HTML? What are the various tags used during table?						CO1, L6	4
Q4	List the ap	oplications of AJ	AX.				CO3, L2	4
_Q3	What is I-	TML DOM? Su	oport your answe	r with a Flow	vchart.		CO2, L6	4
Q6	Discuss v	arious selectors i	n jQuery with ex	amples.			CO4, L5	. 8
Course Or	utcomes (CO) Students will be ab	le to:					
1	Understand	the basic tools requi	red for Web designi	ng and applicati	ions			
2	Build HTM	L5 and CSS3 for des	signing interactive w	eb pages.				
3	A CONTRACTOR OF THE PARTY OF TH	basic operations of		n				
4		interactive website i						
5		basic usage of PHP sion authentication	construct and its into	egration with da	tabase for deve	loping v	veb modules lik	e, login
6		design dynamic web						
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RBT Leve	l Name	Remembering	Understanding	Applying	Analyzing	Evalu	ating Ci	eating
					rector			

Guru Nanak Dev Engineering College, Ludhiana

		Guru N	anak Dev Engin	eering Colle	ge, Ludhiar	na		
		De	partment of Info	rmation Te	chnology			
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Max. Ma		24		Time Dura	ation	on 1 hour 30 r		inutes
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Note: 1.	Attempt al	the questions in	serial order.				00-	
Q. No.		<u> </u>	Question				COs, RBT lev	
Q1	Evolain t	ne concept of we	b storage in HTM	1L5			CO2, L2	
Q2	Explain 3	D Transforms in	CSS3				CO2, L3	
Q2 Q3	How to d	enloy HTML 5 ar	nd CSS3 using Bo	otstrap Fram	nework?		CO2, L4	
Q4	List the fe	eatures of Code I	gniter Framework	ζ,			CO6, L4	
Q5	Claborato	CCC3 Borders a	nd Multicolumn I	Layout			CO2, L3	4
	Write coc	le snippets to der	nonstrate asort, ks	sort, arsort ar	nd, krsort PH	Р	CO5, L5	8
Q6	functions	Write code snippets to demonstrate asort, ksort, arsort and, krsort PHP functions						
Course Ou	1 011 12 11) Students will be ab	le to:					
1	Understand	the basic tools requ	ired for Web designing	ng and applicat	ions			
2	Build HTM	L5 and CSS3 for de	signing interactive w	eb pages.				
3	Analyze the	basic operations of	an AJAX application	1				
4					tabaca for days	loning v	veb module	s like, login
5	Acquire the	basic usage of PHP	construct and its inte	egration with da	relonment tools	like M	VC framew	ork.
6	Create and	design dynamic web	application using co	intemporary dev	Higher O	rder Th	inking Lev	els (HOTS)
RBT Clas	ssification	Lower	(LOTS)	7613	5	L		L6
RBT Level	No.	L1	L2	L3	L4 Analyzing	Evalu		Creating
RBT Level		Remembering	Understanding	Applying	Allaryzing	Lydic	atting	

[Total No. of Onestions: 09] Uni. Roll No. Days (472) Hotal No. of Pages: 2, 1

Program: B. Lech. (Batch 2018 onward)

Semester 4th

Name of Subject Web Lechnologies

Subject Code: PCT1-107

Paper II r. 16236

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

01.

- a) Define CELLPADDING and CELLSPACING attributes of
- Differentiate between XML and HTMI
- c) List Features of Codeigniter framework
- d) What method can you use to extract data from a canvas into an image?
- e) How will you embed images in a web document?
- f) Compare and contrast .empty() , .remove() and .detach() in jQuery

Part - B

[Marks: 04 each]

- Explain working mechanism of AJAX with suitable example.
- Q3. Discuss in detail different methods of creating style sheets with the help of suitable examples.
- O4. Design a jQuery to get the selected value and currently selected text of a dropdown box.
- O5. Create a HTML document that displays a table of basketball scores at national games in which the team names have their respective team colors. The score of the leading/winning team should appear larger and in a different font than the losing team. Use CSS
- Q6. Create a PHP program to find whether a given number is Armstrong Number or not.

Page 1 of 2

Q7. Design a Tagline "Welcome To You" of Red and Blue linear gradient in 200 > 200 HTML5 canvas using fill method.

Part - C

[Marks: 12 each]

Q8. Explain events handling in jQuery along with jQuery syntax and selectors in detail.

OR

Explain the following in detail with example:

- a) Geolocation and GPS services
- b) Cascading Style Sheets in HTML5
- Q9. Write class declarations and member function definitions for following employee(code, name, designation). Design derived classes as emp_account(account_no, joining_date) from employee and emp_sal(basic_pay, earnings, deduction) from emp_account.
 Write a PHP Script to create 5 objects (pass details using parameterized constructor) and Display details of Employees who having Maximum and Minimum Salary.

OR

Create a sample form that collects the first name, last name, email, user id, password and confirms password from the user. All the inputs are mandatory and email address entered should be in correct format. Also, the values entered in the password and confirm password textboxes should be the same. Design a javascript code to validate and output display proper error messages in red color just next to the textbox where there is an error.

Page 2 of 2

Q4 Compared of the Course Outcor of Identify Solve by Convert notation (((3+4))/2 A compared of the Course Outcor of Identify Solve by Convert of the Course Outcor of Identify Solve by Convert of the Course Outcor of Identify Solve by Convert of the Course Outcor of Identify Solve by Convert of the Course Outcor of Identify Solve by Convert of the Course Outcor of Identify Solve by Convert of the Course Outcor of Identify Solve by Convert of the Course Outcor of the	B Tech (IT)	uru Nanak Dev Engineering Colleg	je, Ludhjana		
Subject Code MS1 No. Max Marks Date of MS1 Note: 1 Attemp Q. No. Q1 assembly Convert notation (((3+4))/2 A comp What wimmedi What an address register address register Q5 Write I Also di Course Outcor 1 Identify 2 Clarify 3 Solve b	B Toch (IT)	Department of Information Tec	haology		
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Q4 Course Outcor Course Outcor Course Outcor Course Outcor Course Outcor Course Outcor Course Outcor Course Outcor Course Outcor Course Outcor	2.1	Time Duration	I how 30 minut	CR	
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Q1 What is assembly Convert notation (((3+4))/2 A comp What wimmed: Q4 What an address register address register Q5 Write I G6 If the v cycle. I Also di Course Outcor 1 Identify 2 Clarify 3 Solve b	pt all the questions i	n serial order		1 (10)	
Q1 assembly Convert notation (((3+4)) A comp What w immedial what an address register address register where the cycle. I Also discourse Outcomed to the cycle of the cycle		Question		COs, RBT level	Marks
Q2 notation (((3+4)) A comp What w immedi What an address register address register god Write I If the v cycle. I Also di Course Outcor I Identify Clarify Solve b	the main purpose of ly language over m	of assembly language? What are t nachine language?	he advantages of	CO1, L.I	2
What wimmed: What an address register address register. Q5 Write I If the vicycle I Also di Course Outcor I Identify Clarify Solve b	n and show the stac * 10 + 2) * 8 + 6)		reverse Polish merical result.	CO1, L3	2
Q4 register address register Q5 Write I G6 If the v cycle. I Also dr Course Outcor I Identify Clarify Solve b	cill by the coduces at	8-bits is having hexadecimal 72 as f status bits C, S, Z, and V after su lecimal C9 from T.	vstracting the	CO1, L5 ○ 000	40
If the v cycle. I Also di Course Outcor I Identify Clarify Solve b	s field at location 4 r R contains the nu sing mode of the in	des. An instruction is stored at location. The address field has the value imber 100. Evaluate the effective anstruction is (a) direct; (b) immediate with R as the index register.	e 500 . A processor iddress if the	CO2, L5	4
Course Outcor I Identify Clarify Solve b		address instructions for: (A*B)+(CO2, L5	4
l Identify 2 Clarify 3 Solve b	In such cases, expl	o is 1, this means that control will glicate the sequence of micro-opera for Interrupt Cycle.	go through an interruptions that would occu	CO1, L2	8
2 Clarify 3 Solve b	mes (CO) Students wit	ll be able to:			
3 Solve b	y computer systems,	memory organization, Microprocess	or and assembly langua	ige programmir	ng
3 Solve b	instruction formats,	, RISC and CISC architecture and diff	rerent addressing mode	.3	
	basic binary math on	perations by using the instructions of r	microprocessor		
4 Compa	white many training of	I sevellalieni			
T'S	1 13 3	amented understandable assembly la	inguage programs to pr	ovide solutions	to real-
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13/73/11/11	are between pipelinin 1 structured, well con		0.00		
6 Classif	are between pipelining structured, well con problems	relanments of microprocessor technol	Ugy O de l'	Thinking Levels	(HOTS)
RBT	are between pipelining structured, well comproblems	cropments of mersper	Higher ()raer		
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RBT Level No RBT Level Na	are between pipelining structured, well conproblems fy the trends and dev	ower Order Thinking Levels (LOTS) L2 L3	Higher Order	L5	L6

			Guru Nana	k Dev Engineering College	. Ludhiana			
1	Program	B.Tech (ment of Information Tech	nology	-		
	Subject Code	PCIT-10	1 ()	Semester	4			
1	MST No.	2	8	Subject Title	Compute	er'Archite	cture & Microj	nocessors
	Max. Marks	24		Course Coordinator	s) Er. Yad	vir Kaur		
12	Date of MST	30th Man	2022	Time Duration	I hour 3	0 minute	5	
N	ote: 1. Atten	pt all the ange	tions in serial ord	Roll Number				
1 3	Q. lo.	ine que		Question			COs.	Mark
Q	What do	VOII understor	od by Cook on b	6 11			RBT level	HAIR
-				ence Problem? Give an exa			COL. LI	2
9	Discuss t	he difference	between tightly co	oupled and loosely coupled	multiprocesso	ors.	CO1, L3	2
9:	3 Six-segme	nt pipeline want again for I	ith a clock cycle o 00 tasks. What Is	ess a task. The same task c f 10ns. Calculate the speed the maximum speedup that	up of the pipe can be achie	line for ved?	CO4, L5	4
Q4	hierarchy	in order of the	ir features with th	ory hierarchy? Also illustra eir comparative analysis	ite the memor	ry	CO1, L5	4
Q5	Explain w	ith the help o	of block diagran	architecture of 8051.			CO6, L5	4
Q6	What is the diagrams	need of cach	e memory? Expla	in different types of cache	mapping usin	g	CO1, L2	8
Cour	rse Outcomes	(CO) Students	will be able to					
1	Identify cor	nputer system	s, memory organi	zation. Microprocessor and	l assembly la	nguage p	programming	
2	Clarify instr	uction format	s, RISC and CISC	architecture and different	addressing n	nodes		
3	Solve basic	binary math o	perations by using	g the instructions of micro	processor			
4			ng and parallelist					
5		tured, well co		tandable assembly languag	e programs t	o provid	e solutions to	real-
6			elopments of mic	croprocessor technology				-
	RBT	L	ower Order Thinl	sing Levels	Higher Ord	er Think	ing Levels (H	OTS)
Class	sification		(LOTS)					
	evel No.	LI	L2	L3	L4			L6
BIL	evel Name	Remembering	Understanding	Applying	Analyzing	Eval	uating Cr	eating

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Computer Architecture and Microprocessors

Subject Code: PCIT-108

Paper ID: 16237

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- a) Differentiate between register and memory.
- b) What do you mean by cache coherence?
- c) What do you understand by programmed I/O?
- d) What is Interrupt?
- e) How RISC is different from CISC?
- f) How auxiliary memory is different from associative memory?

Part – B

[Marks: 04 each]

- Q2. Discuss the different characteristics of multiprocessors.
- Q3. Elaborate the function of timing and control unit in a basic computer.
- Q4. Briefly discuss the steps followed in designing a CPU.
- Q5. How pipelining improves performance of a microprocessor?
- **Q6.** What is the need of microprocessor? How microprocessor is different from microcontroller?
- Q7. Evaluate the different phases of instruction cycle.

Page 1 of 2



Part - C

[Marks: 12 each]

- O8. Question Write a short note on
 - a) Embedded System
 - b) Virtual Memory

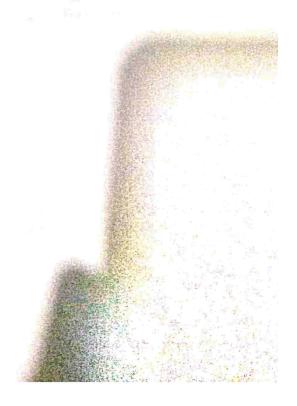
OR

Explain the architecture of 8051 with the help of labelled diagram.

Q9. Write a program in assembly language to find larger of two 8 bit numbers stored at different memory locations.

OR

What is the difference between a direct and an indirect address instruction? How many references to memory are needed for each type of instruction to bring an operand into a processor register?



Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 2]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Database Management System

Subject Code: PCIT-104

Paper ID: 16233

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- Describe the types of keys used in SQL database.
- Define different types of Relational Calculus.
- How Data Marts are used for creating Data Warehouse? c)
- Differentiate between Inner join and Outer join.
- e) Where NoSQL database is preferable over a relational database?
- f) Write a syntax of table creation and insertion command in SQL.

Part - B

[Marks: 04 each]

- What is Data Warehousing? Explain the advantages of Data Warehousing. Q2.
- Write a short note on applications of spatial and multimedia databases. Q3.
- Elaborate the significance of ACID properties of database management system with Q4. the help of some examples.
- Define the term NoSQL with example? Analyze why NoSQL database is used by Q5. facebook and google applications.
- Design an ER diagram for student enrollment system. Take student, teacher and O6. subjects as entities.

Q7Consider the insurance database as mentioned below, where the primary keys are underlined. Construct the following SQL queries for this relational database.

Note: The participated relation relates drivers, cars, and accidents

```
person (driver id, name, address)
car (license, model, year)
accident (report number, date, location)
owns (driver id, license)
participated (driver id, license, report number, damage amount)
```

- a. Find the total number of people who owned cars that were involved in accidents in
- b. Add a new accident to the database; assume any values for required attributes.
- Delete the Mazda (car model) belonging to "John Smith" (person name).

Part - C [Marks: 12 each]

Q8. Define normalization. Why we need to normalize a database in SQL? Briefly discuss the insert, delete and update anomalies, if relations are not in 2NF.

OR

Compare different types of data models used in database management systems.

Q9. Analyze various recovery techniques used in database management system. How to implement these techniques in SQL Databases?

- a) Suppose that we have a relation marks(ID, score) and we wish to assign grades to students based on the score as follows: grade F if score < 40, grade C if $40 \le score$ < 60, grade B if $60 \le score \le 80$, and grade A if $80 \le score$. Write SQL queries to do the following:
 - Display the grade for each student, based on the marks relation. (3 marks)
 - Find the number of students with each grade.

(3 marks)

b) Design a database Schema for "E-Commerce website" using SQL queries and ER diagram. (6 marks)

Page 2 of 2

Guru Nanak Dev Engineering College, Ludhiana Department of Information Technology Database Management System Semester B.Tech. Mohanjit Kaur Kang Subject Title Course Coordinator PCIT-104 Program 1hr 30 mins Subject Code Time Duration 2021056 (MST) No. 24 Roll Number Max. Marks Date of MST COs, RBT Marks

Date		COs, RB1	14111111
Note: Atter		level	7
Q. No. Q1- Q2- Q3	Define database management system and mention its applications. Analyze primary, candidate and super key with example. Discuss schemas with difference between external, logical and physical level schemas. Also explain architecture of dbms.	CO1, L1 CO1, L4 CO1, L2,L3 CO1, L3 CO2, L4	2 4 4 4
Q4 Q5 Q6	Discuss CODD rule for DBMS. What do you mean by Entity Relationship diagram and why it is useful? Draw E-R diagram for hospital with the set of patient and medical doctors. Describe Relational Algebra. Consider the relational database: Student (person_name, street, city) Works (person_name, college name, fees) College (college_name, city) Teachers (person_name, teacher name) a) Find the names of the students and college name for all students. b) Find the names of students who are from Ludhiana and whose fees is more than 5000 c) Give the info for teachers who belong to city Ludhiana. d) Give the info for students who do not belong to Ludhiana.	CO2, L4	8

Course Outcomes (CO)

Students will be able to

Studen	ts will be able to	
1	Apply knowledge of database system, No Sql database, data mining and SQL	structure.
2	Identify, formulate database design, Functional dependencies and recovery ted	chniques
3	Use the techniques, skills and tools such as query handling, normalized relation	ons
4	Design Physical and object relational database.	
5	Investigate various case studies using NoSql.	and the second of the second of the second
6	Apply the Applications of spatial and multimedia databases for real world.	

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	Create
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Progr	ram			13.	SIT-101	1,	Sul	riect Ti	tle		Probab	lack mic	
Subje	et Code			-	511-101		Cor	arse Co	ordina	tor(s)	Rupino	ler Kaur	
Mid S	Semester T	est (M	ST)	1							Lhour	30 minutes	
No.				24			Tin	ne Dura	ition		1 nour	30 minutes	
	Marks				th Marc	h.	Ro	ll Numl	oer				
Date	of MST			1	22								
Note:	Attempt al	l quest	ions									COs,	Marks
Q.	1				(Questic	n					RBT level	
No.												CO1, L2	2
Q1	Distingui	sh Prii	nary D	ata a	and Sec	condary	Data				ro 32 1	CO1, L5	2
Q2	In a mod	derately	y asym	met	rical d	istribut	ion, t	he mod	e and	mean a	10 32.1	001, 22	
	and 35.4.	Find tl	ne valu	e of	Media	n. >						CO1, L3	4
Q3	Marks	Les	s Le	ess	Less	Less	Less		Less	Less	Less		
		tha	n th	an	than	than	than	than	than	than	than		
		5	10		15	20	25	30	35	40	45		
	1	f 29	22	24	465	582	634	644	650	653	655		
	student												
	From the	e follo	wing d	ata	solve t	he valı	ie of	median	10	2.15			
Q4	The mea											CO1, L4	4
	respectiv	ely. If	at the	tim	e of ca	Tculatio	ons, tv	vo item	s were	wrong	ly taken	-	1 1
	as 3 and								ct mea	n and s	standard		
	deviation												
Q5	Generate data	e Kar	Pear	son'	's coef	ficient	of s	kewnes	s from	the fo	llowing	CO5, L5	4
	Profit	70-	80-	T	90-	100-	1	10-	120-	130-	140-	1	
	(Rs. Lakhs)	80	90		100	110		20	130	140	150		
	No of	12	18		35	42	5	0	45	30	8	1	
	Cos										0		
Q6	A. C	alcula	le mod	e fro	om the	follow	ing de	nta					
			ed :				g at	•••				CO1, L5	6+2=8
	Value:		0-5	5-	10	10-15	15-2	20 20	-25	25-30	20.25	7	
	Freque	ncy:	1	2		10	4	10		9	30-35		
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	ar	nd Sca	tter dia	gra	m	eganve	Corr	elation	with si	uitable	example	es	
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Prog		B.Tech.(f)			emester	(6.2	4	
	ect Code	BSIT-101			abject Title	C		ibility itatistics
Mid No.	Semester Test (MST)	2				rdinator(s)	Rupi Kaur	
Max.	. Marks	24			ime Durati		1 hor minu	
	of MST	6 June, 202	22	R	oll Numbe	r		
	: Attempt all questions						1 100	1
Q. No.			Question	1			COs, RBT level	Marks
Q1	DistinguishType I an	d Type II er	ror.	The State of the S	4-0		CO1, L4	2
Q2	Write properties of B	inomial Dis	tribution.				CO1, L3	2
Q3	The means of two la 170 cms respective population with same	ly. Can the	samples	be rega			CO1, L4	4
Q4	The following are the Mean of X=90, Me 3900 (where x and regression equations.	an of Y=70 y are deviat), N=10.	$\sum x^2 = 636$	$0, \ \sum y^2 = 2$	$2860, \sum xy =$	CO1, L5	-4
Q5	The number of defect product was found as	CO3, L3	4					
	No of defect:	0	I	2	3	.4		
	No of units:	214	92	20	3	1		
	Fit a Poisson Distribu	ition to the d	lata and fe	st goodne	ss of fit.	the second second		
Q6	A, B and C are three respective chances of A, if selected will in Similarly, the probability that the eprobability that Direc	selection and se	re in the re internet d C are 0.	ratio of 4:: trading in 50 and 0.c ce interne	5:3. The profile the comp of the comp of respective of trading.	obability that pany is 0.30, vely. Find the Also find the	CO1, L6	8

[Total No. of Questions;09] Uni. Roll No. 2004933

[Total No. of Pages: 2]

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Probability and Statistics

Subject Code: BSIT-101

Paper ID: 16232

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately
- 4) Scientific Calculator is allowed.

Part - A

[Marks: 02 each]

Q1.

- a) What is the difference between skewness and kurtosis?
- b) What is Type I and Type II error?
- c) What is the difference between correlation and regression?
- d) What is sampling distribution?
- e) What is mean and variance of poison distribution?
- f) A bag contains 4 red balls, 3 feed balls and 5 green balls. A ball is drawn from the bag at random. What is the probability of getting a non red ball?

Part - B

[Marks: 04 each]

Q2. Calculate the coefficient of correlation between X and Y for the following data.

X: 5 9 13 17 21 Y: 12 20 25 33 35

Q3. Obtain the two regression equations from the following data. 1x = 7

Sales: 91 97 108 121 67 124 51 73 111 57 Purchases: 71 75 69 97 70 91 80 47

Q4. What is Sampling? What is the difference between Probability and Non-Probability Sampling?

Page 1 of 2



- Q5. A pack of 50 tickets numbered 1 to 50 is shuffled and then two tickets are drawn. Find the probability that:
 - a. Both the tickets drawn have prime numbers
 - b. None of the tickets drawn has prime numbers.
- Q6. What is the difference between frequency and probability distribution? Explain in detail.
- Q7. Calculate Median and Mode for the following distribution.

Production per day (in Tons)	21-22	23-24	25-26	27-28	29-30
No. of days	7	13	22	10	8

Part - C

[Marks: 12 each]

Q8. Fit a straight line for the following data.

X: 10 20 30 40 50 Y: 22 23 27 28 30

OR

A dice is tossed 120 times with the following results:

Number turned up: 1 2 3 4 5 6 Total Frequency: 30 25 18 10 22 15 120

Test the hypothesis that the dice is unbiased.

[Note: The table value of $\psi^2_{5\%, 5} = 11.070$]

Q9. Three similar boxes have white and black balls. Box I has 1 white and 2 Black, Box II has 2 white and 1 black, Box III has 2 white and 2 black. One of the boxes is selected and a ball is chosen at random from it, which turns out to be white. Find the probability that the third box is chosen using Bayes' Theorem?

OR

- a) What is the difference between Probability Distribution and Sampling Distribution?
- b) Explain classical, relative and subjective approaches of Probability with example.

Page 2 of 2

		Department o	Engineering College, Ludhia f Information Technology			The second secon	
Prograi		B.Tech.(IT)	Semester	4			
Subject	Code	PCIT-105	Subject Title	Pytho	n Programmir	10	
Mid Sei No.	mester Test (MST)	1	Course Coordinator(s)		eetKaur		
Max. M		24	Time Duration	1 hour	30 minutes	COs. Marks RBT level CO1. L1 2 CO2. L2 2	
Date of		20/3/2022	Roll Number	1 hour 30 minutes			
Note: A	ttempt all questions					-	
Q. No.			stion		COs, RBT level	Marks	
21	What is platform in	dependence in p	ython?		COL.LI	2	
₹2	What are the immutable data types in python?				CO2, L2	2	
Q3	function.	explain the conc	ept of index() and find() string		CO3. L3	4	
24	or all fluffibers from	I to the given n	from a user and calculate the		CO2, L4	4	
Q5	Why Python is become programming langu	ming popular da	y by day? Compare it with oth	ner	CO4, L5	4	
Q6	Write short Associativit	note on Operator	Precedence vs. Operator a Text files in Python		CO3, L6	8(4+4)	
Course (Jutcomes (C())	a and write into	a Text mes in Python			İ	
tudents	will be able to						
	Use primitive data t	Vnes operators of	nd control statements to write				
	Discuss methods an	d arrays along u	ith basic object oriented princ	progra	ms		
	Implement Exception	on handling, mul	tithreading, string handling, ex	oples.	ndling, packa	ges and	
		dling techniques	for interaction of the user wit				
	Design chemiserver	applications usi	ng cocket programs				
	Identify and salva a		s in the environment of Java p	atabase	connectivity		

RBT Classification	Lower Order	Thinking Levels	(LOTS)	Higher Or	der Thinking	g Levels (HOTS)
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

		Guru Nanak l	Dev Engineering College, L	udhian	a	
		Department of I	nformation Technology			
Prograi		B.Tech.(IT)	Semester	4	D	
Subject	Code	PCIT-105	Subject Title		Programmin	g
Mid Ser	nester Test (MST)	2	Course Coordinator(s)	riarpre	et Kaur	
No.				1 hour	30 minutes	
Max. M		24	Time Duration	1 Hou	30 minutes	
Date of	MST	20/3/2022	Roll Number			
N	ut all avasticus		1			
Q. No.	ttempt all questions	Questi	on.		COs,	Marks
Q. No.		Questi	on		RBT level	
Q1	What is difference b	etween count() and	d length() function in List?		CO1, L1	2
Q2		'b', 'c', 'd', 'D']			CO2, L2	2
\\\ -		everse=True)				
	print(List)					
	print(List)					
Q3	Write a program to	and I CM of two r	numbers using function.		CO3. L3	4
	1				CO2, L4	4
Q4	Write a program usi	ng function to mul	tiply all the numbers in a li	S1.	CO2, L4	-
	<i>Sample List</i> : [8, 2,	3, -1, 7] Expect	red Output : -336			-
Q5	Write short note on	following with sui	table synatx:		CO4, L5	4
	a) Constructor					
	b) Multilevel in	heritance				
Q6	Design GIII using T	kinter to order a P	izza from Domino's. Choos	se data	CO3, L6	8
ÇO	and widgets according	ngly.				
	Dutcomes (CO) will be able to					
			1 1	a proore	anse.	
1 2 3	Use primitive data ty	pes, operators and	d control statements to writ	ciples	41115	
2	Discuss methods and	arrays along-Will	h basic object oriented prin	vent ho	ndling pack	ages and
3		n handling, multit	hreading, string handling, e	vent na	manng, pack	ages and
	interfaces	Ilian taakainna P	or interaction of the user wi	th a GI	11	
4	Create an event hand	ling techniques id	or interaction of the user wi	databas	e connectivit	ν'
4 5 6	Design client/server	applications using	g socket programming and	program	popina	·
6	Identify and solve co	implex problems	in the environment of Java	prograi	mmng.	

					ning activities	and the control of the
RBT	Lower Order	Thinking Levels	(LOTS)	Higher Or	der Thinking	Levels (HOTS)
Classification						Marking the age
RBT Level	L1	L2	L3	L4	L5	L6
Number						
RBT Level	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

[Total No. of Questions: 09] Uni. Roll No.

[Total No. of Pages: 02]

Program: B.Tech. (Batch 2018 onward)

Semester: 04

Name of Subject: Python Programming

Subject Code: PCIT-105

Paper ID: 16234

Scientific calculator is NotAllowed

Detail of allowed codes/charts/tables etc. NIL

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- a) What are the features of python?
- b) Write a Python program that prints (displays) your name, address, and telephone number.
- c) Explain the relationship between a function and its arguments.
- d) What happens when the print function prints a string literal with embedded newline characters?
- e) How can you open a file in python?
- f) When would you make a data field read-only, and how would you do this?

Part - B

[Marks: 04 each]

- Q2. With a suitable program, elaborate compilation and linking process in python.
- Q3. Write a program to print the multiplication table of a given number entered by the user.
- Q4. Write a program to accept a number from 1 to 12 and display the name of the month and days in that month like 1 for January and the number of days 31 and so on.
- Q5. Write a Python program to search a specific part of a string for a substring.
- Q6. What roles do the parameters and the return statement play in a function definition?

Page 1 of 2

Q7. What are the benefits of inheritance? Create a child class *Bus* that will inherit all of the variables and methods of the *Vehicle* class.

Part - C

[Marks: 12 each]

Q8. Elaborate the concept of Dictionaries in python. How will you add and access elements to a Dictionary? Write a Python program to concatenate the following dictionaries to create a new one.

Sample Dictionary:

dic1={1:10, 2:20}

dic2={3:30, 4:40}

dic3={5:50,6:60}

Expected Result: {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

OR

What is meant by the state of an object, and how does the programmer access and manipulate it? Explain the differences between instance variables and temporary variables. Focus on their visibility in a class definition, and on their roles in managing data for an object of that class.

Q9. Write a Python program that accepts a string and calculate the number of digits and letters.

Sample Data: Python 3.2

Expected Output:

Letters 6

Digits 2

OR

Define what is a class? How to create a class? Define what is a method, how to do object instantiation? Describe how to create instance attributes in Python. Also elaborate structure of basic python program.

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			And the second s	Semester/ Section	on	the second secon	
Pro	gram		B Tech (IT)	Subject Title	Operating Syste	em	
Sub	ect Code		PCH-100	Course Coordin	Pankaj Bhambi	1	
Mid	Semester	Test (MST) No.	111	Time Duration	01pm - 02.30p	0171	
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-	of MST		22 nd March 2022	University Roll	Number		
		all questions				COs.	Mark
		in spice	Questio		RBT level	-	
Q. N	No.	The state of the s	L. com		CO6, L2	2	
201			najor differences between 2 set of four processes 1 (CP1) burst time) are giv				
	Cor	isider the following	eset of four processes (CPU burst time) are giveness. Arrival Time	en in the followi	ng table.		
cor		miele ine execution	ocess Arrival Time	CPU Burst .	Time	COL L5	2
			$P_0 = 0$	6	7.28	(01, 122	1
102	-		$\frac{P_1}{P_2}$ $\frac{1}{3}$	2	1.23		
				4	e Waiting Time using		
Consider all ti		ader all time valu	es in milliseconds Eval	uate the Average	e Waiting Time using	CO1. L2	
	First	Come First Serve	Scheduling algorithm rescribe the different st	ates of a proce	ss with their detailed	COT. ISE	4
Q3							4
,91	FT PC YOU	ee through appror	male example.		f various sections in a		
(05	Interp	oret the roles of p	rocess synchronization,	critical section	and mutual exclusion.		
PS	How	semaphores resolv	e the issue of process sy	ros/cons and ap	plications of different	CO1, L4	
Q6	types	are and contrast of operating system	ns	TO BOOMS THE ST		1	
Course	1	nes (CO)			my un	Rel	1
indents	will be	able					
1		THE RESERVE THE PERSON NAMED IN COLUMN 2 I			ess, File and Memory i	nanagement	
2	Implen	nent various deadl	ock scheduling algorith	ms			
3	Analyz	e and apply vario	as memory and file man	agement mecha	nisms.		
4	Classif	various page rep	lacement algorithms for	r demand paging	g		
5	Use dif	erent disk schedu	ling algorithm for bette	r utilization of c	external memory		
6	Examin	e the case studies	of different Operating	Systems to recap	pitulate the concepts of	of Operating S	ystem.
RB' Tassific		Lower Ord	ler Thinking Leve	ls (LOTS)	Higher Order	Thinking L	evels (I
RBT L		LI	1.2	L3	L4	L5	
Numb	• •		Understanding		1	The same of the sa	SAN TO SAN THE

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			1	3.Tech (IT)	Semester/ S	ection		4 th / A				
Program Subject Co	ule			PCIT-106	Subject 7	itle		Operating System	1			
Mid Sem	ester Exan	nination		2 nd	Course Coor	dinator		Pankaj Bhambri				
(MSE) No.				Time Dur			10.30am - 12pm				
Max. Marl	ks			24 1 st May 2022	University							
Date of MS	SE			(Tuesday)	Numb	er						
Note: Atter	mpt all que	estions						COs,	N.7			
Q. No.				Question	Ì			RBT level	Marks			
Q1	Describe	the four nece	essary c	conditions for Deadl	oek			CO2, L1	2			
Q2	Illustrate	UNIX and L	INIIX					CO6, L5	2			
Q3	Elaborate	the File Ma	nnagem	ent with detailed re	th detailed requirement and implementation issues CO3, L3							
Q4)	of Contig Explain	Overlays, I	d and Ir	and External Fr	emous				4			
(Ž5)	Discuss t	g, in details the Belady's with 4 page fr	Anoma	ly. Consider the page	e references 7.	0, 1, 2, 0, 3	, 0, 4, 2, 3	s, CO4. L5	4			
Q6	Suppose	band in St	f requ	othms est is 82,170,43,14 If the Advantages, D CAN and LOOK Dis	isadvantages ar	MIE-Will ur	position o e total see	CO5, L5	8			
	Dutcome	s (CO)										
	will be at	ble	os of C	perating Systems, d	leadlocks, Proce	ess. File and	Memory	management.	-			
2	Implemen	nt various de	adlock	scheduling algorithm	ns.							
3				emory and file man		nisms.						
4				ment algorithms for								
5	Use different disk scheduling algorithm for better utilization of external memory											
6	Examine	the case stud	ies of d	lifferent Operating S	Systems to recap	ntulate the	concepts o	of Operating Syst	em.			
RB		Lower (Order	Thinking Leve	ls (LOTS)	Higher	Order T	Thinking Leve	els (HOTS			
Classific RBT L	evel	LI		L2	L3	L4		L5	L6			
Numb		Remember	ring	Understanding	Applying	Analy7	ring	Evaluating	Creating			

[Total No. of Questions: 09] Uni. Roll No.

[Total No. of Pages: 2]

Program: B.Tech. (Batch 2018 onward)

Semester: 04

Name of Subject: Operating System

Subject Code: PCIT-106

Paper ID: 16235

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

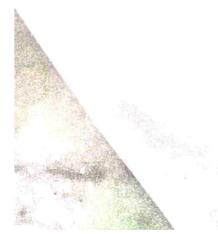
a) What is an Operating System?

- b) What is the difference between deadlock and starvation?
- c) Define Virtual Memory and what are its advantages?
- d) What is thrashing?
- e) Explain Inter Process Communication.
- What do you mean by PCB? What are its contents?

Part - B

[Marks: 04 each]

- What is a process? Explain and draw Process State Diagram. Q2.
- Write a brief note on Layered Architecture in reference to device management. Q3.
- What is a deadlock and what are the conditions to prevent it? O4.
- What are the different access methods of files? How are they implemented? Q5.
- What are semaphores and its advantages? Explain two primitive semaphore Q6. operations.
- What is fragmentation? Explain its types and disadvantages. Q7.



Page 1 of 2

Part - C

[Marks: 12 ench]

OS. Consider the following set of processes, with the length of the CPU burst given at man

Process	Hurst Time	Priority
[1]	2	*
P2	T	,
P3	И	A second
124	4	2
P5	5	3

The processes are assumed to have arrived in the order P1, P2, P3, P4, P5 at time 0

- a. Draw four Gantt charts that illustrate the execution of these processes using the following scheduling algorithms: FCFS, SJF, non-pre-emptive priority ta larger priority number implies a higher priority), and RR (quantum= 2).
- b. What is the turnaround time of each process for each of the scheduling algorithms in part a?
- c. What is the waiting time of each process for each of these scheduling algorithms?
- d. Which of the algorithms results in the minimum average waiting time?

OF

Explain different types of operating systems in detail.

Q9. Suppose that a disk drive has 5000 cylinders, numbered 0 to 4999. The drive is currently serving a request at cylinder 143, and the previous request was at cylinder 125. The queue of pending requests, in FIFO order, is .86, 1470, 913, 1774, 948, 1509, 1022, 1750, 130

Starting from the current head position, what is the total distance (in cylinders) that the disk arm moves to satisfy all the pending requests, for each of the following disk-scheduling algorithms?

a. FCFS b. SSTF

c. SCAN

d. LÓOK

e. C-SCAN

f. C-LOOK

OR

Given page reference string: 1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6. Compare the number of page faults for LRU, FIFO and Optimal page replacement algorithm with frame size 4.

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			rtment of Infor		hnology					
Program		B.Tech.(IT)		Semester		4				
Subject (PCIT-107		Subject Tit	le	W	eb Technolog	gies		
Mid Sem (MST) N	ester Test	1	4	Course Coo	ordinator(s)	Eı	Er. Hanit Karwal			
Max. Ma		24		Time Dura	tion	1 hour 30 minutes 2021022				
Date of N	MST	21 March 2	022	Roll Numb	er					
Note: 1.	Attempt all th	ne questions in se	erial order.							
Q. No.		12	Question				COs, RBT level	Marks		
Q1	What is the	difference between	een HTML & X	HTML?			CO1, L1	2		
Q2	Differentiat	e between GET	and POST metho	ods	1		CO1, L3	2		
Q3	How tables table?	are created in H	TML? What are	the various t	ags used duri	ng	CO1, L6	4		
Q4	List the app	olications of AJA	X.				CO3, L2	4		
Q5	What is HT	ML DOM? Sup	port your answer	r with a Flow	chart.		CO2, L6	4		
Q6		rious selectors in					CO4, L5	8		
Course O	utcomes (CO)	Students will be abl	e to:				rii a a c			
1	Understand th	he basic tools requir	ed for Web designing	ng and application	ons					
2	Build HTML	5 and CSS3 for des	gning interactive w	eb pages.						
3		pasic operations of a		î			7. 4.			
4	_	nteractive website u	001							
5		pasic usage of PHP of the contraction of the contra	construct and its inte	egration with da	tabase for devel	oping	web modules lik	e, login		
6		esign dynamic web								
RBT Cla	assification	Lower C	order Thinking Lev (LOTS)	vels	Higher Or	der T	hinking Levels	(HOTS)		
RBT Leve		Ll	L2	L3	L4		L5	L6		
RBT Leve	el Name	Remembering	Understanding	Applying	Analyzing	Eval	uating C	reating		

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	et Code	PCIT-107	Subject Title	Web	Technolog	ies
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	Marks	24	Time Duration	1 hor	ır 30 minut	es
	of MSE	24 th March,2023	Roll Number		The state of the state of	
Note:	Attempt all questions		1.24		51,	1036
Q. No.	Differentiate between F	Question			COs, RBT level	Marks
					CO1, L2	2
/	What are the empty ele example.				CO1, L4	2
á	In how many ways ca with the help of progra	n you integrate Comming examples.	SS on a web page?	Discuss	CO1, L2	4
Q 4	Explain the various even				CO4, L2	4
Q5	Briefly explain the ord suitable example. Also and control the list cou	explain how can	I lists in HTML with you change the type of	of list	CO1, L4	4
Q6/	Create a feedback form form elements like te and submit button. A using JavaScript.	xt fields, radio bu	tions checkboxes to	vt once	CO4, L6	~ 8
	rse Outcomes (CO) ents will be able to					
1	Understand the basic t	ools required for W	Veh designing and an	aliosti -		- 1
2	Build HTML5 and CS	S3 for designing in	iteractive web nages	pileation	S	
3	Analyze the basic ope	rations of an AJAX	application			, t
4	Develop an interactive	website using iOu	ierv.			
5	Acquire the basic usage developing web modu	ge of PHP construc	t and its integration v	ith datal	pase for	
6	Create and design dyn tools like, MVC frame	amic web applicati	on using contempora	ry devel	opment	

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

		Guru Nana	k Dev Enginee	ring College	, Ludhiana		197		
	_15	Depar	tment of Inforn	nation Tech	nology		di la		
Program		B.Tech.(IT)		Semester		4	***		
Subject C		PCIT-107		Subject Title	9	W	eb Technolog	nies	
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Мах. Ма	rks	24		Time Durat	ion	1	hour 30 minu	tes	
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Note: 1.	Attempt all th	e questions in se	rial order.	i i i i i i i i i i i i i i i i i i i					
Q. No.	Fl. il		Question	: 1 :23 % it			COs, RBT level	Marks	
Q1 Q2	Explain the	concept of web s	torage in HTML	.5	2		CO2, L2	2	
Q2 Q3	EXDIAID 31) I rangtorme in CSC3							2	
Q4	now to dep	10y HIML5 and	CSS3 using Boo	otstrap Frame	ework?		CO2, L4	4	
Q5	LIST THE TEAT	lures of Code Ign	Iter Framework				CO6, L4	4	
Ų3	Clabolate C	SS3 Borders and	l Multicolumn L	ayout			CO2, L3	4	
Q6	Turictions.	snippets to demo		ort, arsort and	d, krsort PHP		CO5, L5	8	
Course 0	utcomes (CO) s	Students will be able	to:		p-0.	nie i		nige.	
1	Understand th	he basic tools require	ed for Web designin	g and application	ons			kuntili i	
2		5 and CSS3 for desi							
3	Analyze the	basic operations of a	n AJAX application	L.3-0		Mary Edd and		The County of th	
4	Develop an i	nteractive website u	sing jQuery.				SI .		
5	Acquire the basic usage of PHP construct and its integration with database for developing web modules like, login module, session authentication								
6	Create and d	esign dynamic web	application using co	ntemporary dev	relopment tools	like N	AVC framework	i lit	
	iassification	Lower C	rder Thinking Lev (LOTS)	/els	Higher Or	der T	hinking Levels	(HOTS)	
RBT Lev		L1	L2	L3	L4		L5	L6	
KB1 Le	el Name	Remembering	Understanding	Applying	Analyzing	Eva	luating (Creating	

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ubject (T-107		Subject Title		Web	Technologies	
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ate of M		24	111		Time Durati		1 hou	r 30 minutes	
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lote: At	tempt all ques	tions		E.F.					
Q. No.				0 11					
2.1.0.				Question				COs, RBT	Mar
714	Differentia	to botana	1 10					level	
31	Differentia	ie betwee	in localSi	corage and session	onStorage.			CO2, L2	2
22	What are th	ne differe	nt fodo m	nethods in jQuer			-	,	_
								CO2, L4	2
Q3	How to se	t content	with the	jQuery text(), h	tml() val()	and attm()	-411	COLIC	
	Explain wi	ith suitab	le examn	les	itiii(), vai()	and anr() m	ethods.	CO4, L3	4
			10						
94	Write cod	le snippe	ts to de	monstrate asort,	1				
	functions.	t PHP	CO5, L3	4					
	* - 75		-						
Q5 _/	Create a r	on:41.	CO2 1.6						
	some head	er with	CO2, L6	4					
				ge). Also, diagra				* 27	
Q6,	How to co	onnect PF	IP with N	lySQL database.	Also write	DIID ' + +			
	the Add	ess and	Dent N	of Jack W	Also, write	PHP script to	update	CO5, L5	8
	respective	ely in the	follow:	lo. of Jack Wi	iliam to Ui	nited States	and 5	1.0	
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		3	Jack Wi	Iliam Er	gland	4			
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Cour	se Outcomes	(CO) Stud	ents will b	e able to:				1	
1	Understa	nd the bac	ic tools ro	guined for Web 1				134112	
	Duild IIT	TATE 1	CCCC C	quired for Web de	signing and ap	oplications			
2				designing interact					
				of an AJAX appli	cation				
3				te using jQuery.					
3		the basic u	sage of Pl	HP construct and i	ts integration	with database	for		
	Acquire 1	1	odules like	e, login module, se	ssion authenti	ication			
4	developii	ng web mo							
4	developii	ng web mo nd design o	dynamic w	veb application usi	ng contempor	ary developme	ent	The state of the s	
5	developii Create ar	nd design o , MVC fra	dynamic w amework.	veb application usi		rary developme	ent		
5	developin Create ar tools like	nd design o , MVC fra	dynamic w amework.	veb application usi		*.		hinking Levels (1	IOTS)
5	developii Create ar tools like	nd design o , MVC fra	dynamic w amework.			*.		hinking Levels (I	IOTS)
4 5 6	developin Create ar tools like	nd design o , MVC fra	dynamic wamework. ver Order			*.	Order T	,	
4 5 6	developing Create are tools like RBT ssification	nd design o , MVC fra Low	dynamic wamework. ver Order	Thinking Levels	(LOTS)	Higher	Order T	,	IOTS)
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Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 2]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

MORNING

Semester: 4th

Name of Subject: Web Technologies

2 3 JUN 2023

Subject Code: PCIT-107

Paper ID: 16236

Scientific calculator is Allowed/NotAllowed

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

a) Compare XML amd HTML

b) Is java and javascript differs? Reason.

c) List the CMS used in companies.

d) Write the code to hide the paragraph to use jQuery selector.

e) CSS plays as important role in designing web pages. Elaborate.

f) List the advantages of AJAX and where it is used?

Part - B

[Marks: 04 each]

Q2. How AJAX works? Explain Request and Response Method.

Q3. Explain the structure of DOM and levels of DOM.

Q4. Implement the following:-

a) Blink text b) detect whether the user has pressed 'Enter Key' using jQuery.

Q5. a) With the transform property, rotate the **<div>** element 90deg around its Z-axis. **<** body> **<** div>This is a div</div> **<**/body>

b) Set the color of all <h1> elements to red for the follwong code:

< body>

<h1>This is a heading</h1>

This is a paragraph

</body>

Q6. List the different versions of bootstrap. Write a code to use canvas.

Q7. Write a code to show CSS Flexbox.

Part - C

[Marks: 12 each]

Q8. Write the code for the followings:

a) Create a database called testDB and delete a database named testDB in PHP.

Page 1 of 2

2 3 JUN 2023

- b) Create a new table called Persons and delete all data inside a table.
- c) Add a column of type DATE called Birthday and Delete the column Birthday from the Persons table.

- a) Discuss absolute and relative links. Design a page to add a table row with two table headers named "Name" and "Age".
- b) Use the correct HTML attribute to make the first TH element span two columns and to make the second TH element span two rows. Use CSS styles to make the table 300 pixels wide.
- Create a simple web page showing the usage of following HTML tags Q9.
 - a) <a href>
- b)

c) <hr>

- d) ordered and unordered e) colspan and rowrpan f) Add background colour to your tables, with perhaps a different colour for the "header" cells ()

OR

- a) Discuss the PHP basix syntax, variable declaration and expressions.
- b) Elaborate the implementation of inheritance and advantages of PHP framework.

Please check that this question paper contains_09 questions and 02 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 02]

EVENING 1 8 JAN 2023

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Web Technologies

Subject Code: PCIT-107

Paper ID: 16236

Detail of allowed codes/charts/tables etc. Nil

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

- 1) Parts A and B are compulsory
- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

OI.

- a) Write HTML code to create a nested page.
- b) Distinguish between absolute and relative link.
- c) How does Document Object Model works?
- d) Is CodeIgniter loosely or hardly coupled? Justify your choice.
- e) Is flexbox better than a CSS grid? Comment.
- Why are PHP and MySql used together?

Part - B

[Marks: 04 each]

- 02. Write a HTML code for creating a registration form by covering all the input elements of form.
- Q3. Explain how to insert CSS in an HTML Document.
- 04. Write a Simple Java script program for login form validation.
- Q5. How HTML elements are used in jQuery? Explain with some example.
- 06. Elaborate built-in string functions of PHP with example of each.
- Write the structure of PHP script. Design a PHP code to swap any two numbers. 07.

Page 1 of 2

Part - C

[Marks: 12 each]

Q8. Write short notes on the following a) Customization of jQuery b) DOM. C) HTTP-GET and POST requests

OR

Define Frameset, Frame Tag. Write a HTML code that divide the web page into four equal parts each individual part that displays different web page.

Q9. Explain the various Interactive elements in HTML5. Elaborate CSS selectors in HTML5.

OR

How can we embed PHP code in HTML file? Explain database connectivity in PHP with reference to MYSQL.

Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: .2]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Web Technologies

Subject Code: PCIT-107 Paper ID: 16236

Time Allowed: 03 Hours

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

Q1.

Differentiate Local storage and session storage. a)

- Which two HTML element tags are used to insert audio and video files into an HTML5 document? Give Example.
- How can you import a file in PHP?
- Discuss new markup elements in HTML5 (at least any two elements).
- With the transform property, rotate the <div> element 90deg around its Z-axis.

<div>This is a div</div>

</body>

Set the color of all $\langle p \rangle$ $\langle h1 \rangle$ elements to red for the following code:

<h1>This is a heading</h1>

This is a paragraph

</body>

Part - B

[Marks: 04 each]

- What are the features of CodeIgniter Framework? Q2.
- Using MySQL with PHP, perform database related operations like create table, insert, Q3.

Page 1 of 2

delete, select and update.

- Q4. Use the selector to hide all odd table rows in a table. Use the selector to hide all elements with an href attribute.
- Q5. What is the role of Apache web server in web application? Explain the concept of accessing functions using objects in php with the help of an example.
- Q6. How can you perform text wrap using CSS3? Name the property used to apply multiple backgrounds in CSS3?
- Q7. Write jQuery for slider design. Why do we need jQuery.

Part – C [Marks: 12 each]

- Q8. a) Write a program using AJAX to send and receive data using GET and POST methods.
 - b)Explain the request and response method of web server and web browser with an example. (both static and dynamic)

OR

- a) State the various features of wordpress. Expalin how themes and modules can be installed in wordpress?
- b) What is the difference between require and include in php? Write their syntax.
- Q9. a) Using concept of DOM in jQuery, Design validation for Sign-In form for registration.
 - b) List the various event handling events in jQuery.

OR

- a) Discuss HTML, XML and XHTML.
- b) Discuss absolute and relative links, and design a page to show ordered and unordered lists.

Page 2 of 2

Please check that this question paper contains 09 questions and 02 printed pages within first ten minutes.

[Total No. of Questions: 09]

EVENING

[Total No. of Pages: 24.]

Uni. Roll No.

2 7 JUN 2022

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Web Technologies

Subject Code: PCIT-107

Paper ID: 16236

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- a) Define CELLPADDING and CELLSPACING attributes of .
- b) Differentiate between XML and HTML.
- c) List Features of Codeigniter framework.
- d) What method can you use to extract data from a canvas into an image?
- e) How will you embed images in a web document?
- f) Compare and contrast .empty(), .remove() and .detach() in jQuery.

Part - B

[Marks: 04 each]

- Q2. Explain working mechanism of AJAX with suitable example.
- Q3. Discuss in detail different methods of creating style sheets with the help of suitable examples.
- Q4. Design a jQuery to get the selected value and currently selected text of a dropdown box.
- Q5. Create a HTML document that displays a table of basketball scores at national games in which the team names have their respective team colors. The score of the leading/winning team should appear larger and in a different font than the losing team. Use CSS
- Q6. Create a PHP program to find whether a given number is Armstrong Number or not.

Page 1 of 2

EVENING

2 7 JUN 2022

Q7. Design a Tagline "Welcome To You" of Red and Blue linear gradient in 200× 200 HTML5 canvas using fill method.

Part - C

[Marks: 12 each]

Q8. Explain events handling in jQuery along with jQuery syntax and selectors in detail.

OR

Explain the following in detail with example:

- a) Geolocation and GPS services
- b) Cascading Style Sheets in HTML5
- Q9. Write class declarations and member function definitions for following employee(code, name, designation). Design derived classes as emp_account(account_no, joining_date) from employee and emp_sal(basic_pay, earnings, deduction) from emp account.
 Write a PHP Script to create 5 objects (pass details using parameterized constructor) and Display details of Employees who having Maximum and Minimum Salary.

OR

Create a sample form that collects the first name, last name, email, user id, password and confirms password from the user. All the inputs are mandatory and email address entered should be in correct format. Also, the values entered in the password and confirm password textboxes should be the same. Design a javascript code to validate and output display proper error messages in red color just next to the textbox, where there is an error.

MORNING

1 6 MAY 2018

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No.

Program/ Course: B.Tech. (Sem. 4th) Name of Subject: Web Technologies

Subject Code: IT-14404

Paper ID: 15335 Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Section-A is compulsory

2) Attempt any four questions from Section-B and any two questions from Section-C

3) Any missing data may be assumed appropriately

Section - A [Marks: 02 each] Q1.

What are the applications of Web technology in day to day life? a)

b) Write about jQuery syntax.

What are various control flow statements in PHP? c)

Define ISP and WWW. d)

How will you embed images in a web document? e)

List down basic advantages of PHP framework. f)

What is the purpose of namespace? g)

Why client side scripting is important? Explain h)

i) Define Java script DOM.

Differentiate between AJAX and JavaScript.

Section - B [Marks: 05 each]

- Q2. What are various components of Apache server configuration file?
- Q3. Write a short note on AJAX server script.
- Q4. How sessions are created in PHP? How to set a value in session?
- Q5. How tables are created in HTML? What are the various tags used during table?
- Q6. Write a short note on tools for Website creation.

Section - C [Marks: 10 each (05 for each sub-part, if any)]

- O7. Write a short note on the following:
 - a) PHP & MySQL.
 - b) Advanced features of CSS3
- Q8. How Form handling is done in Java script? Explain. Also create and validate registration form using Java script.
- Q9. Explain about the setup of Word press CMS. Also write about various CMS variants.

	Dev Engineering College,	Ludhiana					
	of Information Technology	T5					
rogram		B.Tech.	Semester	6			
ubject Cod	le	PCIT-104	Subject Title		Management Sy	ystem	
MST) No.		1	Course Coordinator		Kaur Kang		
lax. Marks		24	Time Duration	1hr 30 mii	ns		
Date of MS	T 15 feb 2024		Roll Number				
ote: Attem	npt all questions						
. No.	Question			10	COs, RBT	Marks	
V	Define integrity constrair	nts.	,		CO1, L1	2	
2)	Analyze primary and can	didate with appro-	priate example.		CO1, L4	2	
3)	Identify the schemas in	DBMS along	with at least four differen-	ces between	CO1, L2,L3	4	
\preceq	external, logical and phys	of DBMS.	, , , , , , , ,				
A)	Discuss CODD rule in br	rief for DBMS.			CO1, L3	4	
15)	Elaborate how Entity Re	elationship diagra	m can be effectively applie	d in DBMS.	CO2, L4	4	
<	Draw E-R diagram for or	nline shopping sys	tem.		, , , , ,		
6)	A) Evaluate Relation	CO2, L4	8				
	schemas: passenger (pid, pname, passenger (pid, pname, passenger (aid, aname, acit flight (fid, fdate, time, sname) booking (pid, aid, fid, fdate, time, sname) booking (pid, aid, fid, fdate, time, sname) Get the comple (a) Get the details and comple (b) Get the details and comple (c) Find only the face (d) Find the passent one flight.	ogender, poity) y) c, dest) estions using relate te details of all flights from the front all flights from the folight numbers for pager names for pager names for pager services.	cional algebra queries: ghts to New Delhi. om Chennai to New Delhi. or passenger with pid 123 f	or flights to			
	Databases.	1			> *		
urse Outcomes (idents will be ab	le to	·	* * *				
	Apply knowledge of database system, N	No Sql database, data mining	and SQL structure.			1 -	
	Identify, formulate database design, Fur Use the techniques, skills and tools such	actional dependencies and re	ecovery techniques				
	Design Physical and object relational da	itabase.	zed reations				
	Investigate various case studies using N	oSql. sultimedia databases for real					

RBT Classification	Lower Order Thinkin	ig Levels (LOTS)		Higher Order Thinking Levels (HOTS)				
RBT Level Number	Li	L2	L3	L4	LS	L6		
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Create		

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QV	Define	integrit	y constrair	its.			CO1, L1	2
02)				didate with appro	priate example.		CO1, L4	2
()	Identify	the s	chemas ir	DBMS along	with at least four differ as. Also explain architectur	ences between e of DBMS.	en CO1, L2,L3	4
D47	Discuss	CODI	rule in br	ief for DBMS.			CO1, L3	4
Q4/ Q5)	Elabora	te how	Entity Re		am can be effectively appostem.	lied in DBMS		4
Q6)				nal Algebra.		- 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100	CO2, L4	8
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	(均)	Get th	e details al	out all flights fro	om Chennai to New Delhi.		3	
	(c)	Find	only the f	light numbers fo	r passenger with pid 123	for flights t	io	
				06/11/2020.				
	(d)	Find t	he passeng		ssengers who have booki	ngs on at lea	st	
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	Use the techn	uques, skill	s and tools such	as query handling, normali	zed relations			
			ect relational dat studies using No					
	Apply the Ap	plications of	of spanal and mu	ltimedia databases for real	world.			

RBT Classification	Lower Order Thinkin	g Levels (LOTS)		Higher Order T	hinking Levels (HOTS	3)	
RBT Level Number	Li	L2	L3	L4	L5	L6	
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Create	

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	Q.										RBT level		
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	D	epartment of Information Technology	,					
Program .								
B.Tech. (IT) Semester Subject Code PCIT-108 Subject Title			Computer Architecture & Microprocessors					
ISE No.	1	Course Coordinator(s)	Er. Gitanjali	40				
lax. Marks	24	Time Duration	1 hour 30 minutes					
ate of MSE	12 th Feb 2024	Roll Number	T Hour So Hamais	indics				
ote: 1. Attempt al	I the questions in serial order.							
No.		Question		COs, RBT level	Marks			
Q1 Describe	the said of the sa							
over mad	thine language?	language? What are the advantages of	assembly language	CO3, L2	2			
A computer register T of 8-bits is having hexadecimal CB as its initial value. What will be the value of status bits CX, Z, P and AC after adding the immediate operand hexadecimal E9 to T.					2			
With the	CO2, L2	4						
and oper (a) Dire (b) Imm (c) Rela	and that must be loaded into acc	with its address field at location 301. The contains the number 200. Evaluate the cumulator if the addressing mode of the way. If even add the contains the conta	effective address	CO2, L3	4			
	ster Indirect x with R1 as the Index register	₩ (\$			T san			
Q5 Suppose Using the given inp	ister Indirect x with R1 as the Index register we have input 1 st as 84 Hexade see inputs, write an assembly le	ecimal number and input 2 nd as 75 He: anguage program that performs additio erated is a 16-bit number. Also pro-	xadecimal number.	CO5, L6	4			
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Q5 Suppose Using the given inprepresent. Q6 Sketch on (a) Gen (b) Add (c) Instr (d) Incr (e) Tim (f) Att (ff) Inter (ff) Inter	we have input 1 st as 84 Hexadese inputs, write an assembly labouts and show the output genation of the hexadecimal inputs in the architecture of the 8085 mileral purpose and Specific purposerss Buffer, Address/Data Bufferuction Decoder enterto Decrement Address latching and Control Circuitry and its passed in the second control Circuitry and control Circui	ecimal number and input 2 nd as 75 He: anguage program that performs additionerated is a 16-bit number. Also profints binary form. icroprocessor. Elucidate the following se registers, Register pairs	xadecimal number.	1 7 1				
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			Engineering College, Ludhia Information Technology				
Program			4				
Subject Code		PCIT-105			non Programming		
No.	ester Test (MST)	1	Course Coordinator(s)	Harpro	eet Kaur		
Max. Marks		24	Time Duration	n 1 hour 30 minutes			
Date of N		2 2	Roll Number				
	tempt all questions						
Q. No. Question						Marks	
(01)	"Python is Platform	CO1, L2	2				
(02)	What are the Immu	table data types i	n Python?	1	CO1, L2	2	
(3)	Write a program to a) isdecimal(), b) i	CO3, L3	4				
(Q4)	Write a program to print the following pattern: 4 3 2 1 3 2 1 2 1					4	
Q5)	Write a Python prog	CO3, L4	4				
Q6	a) Print(a/4) ar c) Print(a>>3)	and b= 5: and print(a//4)	s of following code fragments -b) Print(~a) 6 (d) Print(a and b)		CO1,C06 L4	8(4+4)	
Course (Outcomes (CO)	d and write into	a Text file in Python		4	19	
	will be able to						
1					dig v		
2	Compare and contra	t Puthon with at	a types, operators used in Pytho	n			
3	Compare and contrast Python with other programming languages Learn the use of control structures and numerous native data types with their methods.						
4	Design user defined f	unctions modula-	numerous native data types wi	th their r	methods.		
5	Investigate and imple	ment Graphical II	s, and packages. ser Interfaces based programm				
)	and imple	anent Grapinical U	ser interfaces based programm	ing			
6	Create and handle fill	es in Puthon	1 1				
	Create and handle fil	es in Python	ogramming features and impler				

RBT Classification	Lower Order T	Thinking Levels	(LOTS)	Higher Order Thinking Levels (HOTS)			
RBT Level Number	L1	L2	L3	L4	L5	L6	
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	

instath

1 0 1 4

J 4-i
; pr(j:en1=p(1))
; n'nt()

	Cm	u Nanak Dev En	gineering C	College, Ludhia	nna			
	CHILD	Department of I	nformation	Technology	-		-	
Program		B.Tech.(IT)	Semester		4	n I laniar		
Subject 6	The state of the s	PCIT-107	Subject T		Web	Technologies	logial	
	nester Exam (MSE)	1	Course C	coordinator(s)	Aksha	ay Girdhar, 1	Tarjot	
No.	iester exam (MSE)	'	Course		Kaur	Gill		
Max. Ma	auba	24	Time Du	ration	1 hour	r 30 minutes		
Date of N		19 th February	Roll Num					
Date of P	Not	2024	Kon rvan					
Note: At	tempt all questions. A		st be clearly	stated.			11.	
Q. No.	lempt an questions. 7	Questi				COs,	Marks	
Q. 110.		Questi	OII .			RBT level		
(01)	Apply CSS to chang	e text color of par	agraph as re	d and heading ((H1) as	CO2, L3	2	
\bigcirc	blue of a webpage m	aking use of the c	oncent of cl	asses				
(02)	Differentiate between	en 'class' and 'id'	attributes o	(HTML eleme	ents.	CO2, L2	2	
	Differentiate between 'class' and 'id' attributes of HTML elements. Convert the below data into Tabular format in HTML and CSS:							
	Convert the below c	ata into Tabulai i	ormat m m			CO2, L3		
	S.No., Language, M	ostly used for						
	3.No., Language, W	ostry used for						
	T. HTML, Front End	1				,		
-	1, ITTIVIL, PIONE LAN							
	2, CSS, Front End							
	2, C33, 1 Tollt Elia					-		
	3, Python, Back End				,			
	3, 1 ython, back End		8 ·					
	[Minimum Expectat	ions: dotted borde	er of red col	or, horizontal t	able			
	header- with conten	aligned at center	caption ce	ell padding and	cell			
	spacing, hoverable t							
(04)	"A tribute page is an	overview of som	edne whom	we admire in	our	CO2, L6	4	
()	life." Create a static.	tribute webpage u	sing HTML	and CSS.				
	[Minimum Expecta	tions: class, id, di	v. img. orde	red and unorde	ered			
	lists etc.]	-///-	, =, -	- T.	. •	,		
(65)	Build HTML form t	nat includes variou	is input type	s and use CSS	to	CO2, L3	4	
	style the form eleme						14 4	
Q6	Develop a simple ga		or structure	and JavaScript	for	CO2, L6	8	
	interactivity. Apply	CSS for styling to	enhance the	visual presenta	ation.	. 1 1 1		
Course C	Outcomes (CO)			1,		,		
	will be able to							
1	Understand the basic	tools required for	Web design	ning and applic	ations			
$\frac{1}{2}$	Build HTML5 and C					· · · · · · · · · · · · · · · · · · ·		
3	Analyze the basic op					×		
4	Develop an interacti						-	
5	Acquire the basic us			ntegration with	datahasi	e for developi	no web	
,	modules like, login r				autubus	c .or dovelopi		
6	Create and design dy	namic web applic	ation using	contemporary	develop	nent tools like	MVC	
U	framework.	namic web applic	ation using	contemporary (ac velopi	Hom tools like	, iti v.C	
RBT		ninking Levels (LOT	'S)	Higher Order	Thinking	Levels (HOTS)		
Classificati	1	mining Devels (DO)	11 1-1-	Inglier Order	- minking	2.5. 0.5 (110 15)	*	
RBT Level		L2	L3	L4	L5	L	6	
Number								
RBT Level	Remembering	Understanding	Applying	Analyzing . I	Evaluating	Creating		
Name			I					

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				eering Colleg			į.	
		Dep	artment of Info	ormation Techr	ology		1	
Program		B.Tech	(IT)	Semester/ Section	4 th / B	5		
Subject Co	de	PCIT-10	06	Subject Title	Operating S	ystem	1	
Mid Semest	er Exam (MSE) No.	1 st		Course Coordina	lor Pankaj Bhar	nbri		
Max. Mark	ss	24		Time Duration	09.00AM -	10.30AM	2	
Date of MS	SE	14 th Feb (Wedne	ruary 2024 sday)	University Roll Nur	nber		1.5	
Note: Atten	npt all questions						1 80	
Q. No.			Question	Ŷ,		COs, RBT level	Marks	
(· 01	Discuss the importa	ance of sys	tem calls, processes	s and threads.		CO1, L2	2	
Q_2	Appraise and evalu	ate the sign	nificance of Inter Pr	rocess Communicat	ion.	CO1, L5	2	
Q 3	Distinguish between shell and kernel with two major differences. Analyze the deadlock avoidance and prevention mechanisms alongwith the significance of resource allocation graphs.							
Q4	Demonstrate the four criterias required for the process synchronization. How two types of semaphores resolve the issue of process synchronization? Demonstrate through appropriate examples. Categories Preemptive and Non-Preemptive Scheduling.							
Q5_1\	Calculate the Ave	en below i erage Turring the Rou Process P1 P2 P3 P4 P5	n the table. The tin Around Time, A and Robin Schedulin Arrival Time 0 1 2 3 4	me quantum of the Average Waiting Ting. Burst Time 5 6 3 1 3	ir arrival time and system is 2 units. ime and Average	CO1, L5	4	
(Q6)	b. Classify t	types of op he operatin	erating systems. ng system services.	•	nd applications of	f CO1, L4	8	
	Outcomes (CO)	cture and p	process states.		N 11		, h	
	will be able							
2	Implementary	types of O	perating Systems, o	deadlocks, Process,	File and Memory n	nanagement.		
3			scheduling algorith					
				nagement mechanis	ms.		ř	
4			ment algorithms fo					
6				er utilization of exte				
RB	T I ama	Ordan	Think I		late the concepts of			
	cation	i Oraer	Thinking Leve	eis (LOTS) H	ligher Order T	hinking Level	s (HOT	
Classiii				h h				
RBT I	Level I	.15	L2	L3	L4	L5	L6	

	-		nak Dev Engi			7	l			
		D	epartment of Inf	formation T	echnolog	y				
	Program		B.Tech. (IT)	Semester/ S	Section		4 th / A&B			
Su	bject Cod	c	PCIT-106	Subject	Title _		Operating Syste			
Mid Seme	-	Xamination 2 nd Course Dr. K.S. Mann and Dr. Coordinator(s)				Coordinator(s)				
	ax. Marks	,	24. Time Duration			09AM to10.30A	M			
Da	ite of MSE		th April 2024 Wednesday)	University Number						
Note: Atten	npt all que	stions								
Q. No.			Question				COs, RBT level	Marks		
(PQI)	Share th	e causes of thrash	ng and overlays.				CO2, LI	2		
(Q2)	Q2 Illustrate any four major differences between UNIX, LINUX and Windows.							2		
Q3	with de	anagement us, Linked	CO3, L3	4						
Q4	Explain	the need of virtua		CO3, L2	4					
Q5	Discuss	the Belady's And ce 1, 2, 3, 7, 6, 1, 2 cults for LRU, FII	maly and Segment 2, 5, 3, 7, 0, 4, 2, 3, FO and Optimal P	6, 0, 3, 2. Co	mpare the	number of	CO4, L5	4		
Q6	Suppose currentle cylinder 1774.	ne drive is est was at 1470, 913, I position, satisfy all thms?	COS. LS 7113 1751 1923	8						
Course) i		,		9706 C	-610		
Students							1751	2612		
1			Operating Systems, d		ess, File and	Memory m	anagement.	-1		
2			scheduling algorithm							
3			nemory and file mana							
4			ement algorithms for							
5			g algorithm for better							
6	Examine	the case studies of	different Operating S	ystems to reca						
RB Classifi		Lower Order	Thinking Level	s (LOTS)	Higher	Order Th	inking Level	s (HOTS		
RBT I	Level	LI	L2	L3	L4		L5	L6		
RBT Leve		Remembering	Understanding	Applying	Analyz	zing	Evaluating	Creating		

Note: Students are advised to check each question thoroughly before attempting for the appropriate responses. It will be helpful for proper understanding of the problem-set and step-marking.

Guru Nanal	k Dev Engineering Colle	ge, Ludhiana						
	of Information Techno							
Program		B.Tech.	Semester	6				
Subject Cod	le	PCIT-104	Subject Title		Management	Sys	tem	
(MST) No.		2	Course	Mohanjit	Kaur Kang			
			Coordinator					
Max. Mark		24	Time Duration	1hr 30 mi	ins			
Date of MS	T		Roll Number	,				
Note: Attem	pt all questions							
Q. No.	Question				COs, RBT level	M	arks	
Q1	Elucidate timestamp and	validation proto	col.		CO3, L1	2	2	
02	Interpret the role of cond				CO2, L5	2	2	
(03)	List down at least ten SC	ş1	CO3, L1	4	4			
(3)	How does a database ma properties. Ellobrate ACI	CO3, L3	4	.3				
Q5	Contrast and compare lo	CO2, L4	4	3				
Q6)	Illustrate functional De		plain its use in DBMS does it differ from 3NF.	. Explain	CO2, CO5,L4,L5	8	6	
			QL. Demonstrate NOSQL book, and MetLife case stu-					
1	, ,				ş.			
Course Out Students wil								
1	Apply knowledge of data	abase system, No	Sql database, data minin	g and SQL	structure.		- 1	
2	Identify, formulate datab	ase design, Fund	ctional dependencies and r	ecovery tec	hniques			
3	Use the techniques, skill	s and tools such	as query handling, normal	ized relatio	ns			
4	Design Physical and obje							
5	Investigate various case						1	
6	Apply the Applications of	of spatial and mu	ltimedia databases for rea	l world.				

RBT Classification		Lower Order T	(LOTS)	Higher Or	Levels (HOTS)		
RBT	Level	L1	L2	L3	L4	L5	L6
Number				×	at .		20
RBT Leve	l Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Create
						0	

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		G	uru Nanak Dev Ei	ngineering C	College, Ludl	niana				
2 5		- 8	Department of				*	_		
Program	l	E	3.Tech (IT)	Semester		4 th				
Subject (Code	F	PCIT-108	Subject T	itle	Computer A Microproces	rchitecture an	nd		
MSE No		2		Course Coordinat	Er. Gitanjali					
Max. Ma	rks	2	4	Time Dura	ation	1 hour 30 minutes				
Date of N	AST	2	2 nd April 2024	Roll Numl	ber		8			
Note: Att	tempt a	ll questions								
Q. No.		ar 1	Quest	ion			COs, RBT level	Marks		
(QI)		date how the perfo	ormance of a multip	processing en	vironment is	enhanced by	CO4, L2	2		
Q2								2		
Q3	Illustrate the need and significance of memory hierarchy. Also elaborate the memory hierarchy in order of their features with their comparative analysis.							4		
(Q4)	Q4 Discuss the purpose of each pin in the 8051 microcontroller pin diagram.							4		
(Q5)	(Ca	Compare and c	ontrast RISC and C	CISC architec	ture		CO2, L4 CO5, L6	4		
	Write an assembly language program to compute the 2's complement of an 8-bit number by taking input as 22Hex.									
(Q6)	Cons		ere clock is trigger		eed of 1MHz	z (1 clock =	CO4, L6	8		
			ocessor, there are		l each stage	takes only 1				
		. It a program has) Time without p	100 instructions, th	ien calculate						
_		Time with pipe								
		Speed Up and I								
	74	Efficiency								
Course O										
Students v			me mamoni orean	ization Mi	200000000000000000000000000000000000000	d sassett 1				
2			ms, memory organi					amming.		
3	Solve	hasic binary math	ats, RISC and CISC operations by usin	o the instruct	ions of micro	nrocessor	nodes.			
4			ining and parallelis			oprocessor.				
5\			commented, unders		embly langua	go program - 1	o mmon/i d =1			
	real w	orld problems				ige programs t	o provide soi	utions to		
6	Classi		developments of mi							
RBT Classifica	tion	Lower Order T	hinking Levels (L	OTS)	Higher Or	der Thinking	Levels (HO	ΓS)		
RBT Leve		L1	L2	L3	L4	L5		L6		
Number										
DDT I	evel Remembering Understanding Applying Analyzing Evaluating Creating							-		

	G	iru Nanak Dev Eng	ducering C	ollege, Ludh	lana			
THE RESERVE OF THE PARTY OF THE		Department of Ir						
Program	or Court September 1970 Live Sept. Total Sept.	B, Tech.(IT)	Semester	The second secon	4	the same of the contrast of the last of th		
Subject C	hde	PCIT-107	Subject T	AND RESIDENCE OF THE PARTY OF T		echnologies		
	ester Test (MSE)	2	Course	Mic				
No.	carri (carringe)		Coordina	tor(s)		shay Girdha arjot Kaur	n and	
Max. Ma	nle	24	Time Du			30 minutes	-	
Date of M		25th April, 2024	Roll Nun	THE RESIDENCE OF THE PARTY OF T	1 nour	30 minutes		
Date of N	196	25 April, 2024	Kon Mun	iner				
	empt all questions.	All assumptions mus	st be clearly	stated.				
Q. No.		Questio	m			COs,	Marks	
						RBT level		
(CT)	Differentiate betw	een const and define	() in PHP.			CO1, L2	2	
(E)		es of Codelgniter fra				CO1, L2	2	
rO3	Write a JavaScrip		CO6, L6	4				
	when a button is c		0	, , , , , , ,				
(64)	Explain the differen	-IP.	CO5, L4	4				
	When would you	ase each method, and	what are th	e implication	is of	,		
	using one over the	other?						
(Q5)	Write a JavaScrip	r-	CO6, L6	4				
		perform a mathema				,		
	parameters.	•		1				
(Q6)	Create a simple w	eb application for ma	naging emp	lovee records	s in a	CO5, L6	8	
	company.	1	· ·					
		ould allow users to p	erform Inse	rt, Update a	nd			
1	Delete operations	on an "employees" ta	able in a My	SQL databas	e. The		ŀ	
	"employees" table	has the following str	ructure:					
		y Key, Auto Increme		:				
	name (VA)	RCHAR(30), not nu	11)					
	email (VA)	RCHAR(50), not nu	ll, unique)					
	 position (*) 	VARCHAR(50), not	null)		1			
	Outcomes (CO)				,		•	
Students	will be able to							
COI	Understand the ba	sic tools required for	Web design	ning and appl	ications			
CO2	Build HTML5 and	CSS3 for designing	interactive	web pages.				
CO3		operations of an AJA						
CO4		ctive website using jo						
		, , , , , , , , , , , , , , , , , , , ,						
CO5	Acquire the basic	usage of PHP constr	uct and its in	tegration wit	th database	for develop	ing web	
	modules like, logi	n module, session au	thentication			тол иот итор		
CO6	Create and design	dynamic web applic	ation using o	contemporary	developm	ent tools lik	e. MVC	
	framework.						,	
RBT	Lower Ord	er Thinking Levels	(LOTS)	Higher Or	der Thinki	ng Levels (HOTS)	
Classific						0-2.5.5 (
RBT Lev	vel L1	L2	L3	L4	L5	I	.6	
Number								
RBT Lev	vel Rememberi	ng Understanding	Applying	Analyzing	Evaluatin	g Creating	,	
Name			J -1-1-7B	prints runiyang Evaluating Cleaning				

BACK

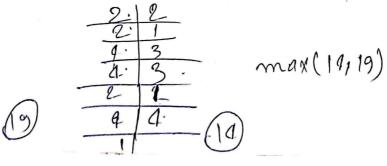
8221139 Guru Nanak Dev Engineering College, Ludhiana Department of Information Technology Semester Program B.Tech.(IT) Python Programming Subject Title Subject Code PCIT-105 Prof. Reema Verma Course **Mid Semester** 2 Coordinator Examination (MSE) No. 1 hour 30 minutes Time Duration Max. Marks 24 **Roll Number**

Note: Attempt all questions

Date Of MSE

25-04-2024

	pr	an questions				-	DDT	Mar	lec .
Q.No.			Question				RBT	Mai	К5
						Leve			
(31)	How d	oes the pop() me	thod differ from 1	remove() me	-	CO3		2	
(Q2)	Compa	re and contrast tl	ne difference betw	veen Termin	al base	CO5	, L4	2	
		JI Interface.							
(Q3) (Q4)	State th	ne significance o	finit metho	d		CO4		4	
rQ4	Demor	nstrate the variou	is ways argument	ts can be pa	ssed at	CO4	, L3	4	
			l(provide example						
Q5 /	Constr	uct a program de	etailing the expan	sion of the	vehicle	CO7	, L5	4	
			incorporate a					,	
			ch new type can omaintaing the						
	behav		es of						
		orphism.				-			
(YQ6)	a) Usi	ing Tkinter const	h labels	COS	5, L6	8			
	for us	er name and pa	ssword along wit	th entry wic	iget for				
			manager to arrar	ige these wi	dgets in				
2		ured layout.							
ار ا	V 2		intages of using						
10	standa		in terms	of app	earance				
		inctionality.							
Course Outco						1	.		
1			environment, data						
2			Python with othe						
3	Learr	the use of contr	ol structures and	numerous na	ative data	a type	s with th	neirm	ethods
4			inctions, modules						
5	Inves	tigate and imple	ment Graphical U	ser Interface	es based	progr	amming		
6		e and handle file							
7	Ident	ify the need of o	bject oriented pro	gramming f	eatures a	nd in	plemen	t thesa	ame to meet real
	time	requirements.	*		1 .				
RBT Classific	ation	Lower Order T	Chinking Levels	(LOTS)	Higher	Ord	er Thin	king l	Levels (HOTS)
-									* * 1
RBT Level Nu	mber	L1	L2	L3	L4		L5		L6
RBT Name		Remembering	Understanding	Applying	Analyzi	ing	Evaluat	ing	Creating
1					1	- 1			



	G	uru Nanak I	Dev Engir	recring	Colle	ge, Lud	lhiana			
Progra		Departme	ent of Inf	ormatio	n Tec	hnolog	У			
	am et Code	B.Tech.(IT)			emes				4	-
Subjec	a Code	BSIT-101		S	ubjec	t Title			Proba	ability
Mid S	emester Test (MST)	2							and S	tatistics
No.	-mester rest (MST)	2		C	Course	e Coord	linator(s)	Rupinder		ıder
Max.	Marks	24		7				Kaur		
				1	ime L	Duratio	n	1 hour 30		
Date o	f MST	23 rd April,20	024	R	loll N	umber			minut	es
Notes	A44 12				ton i	umber	7 9 3			
Q.	Attempt all questions									
No.			Question					CO	S,	Marks
								RB	T,	
QI)	Explain dependent ex	vents and inde	enendant	Overte	.141.			leve		
\prec	, , , , , , , , , , , , , , , , , , , ,	. ones and ma	ependent	events w	iin su	itable e	xample.	CO	7, LI	2
Q2 /	Write properties of E	Binomial Dist	ribution		_			00	,	
\bowtie									3, L4	2
(Q3)	The following are the intermediate results of two series X and Y: Mean of							CO5, L3		4
	X=90, Mean of Y=70, N=10, $\sum x^2 = 6360$, $\sum y^2 = 2860$, $\sum xy = 3900$, 55	7
	(where x and y are deviations from the respective means). Find two								90 Year	
	(where x and y ar	e deviations	Irom th	e respe	ctive	means)	. Find two			
	regression equations.	y=-5.2	410-1-1-1	0.22						
\bigcirc		-						* 1		
·Q4/	There are two urns.	Urn I contain	n 1 white	and 6 r	ed ba	lls and	urn II has 4	CO	6, L2	4
	white and 3 red ball	s. One of th	e urns is	selected	l at ra	ndom a	nd a ball is			
	drawn from it and fo									
			nic. What	is the p	TOUAU	mity tha	t it is drawn			
	the same of the sa	0.2								
Q5 /	The chances of survi	val after 25 y	ears are	out of	10 for	a man	and 4 out of	CO	3, L5	4
	10 for a woman. Con									,
_	Both will be a							8 6		
$\overline{Q_6}$	• At least one v	vill alive afte	r 25 years	60.7	· ·		C	100		-
	The number of defects per unit in a sample of 330 units of a manufacture product was found as follow:								3, L6	8
	No of defect:	0	1	2	Т	3	4			
		J	'	_		5				
	No of units:	214	92	20		3	1	- "		
		25	92	. RO		3	1			
	Fit a Poisson Distribi	ution to the d	ata and te	st goodr	ness o	f fit.				
			ata and te	st goodr		f fit.		1	1 .	

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Please check that this question paper contains_ 09 questions and 02 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No. . 2203751

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Computer Architecture and Microprocessors

Subject Code: PCIT-108

Paper ID: 16237

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9, Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

(a) Define word length of a microprocessor.

(b) Draw the block diagram of Stored Program Organization.

(c) What is the role of an assembler?

d) Define arithmetic pipeline with suitable example.

(e) What is the difference between the microprocessor and microcontroller?

Mhat is the difference between cache consistency and cache coherency?

Part - B

[Marks: 04 each]

Q2. What is DMA? Explain the basic DMA process.

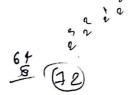
Write a program to perform 8 bit multiplication in 8085 processor. (Assume data and memory yourself).

Q4.) What is flag? What are different flags available in 8085 microprocessor?

Write a program to add a data byte located at offset 0500H in 2000H segment to another data byte available at 0600H in the same segment and store the result at 0700H in the same segment.

Write the meaning of ALE, HOLD, HLDA, Logical address and Physical address.

Page 1 of 2



Q7. Discuss the concept of pipeline and parallel processing?

Part - C

[Marks: 12 each]

Q8. Discuss the Block diagram of 8085 in detail. Also explain its various applications.

OR

What do you mean by virtual memory? Discuss how paging helps in implementing virtual memory. Discuss any ways of improving the cache performance.

Q9. Explain the different types of instructions available in 8085 microprocessor? Write a program to find smallest element of an array.

Discuss the Interfacing 8051 to LCD (b) Compare High-End-High-Performance Processors Vs. Embedded Systems

Please check that this question paper contains9	questions and2_ printed pages within first ten
[Total No. of Questions: 09] Uni. Roll No. 4.?0.3.4.5]	[Total No. of Pages: 02]
Program: B.Tc Semester: 4 th	ech. (Batch 2018 onward)

Name of Subject: Database Management System

Subject Code: PCIT-104

Paper ID: 16233

Scientific calculator is Not Allowed

Detail of allowed codes/charts/tables etc. Nil

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

What's the difference between database systems and files systems?

List the four types of databases structures.

Write the conditions for every non-trivial function dependency $X \to Y$ to be in 3NF.

Is two-phase locking pessimistic protocol?

Assume there is a transaction to modify the city of a student. What are the possible logs written for this transaction?

Why are data marts important? Give an example of data marts.

Part - B

[Marks: 04 each]

With the help of the block diagram, describe the basic architecture of a database management system.

Write a SQL statement to find the names and loan numbers of all customers who have a loan at XYZ branch.

A car-rental company maintains a database for all vehicles in its current fleet. For all vehicles, it includes the vehicle identification number, license number, manufacturer,

Page 1 of 2

model, date of purchase, and color. Special data are included for certain types of vehicles:

- Trucks: cargo capacity.
- Sports cars: horsepower, renter age requirement.
- Vans: number of passengers.
- · Off-road vehicles: ground clearance, drive train (four- or two-wheel drive). Construct an E-R model for all operations.

Define trigger and explain its three parts? How do you drop triggers?

Explain Order by, Group by and Having Clauses with example.

Elaborate the Process of Data Mining. How is data warehouse similar/dissimilar from Data mining?

Part – C

[Marks: 12 each]

(a) Illustrate different set operations in Relational algebra with an example? b) Let E1 and E2 be two entities in an E/R diagram with simple single-valued attributes. R1 and R2 are two relationships between E1 and E2, where R1 is one1 to-many and R2 is many-to-many. R1 and R2 do not have any attributes of their own. Calculate the minimum number of tables required to represent this situation in the relational model?

underlined. primary keys where the employee database, Consider the employee(empname,street,city)works(empname,companyname,salary)company (companyname, city) manages (empname, management)

Give an expression in the relational algebra for each request.

- 1) Find the names of all employees who work for First Bank Corporation.
- 2) Find the names, street addresses and cities of residence of all employees who work for First Bank Corporation and earn more than 200000 per annum.
- 3) Find the names of all employees in this database who live in the same city as the company for which they work
- a) Discuss the case studies of Facebook and Google using NoSQL. b) Elaborate the various applications of Spatial and Multimedia Databases OR
 - a) Suppose that there is a database system that never fails. Analyze whether a recovery manager required for this system? b) Discuss the 3 phases of validation based protocol.

Page 2 of 2

20	T. M.	>Z=[3/M)-27[
	18	[Total No. of Pages: 02]

[Total No. of Questions: 09]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester:4th

Name of Subject: Probability and Statistics

Subject Code: BSIT-101

Paper ID: 16232

Scientific calculator is Allowed

Max. Marks: 60

Time Allowed: 03 Hours

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

(a) Explain equally likely events and mutually exclusive events with suitable example of both.

(b) Illustrate regression coefficient of Y on X and regression coefficient of X on Y.

Write properties of Binomial Distribution.

Distinguish Primary Data and Secondary Data

Compare Type I and Type II error

Compare Type I and Type II error
Five students obtained the following marks in statistics: 20, 35, 25, 30 and 15.

Find the Range and coefficient of Range.

Part - B

[Marks: 04 each]

One number is drawn from numbers 1 to 150. Find the probability that it is either 0.599206 divisible by 3 or 5.

Ten competitors in a beauty contest are ranked by three judges in the following order:

3 2 10 5 Ist Judge 6 7 10 2 2nd Judge 3 5 8 4 5 10 8 2 3 3rd Judge

Use Rank Correlation Coefficient to determine which pair of judges has the nearest approach to common tastes in beauty.

O4. Calculate Kar	l Pearson's c	oefficient of	skewness f	rom the follo	owing data:
Wages:	300-400	400-500	500-600	600-700	700-800
No of workers:	5	10	10	3	2

PAGE 1 OF 2

Calculate two regression equations from the following data: $\Sigma X = 30$, $\Sigma Y = 23$, $\Sigma X^2 = 224$, $\Sigma Y^2 = 175$ and $\Sigma YY = 168$ N=7, $\sum X^2 = 224$, $\sum Y^2 = 175$ and $\sum XY = 168$.

The chance that a ship safely reaches a port is 1/5. Find the probability that out of 5 ships expected at least $\frac{1}{2}$ 0.67212 5 ships expected at least one would arrive safely.

In a sample of 500 persons from a village in Haryana, 280 are found to be rice eaters and the rest wheat eaters. Can we assume that both the food articles are equally popular?

Part - C

[Marks: 12 each]

Q8. In a survey of 200 boys, of which 75 were intelligent, 40 had educated fathers; while 85 of the unintelligent boys had uneducated fathers. Do these figures support the hypothesis that educated fathers have intelligent boys (The value of Chi-Square for 1 degree of freedom at 5% level is 3.84).

OR

An incomplete distribution families according to their expenditure per week is given below. The median and mode for the distribution are Rs. 25 and Rs. 24 respectively. Calculate the missing frequencies:

. 0-10	10-20	20-30	30-40	40-50
14	?	27	?	15
	. 0-10	14 ?	, , ,	

09.) There are three machines A, B, C in a factory. Their daily outputs are in the ratio of 2:3:1. Past experience shows that 2%, 4% and 5 % of the item produced by A, B and C respectively are defective. If an item selected at random is found to be defective, find the probability that it was produced by A or B.

OR

Fit a Poisson distribution to the following data. Also find the mean and variance of above distribution.

Deaths:	0	1	2	3	4
Frequency:	109	65	22	3	1

PAGE 2 OF 2

Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

[Total No. of Questions: 09] Uni. Roll No. 22.0.3.7.5] [Total No. of Pages: 2.]

Program: B.Tech. (Batch 2018 onward)

Semester: 4

Name of Subject: Python Programming

Subject Code: PCIT-105

Paper ID: 16234

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

List the features of Python.

9210625

Evaluate an expression to demonstrate the concept of precedence.

"Python is Platform Neutral". Comment.

(((allb)+(a+b))+(a-b)) +
(a \alpha b))

Compare python with other languages.

Compare pop() and remove() method.

Write a code to find the square root of a number.

Part - B

[Marks: 04 each]

Describe the detecting and correcting syntax errors with an example.

Write the code of following:- a) isdigit() b) partition() and rfind().

Analyze the advantages of widgets of tkinter and tkinter.ttk in terms of appearance and functionality.

Write a code to print the following pattern:-

4444 333 22

1

for i in rome (4,1,=1):

for i in rome (i): est > (4,1,-1):

print(i, end = er"):

Print ()

Page 1 of 2

(66,) (07)-

Write a code that prints prime numbers.

Using Tkinter construct a simple login form with labels i.e Employee id and Employee password with entry widgets for user input, employ grid manager to arrange these widgets in structured layout.

Part - C

[Marks: 12 each]



Implement the case study of income tax calculator and an ATM.

OR

Demonstrate the followings:-

- (a) How to replace an Element in a List
- (b) Sort an element in a List
- (c) Traversing a Dictionary
- d) Nondirective Psychotherapy (Implementation)

Design a code to implement the following task of GUI program:-

- i. Input the first 10 natural numbers and calculate the sum of odd numbers.
- ii. Use input fields and buttons for UI.

OR

Design a code of the following tasks:

- 4 (i) Read a text file containing multiple lines.
 - (ii.) Implement a loop to count the occurrences of each unique word.
 - iii.)Write the output to a new file.



Page 2 of 2

[Total No. of Questions: 09] Uni. Roll No. .92.03.75...)

[Total No. of Pages: 02]

Program: B.Tech. (IT)

Semester: 4th

Name of Subject: Operating system

Subject Code: PCIT-106

Paper ID: 16235

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

- 1) Parts A and B are compulsory
- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- (a) What is the purpose of system calls?
 - b) Define inter process communication.
- (c) What problem is solved by semaphores?
- d) How do you limit the effects of thrashing?
- (e) How can one detect a deadlock in a resource allocation graph?
- (f) Can we fix bad blocks?

Part – B

[Marks: 04 each]

- Explain the different functions of an operating system and discuss the various services provided by an operating system.
- Consider 3 processes P1, P2 and P3, which require 5, 7 and 4 time units and arrive at time 0, 1 and 3. Draw the Gant chart, process completion sequence and average waiting time for FCFS.
- Q4. What are the criteria for evaluating the CPU scheduling algorithm?

 Distinguish between a) Logical and physical address space b) demand paging and pure demand paging?
- Q6. Explain C-Scan scheduling with some example? Also describe how boot blocks works?
- Elaborate the different types of operation performed on files.

Page 1 of 2

Part - C

[Marks: 12 each]



What is a race condition? Explain how a critical section avoids this condition. What are the properties which a data item should possess to implement a critical section? Describe a solution to the Dining philosopher problem.

OR

Discuss the case study of UNIX and LINUX as an operating system. Compare their pros and cons as operating system.

Given page reference string: 1,2,3,2,1,5,2,1,6,2,5,6,3,1,3,6,1,2,4,3. Compare the number of page faults for LRU, FIFO and Optimal page replacement algorithm.

OR

Consider the following reference string 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1. Assume there are three frames. Apply <u>LRU</u> replacement algorithm to the reference sting above and find out how many page faults are produced. Also Illustrate the LRU page replacement algorithm in detail.

F-128 L-113 0-9 11 [Total No. of Questions: 09] Uni. Roll No. (20975.). [Total No. of Pages: 2]

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Web Technologies

Subject Code: PCIT-107

Paper ID: 16236

Scientific calculator is Not Allowed

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

How can you describe the syntax and process for declaring and initializing

variables in PHP? How would you explain and evaluate the significance of the and elements in the context of an HTML table?

Identify the fundamental purpose of AJAX in web development.

How can you effectively embed an image in an HTML document?

Discuss the syntax of CSS for inserting borders.

Differentiate between var and let keywords in JavaScript.

Part - B

[Marks: 04 each]

Describe the Document Object Model (DOM) and its significance in web development. Illustrate the concept of a JavaScript function and demonstrate how to place scripts both within an HTML document and in an external file.

Explain the concept of GET and POST methods in PHP in detail.

Create an ordered list in HTML to outline the steps in a recipe. Include appropriate CSS to style the list items with a custom font and color.

Write a JavaScript program to create a slideshow that changes the displayed image when a next or previous button is clicked.

Create a static webpage of your choice and also use an internal style specification within an HTML document to change the font size of a paragraph.

Part - C

[Marks: 12 each]



Describe the structure of an ordered list and an unordered list in HTML, including the tags used. Provide examples of when each type of list might be appropriate.

OR

Compare and contrast internal and external CSS with respect to their impact on page load times, browser caching, and ease of maintenance. Explain with the help of example.

Q9. Create a fully functional webpage from the ground up that features a login form for existing users, an image gallery. Use HTML and CSS to ensure the design is user-friendly and visually appealing.

OR



Create a simple web application for managing students records in our college. The application should allow users to perform **Insert**, **Update** and **Delete** operations on an "student" table in a MySQL database. The "student" table has the following structure:

- id (Primary Key, Auto Increment)
- name (VARCHAR(30), not null)
- university roll no (VARCHAR(50), not null, unique)
- class (VARCHAR(50), not null)

Guru Nanak Dev Engineering College, Ludhiana

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Program	8.7esh. (17)	Secrester/Section	4° A
Subject Code	bell-100	Subject Title	Operating System
Mid Semester Examination (MSE) No.	Z ^A	Course Constinatorie)	Dr. K.S. Marco
Max, Marks 200	24	Time Duration	09am - 10 30am
Date of MNE.	25* May 2023 (Thursday)	University Roll Number	2- sile

Soles Attempt all questions

Q. No.	Question	COs. RBT level	M
19/	What is the difference between deadlock and starvation.	_CO2. L1 =	
July 1	Illustrate any four major differences between UNIX, LINUX and Windows.	CO6. 1.5	
98/	Explain with diagram Single-Partition allocation and Multiple-partition allocation?	CO3. L3	
Q4	Explain Local and Global Page Replacement, Bad Blocks, File Layered Architecture and Protection Mechanisms.	CO3. 1.2	
05/	Discuss the Belady's Anomaly, and Segmentation. Consider the page reference sequence 7, 6, 1, 2, 5, 3, 0, 4, 2, 3, 0, 3, 2 with four page frames. Find number of page faults using Optimal and Least recently used page replacement algorithms.	CO4. L5	The state of the s
06/	Distinguish between Internal and External Fragmentation. How Virtual Memory is used? Suppose the total numbers of tracks on a single disk are 300 and the order of R/W request is 82, 169, 44, 144, 224, 16, and 190, respectively. Current position of R/W head is at track number 45. Enlist the benefits, limitations along-with the total seek time using ECFS, SSTF, CSCAN and LOOK Disk Scheduling algorithms (Direction of Movement is towards the smaller value).	COS. LS	The second secon

Course Outcomes (CO)

Students will be able

- Exemplify various types of Operating Systems, deadlocks, Process, File and Memory management.

 Implement various deadlock scheduling algorithms.

 Analyze and apply various memory and file management mechanisms.

 Classify various page replacement algorithms for demand paging.
 - The state of the s

temperature to examine the concepts of Operating System (Inches the Concepts o

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Program			B.Tech (IT) S		Semester/ Sect		4 th /A		
Subject Co	ode	PC	IT-106		Subject Title		Operating S	System	
Mid Seme	ster Test (MST	7) No. 1st			Course Coord	Ingtor			
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	C1 · · · · ·	<u> </u>		Question				COs, RBT level	Marks
Q1	Classify at-lea	ast four maj	or diffe	our processes. The last time are since	shell and kerne	l.		CO6, L2	2
Q2	Consider all First Come F	$\begin{array}{c c} P_0 \\ \hline P_0 \\ \hline P_1 \\ \hline P_2 \\ \hline P_3 \\ \hline \end{array}$ time values	in mi	Arrival Time O 1 3 5 Illiseconds. Evaluing algorithm.	CPU Burst 10 6 2 4 ate the Average	Time ge Waiting			2
Q3	What is a P elaboration.	What is a Process? Describe the different states of a process with their detailed elaboration.							4
Q4	process, uno	agn appropr	Tate ex					1	4
Q5	110W Schlaph	ores resorve	the iss	synchronization, or sue of process syn	chronization?				4
Q6	types of opera	ating system	he vari	ious features, pre	os/cons and ap	plications	of different	CO1, L4	8
	Outcomes (C will be able	CO)							
1	Exemplify va	rious types	of Ope	rating Systems, d	eadlocks, Proce	ess, File an	d Memory n	nanagement.	
2	Implement va	rious deadle	ock sch	eduling algorithm	ns.		1 -		
3				ory and file man			145 - XI		- 1
4	Classify vario	us page rep	laceme	ent algorithms for	demand pagin	g.			
5	Use different	disk schedu	ling al	gorithm for better	utilization of	external me	emory.		
6	1							Operating System	
RB		ower Ord	ler T	hinking Level	s (LOTS)	Higher	Order Tl	ninking Levels	(HOTS
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ubject Cod	e	PCIT-106	Subject Title	Opera	Operating System			
Aid Semeste	r Exam (MSE) No.	1 st	Course Coordin		Dr. KS Mann			
Max. Mark	3	24	Time Duration	09.00	09.00AM – 10.30AM			
Date of MS		31 st March 2023 (Friday)	University Roll N		A CONTRACTOR OF THE STATE OF TH			
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Q. No.		Questio	n -	S Phone		COs, RBT level	Marks	
Q1	Write the Syntax for	or a)tee b)cut			T	CO1, L2		
22	b) allows processes c) allows the proce d) none of the men	s to communicate and synchroses to only synchronize the tioned	onize their actions conize their actions ir actions without c	when using the		CO1, L5	2	
Q3	, , , , , , , , , , , , , , , , , , , ,	the mapping and difference between Logical and Physical Address in Operating n by using relevant Examples and diagrams?						
,Q4	demaphores ic	Demonstrate the four criterias required for the process synchronization. How two types of semaphores resolve the issue of process synchronization? Demonstrate through appropriate examples.						
98	Explain with releve to both the users	ant examples that how An Cand to the programs.	Operating System	provides servi	ces	001.15	4	
	Preemptiv	RR (1ms quantum) e Priority. Calculate AV	3.Non Preemp	otive Priority	4.	CO1, L5 CO1, L4	d.	
	Process	Arrival Time	Priority	Burst Time	34	CO2, L4		
Q6	P_1	0 2	4	6	-	le.	8	
/	P ₃	2	2	1	4	The second		
	P ₄	1	2	9				
	Outcomes (CO) will be able	3	3	3				
1		s types of Operating Systems		ss, File and Mer	nory m	anagement.		
2	•	is deadlock scheduling algori						
3		y various memory and file m						
4		page replacement algorithms				illus -		
5		scheduling algorithm for be						
6	Examine the case	studies of different Operatir	ng Systems to recap					
R	BT Low	er Order Thinking Le	vels (LOTS)	Higher Ord	er Th	inking Level	s (HOTS	
	fication Level	L1 L2	L3	L4	7	L5	1.6	
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Q. No.			Question	_		COs,		
Q1	D ii					RBT level	Marks	
			conditions for Dead	lock.		CO2, L1	2	
Q2		JNIX and LINUX		A STATE OF	-	CO6, L5	2	
Q3			ment with detailed r Indexed allocation m	leinoas		CO3, L3	4	
Q4	Explain Thrashing	Overlays, Interrate, in details.	al and External F	Fragmentation, Vi	rtual Memory and	CO3, L2		
Q5	and Least	recently used alo	maly. Consider the pa Find number of page	e fault using Optim	nal page replacement	100000000000000000000000000000000000000	4	
Q6	Suppose Read/Wr	the order of re	quest is 82,170,43,1	40,24,16,190 and	current position of			
Course	Outcome		SCAN and LOOK D	isk Scheduling alge	orithms.		8	
Students	s will be a	ble						
1	Exemplif	y various types o	f Operating Systems,	deadlocks, Process	s, File and Memory n	nanagement		
2	Impleme	nt various deadlo	ck scheduling algorit	hms.				
3			s memory and file ma					
4			acement algorithms f					
5			ing algorithm for bet					
6	Examine	the case studies	of different Operating	g Systems to recapi	tulate the concepts of	Operating System	n.	
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Please check that this question paper contains 09 questions and 02 printed pages within first ten minutes.

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[Total No. of Questions: 09]

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[Total No. of Pages: 02]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Operating System

Subject Code: PCIT-106

Paper ID: 16235

Detail of allowed codes/charts/tables etc. Nil Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- a) Define Inter-process communication.
- b) List the services provided by an operating system?
- Point out the significant differences between UNIX, LINUX and Windows
- Compare single-partition allocation and multiple-partition allocation.
- List three major activities of an OS with regard to memory management.
- What is thrashing? How is it controlled by OS?

Part - B

[Marks: 04 each]

- Explain process scheduling? Describe the different types of schedulers? Q2.
- Some computer systems do not provide a privileged mode of operation in hardware. Is it Q3. possible to construct a secure operating system for these computer systems? Justify your reply.
- Elaborate the mapping and difference between logical and physical address. Q4.

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- Q5. Consider the following page reference string. 1,2,3,4,5,3,4,1,6,7,8,7,8,9,7,8,9,5,4,5,4,2. How many page faults would occur for the following replacement algorithm, assuming four and six frames respectively a) page replacement. b) FIFO page replacement.
- Q6. Define C-SCAN scheduling. Why rotational latency is not considered in disk scheduling?
- Q7. What are points to be consider in file system design? Explain linked list allocation & index allocation in detail.

Part – C [Marks: 12 each]

Q8. Differentiate among the following types of OS by defining their essential properties.

a) Time sharing system b) Parallel system c) Distributed system d) Real time system

OR

Differentiate between the following a) Paging and Segmentation b) Page table and segment table c) tightly coupled systems and loosely coupled systems

Q9. What are critical sections? Why mutual exclusion required? Explain any 2 methods of achieving mutual exclusion in detail.

OR

Distinguish between Internal and External Fragmentation. How Virtual Memory is used? Suppose the total numbers of tracks on a single disk are 300 and the order of R/W request is 82, 169, 44, 144, 224, 16, and 190, respectively. Current position of R/W head is at track number 45. Enlist the benefits, limitations along-with the total seek time using FCFS, SSTF and LOOK Disk Scheduling algorithms (Direction of Movement is towards the smaller value).

Please check that this question paper contains_09 questions and 02 printed pages within first ten minutes.

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[Total No. of Pages: 02]

Program: B.Tech. (Eatch 2018 onward)

Semester: 4th

Name of Subject: Operating System

Subject Code: PCIT-106

Paper ID: 16235

Detail of allowed codes/charts/tables etc. Nil

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

()1.

- List three objectives of an operating system.
- Distinguish between hard real time systems and soft real time systems. b)
- Why page size is always power of 2? c)
- Why API's need to be used rather than system call? d)
- e) Is deadlock state more critical than starvation? Justify.
- What are the three methods for allocating disk space?

Part - R

[Marks: 04 each]

- Discuss the general structure of an operating system. ()2.
- State dining philosopher's problem and give a solution using semaphores. Write 03. structure of philosopher.
- Describe necessary conditions for a deadlock situation to arise. Brief about different Q4. methods to handle deadlocks.

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- Q5. The queue of requests in FIFO is 86,147,91,177,94,150,102,175,130 What is the total head movement needed to satisfy the requests for the following Scheduling algorithms FCFS, SJF, SCAN, LOOK, C-SCAN
- Q6. Discuss the LINUX operating system as a case study.
- Q7. Explain the following i) file types ii) file operation iii) file attributes.

Part-C

[Marks: 12 each]

Q8. What is disk scheduling? Explain FCFS and SCAN disk scheduling algorithms.

OR

Distinguish between i) Process and Program ii) Multiprogramming and multiprocessing iii) Job scheduling and CPU scheduling

Q9. Differentiate between the following a) Paging and Segmentation b) Page table and segment table c) internal and external fragmentation.

OR

What is virtual memory? Assume we have a demand paged memory. The page table is held in registers it takes 8ms to service a page fault if an empty page is available or the replaced page is not modified, and 20ms if the replaced page is modified. Memory access time is 100ns. Assume that the page to be replaced is modified 70% of the time. What is the maximum acceptable page fault rate for an effective access time of no more than 200ns?

en mus question paper contains 9 questions and 2 printed pages within first ten minutes. EVENING [Total No. of Questions: 09] Uni. Roll No. 3 0 JUN 2022 [Total No. of Pages: 2] Program: B.Tech. (Batch 2018 onward) Semester: 04 Name of Subject: Operating System Subject Code: PCIT-106 Time Allowed: 03 Hours Paper ID: 16235 NOTE: Max. Marks: 60 1) Parts A and B are compulsory 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice 3) Any missing data may be assumed appropriately Part-A [Marks: 02 each] Q1. What is an Operating System? What is the difference between deadlock and starvation? Define Virtual Memory and what are its advantages? d) What is thrashing? Explain Inter Process Communication. e) What do you mean by PCB? What are its contents? Part - B [Marks: 04 each] · What is a process? Explain and draw Process State Diagram. Q2. Write a brief note on Layered Architecture in reference to device management. Q3. What is a deadlock and what are the conditions to prevent it? Q4. What are the different access methods of files? How are they implemented? Q5. What are semaphores and its advantages? Explain two primitive semaphore Q6.

Page 1 of 2

What is fragmentation?, Explain its types and disadvantages.

Q7.

Part - C

[Marks: 12 each]

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Consider the following set of processes, with the length of the CPU burst given in ms: Q8.

Process	Burst Time	Priority
P1	2	2
P2	1	1
P3	8	4
P4	4	2
P5	5	3 .

The processes are assumed to have arrived in the order P1, P2, P3, P4, P5 at time 0.

- a. Draw four Gantt charts that illustrate the execution of these processes using the following scheduling algorithms: FCFS, SJF, non pre-emptive priority (a larger priority number implies a higher priority), and RR (quantum= 2).
- b. What is the turnaround time of each process for each of the scheduling algorithms in part a?
- c. What is the waiting time of each process for each of these scheduling algorithms?
- d. Which of the algorithms results in the minimum average waiting time?

Explain different types of operating systems in detail.

Q9. Suppose that a disk drive has 5000 cylinders, numbered 0 to 4999. The drive is currently serving a request at cylinder 143, and the previous request was at cylinder 125. The queue of pending requests, in FIFO order, is 86, 1470, 913, 1774, 948, 1509, 1022, 1750, 130

Starting from the current head position, what is the total distance (in cylinders) that the disk arm moves to satisfy all the pending requests, for each of the following disk-scheduling algorithms?

a. FCFS b. SSTF

c. SCAN

d. LOOK

e. C-SCAN f. C-LOOK

Given page reference string: 1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6. Compare the number of page faults for LRU; FIFO and Optimal page replacement algorithm with frame size 4.

Page 2 of 2

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·/	Guru Nanak Dev En	igineering College, Ludhian	1a
		Information Technology	
Program	B.Tech.	Semester	6
Subject Code	PCIT-104	Subject Title	Database Management System
(MST) No.	1	Course Coordinator	Mohanjit Kaur Kang
Max. Marks	24	Time Duration	1hr 30 mins
Date of MST		Roll Number	

Note: Attempt all questions Q. No. Question COs, RBT Marks level Q1 Define database management system and mention its applications. CO1, L1 2 Q2 Analyze primary, candidate and super key with example. CO1, L4 2 Q3 Discuss schemas with difference between external, logical and physical CO1. 4 level schemas. Also explain architecture of dbms. L2,L3 Discuss CODD rule for DBMS. CO1, L3 What do you mean by Entity Relationship diagram and why it is useful? Draw E-4 CO2, L4 R diagram for hospital with the set of patient and medical doctors. Describe Relational Algebra. Consider the relational database: CO2, L4 Student (person_name, street, city) Works (person name, college name, fees) College (college_name, city) Teachers(person name, teacher name) a) Find the names of the students and college name for all students. b) Find the names of students who are from Ludhiana and whose fees is more than 5000 c) Give the info for teachers who belong to city Ludhiana. d) Give the info for students who do not belong to Ludhiana. Course Outcomes (CO)

Students will be able to 1 Apply knowledge of database system, No Sql database, data mining and SQL structure. 2 Identify, formulate database design, Functional dependencies and recovery techniques 3 Use the techniques, skills and tools such as query handling, normalized relations 4 Design Physical and object relational database. 5 Investigate various case studies using NoSql.

Apply the Applications of spatial and multimedia databases for real world.

RBT Classification	Lower Order T	hinking Levels (L	der Thinking Levels (HOTS)			
RBT Level Number	L1	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Create

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Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

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[Total No. of Questions: 09]

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[Total No. of Pages: 2]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Database Management System

Subject Code: PCIT-104

Paper ID: 16233

Scientific calculator is NotAllowed

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- a) Differentiate between Inner join and Outer join.
- b) How Data Marts are used for creating Data Warehouse?
- c) Write a syntax for outer join with example.
- d) Explain the different applications of Data Mining.
- e) Describe the role of shadow paging in recovery systems.
- f) Write a syntax of insert and update command in SQL.

Part - B

[Marks: 04 each]

- **Q2.** Write a short note on applications of spatial and multimedia databases.
- Q3. Explain the ACID properties in the context of transaction management
- **Q4.** Discuss the concept of functional dependencies and their role in database design.
- **Q5.** Analyze various recovery techniques used in database management system.
- **Q6.** Distinguish between Data Definition Language (DDL) and Data Manipulation Language (DML) in the context of database management. Include practical examples to illustrate how each language is used.
- **Q7.** Design a set of database tables that exemplify the principles of Boyce-Codd Normal Form (BCNF), and Fourth Normal Form (4NF) in the context of a DBMS. Provide a

Page 1 of 2

practical example to illustrate the application of these normalization forms in database design

Part - C

[Marks: 12 each]

Q8. What is Database Recovery? Explain the different types of database failure and types of recovery techniques with advantages and disadvantages.

OR

Examine and contrast various data models utilized within Database Management Systems for effective database design.

Q9. Examine the phenomenon of deadlock in multi-process or multi-threaded systems, delving into the underlying causes and ramifications. Subsequently, present a comprehensive and step-by-step elucidation of the deadlock detection and resolution process, accompanied by a significant real-world example that highlights the practical application of these concepts.

OR

Consider a database for an online bookstore that includes tables for books, authors, and customers. Write SQL commands to perform the following tasks:

- 1. Create a table named "Books" with columns for book ID, title, author ID, price, and quantity in stock.
- 2. Insert a new book into the "Books" table. The book is titled "The Great Gatsby" by
- F. Scott Fitzgerald, with a price of \$12.99 and 50 copies in stock.
- 3. Create a table named "Authors" with columns for author ID, name, and biography.
- 4. Insert a new author into the "Authors" table. The author is F. Scott Fitzgerald, and his biography should be provided.
- 5. Create a table named "Customers" with columns for customer ID, name, email, and address.
- 6. Insert a new customer into the "Customers" table. Include their name, email address, and physical address.
- 7. Write a SQL query to retrieve the titles & prices of all books in the "Books" table. Please provide the SQL commands for each of the above tasks, along with a brief explanation of what each command does.

Please check that this question paper contains ${\widehat{\mathbb Q}_{\!\scriptscriptstyle L}}$ printed pages within first ten minutes. questions and [Total No. of Questions: 09] [Total No. of Pages: 02] MORNING Uni. Roll No. Program: B.Tech. (Batch 2018 onward) 7 N SEP 2022 Semester: 4th Name of Subject: Database Management System Subject Code: PCIT-104 Paper ID: 16233 Scientific calculator is Not Allowed Detail of allowed codes/charts/tables etc. Nil Time Allowed: 03 Hours Max. Marks: 60 NOTE: 1) Parts A and B are compulsory 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice 3) Any missing data may be assumed appropriately Part - A [Marks: 02 each] Q1. Write the merits of database compared to a file system. What is data dictionary used for? b) How many timestamps are associated in validation based protocols? What are the fields used in log based recovery? List the four types of NoSQL Database. e) Distinguish between database and data marts. Part - B [Marks: 04 each] Define foreign key? How does it play a role in the join operation? Q2.

- Give example of following relationships: a. Many-to-One b. One-to-One c. One-to-Q3. Many d. Many-to-Many
- What is significance of atomicity and consistency? Give an example of each. Q4.

Page 1 of 2

20 SEP 2022

- Q5. Let E1 and E2 be two entities in an E/R diagram with simple single-valued attributes. R1 and R2 are two relationships between E1 and E2, where R1 is one1 to-many and R2 is many-to-many. R1 and R2 do not have any attributes of their own. Calculate the minimum number of tables required to represent this situation in the relational model?
- Q6. Suppose that there is a database system that never fails. Analyze whether a recovery manager required for this system
- Q7. Elaborate in detail the various steps of data mining.

Part - C

[Marks: 12 each]

Q8. Differentiate between 1NF and 2NF. Design any 1NF table and convert it into 2NF specifying the required rules

OR

Create a table called "Class that contains six columns: classID, Branch LastName, FirstName, Address, and City. Perform a not null on the class table and also create primary key on the same table.

- **Q9.** Consider the following tables: Employee (Emp_no, Name, Emp_city) Company (Emp_no, Company_name, Salary)
 - i. Write a SQL query to display Employee name and company name.
 - ii. Write a SQL query to display employee name, employee city , company name and salary of all the employees whose salary >10000
 - iii. Write a query to display all the employees working in 'XYZ' company.

OR

Why Google and Face book Switched to NoSQL? Discuss as a Case Study.

Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 2]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

EVENING

Name of Subject: Database Management System

2 5 JUN 2022

Subject Code: PCIT-104

Paper ID: 16233

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- Describe the types of keys used in SQL database.
- Define different types of Relational Calculus.
- How Data Marts are used for creating Data Warehouse?
- Differentiate between Inner join and Outer join.
- Where NoSQL database is preferable over a relational database?
- Write a syntax of table creation and insertion command in SQL.

Part - B

[Marks: 04 each]

- What is Data Warehousing? Explain the advantages of Data Warehousing. Q2.
- Write a short note on applications of spatial and multimedia databases. Q3.
- **Q**4. Elaborate the significance of ACID properties of database mahagement system with the help of some examples.
- Define the term NoSQL with example? Analyze why NoSQL database is used by Q5. facebook and google applications.
- Design an ER diagram for student enrollment system. Take student, teacher and Q6. subjects as entities.

Q7. Consider the insurance database as mentioned below, where the primary keys are underlined. Construct the following SQL queries for this relational database.

Note: The participated relation relates drivers, cars, and accidents.

person (<u>driver id</u>, name, address)

car (<u>license</u>, model, year)

accident (<u>report number</u>, date, location)

owns (<u>driver id</u>, license)

participated (driver id, <u>license</u>, <u>report number</u>, damage amount)

- a. Find the total number of people who owned cars that were involved in accidents in 2009.
- b. Add a new accident to the database; assume any values for required attributes.
- c. Delete the Mazda (car model) belonging to "John Smith" (person name).

Part – C [Marks: 12 each]

Q8. Define normalization. Why we need to normalize a database in SQL? Briefly discuss the insert, delete and update anomalies, if relations are not in 2NF.

OR

Compare different types of data models used in database management systems.

Q9. Analyze various recovery techniques used in database management system. How to implement these techniques in SQL Databases?

OR

- a) Suppose that we have a relation marks(ID, score) and we wish to assign grades to students based on the score as follows: grade F if score < 40, grade C if 40 ≤ score < 60, grade B if 60 ≤ score < 80, and grade A if 80 ≤ score. Write SQL queries to do the following:
 - i. Display the grade for each student, based on the marks relation. (3 marks)
 - ii. Find the number of students with each grade.

(3 marks)

b) Design a database Schema for "E-Commerce website" using SQL queries and ER diagram. (6 marks)

Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

EVENING

[Total No. of Questions: 09] Uni. Roll No.

1 0 JAN 2023

[Total No. of Pages: 2]

Program: B.Tech. (Batch 2018 onward)

Semester: 4

Name of Subject: Database Management System

Subject Code: PCIT-104

Paper ID:16233

Scientific calculator is Allowed

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- a) Elaborate the concept of Logical database Design.
- b) Write a short note on data marts?
- c) Explain the use of triggers in database management systems.
- d) Why functional dependencies are significant in DBMS?
- e) Differentiate between super key and primary key.
- f) Write a query to get the highest, lowest, sum, and average salary of all employees from "employee" table having EMPLOYEE_ID, SALARY, FIRST_NAME columns.

Part - B

[Marks: 04 each]

- Q2. Discuss first three forms of Normalization using relevant examples.
- **Q3.** Elaborate the significance of ACID properties of database management system with the help of some real examples.
- Q4. Define Data Mining. Explain different applications of Data Mining.
- Q5. Design a database of any case study using NoSQL database terms and terminology.
- Q6. Design an ER diagram for Library management system. Take "Books", "Publisher", "Member" and "borrewed by" as entities.

-

EVENING

1 0 JAN 2023

Q7. Why do deadlock occurs? Create the complete process of deadlock detection and resolution with significant example.

Part - C

[Marks: 12 each]

Q8. Compare different types of data models used in database management systems.

OR

What is Database Recovery? Explain the different types of database failure and types of recovery techniques with advantages and disadvantages.

Q9. Design a database tables to demonstrate the 1NF, 2NF, 3NF and BCNF in DBMS with detailed example.

OR

Design the SQL queries for the following: (3 marks each)

- 1. Create a table and Insert 3 rows-
- 2. Create two tables and Select the data from both the tables using joins.
- 3. Add and drop a primary key, foreign and unique key constraints
- 4. Update and delete the data from table using where constraints

Please check that this question paper contains 9 questions and 2 printed pages within first ten minutes.

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[Total No. of Questions: 09] Uni. Roll No.

1 2 JUN 2023

[Total No. of Pages: 2]

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Database Management System

Subject Code: PCIT-104

Paper ID: 16233

Scientific calculator is Not Allowed

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice 3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

Q1.

- How does a trigger work in a database system? a)
- Describe the role of shadow paging in recovery systems. b)
- Explain the different applications of Data Mining. c)
- Differentiate between primary key and super key. d)
- Why concurrency control is important in database systems? e)
- Write a syntax for Inner join with example.

Part - B

[Marks: 04 each]

- Discuss the concept of functional dependencies and their role in database design. Q2.
- Explain the structures of relational databases, including tables, rows, and columns. Q3.
- Classify different types of failures that can occur in a database system. Discuss the role Q4. of recovery and atomicity in ensuring data consistency. Q5.
- Compare and contrast data definition language (DDL) and data manipulation language (DML), and provide examples of their usage. Q6.
- Design database tables to demonstrate the 3NF and BCNF in DBMS with example. Q7.
- Consider a university database system that stores information about students, courses, and grades. The database has the following tables:

Page 1 of 2

P.T.O.

Students (student_id, name, email, major, advisor_id)

1 2 JUN 2023

Courses (course_id, title, department, credits)

Enrollments (enrollment_id, student_id, course_id, semester, grade)

Design the process of logical database in the context of the university database system. Discuss the importance of integrity constraints in ensuring data accuracy and consistency.

Part - C

[Marks: 12 each]

Q8. Explain the ACID properties in the context of transaction management. How do they ensure data consistency and reliability?

OR

Explain the concept of data warehousing and its advantages in decision support systems. Discuss the role of data marts in supporting specific business functions.

Q9. Design a database of any case study using NoSQL database terms and terminology. Explain in detail with comments.

OR

Consider a database schema for an online bookstore with the following tables:

Books (book_id, title, author, price, publication_year)

Customers (customer_id, name, email, address)

Orders (order_id, customer_id, book_id, order_date, quantity)

Write SQL queries to perform the following tasks:

- 1. Retrieve the titles and authors of all books published in the year 2022.
- 2. Retrieve the names and email addresses of customers who have placed at least one order.
- 3. Calculate the total price of each order by multiplying the quantity of each book by its price, and display the order_id, customer_id, and total price.
- 4. Find the customer who has placed the maximum number of orders.

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[Total No. of Questions:09 Uni. Roll No. 200489

[Total No. of Pages: 2]

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Probability and Statistics

Subject Code: BSIT-101

Paper ID: 16232

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

- 2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
- 3) Any missing data may be assumed appropriately
- 4) Scientific Calculator is allowed.

Part - A

[Marks: 02 each]

Q1.

- What is the difference between skewness and kurtosis? a)
- b) What is Type I and Type II error?
- What is the difference between correlation and regression? c)
- What is sampling distribution? d)
- What is mean and variance of poison distribution?
- A bag contains 4 red balls, 3 red balls and 5 green balls. A ball is drawn from the bag at random. What is the probability of getting a non red ball?

Part - B

[Marks: 04 each]

Calculate the coefficient of correlation between X and Y for the following data. Q2.

X: 5 13 17 21 Y: 12 20 25

33 35 Obtain the two regression equations from the following data. Q3.

Sales: 91 97 108 121 67 124 51 73 111 57 Purchases: 71 75 69 97 70 91 39

80 What is Sampling? What is the difference between Probability and Non-Probabilty Sampling?

Page'1 of 2

P.T.O.

61

- Q5. A pack of 50 tickets numbered 1 to 50 is shuffled and then two tickets are drawn. Find the probability that:
 - a. Both the tickets drawn have prime numbers.
 - b. None of the tickets drawn has prime numbers.
- Q6. What is the difference between frequency and probability distribution? Explain in detail.
- Q7. Calculate Median and Mode for the following distribution.

Production per day				20 mg A 7 1 1 mg	At agriculture
'(in Tons)	21-22	23-24	25-26	27-28	29-30
No. of days	7				A Year
- or days		13	22	10	8

Part - C

[Marks: 12 each]

Q8. Fit a straight line for the following data.

X: 10 20 30 40 50 Y: 22 23 27 28 30

OR

A dice is tossed 120 times with the following results:

Number turned up: 1 2 3 4 5 6 Total

Frequency: 30 25 18 10 22 15 120

Test the hypothesis that the dice is unbiased.

[Note: The table value of $\psi^2_{5\%, 5} = 11.070$]

Q9. Three similar boxes have white and black balls. Box I has 1 white and 2 Black, Box II has 2 white and 1 black, Box III has 2 white and 2 black. One of the boxes is selected and a ball is chosen at random from it, which turns out to be white. Find the probability that the third box is chosen using Bayes' Theorem?

OR

- a) What is the difference between Probability Distribution and Sampling Distribution?
- b) Explain classical, relative and subjective approaches of Probability with example.

Page 2 of 2

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No. ... 1. 64.5.11

Program: B.Tech. (Batch 2018 onward)

Semester: 4th

Name of Subject: Probability and Statistics

Subject Code: BSIT-101

Paper ID: 16232

Scientific calculator is Allowed.

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory.

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice.

3) Any missing data may be assumed appropriately.

Part - A

[Marks: 02 each]

Q1.

Find the mean of the data: 15,20,25,19,12,11,13,17,18,20.

Define Null hypothesis.

If the regression coefficient of x on y is 0.8 and that of y on x is 0.2, what is the value of correlation coefficient between x and y?

Two dice are tossed once. Find the probability of getting a total of 8.

Check the correctness of the statement, "Mean of a B.D is 15 and variance is 5." Average score of two batsman A and B are respectively 54.65, 53.4 and their standard deviation are respectively 1.68, 1.62. Which batsman is more consistent?

Part - B

[Marks: 04 each]

Calculate the Median of the data given below:

Marks	10-20	20-30	30-40	40-50	50-60	60-70
No. of students	8	11	9	25	12	16

Annual rainfall at a certain place is normally distributed with mean 45cm. The rainfalls for the last five years are 48cm, 42cm, 40cm, 44cm and 43cm. Can it be concluded that the average rainfall during the last five years is less than the normal rainfall? (tabulated value = 2.976)

Find the rank correlation from the following data:

X	74	98	110	70	65	85	88	59
Y	121	133	170	102	90	152	160	85
	5	4			9	3		3

Page 1 of 2

P.T.O.





A can solve 90% of the problems given in a book and B can solve 75%. What is the probability that at least one of them will solve the problem, selected at random.

The probability that a bomb dropped from a plane hits the target is 1/3. If 6 bombs are dropped, find the probability that at least two will hit the target.

Fit a linear curve to the following data:

X	1	2	3	4	5
у	1	5	11	8	14

Part - C

[Marks: 12 each]

98. Calculate the Karl Pearson's coefficient of correlation from the following data:

X	66	90	88	55	58	44	42
Y	58	76	65	58	53	49	56

OR

A factory produces two types of electric bulbs A and B. In an experiment relating to their life, the following results were obtained.

*							
	Length of life	10-20	20-30	30-40	40-50	50-60	60-70
	Bulb A	20	18	32	40	22	18
	Duita	20	10	32			
	Bulb B	13	22	40	32	18	10

Compare the Variabilities of life of two varieties using Coefficient of variation.



In a tape recorder factory, machines A, B and C manufacture respectively 50%, 30% and 20% of the total production. The percentage of the defective output of these machines are 3%, 4% and 5%. A tape recorder is selected at random and is found to be defective. Find the probability that the tape recorder was produced by machine A.

OR

Fit a Poissøn distribution to the following data and calculate the expected frequencies.

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[Total No. of Questions: 09]

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[Total No. of Pages: 3.]

Uni. Roll No.

Program: B.Tech. (Batch 2018 onward)

Semester: 4

Name of Subject: Probability and Statistics

Subject Code: BSIT-101

Paper ID: 16232

Scientific calculator is Allowed

Detail of allowed codes/charts/tables - Normal table is allowed

Time Allowed: 03 Hours

Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part - A

[Marks: 02 each]

1.

- (a) Find the quartile deviation from the given data: 28,18,20,24,27,30,15.
- (b) Find the area under the normal curve between z = 0 and z = 1.54
- (c) State the relation between the correlation and regression coefficients?
- (d) Find the probability of drawing two cards king and queen from a pack of cards in two consecutive draws, the card drawn are not being replaced.
- (e) Find the mean and the standard deviation of the number of heads in 100 tosses of a fair coin.
- (f) If two Eigen values of a matrix are -1 and 1. Find the third Eigen value when sum of diagonal elements of a matrix is given to be -4.

Part - B

[Marks: 04 each]

2. Compute median from the following data:

Mid-value	5	15	25	35	45	55	65	75
Frequency	15	7	11	10	13	8	20	16

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3. Two salesmen A and B are working in a certain district. From a sample survey conducted by a head office, the following results were obtained. State whether there is any significant difference in the average sales between the two salesmen.

	1
20	18
170	20,5
20	25
	20 170 20

(Given the table value of t for 36 d.f., t_{0.5} for two tailed test=1.96)

4. Obtain the regression equation of Y on X by least square method:

And the second	The state of the s	A service and the service and			
X	1	2	3	z1 ·	5
					1
Y	2	3	5	4	6
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- 5. One card is drawn at random from numbers 1 to 150. Find the probability that it is either divisible by 3 or 5
- 6. Describe the different methods of primary data collection.
- 7. If 8 ships out of 10 arrive safely, find the probability that at least one would arrive safely out of 5 ships selected at random.

Part - C

8. Calculate coefficient of Karl Pearsons coefficient of correlation from the following data:

X	100	200	300	400	500	600
Y	110	120	135	140	160	165

OR

The number of automobile accidents per week in a certain city were as follows:

12, 8, 20, 2, 14, 10, 15, 6, 9, 4. Are these frequencies in agreement with the belief that accident's numbers were the same during these 10 week period.

(Given $\chi^2_{0.05}$ for 9 d.f. =16.92).

[Marks: 12 each]

MORNING

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9. The daily outputs of the three machines in a factory are in the ratio of 2:3:1.Past experience shows that 2%, 4% and 5% of the item produced by A.B and C respectively are defective. If an item is selected at random is found to be defective find the probability that it is produced by A or B.

OR

Fit a Binomial distribution to the following data:

X	0	1	′)	2								
			~-	3	4	5	6	7	8	9	10	1
Y	1.6	20	70	10							,	ì
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Subject	Code PCIT-105 Subject Title: Python Programming	خالسانا
Q. No.	Vuestion	Mar
Q1	Interpret the following statement with the help of code snippet (s): "The Python virtual machine sometimes knows the value of a Boolean expression before it has evaluated all of its operands."	2
Q2	Analyze the following statement. "Whether you are running Python code as a script or interactively in a shell, the Python interpreter does a great deal of work to carry out the instructions in your program."	2
Q3	With the help of an example, associate software development process.	1
Q4	Illustrate iterative code with else and break.	
Q5	An investor deposits \$10,000 with the Get-Rich-Quick agency and receives a statement predicting the earnings on an annual percentage rate (APR) of 5% for a period of 5 years. Write a program that prints the beginning principal and the interest earned for each year of the period. The program also prints the total amount earned and the final principal.	
26	Develop code to perform the following task:	
	Suppose you have data containing two fields (roll_no, obtained_marks) for the subject Chemistry where maximum marks are 60. Assume there are 70 students in	
	the class and each one having has obtained some marks out of 60 i.e. no one is	44
	absent. Consider data in such a way that 40% of the maximum marks is the pass	
	criteria and few students have obtained marks ranging 0 to 15 (Case-I) and others	
	have obtained marks in the range of 16 to 60 (Case-II).	
10	You are supposed to compute average of obtained_marks of the stated cases.	
	Assume average of obtained marks of students in Case-II is less than 48.	
	Now you can have additional fields called additional_marks and final_marks in	
	your data.	
	Populate the data in such a way that you start assigning marks in the field	
	additional _marks starting from 1 to all the students of Case-II(here	
	final_marks=obtained_marks+additional_marks). Care must be taken that in no	
	case final_marks be greater than maximum marks.	
	Perform the iterative process of addition of marks for all the students of Case-I	
	and stop the process when average of final_marks of all students in Case-II is 4	8
	(our target average). Ensure that all students of Case-II are given equal	
	additional_marks except for students who have reached maximum limit.	
	Your program must be such that target average for Case-II must be read throug	
	appropriate prompt message. If target average for Case-II is already greater tha	
	equal to the Case-II obtained marks of students, no action is required, just disp	lay

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Q1	Differe	ntiate betw	veen loc	alStorage an	d session	nStorage.			CO2, L2	2
Q2, -	What a	re the diffe	erent fad	e methods in	n jQuery	/?			CO2, L4	2
Q3		set conte n with suit			text(), ht	tml(), val() a	and attr() m	ethods.	CO4, L3	4
Q4	Write functio	code snip	pets to	demonstrate	e asort,	ksort, arson	rt and krso	rt PHP	CO5, L3	4
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Course C	Outcomes Understa Build HT Analyse Develop Acquire t	EmpID 1 2 3 (CO) Student the basic of the basic of the basic using web moons and the state of the basic using web moons and the basic using the ba	Empt Mary I Cindy Jack W Jack W CSS3 for perations ive webs sage of P dules lik	Name Doe Smith Villiam be able to: equired for V designing in of an AJAX ite using jQu HP constructe, login mod	Add Germ Mex Eng Web designteractive K applicativery. et and its dule, sess	dress D many xico dand gning and ap e web pages. tion integration vion authentic	pept. No. 2 3 4 pplications with databas cation	and 5		
	Outcomes Understa Build HT Analyse Develop Acquire developin	EmpID 1 2 3 (CO) Student the basic of the basic of the basic using web mond design de	Employ Mary I Cindy Jack W Jack W Cents will ic tools re CSS3 for perations ive webs sage of P dules lik ynamic v mework.	Employ Name Doe Smith Villiam be able to: equired for V designing in s of an AJAX ite using jQu HP construct e, login mod web applicat	Add Gern Mex Eng Web designteractive K application uery. et and its lule, sess ion using	dress D many xico land gning and ap e web pages. tion integration vion authentic g contempora	pept. No. 2 3 4 oplications with databas cation ary developing	e for		
A	Dutcomes Understa Build HT Analyse Develop Acquire t developii Create ar tools like	EmpID 1 2 3 (CO) Student the basic of the basic of the basic using web mond design de	Employ Mary I Cindy Jack W Jack W Cents will ic tools re CSS3 for perations ive webs sage of P dules lik ynamic v mework.	Employ Name Doe Smith Villiam be able to: equired for V designing in s of an AJAX ite using jQu HP constructe, login mod web applicat	Add Gern Mex Eng Web designteractive K application uery. et and its lule, sess ion using	dress D many xico land gning and ap e web pages. tion integration vion authentic g contempora	pept. No. 2 3 4 oplications with databas cation ary developing	e for		vels (HOTS)
RB	Dutcomes Understa Build HT Analyse Develop Acquire developii Create ar tools like	EmpID 1 2 3 (CO) Student the basic of the basic of the basic using web mond design de	Employ Mary I Cindy Jack W Jack W Cents will ic tools re CSS3 for perations ive webs sage of P dules lik ynamic v mework.	Employ Name Doe Smith Villiam be able to: equired for V designing in s of an AJAX ite using jQu HP construct e, login mod web applicat	Add Gern Mex Eng Web designteractive K application uery. et and its lule, sess ion using	dress D many xico land gning and ap e web pages. tion integration vion authentic g contempora	pept. No. 2 3 4 oplications with databas cation ary developing	e for		vels (HOTS)
RB Classifi	Dutcomes Understa Build HT Analyse Develop Acquire developii Create ar tools like	EmpID 1 2 3 (CO) Student the basic of the basic of the basic using web mond design de	Employ Mary I Cindy Jack W Jack W Cents will ic tools re CSS3 for perations ive webs sage of P dules lik ynamic v mework.	Employ Name Doe Smith Villiam be able to: equired for V designing in s of an AJAX ite using jQu HP construct e, login mod web applicat	Add Gern Mex Eng Web designteractive K application uery. et and its lule, sess ion using	dress D many xico land gning and ap e web pages. tion integration vion authentic g contempora	pept. No. 2 3 4 oplications with databas cation ary developing	e for		vels (HOTS)

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i.	The state of the s	Nanak Dev Engl	neering College, Ludhis	UMAMAKAN MAKA
	GIII	Department of Int	ormation Technology	
	According to the second	B.Techail)	Semester	HITTOM HOUSE STATE
	ram	PCIT-107	Subject Title	
ubj	ect Code Semester Examination	1	Course	
lid	E) No.	-	Coordinator(s) Time Duration	
lax	. Marks	24 Murch, 2023	Roll Number	
ate	of MSE	24. 10111011,2020	Trumper Visit III	
	: Attempt all questions	40		
).		Question		
0.				
	D. J. W.	TTMI and XHTM	L	
1	Differentiate between I	TIVIL and	- 1/1 is with an	MAMARARA BARAKAN BARAK
2	What are the empty ele	ments in HTML?	Briefly explain it with an	
	example.	The state of	SS on a wah page? Discuss C	
3	In how many ways ca	n you integrate C	SS on a web page? Discuss C	
	with the help of progra	mming examples.		CO4, L2
4	Explain the various ev	ent handling meth	ods in jQuery.	
	Dringer avalain the and	ered and unordere	d lists in HTML with	co1, L4
5	suitable example. Also	, explain how can	you change the type of list	1
	and control the list cou	inting?	2000	A STATE OF THE PARTY OF THE PAR
			emonstrate the use of various	CO4, L6 8
6	Come alamanta lika to	vt fields radio b	utions, checkboxes, text area i	The state of the s
	and submit button. A	Iso apply form	validation on any two fields	
'n	using JavaScript.			
g " Na.				
	se Outcomes (CO)	***		· // 1
ude	ents will be able to	9		
٠.,	Understand the basic t	ools required for	Web designing and application	S
	Build HTML5 and CS	SS3 for designing	interactive web pages.	mera / fine to the
y f	Analyze the basic ope			A STATE OF THE STA
*	Develop an interactive			
			uct and its, integration with data	base for
		3 313 113 1	odule, session authentication	

RBT Classification	Lower Order T	Thinking Levels (L	OTS)	Higher Orde	r Thinking L	evels (HOTS)
RBT Level Number	L LI	L2	L3	L4	L5	L6
RBT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating

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1			Guru Nanak Dev I	f Information T	lege, Ludhis	na	Charles Sharper Lands to Super Property	-	
			Department	Semester	echnology				
Pro	ogram		B.Tech (IT)			4 th	The second second second		
				Subject Title			in the second		
Sul	bject Co	ode	PCIT-108	1147		Computer Arc	itecture and		
1	22. 21		2	Course		Microprocesso)r		
MS	T No		2	Coordings	·(e)	Dr. Amit Kam	ra / Er. Gita	anjali	
May	x. Mark	· ·	24	Time Durati	ion	1.520			
				Roll N		1 hour 30 minutes			
Date	of MS	T	22 nd May 2023	Roll Numbe	r	1			
		-						1 · ·	
	Note: Attempt all questions Q. No. Question								
Q. N	No.		Que	stion		1 2 1	COs,	Marks	
-							RBT level		
Q1	E	xplain how the	parallel process	ing improves	the perfo	rmance of	CO4, L2	2	
3.3	-m	ultiprocessing envi	ronment.	3390343 75 50				155	
Q2	Su	ipport the statemen	it "The use of micro	processor make	s daily life	easier" with	CO6, L5	2	
	the	e help of real time a	applications.			7 (a) () ()			
Q3		a) Illustrate the	need and significan	ce of memory hi	erarchy	- W 1/40 L	CO1, L3	4	
		b) Discuss the n	nain objective of m	ltiprocessor.	orarony.		CO1, L2	1 7	
Q4		a) Calculate the	total number of cel	s in 64 Kb*8 m	emory chin	G WARD	CO3, L3	4	
	- 1	b) How many 2	256MB memory cl	ips are require	d to build	the memory	CO1, L5		
		capacity of 4	GB RAM?	r	d to build	the memory	331, 23		
To receive		oupdony or .			1 18				
Q5	Dif	ferentiate						4	
		a) Microprocesse	or and microcontro	ller —			CO6, L4	The state of the s	
				1 23 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
	- 1	b) Virtual Memo	ry and Cache Men	ory					
06			ry and Cache Men of 8051 microco		lain the fu	nctionality of	CO1, L4		
Q6	Drav	w the pin diagram	ry and Cache Men of 8051 microco		olain the fu	nctionality of	CO1, L4		
Q6		w the pin diagram			olain the fu	nctionality of	CO1, L4		
	Drav each	w the pin diagram pin.			lain the fu	nctionality of	CO1, L4		
ourse C	Drav each	w the pin diagram pin.			lain the fu	nctionality of	CO1, L4		
ourse C	Drave each Outcom will be	w the pin diagram pin. The ses (CO) The able to	of 8051 microco	itroller and exp			CO1, L4		
ourse C udents	Draveach Outcom will be Ident	w the pin diagram pin. les (CO) able to ify computer syste	of 8051 microcon	itroller and exp	processor a	and assembly	CO1, L4		
ourse C	Draveach Outcom will be Ident	w the pin diagram pin. les (CO) able to ify computer syste	of 8051 microcon	itroller and exp	processor a	and assembly	CO1, L4		
ourse C udents	Draveach Outcom will be Ident Clari	w the pin diagram pin. les (CO) able to ify computer syste fy instruction form	ems, memory organats, RISC and CI	itroller and exp	processor a	and assembly	CO1, L4		
ourse Cudents 1 2 3	Drave each Outcomwill be Ident Clari Solve	w the pin diagram pin. The second pin to the pin to th	ems, memory organats, RISC and CISh operations by us	nitroller and exp nization, Micro SC architecture ng the instructi	processor a	and assembly	CO1, L4	5	
ourse Cadents 1 2 3	Draveach Outcom will be Ident Clari Solve Comp	w the pin diagram pin. les (CO) able to ify computer system for instruction form to basic binary mathematical pare between pipe.	ems, memory organats, RISC and CISh operations by us	nization, Micro SC architecture ng the instruction.	processor a and differe	and assembly ent addressin roprocessor.	CO1, L4 CO6, L6 language pg modes.	programi	
ourse Cudents 1 2 3	Drave each Outcom will be Ident Clari Solve Comp	w the pin diagram pin. les (CO) able to ify computer syste fy instruction form be basic binary mathematical pare between pipe on structured, well	ems, memory organats, RISC and CISh operations by us	nization, Micro SC architecture ng the instruction.	processor a and differe	and assembly ent addressin roprocessor.	CO1, L4 CO6, L6 language pg modes.	programi	
ourse Cadents 1 2 3	Drave each Outcom will be Ident Clari Solve Comp	w the pin diagram pin. les (CO) able to ify computer system for instruction form to basic binary mathematical pare between pipe.	ems, memory organats, RISC and CISh operations by us	nization, Micro SC architecture ng the instruction.	processor a and differe	and assembly ent addressin roprocessor.	CO1, L4 CO6, L6 language pg modes.	programi	
ourse Cadents 1 2 3	Draveach Outcom will be Ident Clari Solve Comp Designed with the comp Comp	w the pin diagram pin. les (CO) able to ify computer system for instruction form to basic binary mathematical bare between pipe on structured, well world problems	ems, memory organats, RISC and CISh operations by uslining and parallel commented, unde	nization, Micro SC architecture ng the instruction. rstandable asse	processor a and differe ions of mic	and assembly ent addressin croprocessor. uage progran	CO1, L4 CO6, L6 language pg modes.	programi	
ourse Cudents 1 2 3 4 5	Draveach Outcom will be Ident Clari Solve Comp Designed with the comp Comp	w the pin diagram pin. les (CO) able to ify computer system for instruction form to basic binary mathematical pare between pipe in structured, well world problems ify the trends and	ems, memory organats, RISC and CISh operations by uslining and parallel commented, under	nization, Micro SC architecture ng the instructions. rstandable asse	processor a and difference ions of mice embly lang	and assembly ent addressin croprocessor. uage progran	CO1, L4 CO6, L6 language pg modes.	programm de solution	
ourse Cudents 1 2 3 4 5	Draveach Outcom will be Ident Clari: Solve Comp Desig real w Class	w the pin diagram pin. les (CO) able to ify computer system for instruction form to basic binary mathematical pare between pipe in structured, well world problems ify the trends and	ems, memory organats, RISC and CISh operations by uslining and parallel commented, unde	nization, Micro SC architecture ng the instructions. rstandable asse	processor a and difference ions of mice embly lang	and assembly ent addressin croprocessor. uage progran	CO1, L4 CO6, L6 language pg modes.	programi de soluti	
ourse Cudents 1 2 3 4 5 T assifica	Draveach Outcom will be Ident Clari: Solve Comp Desig real w Class:	w the pin diagram pin. les (CO) able to ify computer system for instruction form to be basic binary mathematical pare between pipe in structured, well world problems ify the trends and Lower Order T	ems, memory organats, RISC and CISh operations by uslining and parallel commented, undedevelopments of thinking Levels (I	nization, Micro SC architecture ng the instruction sm. rstandable asse	processor a and difference ions of mice embly lang	and assembly ent addressin croprocessor. uage progran	CO1, L4 CO6, L6 language pg modes.	programi de soluti	
ourse Cudents 1 2 3 4 5 6 T ssifica T Leve	Draveach Outcom will be Ident Clari: Solve Comp Desig real w Class:	w the pin diagram pin. les (CO) able to ify computer system for instruction form to basic binary mathematical pare between pipe in structured, well world problems ify the trends and	ems, memory organats, RISC and CISh operations by uslining and parallel commented, under	nization, Micro SC architecture ng the instructions. rstandable asse	processor a and difference ions of mice embly lang	and assembly ent addressing roprocessor. uage program y Order Think	language pg modes.	programi de solution	
ourse Cudents 1 2 3 4 5 T Levember	Draveach Outcom will be Ident Clari Solve Comp Desig real w Class tion	w the pin diagram pin. les (CO) able to ify computer system for instruction form to be basic binary mathematical pare between pipe in structured, well world problems ify the trends and Lower Order T	ems, memory organats, RISC and CISh operations by uslining and parallel commented, undedevelopments of thinking Levels (I	nization, Micro SC architecture ng the instruction rstandable assertion	processor a and difference on s of mice of mice of mice of the control of the con	and assembly ent addressing roprocessor. uage program y Order Think	CO1, L4 CO6, L6 language pg modes.	programmede solution (HOTS	
ourse Cudents 1 2 3 4 5 6 T ssifica T Leve	Draveach Outcom will be Ident Clari Solve Comp Desig real w Class tion	w the pin diagram pin. les (CO) able to ify computer system for instruction form to be basic binary mathematical pare between pipe in structured, well world problems ify the trends and Lower Order T	ems, memory organats, RISC and CISh operations by uslining and parallel commented, undedevelopments of thinking Levels (I	nization, Micro SC architecture ng the instruction sm. rstandable asser	processor a and difference on s of mice of mice of mice of the control of the con	and assembly ent addressin proprocessor. uage program y Drder Think	language pg modes.	programm	

190	gram	B.Tech. (IT)	nnak Dev Engineering Collection Tec	ege, Ludhiana		1
Sub	ject Code	PCIT-108	Semester Semester	chnology		
	ΓNo.	1011-108	Subject Title	4		
		L		Computer Archi	lecture & Mi	2505
Max	. Marks	24	Course Coordinator(s)	Dr. Amit Kamra	/ Er. Gitaniali	Proces
Date	of MST	24 March 2023	Time Duration	4,		
Note	: 1. Attempt all	the questions in serial		1 hour 30 minute	es	and some
	-pt dil	me questions in serial	order.		Ye Organia	13 (14) • []
No.			Question	24 2		
51	Demonstrate th	e execution of the following addr ii) ADC r ii)		× × × × × × × × × × × × × × × × × × ×	COs, RBT level	M
2	LDA 8	addr ii) ADC r ii)	CMA iii) Plant	18	CO3, L3	
-	Differentiate m	icroprocessor and mi	crocontrol	In-	, 15	1-1
					CO1,L4	1
1 T	instruction of In	itel 8085? Explain the	the location of the operand em with the help of examples	is specified in an	CO2,L2 -	
+-	- dif	ferent steps of instruc	ction cycle with the land of		in Arre	
ν	Vrite an assemb	oly language program	to add two 8-bit numbers wi	ow chart.	CO1,L2	<u></u>
- D	Trong to the state of the state	s- program	to add two 8-bit numbers wi	thout the carry.	CO3,1.6	1
	raw and explai	n the architecture of	the 8085 microprocessor.	1	CÓ1,L6	-
)) Students will be at				
and the second second second	CALL TO THE PARTY OF THE PARTY	Y-44			3	797
Ide	ntify computer	systems, memory o	rganization	i.X i		
			organization, Microprocessor			ming
						ming
Clar	ify instruction	formats, RISC and	CISC architecture and differ	rent addressing mo		ming
Clar	ify instruction	formats, RISC and math operations by	CISC architecture and difference using the instructions of mi	rent addressing mo		ming
Clar Solve Comp	ify instruction e basic binary pare between p	formats, RISC and math operations by pipelining and paral	CISC architecture and difference using the instructions of mi	rent addressing mo	des	
Solve Comp	ify instruction e basic binary pare between p n structured, v	formats, RISC and math operations by pipelining and paral	CISC architecture and difference using the instructions of mi	rent addressing mo	des	
Solve Comp Design	ify instruction e basic binary pare between p n structured, v problems	formats, RISC and math operations by pipelining and paralycell commented, un	CISC architecture and difference using the instructions of millelism	rent addressing mo icroprocessor guage programs to	des	
Solve Comp Design	ify instruction e basic binary pare between p n structured, v problems	formats, RISC and math operations by pipelining and paralycell commented, un	CISC architecture and difference using the instructions of mi	rent addressing mo icroprocessor guage programs to	des	
Solve Comp Design vorld lassif	e basic binary pare between pare structured, we problems y the trends an Lower	formats, RISC and math operations by pipelining and paralycell commented, un	CISC architecture and differ using the instructions of millelism Idelism Identification of microprocessor technology	rent addressing mo icroprocessor guage programs to	des provide solut	ions t
Solve Comp Design	e basic binary pare between pare structured, we problems y the trends an Lower	formats, RISC and math operations by pipelining and paralyell commented, under developments of the developments of the formation of the format	CISC architecture and differ using the instructions of millelism assembly language of microprocessor technologies Levels (LOTS)	rent addressing mo icroprocessor guage programs to	des provide solut	ions t
Clar Solve Comp Design world lassif	basic binary pare between pare structured, was problems by the trends and Lower	formats, RISC and math operations by pipelining and parameted, under the developments of the order Thinking	CISC architecture and differ using the instructions of millelism assembly language of microprocessor technologies Levels (LOTS)	rent addressing modern corprocessor guage programs to By Higher Order	provide solut	ions t

1		6	uru Nanak I	Dev Engineering	College, Ludhia	na	1	
			Departme	ent of Information	Technology	e de	ALC: NAME OF THE PARTY OF THE P	11 mg
Pro	ogram	B.Tech. (II		Semester	4	The second secon		**************************************
-	bject Code	PCIT-108		Subject Title	Compute	er Archi	tecture a	& M
MS	ST No.	1		Coordinator(Dr. Amit	t Kamra	/ Er. Gi	tanja
Ma	x. Marks	24	Service Control	Time Duration	1 hour 30) minute	S	
Dat	te of MST	24 March 20	023	Roll Number	2104	551		
Not	e: 1. Attempt al	I the questions in	n serial order.	1 10 000				
Q. No.			Ques	ne legislation of the second	-12 26 277.4		COs,	C. T. William .
21	Demonstrate (i) LDA	the execution of addr ii) ADC	the following r ii)CMA	g instructions iii) PUSH re			CO3,	L3
)2		microprocessor		1000			CO1,L	<u> </u>
Q3	Discuss the construction of	lifferent ways in Intel 8085? Exp	which the lo	ocation of the oper th the help of exam	and is specified in	n an	CO2,L2	2
Q4	Describe the	different steps o	f instruction c	cycle with the help of	of flow chart.	< 1	CO1,L2	ill
25				d two 8-bi numbers		And the same of the same of the same	CO5,L6	
06.	Draw and exp	lain the architec	ture of the 80	85 microprocessor.			CO1,L6	5
our	se Outcomes (CO) Students wi	Il be able to:			Harris II		
	Identify comp	iter systems, me	mory organiz	ation, Microproces	sor and assembly	language	prograi	mmir
	Clarify instruct	ion formats, RIS	SC and CISC	architecure and di	fferent addressing	modes		
-	Solve basic bin	ary math operati	ons by using	the instructions of	microprocessor			
(Compare betwe	en pipelining an	d parallelism					
I v	Design structure world problems	ed, well commer	nted, understa	ndable assembly la	inguage programs	s to provi	de soluti	ions t
C	Classify the tren	ds and developn	nents of micro	oprocessor technol	ogy	. Lieur	riger i sa	4
RF assif	BT ication	Lower Order T	hinking Lev	els (LOTS)	Higher Orde	r Thinki	ng Level	ls (H
3T L	evel	L1 .	L2	L3	L4	L5		
100	Authorities and the Control			A CONTRACTOR OF STREET OF THE STREET, THE			and the second second	N. Marian

Gur	u Nanak Dev Engl	neering College, Ludhian	а	A STATE OF S
Land Control of the C	Department of In	formation Technology		
Program	B.Tech.	Semester	6	
Subject Code	PCIT-104	Subject Title		Management Syste
(MST) No.	12	Course Coordinator	Mohanjit k	Kaur Kang
Max. Marks	24	Time Duration	1hr 30 mir	1S
Date of MST		Roll Number	210	1560
Note: Attempt all questions	100 mg		· 1	

Note: Attempt all questions

Q. No.	Question	COs, RBT level
Q1	Define TPS.	CO3, L1
Q2	Distinguish between super key and candidate key.	CO2, L4
Q3	Discuss any ten SQL Queries in DBMS with syntax.	CO3, L2
Q4	Draw a state diagram of transaction showing its state. Explain ACID properties of a transaction	CO3, L3
Q5	Contrast log based recovery and cascading rollback.	CO2, L4
Q6	Illustrate functional Dependency? Explain its use in DBMS. Explain BOYCEE-CODD normal forms and how does it differ from 3NF. OR How you Evaluate NOSQL .Explain NOSQL database along with case	CO2, CO5,L4,L
	study of MetLife, face book and Google.	

Course Outcomes (CO) Students will be able to

1	40 10 1.5	Apply knowledge of database system, No Sql database, data mining and SQL structure.
2	To for	Identify, formulate database design, Functional dependencies and recovery techniques
3	1928	Use the techniques, skills and tools such as query handling, normalized relations
1	x 1	Design Physical and object relational database.
S. T.	A 1 200 P. A.	Investigate various case studies using NoSql.
		Apply the Applications of spatial and multimedia databases for real world.

BT Classification	Lower Order T	hinking Levels (L	OTS)	Higher Ord	er Thinking L	evel
BT Level Number	Ll	L2	L3	L4	L5	
BT Level Name	Remembering	Understanding	Applying	Analyzing	Evaluating	Cre

		Guru Nanak Dev Eng	incering Colle	ge, Ludhiana			
		Guru Nanak Dev Eng Department of In	formation Tec	hnology		14	and
		B.Tech.(IT)	Semeste Subject	er	A Paris	4 Probabilit	y and
Pro	gram ject Code	BSIT-101	- Aojee	Title			
-			Course	Coordinator	(s)	Rupinder	Kau
Mid	Semester Test (MST)	2	The second secon			The second second	
No.	N	24	1 ime I	Duration	The selection	1 hour 30	,
Max.	Marks		Roll N			minutes	N.
Date	of MST	24 th May, 2023	XOU N	umber		21045	60
Note:	Attempt all questions			1			alatar,
Q.		Question			1 1	COs, RBT	Mai
7- 1	* ************************************		thesis	No.		CO1, L4	
01	DistinguishNull Hypo	thesis and Alternate	Hypouresis.			CO1, L4	1.3
1					29.1		
No. of Street	· · · · · · · · · · · · · · · · · · ·	mal Distribution		\$50	1900	CO3. L1	130
No. of Street	Write properties of No	rmal Distribution.				CO3, L1	
2		B**	000 and 2000	are 168 75 C	ms and	CO3, L1	
2	The means of two larg	e sample of sizes 1	000 and 2000	are 168.75 c	ms and		
2	The means of two larg	ge sample of sizes 10. Can the samples	be regarded	are 168.75 c	ms and from a		
2 3 1 1 p	The means of two larges 170 cms respectively population with same 1	ge sample of sizes 10. Can the samples mean and S.D 6.25 compared to the samples of the samples of the samples of the samples of the sample o	be regarded ms.	l as drawn	from a	CO4, L3	
2 3 1 p	The means of two larges 170 cms respectively population with same 1	ge sample of sizes 10. Can the samples mean and S.D. 6.25 candidates for the po	s be regarded oms.	in a compan	from a v. Their	CO4, L3	
2 3 7 1 p	The means of two larges 170 cms respectively population with same 100 A, B and C are three c	ge sample of sizes 10. Can the samples mean and S.D. 6.25 candidates for the possible collection are in the	s be regarded cms. st of Director	in a compan	y. Their	CO4, L3	
2 3 1 pp 4 A	The means of two larger 170 cms respectively population with same to A, B and C are three coespective chances of same to the same of two larger same of the same o	ge sample of sizes 10. Can the samples mean and S.D. 6.25 candidates for the poselection are in the roduce the internet	st of Director st of 45:3. trading in the	in a compan The probabi	y. Their lity that is 0.30.	CO4, L3	
2 3 7 1 p A A A A C C C C C C	The means of two larger 170 cms respectively population with same 14. B and C are three conspective chances of selected will introduce the probability of the probability.	ge sample of sizes 10. Can the samples mean and S.D. 6.25 candidates for the poselection are in the roduce the internet ity of B and C are	st of Director st of Director trading in the 0.50 and 9.6	in a compan The probabine company	y. Their lity that is 0.30.	CO4, L3	
2 3 7 1 p A re A Si	The means of two larges 170 cms respectively copulation with same to A, B and C are three coespective chances of selected will interpretable to the companies of two largest companies of two largest contract the contra	ge sample of sizes 10. Can the samples mean and S.D. 6.25 candidates for the poselection are in the roduce the internet ity of B and C are company will int	st of Director st of 4.5:3. trading in the 0.50 and 9.6	in a compan The probabine company of respective	y. Their lity that is 0.30.	CO4, L3	51
2 3 7 1 p A re A Si	The means of two larges 170 cms respectively copulation with same to A, B and C are three coespective chances of selected will interpretable to the companies of two largest companies of two largest contract the contra	ge sample of sizes 10. Can the samples mean and S.D. 6.25 candidates for the poselection are in the roduce the internet ity of B and C are company will int	st of Director st of 4.5:3. trading in the 0.50 and 9.6	in a compan The probabine company of respective	y. Their lity that is 0.30.	CO4, L3	
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2 3 7 1 p A	The means of two large 70 cms respectively population with same 10 A, B and C are three conserved chances of some first selected will into milarly, the probability that the probability that I mpany.	ge sample of sizes 16. Can the samples mean and S.D 6.25 candidates for the poselection are in the roduce the internet ity of B and C are company will into Director B introduced heights (inches)	st of Director st of 4.5.3. trading in the 0.50 and 9 croduce internated the internated in the 1.45,47,50,52	in a compan The probabi ne company 60 respective et trading. A ernet trading	y. Their lity that is 0.30. Ply. Find Also find find 51.	CO4, L3 CO6, L5 In CO4, L	-3
2 3 7 1 p A	The means of two large 70 cms respectively population with same 10 A, B and C are three conserved chances of some first selected will into milarly, the probability that the probability that I mpany.	ge sample of sizes 16. Can the samples mean and S.D 6.25 candidates for the poselection are in the roduce the internet ity of B and C are company will into Director B introduced heights (inches)	st of Director st of 4.5.3. trading in the 0.50 and 9 croduce internated the internated in the 1.45,47,50,52	in a compan The probabi ne company 50 respective et trading. A ernet trading	y. Their lity that is 0.30. Ply. Find Also find find 51.	CO4, L3 CO6, L5 In CO4, L	23
2 P P P P P P P P P	The means of two large 70 cms respectively population with same 14. B and C are three conserved chances of some first selected will interprobability that the probability that the probability that I mpany. Sample of 9 boys had light of data, discussions are selected.	ge sample of sizes 16. Can the samples mean and S.D 6.25 candidates for the poselection are in the roduce the internet ity of B and C are company will into Director B introduced heights (inches)	st of Director st of 4.5.3. trading in the 0.50 and 9 croduce internated the internated in the 1.45,47,50,52	in a compan The probabi ne company 50 respective et trading. A ernet trading	y. Their lity that is 0.30. Ply. Find Also find find 51.	CO4, L3 CO6, L5 In CO4, L	
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Demonstrate the measures of central tendency to analyze the given data set

