Hall	Ticke	et Number :	
Code	• 7G	R-17	
Couc		B.Tech. I Semester Supplementary Examinations February 2022	
		Database Management Systems	
1100		(Computer Science and Engineering)	
-		arks: 70 Iny five full questions by choosing one question from each unit (5x14 = 70 Marks *******	-
		UNIT–I	
1.	a)	Explain various storage manager components and its functions.	7N
	b)	Discuss different Database-System Applications	7N
2.	2)	<b>OR</b> Briefly discuss about architecture of database system with diagram.	401
Ζ.	a) b)	Write about instances and schemas.	10N
	D)	UNIT-II	4N
3.	a)		8N
	b)		6N
	,	OR	0.1
4.	a)	Distinguish strong entity set with weak entity set? Draw an ER diagram to illustrate weak entity set?	8N
	b)	Explain the distinctions among the terms primary key, candidate key, and super key.	61
		UNIT–III	
5.	a)	Write about Views? Explain how views are created, updated and deleted with examples.	8N
	b)	Write short notes on Cursors.	6N
	,	OR	
6.	a)	Briefly discuss about relational set operators.	7N
	b)	Why are stored procedures important? How do we declare stored procedures?	7N
7.	a)	<b>UNIT-IV</b> Define normalization. Explain 1st normal form (1 NF) with example.	7№
	b)	Define multivalued dependencies. Describe Fourth Normal form with an example.	7N
	~)	OR	7.10
8.	a)	List out the problems related to Decomposition?	7N
	b)	Show that if a relation schema is in BCNF, then it is also in 3NF.	7N
		UNIT-V	
9.	a)	Explain the distinctions between the terms Serial schedule and Serializable schedule.	7N
	b)		7N
		OR English Tananatia Oct	
10.	a)	Explain Transaction Support in SQL.	7N
	b)	How is data organized in a tree-based index? When would you use a tree?	7N

	ŀ	Hall Ticket Number :		
			R-17	
	Ν	ode: 7G134 II B.Tech. I Semester Supplementary Examinations February Discrete Mathematics ( Computer Science and Engineering ) Max. Marks: 70 Answer any five full questions by choosing one question from each unit (5x1	Time: 3 Ho	
			Marks C	CO Blooms Level
		UNIT–I		
1.	,	Explain Free and Bound variables with examples.	7M	
	b)	Verify the principle of duality for the following logical equivalence. (PVQ) ^(~P ^(~P^Q)) ⇔(~P^Q)	7M	
		(FVQ) (~F (~F (Q)) (~F (Q))	7 111	
2	a)	What is Tautology? Prove that the following statement is tautology or not.		
		((P->R)^(Q->R))->((PVQ)->R)	7M	
	b)	Show that (~P^(~Q^R))V(Q^R)V(P^R)<=>R	7M	
		UNIT-II	7 111	
3.	a)	Explain partition and covering of a set.	7M	
	b)	Let $X=\{1,2,3,4,5\}$ and $R=\{ x>y\}$ . Draw the graph of R and also its matrix.	7M	
	,	OR		
4.	a)	Let X= $\{1,2,3,4,5,6,7\}$ and Relation R= $\{(x,y)  (x-y) \text{ divisible by } 3\}$ in X. Check Whether the relation R is Equivalence relation or not.	8M	
	b)	Explain types of functions with examples.	6M	
		UNIT–III		
5.	a)	Explain Binomial and multinomial theorems.	9M	
	b)	Prove by pigeonhole principle that in a group of 61 people, at least 6 people were born in the same month.	5M	
		OR		
6.	a)	State Principle of Inclusion-Exclusion with example.	6M	
	b)	How many different license plates are there that involve 1,2 or 3 letters followed by 4 digits?	8M	
7.		<b>UNIT-IV</b> Solve the recurrence relation $2a_{n+3}=a_{n+2}+2a_{n+1}-a_n$ for n>=0 with $a_0=0$ , $a_1=1$ , $a_2=2$	14M	
0	- )	OR October the encounter and attions of the first optimization	014	
8.	a) b)	Solve the recurrence relation $a_n = a_{n-1} + f(n)$ , n 1 by substitution. Solve the recurrence relation $a_n+a_{n-1}-8a_{n-2}-12a_{n-3}=0$ , with $a_0=1,a_1=5,a_2=1$ for	6M	
	D)	$n \ge 3$ <b>UNIT-V</b>	8M	
9.	a)	What is BFS? Explain with an example.	8M	
-	b)	Define the following terms with examples.	-	
	,	i) Euler circuit ii) Hamiltonian cycle	6M	
		OR		
10.	a)	What is Four-coloring problem? Explain with an example	7M	
	b)	What is bipartite graph? Explain with an example.	7M	
		***		

# Hall Ticket Number :

#### Code: 7GC32

II B.Tech. I Semester Supplementary Examinations February 2022

## Engineering Mathematics-III

(Common to All Branches)

Max. Marks: 70





- 1. a) Apply fourth order Runge-Kutta method to  $\frac{dy}{dx} = 3x + \frac{1}{2}y$ , y(0) = 1 determine y(0.1) correct to four decimal places.
  - b) Find a real root of the equation  $3x = \cos x + 1$  by Newton-Raphson's method correct to four decimal places. 7M

### OR

2. Find a real root of the equation  $3x = \cos x + 1$  by Newton-Raphson's method correct to four decimal places.

3. a) Using Newton's forward interpolation formula and the given table of values

Х	1.1	1.3	1.5	1.7	1.9
F(x)	0.21	0.69	1.25	1.89	2.61
	41 1			4.0	

Obtain the value of f(x) when x = 1.2

b) Find the first and second derivatives of the function tabulated below at the point x = 1.5

Х	1.5	2.0	2.5	3.0	3.5	4.0		
У	3.375	7.0	13.625	24.0	38.875	59.0		
OR								

7M

14M

4. The following table of values of x and y is given.

x	0	1	2	3	4	5	6
У	6.9897	7.4036	7.7815	8.1291	8.4510	8.7506	9.0309

Find 
$$\frac{dy}{dx}$$
 and  $\frac{d^2y}{dx^2}$  at x=6

UNIT-III

5. Form the partial differential equation by eliminating the arbitrary constants  $x^2 + y^2 + (z-c)^2 = a^2$  14M

7M

Time: 3 Hours

**R-17** 



7M

6. a) Form a partial differential equation by eliminating the arbitrary functions from z = f(x+at) + g(x-at). 7M

b) Solve 
$$(x^2 - yz)p + (y^2 - zx)q = (z^2 - xy)$$
 7M

# **UNIT-IV** 7. a) Find the Fourier series to represent f(x) = f x in $0 \le x \le 2$ 7M

b) Find the half range cosine series for the function  $f(t) = t - t^2$ , in 0 < t < 1 7M

#### OR

8. a) Find the Fourier series to represent f(x) = |x| when -f < x < f and deduce that  $\frac{1}{1^2} + \frac{1}{3^2} + \frac{1}{5^2} + \dots = \frac{f^2}{8}$  7M

b) Find the half range cosine series for the function f(x) = x, when

$$0 < x < f_{\text{hence show that } \frac{1}{1^2} + \frac{1}{3^2} + \frac{1}{5^2} + \dots = \frac{f^2}{8}}$$
**UNIT-V**

9. a) Find the Fourier cosine transform of  $f(x) = e^{-ax} (x > 0, a > 0)$ . 7M

- b) Find the Fourier transform of f(x) given by  $f(x) = \begin{cases} 1, for |x| < 1 \\ 0, for |x| > 1 \end{cases}$  hence evaluate  $\int_{0}^{\infty} \frac{\sin x}{x} dx$ OR OR 7M
- 10. Find the finite Fourier sine and cosine transforms of f(x) defined by

$$f(x) = \begin{cases} 1, 0 < x < \frac{f}{2} \\ -1, \frac{f}{2} < x < f \end{cases}$$
14M

ł	Hall Ticket Number :		
		R-17	
C	Il B.Tech. I Semester Supplementary Examinations Februc	$\frac{1}{2022}$	
	Web Programming	11 y 2022	
	( Computer Science and Engineering )		
I	Max. Marks: 70	Time: 3 Hour	S
/	Answer any five full questions by choosing one question from each unit (5.	x14 = 70 Marks	)
	*****	Marks CO	Blooms
		Marks CO	Level
1 =>		784	
1. a)	Write any Five Text Formatting elements in HTML.	7M	
b)	Explain the HTML Directory Structure with examples.	7M	
0 )		78.4	
2. a)	What is HTML Attribute? Explain any 5 HTML Attributes with examples	7M	
b)	Write a HTML code to navigate between two web pages using <a href=""> tag.</a>	7M	
		78.4	
3. a)	Describe basic table element and attributes with example	7M	
b)	What is video tag? Write any five video tag attributes.	7M	
	OR	78.4	
4. a)	What is a nested table in HTML explain giving an example?	7M	
b)	How do I make my HTML control read only?	7M	
	UNIT-III		
5.	With an example, describe CSS style properties associated with text formatting	g. 14M	
	OR	-	
6. a)	How to set Multiple Backgrounds using CSS	7M	
b)	How internal DTD works? Explain with example program	7M	
	UNIT–IV		
7. a)	Write a java script code to handle onsubmit and onload events.	7M	
b)	Discuss the advantages of Java Script.	7M	
	OR		
8.	What are operators? Explain operators in java script	14M	
	UNIT-V	714	
9. a)	What is the use of load() method in jQuery. Give an example.	7M 7M	
b)	Write the basic syntax for jQuery.	7M	
10 ~	OR	714	
10. a)	Write a jQuery code to apply the two different colors on alternate rows in a table.	7M	
b)	What is jQuery UI? Explain.	7M	

Code: 7G131       II B.Tech. I Semester Supplementary Examinations February 2022         Advanced Data Structures Through C++ (Computer Science and Engineering)       Time: 3 Hours         Max. Marks: 70       Time: 3 Hours         Answer any five ful questions by choosing one question from each unit (5x14 = 70 Marks)       ************************************	Н	all Ticket Number :	_
II B.Tech. I Semester Supplementary Examinations February 2022 Advanced Data Structures Through C++ (Computer Science and Engineering) Max. Marks: 70 Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)  Time: 3 Hours Answer any five full questions of C+?  Answer Answer any five full question for each unit example Answer Answe		R-17	
Advanced Data Structures Through C++ (Computer Science and Engineering)       Time: 3 Hours Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)         Image: Structure of the structure of object oriented programming b Define class? How the member functions can be defined with examples TM b Define class? How the member functions can be defined with examples TM CR 2. a) Illustrate the significance of access specifiers in a class of C++? TM b) How do you create a static member function? Explain with example TM 3. a) Differentiate between Constructor Overloading and Function Overloading Discuss in detail about Polymorphism 4M CR 4. What is template? Explain about function templates and class templates with suitable examples. 14M 5. a) What are the uses of hash functions? 6 M b) Discuss about linked implementation of queue ADT. 10M 7. a) Define BST. Demonstrate its operations of Queue. 4. b) Discuss about linked implementation of queue ADT. 7. a) Define BST. Demonstrate its operations with suitable examples 7. m 6. a) Define BST. Demonstrate its operations with suitable examples 7. m 7. a) Define BST. Demonstrate its operations with suitable examples 7. m 7. b) Demonstrate Priority Queue using Heaps with examples 7. m 7. a) Define BST. Demonstrate its operations with suitable examples 7. m 7. a) Define BST. Demonstrate its operations of priority queue? 7. m 7. b) Demonstrate Priority Queue using Heaps with examples 7. m 7. m 7. a) Define AST. Demonstrate its operations with suitable examples 7. m 7. a) Define BST. Demonstrate its operations with suitable examples 7. m 7. a) Define BST. Demonstrate its operations with example. 7. m 7. a) Define AST. Demonstrate its operations with suitable examples 7. m 7. b) What is ascending priority queue? What are the applications of priority queue? 7. m 7. a) D			-
Max. Marks: 70       Time: 3 Hours         Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)         Imit: Im			
Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks ) ******** Marks UNIT-I 1. a) Explain the basic principles of object oriented programming 7M b) Define class? How the member functions can be defined with examples 7M OR 2. a) Illustrate the significance of access specifiers in a class of C++? 7M b) How do you create a static member function? Explain with example 7M Discuss in detail about Polymorphism 4M OR 4. What is template? Explain about function templates and class templates with suitable examples. 14M Discuss about linked implementation of queue ADT. 10M Discuss about linked implementation of queue ADT. 10M Discuss about linked implementation of queue ADT. 10M Discuss about linked implementation set the examples 7M Demonstrate Priority Queue using Heaps with suitable examples 7M Demonstrate Priority queue? What are the applications of priority queue? 7M Mit is ascending priority queue? What are the applications of priority queue? 7M Distinguish between on the following i. Standard Tries ii. Compressed Tries and iii. Suffix Tries 0R Discuss Boyer-Moore algorithm with an example. 10M Discus about following Discuss about following Discuss about following Discuss of the solutions 7M Demonstrate Priority queue? 14M Discuss about find the applications of priority queue? 7M Demonstrate Priority queue? 14M Discuss about find the applications of priority queue? 7M Discuss about find the applications of priority queue? 7M Discuss about find the applications of priority queue? 7M Discuss about find the applications of priority queue? 7M Discuss about find the applications of the applications of priority queue? 7M Discuss about find the applications of the applications of priority queue? 7M Discuss about find the solut he applications of priority queue? 7M Discuss about find the solut he applications of priority queue? 7M Discuss about find the solut he applications of priority queue? 7M Discuss about find the solut he applications of priority queue? 7M Discuss about find the sol			
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OR         2. a)       Illustrate the significance of access specifiers in a class of C++?       7M         b)       How do you create a static member function? Explain with example       7M         3. a)       Differentiate between Constructor Overloading and Function Overloading       10M         b)       Discuss in detail about Polymorphism       4M         CR       OR       4M         4.       What is template? Explain about function templates and class templates with suitable examples.       14M         5. a)       What are the uses of hash functions?       6M         b)       Distinguish between separate chaining and linear probing.       8M         OR       OR       6M         b)       Discuss about linked implementation of queue ADT.       10M         f)       Define a Queue. List out any four applications of Queue.       4M         b)       Discuss about linked implementation of queue ADT.       10M         7M       Define BST. Demonstrate its operations with suitable examples       7M         b)       Define BST. Demonstrate its operations with examples       7M         b)       Demonstrate Priority Queue using Heaps with examples       7M         b)       Demonstrate Priority queue? What are the applications of priority queue?       7M         b)	,		
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3. a) Differentiate between Constructor Overloading and Function Overloading       10M         b) Discuss in detail about Polymorphism       4M         OR       4.         What is template? Explain about function templates and class templates with suitable examples.       14M         5. a) What are the uses of hash functions?       6M         b) Distinguish between separate chaining and linear probing.       6M         OR       0R         6. a) Define a Queue. List out any four applications of Queue.       4M         b) Discuss about linked implementation of queue ADT.       10M         7. a) Define BST. Demonstrate its operations with suitable examples       7M         b) Demonstrate Priority Queue using Heaps with examples       7M         b) What is ascending priority queue? What are the applications of priority queue?       7M         9.       Write short notes on the following       14M         i. Standard Tries ii. Compressed Tries and iii. Suffix Tries       14M         b) Describe Boyer-Moore algorithm with an example.       10M	b)	How do you create a static member function? Explain with example	7M
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OR       4. What is template? Explain about function templates and class templates with suitable examples.       14M         4. What is template? Explain about function templates and class templates with suitable examples.       14M         5. a) What are the uses of hash functions?       6M         b) Distinguish between separate chaining and linear probing.       8M         OR       8M         6. a) Define a Queue. List out any four applications of Queue.       4M         b) Discuss about linked implementation of queue ADT.       10M         7. a) Define BST. Demonstrate its operations with suitable examples       7M         b) Demonstrate Priority Queue using Heaps with examples       7M         b) Demonstrate Priority Queue using Heaps with examples       7M         0R       0R       7M         8. a) Explain external sorting on disk with example.       7M         b) What is ascending priority queue? What are the applications of priority queue?       7M         9. Write short notes on the following <ul> <li>i. Standard Tries ii. Compressed Tries and iii. Suffix Tries</li> <li>OR</li> </ul> 14M         b) Draw a B-Tree of degree 3 and explain.       4M         b) Describe Boyer-Moore algorithm with an example.       10M	3. a)		10M
<ul> <li>4. What is template? Explain about function templates and class templates with suitable examples.</li> <li>14M</li> <li>IUNIT-III</li> <li>5. a) What are the uses of hash functions?</li> <li>b) Distinguish between separate chaining and linear probing.</li> <li>6M</li> <li>b) Distinguish between separate chaining and linear probing.</li> <li>6R</li> <li>6. a) Define a Queue. List out any four applications of Queue.</li> <li>4M</li> <li>b) Discuss about linked implementation of queue ADT.</li> <li>10M</li> <li>IUNIT-IV</li> <li>7. a) Define BST. Demonstrate its operations with suitable examples</li> <li>7M</li> <li>b) Demonstrate Priority Queue using Heaps with examples</li> <li>7M</li> <li>b) What is ascending priority queue? What are the applications of priority queue?</li> <li>7M</li> <li>9. Write short notes on the following <ul> <li>i. Standard Tries</li> <li>ii. Compressed Tries and</li> <li>iii. Suffix Tries</li> </ul> </li> <li>14M</li> <li>b) Describe Boyer-Moore algorithm with an example.</li> <li>10M</li> </ul>	b)		4M
examples.       14M         UNIT-III		-	
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