



DADI INSTITUTE OF ENGINEERING & TECHNOLOGY

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NH-5, Anakapalle – 531002, Visakhapatnam, A.P.

Phone: 08924-221111 / 221122/9963981111, www.diet.edu.in, E-mail: info@diet.edu.in

Course : B.Tech. Branch : CSE-B Year/Semester : II/I Academic Year : 2018-19

Faculty Name : G. Mutyalamma Subject : Computer Graphics Admitted Batch : 2017

QUESTION BANK

Unit I : 2D Primitives Output primitives

- what is computer graphics? And explain applications of cg? [4 M]
 - generate an algorithm for bresenham's algorithm? And draw a line with (0,0) and (4,6) using bresenham's ? [6 M]
- generate an algorithm for mid-point algorithm and draw a circle with radius 8? [6 M]
 - What is transformation and list out different types of transformations? And explain translation? [4 M]
- What is transformation and list out different types of transformations? And explain
a. translation b.scalling [5 M]
 - Draw an ellipse with $r_x=8$ and $r_y=6$ [5 M]
- Define clipping and explain Sutherland Hodgman algorithm for clipping a polygon? [6 M]
 - What is transformation and explain shear transformation? [4 M]
- Explain homogeneous co-ordinates? [3 M]
 - Explain cohen-sutherland line drawing algorithm with example? [7 M]

Unit II : 3D Concepts Parallel and Perspective projections

- Develop an algorithm for calculating the normal vector to a Bezier surface at the point $p(u,v)$? [5 M]
 - Construct the Bezier curve of order 3 and 4 polygon vertices A(1,1), B(2,3), C(4,3), D(6,4) [4 M]
- Determine the blending function for uniform, periodic B-spline curves for $d=5$ [6 M]
 - Write a note on B-spline surfaces? [4 M]
- construct the B-spline curve of order 4 and with 4 polygon vertices A(1,1), B(2,3), C(4,3) and D(6,2) [6 M]
 - Explain translation transformation in 3D? [4 M]
- Explain following transformations----- [5 M]
 - Scaling
 - Rotation
 - Explain 3D-clipping algorithm? [5 M]
- Explain briefly about Depth Buffer algorithm? [5 M]



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b. Explain about Depth sort algorithm? [5 M]

Unit III : Graphics Programming

1. a. Illustrate keyframe system in graphics programming? [5 M]
b. Explain about raster animations? [5 M]
2. a. Explain about computer animation languages? [5 M]
b. Discuss about basic rules of animations? [5 M]
3. a. Explain RGB color model in detail? [6 M]
b. Discuss about 3D objects? [4 M]
4. a. Discuss about YIQ color model? [6 M]
b. Explain about ASV color model? [4 M]
5. a. Explain about CMY color model? [6 M]
6. b. Explain about drawing of 3D scenes? [4 M]

Unit IV : Rendering

1. a. Explain in detail about flat and smooth shading models? [4 M]
b. Write about building a camera in a program? [6 M]
2. a. Explain about adding texture to faces? [5 M]
b. Discuss about creation of shaded objects? [5 M]
3. a. Discuss about adding shadows of objects? [5 M]
b. Explain about rendering texture? [5 M]
4. a. How to draw shadows in rendering system? [5 M]
b. Explain about shading models? [5 M]

Unit V: Fractals

1. a. Create an image by iteration functions? [5 M]
b. Explain Fractals and Self similarity? [5 M]
2. a. Explain about Peano curves in fractals? [5 M]
b. Discuss about Mandelbrot sets in fractals? [5 M]
3. a. Discuss about Julia Sets? [5 M]
b. Explain different Random Fractals? [5 M]
4. a. Explain about Peano curves in fractals? [5 M]
b. Discuss about Julia Sets? [5 M]



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Unit VI : Overview of Ray Tracing

1. a. Explain about Ray tracing? [4 M]
b. Discuss about intersecting rays with other primitives? [6 M]
2. a. Explain in detail about how to add reflections? [5 M]
b. Discuss about Boolean operations on objects? [5 M]
3. a. Explain in detail about how to add surface texture? [5 M]
b. Explain in detail about how to add transparency? [5 M]
4. a. Discuss about Boolean operations on objects? [5 M]
b. Discuss about intersecting rays with other primitives? [5 M]

Signature of the Faculty



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DEPARTMENT OF Computer Science& Engineering

Course: **B.Tech** Branch: **CSE – A&B** Year/Sem : **II - I**

Subject: **Digital Logic Design** Code: **R21053** Regulation: **R16**

UNIT – 1

- The solution to the quadratic equation $x^2 - 11x + 22 = 0$ is $x = 3$ and $x = 6$. What is the base of numbers. (5M)
 - Convert $(153.513)_{10}$ to octal number. (5M)
- Explain how 1's complement and 2's complement of a binary number is obtained? Illustrate by an example. (5M)
 - Convert the decimal number 46 to binary system also explain the steps of conversion. (5M)
- Convert the following to Decimal and then to Hexadecimal. (4+4+2M)
 - $(1267)_8$
 - $(11011101)_2$
 - $(786)_{10}$
- Using 10's complement, subtract $72532_{10} - 3250_{10}$ 5*2=10
 - What is a gray code? What are the rules to construct gray code? Develop the 4 bit gray code.
- Perform the subtraction with the following unsigned binary numbers by taking the 2's complement of the subtrahend:
 - $100 - 110000$
 - $11010 - 1101$. (6M)
 - Using 10's complement, subtract $52532 - 3250$. (4M)

UNIT – 2

- List out the Basic Theorems and Properties of Boolean Algebra. Justify with Proof (10M)
- List the truth table of the following functions. (2*5=10M)
 - $F = xy + xy' + y'z$
 - $F = x'z' + yz$
- Convert each of the following to the other canonical form: (2*5=10M)
 - $F(x,y,z) = \Sigma(2,4,5,6)$
 - $F(A,B,C,D) = \Pi(0,1,2,4,7,9,12)$
- Convert the following into sum of products and product of sums. (2*5=10M)
 - $(AB+C)(B+C'D)$
 - $x' + x(x+y')(y+z')$
- Draw the logic diagram corresponding to the following Boolean expressions without simplifying them (2*5=10M)
 - $(AB+A'B')(CD'+C'D)$
 - $A+CD+(A+D')(C'+D)$

UNIT – 3

1. a) List the universal gates? Implement XOR & XNOR gates using universal gates. (6M)
b) define the following
a) prime implicant. B) redundant terms. C) essential prime implicant. D) octet (4M)
2. Simplify the following boolean function (10)
 $F(w,x,y,z) = \Sigma(1,3,7,11,15)$ which has the don't care condition $d(w,x,y,z) = \Sigma(0,2,5)$
3. Simplify the following four variable Boolean function using prime implicants.
b) $F(A,B,C,D) = \Sigma(0,2,3,5,7,8,9,10,11,13,15)$ (10M)
4. a) implement the following boolean function with NAND gates $F(x,y,z) = \Sigma(1,2,3,4,5,7)$ (5M)
b) explain the procedure for implementation two levels of NAND gate of boolean expression. (5M)
5. Simplify the following boolean function product of sum (10M)
form: $F(A,B,C,D) = \Pi(1,3,5,7,12,13,14,15)$

UNIT – 4

1. design a full adder circuit using AND, OR, NOT gates. (10M)
2. design a full subtractor, explain its operation with the help of truth table. (10M)
3. a) Draw and explain the operation of 3 to 8 decoder. $2 \times 5 = 10M$
b) explain about priority encoder and its implementation
4. implement the following boolean function with a 4x1 multiplexer and external gates. $2 \times 5 = 10M$
a) $F(A,B,C,D) = \Sigma(1,3,4,11,12,13,14,15)$
b) $F(A,B,C,D) = \Sigma(1,2,4,7,8,9,10,11,13,15)$
5. a) construct a BCD adder circuit and draw the block diagram. $2 \times 5 = 10M$
b) Construct half adder circuit and draw the block diagram.

UNIT-5

1. a) Distinguish between combinational logic and sequential logic. (2M)
b) Convert a SR flip-flop to D type flip flop? (8M)
2. a) List the basic flip flop applications (3M)
b) Convert a T flip flop to D flip flop and write characteristic equations of T and D FFs. (7M)
3. Draw the truth table, logic diagrams of J-K, R-S, D and T type flip flops (10M)
4. a) What is Race round condition? (2M)
b) Explain the working of a master-slave JK flip flop. State its advantages. (8M)
5. a) Compare latch and flip flop (3M)
b) Explain S-R Latch using NAND gates (7M)

UNIT – 6

1. a) What is the basic difference between a shift register and a counter? (3M)
b) Draw and explain 4-bit universal shift register.
2. a) Draw the logic diagram of a four bit binary ripple counter and explain its operation. (8M)
b) Differentiate between a register and a counter. (2M)
3. a) Explain the operation of universal shift register. (7M)
b) Define counter? Write the classification of counter (3M)
4. a) Explain operation of Johnson counter with a diagram (8M)
b) What are the applications of shift registers? (2M)
5. a) Explain synchronous ripple counters. Compare their merits and demerits. (8M)
b) Differentiate between a register and a counter. (2M)



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Course :B.Tech. Branch : CSE Year/Semester : II/I Academic Year : 2018-19

Faculty Name : K. Sri Lakshmi Subject :Data Structures Through C++ Admitted Batch : 2017

QUESTION BANK

UNIT - I

1. a) Explain Class, Data Abstraction and Encapsulation in C++. 5 M
b) Explain about Abstract Data Type and Inheritance in C++. 5 M
2. a) Explain the procedure of Declaring Class Objects in C++. 5 M
b) Explain how to invoke Member Functions with example. 5 M
3. a) Explain about Polynomial and its Representation. 5 M
b) Write a C++ function to Add two Polynomials. 5 M
4. a) Explain about Sparse Matrix and its Representation. 5 M
b) Explain briefly about Special Class Operations. 5 M
5. a) Write a C++ function to Multiply the given Two Matrices. 5 M
b) Write a C++ function to display the Transpose of a given Matrix. 5 M

UNIT - II

1. a) Explain about Stack ADT, PUSH and POP Operations. 5 M
b) Write C++ functions to implement PUSH and POP Stack Operations. 5 M
2. a) Explain about Queue ADT, INSERT and DELETE Operations. 5 M
b) Write C++ functions to implement INSERT and DELETE Queue Operations. 5 M
3. a) Explain about Circular Queues Operations. 5 M
b) Explain representation of Infix, Prefix and Postfix notations. 5 M
4. a) Explain about Inheritance in C++ with example. 5 M
b) Convert the Infix Expression $(a+b)*c/d+(e+f)$ into Postfix using Stacks. 5 M
5. a) Evaluate the Postfix Expression: $6\ 2\ 3\ +\ -\ 3\ 8\ 2\ /+\ * 2\ 3\ /+$ 5 M
b) Explain about Template Functions and Template Classes in C++ with examples. 5 M



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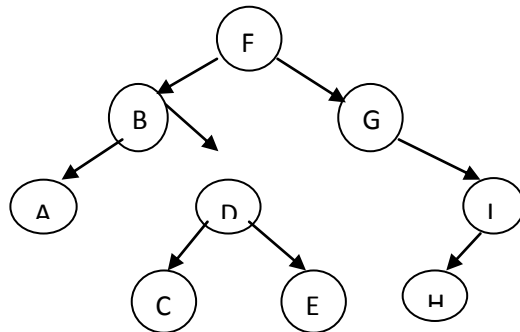
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UNIT - III

- What is a Single Linked List? Explain its representation. 3 M
 - Write a C++ Program to Create and Display the given Single Linked List. 7 M
- Explain Stack operations using Linked Lists. 3 M
 - Write a C++ Program to implement Stack Operations using SLL. 7 M
- Explain Queue operations using Linked Lists. 3 M
 - Write a C++ Program to implement Queue Operations using SLL. 7 M
- What is a Double Linked List? Explain its representation. 3 M
 - Write a C++ Program to Create and Display the given Double Linked List. 7 M
- Explain different cases of Insert operations on a single linked list. 3 M
 - Write C++ functions to Insert a New Node at First Place, Last Place and at any given position in a Single Linked List. 7 M

UNIT - IV

- Construct the binary tree from the following:
Pre-order: 1, 2, 4, 8, 9, 10, 11, 5, 3, 6, 7
In-order: 8, 4, 10, 9, 11, 2, 5, 1, 6, 3, 7 5 M
 - What is a binary tree? Construct a binary tree from the following:
Pre-Order Traversal: G B Q A C K F P D E R H
In-Order Traversal: Q B K C F A G P E D H R 5 M
- Find In order, Pre order and Post order traversals of the given binary tree: 5 M



- Discuss about different binary tree traversals with examples. 5 M
- Write short notes on Threaded Binary trees. 5 M
 - Explain various methods in which a Binary Tree can be represented. Discuss their advantages and disadvantages. 5 M



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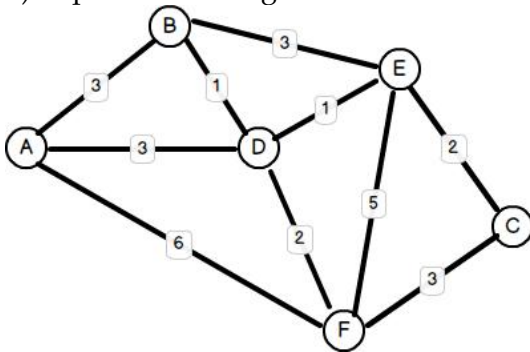
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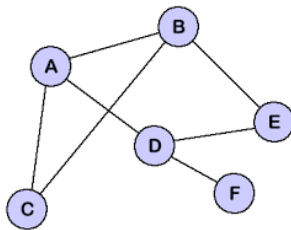
4. a) With the help of diagrams construct a Binary Search Tree (BST) with the following keys:
23,12,45,36,5,15,39,2,19.
Also delete 42 from BST. 5 M
b) Write a C++ Program to Create and Display a Binary Search Tree. 5 M
5. a) Write a C++ Program to Create and Display a Binary Tree. 5 M
b) Draw a Max Heap Tree with the following values: 20,12,14,3,52,15,139,27,190 5 M

UNIT - V

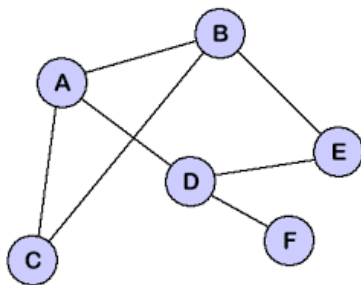
1. a) What are different ways of representing a graph? Explain with example. 5 M
b) Explain Prim's algorithm with the following Graph: 5 M



2. a) Write a C++ Program to Traverse the given Graph using Depth First Search. 5 M
b) Explain DFS. Print DFS Order and DFS Tree for the following Graph: 5 M



3. a) Write a C++ Program to Traverse the given Graph using Breadth First Search. 5 M
b) Explain BFS. Print BFS Order and BFS Tree for the following Graph: 5 M



4. a) Explain Kruskal's Algorithm to find the Minimum Cost Spanning Tree. 5 M
b) Find Minimum Cost of the following Graph using Kruskal's Algorithm: 5 M



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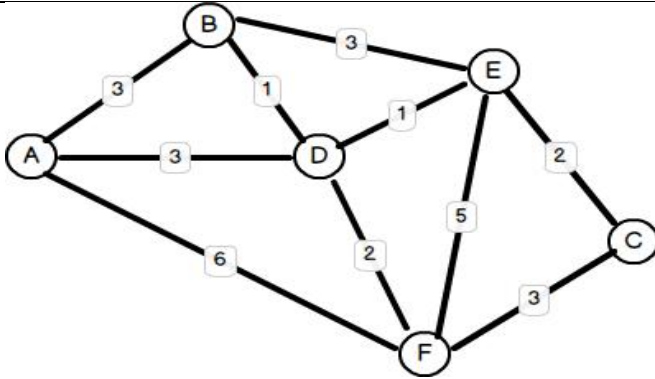
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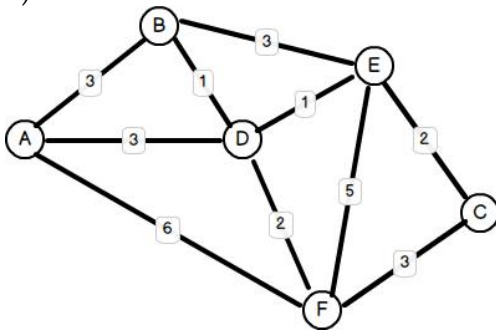
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5. a) Explain Sollin's Algorithm to find the Minimum Cost Spanning Tree. 5 M
b) Find Minimum Cost of the following Graph using Sollin's Algorithm: 5 M



UNIT - VI

1. a) Explain and Write an algorithm for Merge Sort. 5 M
b) Sort the elements using Merge Sort: 12,25,5,9,1,84,63,7,15,4,3 5 M
2. a) Explain and Write an algorithm for Quick Sort. 5 M
b) Sort the elements using Quick Sort: 66,5,45,36,65,15,39,66,56,55 5 M
3. a) Explain and Write an algorithm for Insertion Sort. 5 M
b) Sort the elements using Insertion Sort: 65,6,54,63,56,61,14,39,28,16,30 5 M
4. a) Explain Heap Sort Technique. 5 M
b) Write a C++ Program to Sort the given vales using Heap Sort/Tree. 5 M
5. a) Write a C++ Program to Sort the given values using Quick Sort. 5 M
b) Write a C++ Program to Sort the given values using Insertion Sort. 5 M

Signature of Faculty



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Course :B.Tech.

Branch : CSE-A&B

Year/Semester : II/I

Academic Year : 2018-19

Faculty Name : A.Vasudeva Rao

Admitted Batch : 2017

Subject : Mathematical Foundation of Computer Science

QUESTION BANK

UNIT-1

1. a) Show that $(P \rightarrow Q) \rightarrow (P \rightarrow (P \wedge Q))$ is tautology using truth table (5M)
b) What is meant by tautology, contradiction give some example formulas (5M)
- 2.a) Explain in detail about logical connectives with Examples (5M)
b) What is a Well Formed Formula? What are rules of the Well Formed Formulas? Explain (5M)
- 3a) Represent the following using predicate logic .
All men are fallible
All kings are men
Therefore , all kings are fallible. (5M)
b) Construct the truth table for the following statement $(\sim P \leftrightarrow \sim Q) \leftrightarrow (Q \leftrightarrow R)$ (5M)
- 4a) Determine the truth value of each of the following statements
i) $6 + 2 = 7$ and $4 + 4 = 8$. ii) four is even. iii) $4 + 3 = 7$ and $6 + 2 = 8$. (3M)
b) Write each of the following statements in symbolic form
i) Anil & Sunil are rich. ii) Neither Ramu nor Raju is poor. (3M)
iii) It is not true that Ravi & Raju are both rich
c) Obtain the PDNF of the formula $(\sim P \vee Q)$ (4M)
- 5a) Show that SVR is tautologically implied by $(P \vee Q) \wedge (P \rightarrow R) \wedge (Q \rightarrow S)$. (5M)
b) Obtain the PCNF of the formula $(\sim p \rightarrow r) \wedge (q \leftrightarrow p)$. (5M)

UNIT-II

- 1 a) Draw the Hasse diagram for the partial ordering $\{(A,B) | A \subseteq B\}$ on the power set $P(S)$, where $S = \{a,b,c\}$. (5M)
b) What is binary relation? Give properties of binary relation with examples. (5M)
- 2 a) Explain the theorem of principle of inclusion and exclusion for three variables with an example? (5M)
b) Let $X = \{1, 2, 3, 4, 5, 6, 7\}$ and $R = \{(x,y) | x-y \text{ is divisible by } 3\}$ in X . show that R is an Equivalence Relation.? (5M)
3. a) Let $X = \{2,3,6,12,24,36\}$ and a relation ' \leq ' be such that $x \leq y$ if x divides y . (5M)
Draw the Hasse diagram of (x, \leq) .
b) if $f: Q \rightarrow Q$ be defined by $f(x) = -5x+4$ for all x belongs to Q , where Q is the set of rational numbers. Then prove that f is one-to one onto and find f^{-1} (5M)
- 4 a) Define Lattice and give its properties (5M)
b) Let $A = \{1, 2, 3, 4\}$, and let $R = \{(1, 2), (2, 3), (3, 4), (2, 1)\}$. Find the transitive closure of R . (5M)
- 5 a) If $A = \{1,2,3\}$, $B = \{4,5\}$. Find $A \times B$ and $B \times A$? (5M)
b) Let $X = \{1,2,3,4\}$ and the relation $R = \{(x,y) | x > y\}$. Draw the graph of R and also give its matrix (5M)



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UNIT-III

- 1 a) Define Demi group, Monoid and homomorphism of Semigroups with examples (5M)
b) Show that $(\mathbb{Z}, *)$ is group, where $*$ is defined by $a * b = a + b + 1$. (5M)
- 2 a) If G is group, then $(a^{-1})^{-1} = a$ for all a belongs to G . (5M)
b) A group G is abelian iff $(a*b)^2 = a^2 * b^2$ (5M)
- 3a) Explain in brief about Euclidean algorithm (5M)
b) Explain in brief about testing the prime numbers (5M)
- 4 a) Explain in brief about Eulers Theorem with Example? (5M)
b) Explain in brief about Least common multiple with Example? (5M)
- 5 a) Explain in brief about Fermats theorem? (5M)
b) Explain in brief about Division theorem? (5M)

UNIT-IV

- 1 How many bit strings of length 10 contain
i) exactly four 1s? ii) at most four 1s? (10M)
iii) at least four 1s? iv) an equal number of 0s and 1s?
- 2 The English alphabet has 21 consonants and 5 vowels. How many strings of six lowercase letters of the English alphabet contain (10 M)
a) exactly one vowel? b) exactly two vowels?
c) at least one vowel? d) at least two vowels?
3. Find n if
i) $P(n,2)=72$
ii) $P(n,4)= 42P(n,2)$ (10M)
iii) $2P(n,2)+50=P(2n,2)$
4. Consider the six digits 1, 2, 3, 5, 6, and 7. Assuming that repetitions are permitted, answer the following:
i) How many ways 4 digit numbers can be formed from the six digits 1, 2, and 3,5,6,7?
ii) How many of these numbers are less than 4000?
iii) How many of these numbers in (i) are even?
iv) How many of these numbers in (i) are odd?
v) How many of these numbers in (i) are multiple of 5?
vi) How many of these numbers in (i) contain both the digits 5,7? (10M)
- 5.a) How many different letter arrangements can be made from the letters:
i) PROPOSE ii) MISSISSIPPI iii) ARRANGE (5M)
b) A committee of 7, consisting of 2 Republicans, 2 Democrats, and 3 Independents, is to be selected from a group of 5 Republicans, 6 Democrats, and 4 Independents. How many committees are possible? (5 M)



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UNIT-V

- 1.a) Solve the recurrence relation $a_n - 4a_{n-1} + 3a_{n-2}$ for $n \geq 2$ with initial conditions $a_0 = 2$ $a_1 = 4$ by using generating functions method. (5M)
- b) Solve $a_n + 7a_{n-1} + 10a_{n-2} = 0$ for $n \geq 2$ with conditions $a_0 = 10$ $a_1 = 41$ (5M)
- 2.a) Solve $a_n + 3a_{n-1} - 10a_{n-2} = 0$ for $n \geq 2$ with conditions $a_0 = 1$ $a_1 = 4$ using generating functions method. (5M)
- b) What is an n th order linear homogenous recurrence relation with constant coefficient? Give examples. (5M)
- 3.a) Explain how to solve the recurrence relation by generating function. (5M)
- b) Using the generating functions, solve the following recurrence relation:
 $T(n) = 6T(n-1) - 9T(n-2)$, where $T(0) = 2$ and $T(1) = 3$. (5M)
- 4.a) Find the generating function of the following Fibonacci sequence.
 $f(n) = f(n-1) + f(n-2)$, $n \geq 2$ (5M)
- b) Explain the methods of solving recurrence relations with suitable examples (5M)
- 5 Solve the following recurrence relations together with the initial conditions given.
- i) $a_n = a_{n-1}$ for $n \geq 1$, $a_0 = 2$ (10M)
- ii) $a_n = 4a_{n-1} - 4a_{n-2}$ for $n \geq 2$, $a_0 = 6$, $a_1 = 8$
- iii) $a_n = 4a_{n-2}$ for $n \geq 2$, $a_0 = 0$, $a_1 = 4$

UNIT-VI

- 1 a) Write about pre order preorder, in order and post order of a tree with examples (5M)
- b) What is Walk, Trail, Paths and circuit? Explain with suitable graphs examples (5M)
- 2 a) State the kruskal's algorithm for Finding Minimal Spanning Tree? Explain it with an Example? (5M)
- b) Write the difference between Hamiltonian graphs and Euler graphs? (5M)
- 3 a) What is Cut vertex, Cut set and Bridge? Explain by taking suitable graphs.
- b) How to determine adjacency matrix for a graph. Explain properties of adjacency matrix by taking suitable graph (5M)
- 4 a) What is connectedness in a directed graphs? And also explain connected and weakly connected, unilateral connected and strongly connected graph. Show some example graphs. (5M)
- b) Give example for each of the following (5M)
- i) Graph having Euler's circuit
- ii) Graph having Hamiltonian circuit
- 5 a) What are the steps involved in graph traversal using BFS algorithm give an example? (5M)
- b) What is planer graph and discuss the planarity of $K_{3,3}$ (5M)

Signature of the Faculty



Department of COMPUTER SCIENCE & ENGINEERING

PYTHON PROGRAMMING

Class - II CSE (A & B) - I Semester Regulation : R16 Name of the Faculty- Dr.L.Prasanna Kumar

UNIT-I

- 1) A) Explain about Python's most common applications (5 M)
B) Explain about Python's technical strengths (5 M)
- 2) A) Explain the concept of Python programming using the REPL (5 M)
B) Explain about the Python program execution and PVM.(5M)
- 3) A) Explain briefly about the IDLE user interface (5 M)
B) Explain briefly about variables and assignment in Python (5M)
- 4) A) Explain about Identifiers and their rules in Python (5 M)
B) Explain briefly the following concepts of Python. (5 M)
i) Reserved words or Key words ii) Indentation
- 5) A) Explain about the input function of Python with suitable examples (5 M)
B) Explain about the output function of Python with suitable examples.(5 M)

UNIT - II

- 1) A) Explain about the integer and Boolean data types in Python with suitable examples (5 M)
B) Explain about strings in Python with suitable examples (5 M)
- 2) A) Explain about arithmetic operators in Python with suitable examples (5 M)
B) Explain about comparison or relational operators in Python with suitable examples (5 M)
- 3) A) Explain about assignment operator in Python with suitable examples (5 M)
B) Explain about logical operators in Python with suitable examples (5 M)
- 4) A) Explain about bitwise operators in Python with suitable examples (5 M)
B) Explain about membership and identity operators in Python with suitable examples (5 M)
- 5) A) Explain about if, and if-elif-else statements of Python with suitable examples (5 M)
B) Explain about while statement of Python with suitable examples (5 M)
- 6) A) Explain about break, continue and pass statements of Python with suitable examples (5 M)
B) Explain about expressions, statements and order of evaluation of Python with suitable examples(5 M)

UNIT - III

- 1) Explain about Lists and the various operations on Lists with suitable examples (10 M)\
- 2) Explain about tuples and the various operations on tuples with suitable examples (10 M)
- 3) Explain about sets and the various operations on sets with suitable examples (10 M)
- 4) Explain about Dictionaries and the various operations on it with suitable examples (10 M)
- 5) Explain about comprehensions and sequences with suitable examples (10 M)

UNIT - IV

- 1) A) Explain how to define and call a function in Python programming with suitable examples (5 M)
B) Explain how to pass arguments to a function in Python program with suitable examples (5 M)
- 2) A) Explain about key word arguments concept in Python with suitable examples (5 M)
B) Explain about default arguments concept in Python with suitable examples (5 M)
- 3) A) Explain about anonymous functions of Python programming with suitable examples (5 M)
B) Explain about fruitful functions and return values of a function of Python programming with suitable examples(5 M)
- 4) A) Explain about local, global and scope of variables of Python programming with suitable examples (5 M)
B) How to create a module in python and explain about it (5 M)
- 5) A) Explain about import statement and name space concepts of Python programming with suitable examples (5M)
B) Explain in detail about packages of Python Programming (5 M)

UNIT - V

- 1) A) Explain about classes , self variables and methods in Python with suitable examples (5 M)
B) Explain about constructors in Python with suitable examples (5 M)
- 2) A) Explain about inheritance concept in Python with suitable examples (5 M)
B) Explain about method overriding in Python with suitable examples (5 M)
- 3) A) Differentiate between an error and exception of Python programming with suitable examples (5 M)
B) Explain about the exception handling mechanism in Python with suitable examples (5 M)
- 4) A) Explain about try except block of Python programming with suitable examples (5 M)
B) Explain about raising and user defined exceptions in Python with suitable examples (5 M)

UNIT - VI

- 1) A) Explain about operating system interface with suitable examples (5 M)
B) Explain about string pattern matching in Python with suitable examples (5 M)
- 2) A) Explain about multithreading concept in Python with suitable examples (5 M)
B) Explain about turtle graphics of Python with suitable examples (5 M)
- 3) A) Explain about the basic concepts of Testing in Python programming with suitable examples (5 M)
B) How to write Test Cases in Python programming with suitable examples (5 M)
- 4) A) Explain about Data Compression of Python programming with suitable examples (5 M)
B) How to work with dates and time in Python programming (5 M)

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Question Bank

Subject : Statistics with R-Programming
Branch : CSE

Class: II-I
Academic Year : 2018-19

UNIT - I

1. (a) Write a short note on R programming and its applications in the real world? 5 M
(b) How to run the R in Windows, Linux and explain about the R GUI tools? 5 M
2. (a) Write about the Data Frames in R? 3 M
(b) Explain how to create and display Data Frames with suitable example? 7 M
3. (a) Discuss about Lists in R? 5 M
(b) How to create a list and adding, deletion of elements from the list? 5 M
4. (a) Discuss about Matrices in R? 3 M
(b) Explain about how to construct a matrix in R with suitable example? 7 M
5. (a) Explain about Arrays and Classes in R? 5 M
(b) How to define a Class in R with suitable example? 5 M

UNIT - II

1. (a) Discuss about Control Statements in R? 3 M
(b) Explain about for loop and while loop in R with suitable examples? 7 M
2. (a) Explain about looping over Nonvector sets? 5 M
(b) Write about **if-else** statement with suitable example? 5 M
3. (a) Briefly explain about Arithmetic and Boolean operators in R? 6 M
(b) Explain about default values for argument 4 M
4. (a) Explain how to returning complex objects in R? 6 M
(b) Discuss about no pointers in R? 4 M
5. (a) Explain about Recursion in R? 3 M
(b) Explain the Binary Search Tree example? 7 M



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UNIT – III

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|--|-----|
| 1. (a) Write a short note on Simulations in R? | 4 M |
| (b) Discuss about built-in Math functions in R? | 6 M |
| 2. (a) Explain about cumulative sums and products? | 4 M |
| (b) Explain about maxima, minima and calculus? | 6 M |
| 3. (a) Explain various functions for Statistical Distributions | 6 M |
| (b) Briefly explain about sorting in R | 4 M |
| 4. (a) Linear Algebra operations on Vectors with suitable example? | 5 M |
| (b) Linear Algebra operations on Matrices with suitable example? | 5 M |
| 5. (a) How to access the keyboard and monitor in R? | 5 M |
| (b) Briefly explain how to read and write files in R? | 5 M |

UNIT – IV

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|---|------|
| 1. (a) How to create Graphs? | 4 M |
| (b) Explain the plot() function and the abline() function? | 6 M |
| 2. (a) Explain how to start a new Graph while keeping the old ones? | 3 M |
| (b) Explain the two density estimate on the same graph? | 7 M |
| 3. Discuss about the Polynomial Regression Example? | 10 M |
| 4. (a) How to customizing the Graphs? | 6 M |
| (b) Discuss about the Graphing Explicit Functions? | 4 M |
| 5. (a) Explain about saving Graphs to Files? | 5 M |
| (b) How to create Three-Dimensional Plots? | 5 M |



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UNIT – V

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|--|------|
| 1. (a) Discuss about probability distributions in R? | 5 M |
| (b) Explain about Normal Distribution in R? | 5 M |
| 2. (a) Explain the importance of Binomial Distribution in R programming? | 4 M |
| (b) Discuss about the Poisson Distributions and other Distributions? | 6 M |
| 3. A brief discussion about Basic Statistics in R programming? | 10 M |
| 4. (a) Explain about the importance of Correlation in R? | 5 M |
| (b) Explain about the importance of Covariance in R? | 5 M |
| 5. (a) Explain about the T-Tests? | 5 M |
| (b) Explain the importance and significance of ANOVA? | 5 M |

UNIT – VI

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| 1. (a) Explain the Linear Models in R? | 5 M |
| (b) Explain about the Simple Linear Regression? | 5 M |
| 2. (a) Discuss about the Multiple Regressions? | 4 M |
| (b) Explain about the Generalized Linear Models in R? | 6 M |
| 3. (a) Explain the Logistic Regression, Poisson Regression in R? | 6 M |
| (b) Explain about the other Generalized Linear Models? | 4 M |
| 4. (a) Discuss about the Survival Analysis? | 4 M |
| (b) Explain about the Nonlinear Models in R? | 6 M |
| 5. (a) Explain about the Splines, Decision in R? | 6M |
| (b) Discuss about Random Forests in R? | 4 M |