

Modi Institute of Technology, Kota
Ist Midterm
III Year VI Sem
Branch: Computer Science & Engineering
Sub: Computer Network

Time: 1 Hr

MM: [10]

Attempt any two questions. Each question carries five Marks.

Q1. Define TCP/IP model in detail?

Q2. Discuss the network layer design issue?

Q3. Write short note on (any two)?

(a) Distance vector routing algorithm.

(b) Link state routing algorithm.

(c) Shortest path algorithm.

Modi Institute of Technology, Kota
Ist Midterm
III Year VI Sem
Branch: Computer Science & Engineering
Sub: Design & Analysis of Algorithms

Time: 1 Hr

MM: [10]

Attempt any two questions. Each question carries five Marks.

- Q1. Describe the various types of notations with example?
 Q2. Find optimal solution for given data by knapsack problem
 Consider $n=5$, $(W_1, W_2, W_3, W_4, W_5) = (5, 4, 6, 2, 1)$ $(P_1, P_2, P_3, P_4, P_5) = (5, 2, 2, 4, 5)$ and $M=12$.
 Q3. Solve the TSP (Traveling Salesman Problem) for the following cost matrix?

	x	y	z	w
x	A	10	15	20
y	5	A	9	10
z	6	13	A	12
w	8	8	9	A

Modi Institute of Technology, Kota
Ist Midterm
III Year VI Sem
Branch: Computer Science & Engg.
Sub: Theory of Computation

Time: 1 Hr

MM: [10]

Attempt any two questions. Each question carries five marks.

- Q1. Define the Finite Automata, Explain difference between NDFA & DFA with example.
 Q2. Differentiate Melay and Moore Machine with example.
 Q3. Convert the following Moore Machine into its equivalent Mealy Machine.

Present State	Next State		Output
	a	b	
Q0	Q1	Q2	1
Q1	Q3	Q4	1
Q2	Q4	Q0	0
Q3	Q1	Q2	0
Q4	Q3	Q0	1

Modi Institute of Technology, Kota
Ist Midterm
III Year VI Sem
Branch: Computer Science & Engineering
Sub: Human Computer Interface

Time: 1 Hr

MM: [10]

Attempt any two questions. Each question carries five Marks.

Q.1 Compare various text entry devices?

Q.2 How do ergonomics affects the interaction between man and machine? Explain.

Q.3 Describe the Design process in detail.

*****Best of Luck*****

Modi Institute of Technology, Kota
1st Midterm

III Year VISEM

Branch: Information Technology

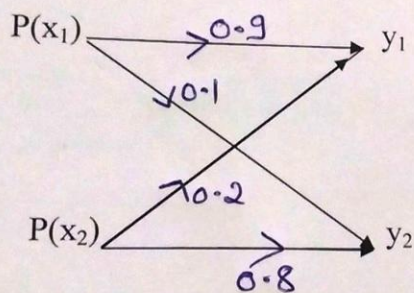
Sub: Information theory Coding

Time: 1Hr

MM: [10]

Attempt any two questions. Each question carries five marks.

- Q1) State & Prove Shannon Hartley theorem. How it can give trade off between bandwidth & channel capacity. What is maximum channel capacity. (5)
- Q2) A high resolution black & white picture consist of 2×10^6 picture elements & 16 brightness level. Picture are repeated at 32/sec. All picture element are have equal likelihood of occurrence. Calculate average rate of information conveyed by TV picture source. (5)
- Q3) Consider a binary channel as shown in figure.



- a) Find channel matrix of channel.
- b) Find $P(y_1)$ & $P(y_2)$ when $P(x_1) = P(x_2)$
- c) Find the joint probabilities $P(x_1, y_2)$ & $P(x_2, y_1)$ when $P(x_1) = P(x_2) = 0.9$

(5)

Modi Institute of Technology, Kota
Ist Midterm
III Year VI Sem
Branch: Information Technology
Sub: Programming in java

MM: [10]

Time; 1 Hr

Attempt any two questions. Each question carries five Marks.

Q1. What do mean by Object Oriented Programming? Explain basic features of JAVA?

Q2. What is the role of a constructor in java? Explain parameterized constructor with example?

Q3. Explain the key difference between inheritance and polymorphism in java?

*****Best of Luck*****