Bharati Vidyapeeth College of engg.for Women, pune-43.

Unit Test -1

Academic year (2011-2012)

Class-TE COMP(sem-I)   SUB- DBMS

Marks-30

- ~~First~~ All question is compulsory.

Q1. A bank has many branches and a large number of customers. A customer can open different kind of accounts with a bank. The bank keeps a track of a customer by SSN, name, address and ph_no.Age is a factor to check whether he is major or minor .There are different types of loan, each identified by a loan number. A customer can take out more than one type of loan and all branches can give loans. Loans have duration and interest rate. The account holder can enquire about the balance in his account. Draw an E-R diagram and schema definition for the bank. Make suitable assumption and use them in showing maximum and minimum cardinality ratio. (Marks 6)

Q2 Explain the distinction between condition defined and user defined constraints. Which of these constraints can the system checks automatically? (Marks 6)

~~OR~~

Q2 What is an integrity constraint? Explain referential integrity constraints with suitable example? (Marks 6)

Q3 what is meant by mapping cardinality? For the binary relationship set what are the possible mapping cardinalities? Explain with the diagram? (Marks 6)

~~OR~~

Q3 Specify the CODD's norms to be specified by RDBMS? (Marks 6)

Bharati Vidyapeeth,s College OF Engineering For Women,Pune.

Unit Test-I

Class: T.E.(Computer)   Subject: Data communication

Marks:30   Date/Time:- 16/8/2011 10.00-11.30

Instructions:1) Figures to the right indicate full marks.

2)Q.1 Compulsory & Attempt any one questions from Q.2,3.

1. A)Explain the following terms with respect to Information Theory.:-   8

     a) Entropy b) Information rate c) Channel capacity

    B)Explain Huffman coding.   8

2. A) A discrete memoryless sorce given seven messages with probabilities as indicated

S0	S1	S2	S3	S4	S5	S6
0.05	0.15	0.2	0.05	0.3	0.1	0.15

    Find Huffman code & Average code length.   10

    B) State & explain Shannon's theorem on channel capacity.   4

3 A) Explain Cyclic codes & What are the advantages & disadvantages of Cyclic Codes.   7

   B)Describe the following terms:-

     a) Hamming weight of a code word   b) Code efficiency   c) Weight of Code   7

BEST OF LUCK

Bharati Vidyapeeths College of engg.
for coomen, pune -43
Computer engineering Department.

Unit Test - I

Total marks = 30

Class : TE
Subject : DSP.

Instructions := Q.(1) is Compulsary.
Solve any 4 from Q.(2) to Q.(6)

Q (1) Explain ADC process as Sampling, Quantization [10 marks]
& encoding.

Q (2) Describe linearity & time variance property of
discrete time system. Test the following system
for linearity & time variance. [5 marks]
$$y(n) = 2x(n) + x(n-1)$$

Q.(3) Define the following terms
1) Stability
2) Causality
3) Even signal.
4) periodic signal.

Q (4) prove that for a causal Discrete time LTI
System. its impulse response $h(n) = 0$ for $n < 0$

Q (5) By means of Convolution Operation prove that
$$u(n) = \sum_{k=0}^{\infty} \delta(n-k)$$

Q. (6) Obtain linear Convolution of two D.T. sign
$$x(n) = u(n) - u(n-4)$$
$$h(n) = 2[\delta(n) + \delta(n-1)]$$

Bharati Vidyapeeth's College of Engineering for Women, Pune

Department of Computer Engineering

Unit Test -1

Class:-T.E. (Comp.Engg.)   Subject:-Microprocessor and Microcontroller (MPMC)

Marks:-30   Date:-09/08/2011   Time:-12: oo to 1:30 P.M.

Note:-Solve any two questions out of Q.1, Q.2, and Q.3.

Q.1. (a) Draw the architecture of 8051 microcontroller and explain the block functions in detail. (10)

(b)Explain the memory organization of 8051 microcontroller.   (5)

Q.2. (a) Explain the addressing modes of 8051 microcontroller with example.   (5)

(b) Write 8051 assembly language program for the following :-(**any two**)

1. To transfer the block of data from internal RAM locations 40H to 50H, to external Ram location

4000H to onwards.   (5)

2. To find out largest number out of ten numbers stored in external memory from 4040H

onwards.   (5)

3. To arrange series of ten numbers stored in memory from 50H onwards, in ascending order. (5)

Q.3.Write short note on the following related to 8051 microcontroller   (**any three**)   (15)

(a) Interrupt structure

(b) Timer and counters of 8051 microcontroller

(c) Serial communication facility

(d)Features of 8051 microcontroller family

(e) I/O ports

Bharati Vidyapeeth,s College OF Engineering For Women,Pune.

Unit Test-I

Class: T.E.   Subject: TOC

Instructions:1) Figures to the right indicate full marks.

2)Q.1 Compulsory & Attempt any one questions from Q.2,3.

Time: Marks- 30

1. a) Design Moore machine for the 1's complement of binary numbers.   6

    b) Give Deterministic Finite Automata Accepting the following languages over   10
    the alphabet{0,1}

        i)Number of 1's is even & number of 0's is even.

        ii)Number of 1's is odd & number of 0's is odd.

2. a) Construct DFA for given NFA   8

	0	1
p	p,q	p
q	r	r
r	s	-
* s	s	s

b) Give the Mealy & Moore machine for the following processes."For input from (0+1)*,

If input ends in 101, output x; if input ends in 110, output y, otherwise output z".

6

OR

3   a) Construct DFA for given NFA   8

	0	1
p	p,s	q
* q	r	q,r
r	s	P
* s	-	p

b)Explain Moore & Mealy machine with suitable example. How do we construct equivalent Mealy machine for given Moore machine? Give the suitable example.   6