Hall Ticket Number :										

R11

Code: 1G48C

IV B.Tech. II Semester Advanced Supplementary Examinations June 2016

Database Management Systems

(Electronics & Communication Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1.	a)	What is a data model? Explain in detail about various data models.	7M
	b)	Discuss in detail about various concepts used in ER-model.	7M
2.	a)	Discuss about various integrity constraints used for database system.	6M
	b)	Explain any four relational algebraic operations with suitable examples	8M
3.	a)	Differentiate between independent and correlated nested queries.	7M
	b)	What is a group function? List and explain how to use group functions in SQL with appropriate examples.	7M
4.	a)	Explain insertion, deletion and modification anomalies with suitable examples.	7M
	b)	Describe the concept of Multi-valued dependency and Join-dependency with examples	7M
5.	a)	Why the concurrency control is needed? Explain it.	7M
	b)	What is meant by Schedule? Explain different types of transaction schedules.	7M
6.	a)	Explain the concept of locking mechanism that is used to provide concurrency control.	7M
	b)	Describe how the deadlocks are handled with a suitable example.	7M
7.	a)	Discuss in detail about cluster and Multilevel indexes.	6M
	b)	Explain in detail about external hashing techniques.	8M
8.	a)	Explain the terms seek time, rotational delay, and transfer time.	9M
	b)	Explain about disk space management.	5M

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Hall Ticket Number :										

R11

Code: 1G383

IV B.Tech. II Semester Advanced Supplementary Examinations June 2016

DSP Processors and Architectures

(Electronics & Communication Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *any five* questions

All Questions carry equal marks (14 Marks each)

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1. a) Explain the difference between a MAC instruction and MAC with data shift instruction. When the latter instruction is preferred. 7M

   b) Distinguish between the synchronous and asynchronous mode of operation of serial ports. 7M

2. a) Show that the dynamic range of a signal increases by 6dB for each additional bit used to represent its value. 7M

   b) Compute the dynamic range and percentage resolution of a signal that uses 32-point floating -point format with 24bits for the mantissa and 8 bits for the exponent. 7M

3. a) What distinguishes a digital signal processor from a general-purpose micro-processor with regard to basic capabilities? 7M

   b) Suggest the memory architecture required for a DSP device to implement autocorrelation of a segment of N samples. 7M

4. a) Explain the difference between the internal and external modes of clocking TMS320C54XX processors. How do you vary the clock frequency in each case? 7M

   b) Write a TMS320C54xx program to compute the equation y=mx+c. Assume that 'x' and 'c' are stored in the data memory and 'm' in the program memory. The result should be stored in the data memory. 7M

5. a) Represent each of the following as 16-bit numbers in the desired Q-notation
      i. 0.3125 as a Q15 number
      ii. -0.3125 as a Q15 number
      iii. 3.125 as a Q7 number 14M

6. Develop a TMS320C54xx subroutine to multiply two 3 x 3 matrices 14M

7. a) Design a circuit to interface a 4K x 16 and 2K x 16 memory chip to realize program memory space for the TMS320C54xx processor in the address ranges 03FFFFh-03F000h and 05F800h-05FFFFh respectively 7M

   b) What are the various classifications of interrupts for the TMS320C5416 processors 7M

8. Explain the functional block diagram of Xilinx XC4000E family CLB with neat diagram 14M

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