Code No: I0505/R16

M. Tech. I Semester Regular/Supple Examinations, Jan/Feb-2018

DATA WAREHOUSING AND DATA MINING/ DATA WARE HOUSING AND MINING

Common to Computer Science (05), Computer Science & Engineering (58) And Neural Networks (69)

Time: 3 Hours **Max. Marks: 60**

Answer any FIVE Questions
All Questions Carry Equal Marks

1.	a	What is the need to build a data warehouse? Write and explain various steps to build the data warehouse	6M
	b	Specify and explain the reasons for mapping data warehouse system with multiprocessor architecture.	6M
2.	a	How to integrate data mining system with data base and data warehouse system? Explain.	6M
	b	Differentiate multi relational OLAP with multi dimensional OLAP.	6M
3.	a	What is OLAP? How to build it? Give the guidelines..	6M
	b	With an example data warehouse explain various schemas used to represent multi dimensional data.	6M
4.	a	What motivated data mining? Why is it important? Explain the components of it	6M
	b	Explain the following major issues in data mining i) Mining methodology and user interaction ii) Performance issues.	6M
5.	a	"Data preprocessing techniques can improve the quality of data"-Justify this statement.	6M
	b	Compute Euclidean, Manhattan, Minkowski distance(q=3) between 2 objects for the given 2 objects represented by tuples (22,1,42,10) and (20,0,36,8)	6M

6. List all frequent item sets and strong association rules with support ‘s’ and confidence ’c’ for the following transaction database 12M
I1:{T1,T4,T5,T7,T8,T9}, I2= {T1,T2,T3,T4,T6,T8,T9}
I3={T3,T5,T6,T7.T8.T9} I4={T2,T4} I5={T1,T8}

7. a Write the process of classification by support vector machines when data is both linearly separable and inseparable. 6M
   b Explain the following regressions 6M
      i) Linear regression
      ii) Multiple linear regression
      iii) Nonlinear regression.

8. a “One person’s noise could be another person’s signal”-Justify this statement with various computer based outlier analysis methods.. 6M
   b Explain how partitioning clustering works with k-means and k-medoids algorithm. 6M

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Code No: I2207/R16

M. Tech. I Semester Regular/Supple Examinations, Jan/Feb-2018

GIS FOR TRANSPORTATION

Transportation Engineering (22)

Time: 3 Hours **Max. Marks: 60**

Answer any FIVE Questions
All Questions Carry Equal Marks

1.	a	List out the components of GIS and explain each one of them?	6M
	b	Explain the importance of data processing also write its advantages and disadvantages?	6M
2.	a	Classify the various types of Data input and output devices and explain each one of them?	6M
	b	Explain the importance of existing digital data system?	6M
3.	a	Explain the necessity of Data quality also write its advantages?	6M
	b	Briefly explain Data management also write its advantages and disadvantages?	6M
4.	a	What is meant by system justification also write any two practical examples?	6M
	b	Write a functions and implementation of GIS for transportation?	6M
5.		Discuss the following terms i) Road accessibility study ii) Decision support systems for planning	12M
6.		Explain the following terms i) Traffic congestion analysis ii) Impact assessment of GIS iii) Integration output formation	12M
7.		Write a detailed important analysis accident investigation also write its advantages and disadvantages?	12M
8.		Write a short notes on the following terms i) Decision support system ii) Justification and development iii) Data quality iv) System acquisition	12M

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Code No: I5601/R16

M. Tech. I Semester Regular/Supple Examinations, Jan/Feb-2018

MICROPROCESSORS & MICRO CONTROLLERS

Common to Power Systems(56),PSC &A(53),PSE(30),PS&C(31),Adv PS(50),EPS(65) and EPE(60)

Time: 3 Hours **Max. Marks: 60**

Answer any FIVE Questions
All Questions Carry Equal Marks

1.	a	What are the registers available in 8086 microprocessor? Discuss them in detail.	[8]
	b	Discuss the advantages of memory segmentation in 8086.	[4]
2.	a	What are assembler directives? List and explain the main assembler directives of 8086 microprocessor.	[7]
	b	Write an assembly language program in 8086 to find the Fibonacci sequence.	[5]
3.		With neat schematic and timing diagrams, discuss the operation of 8086 microprocessor in its single processor mode of operation.	[12]
4.		Draw and explain the internal architecture of 8255. Also explain its modes of operation.	[12]
5.	a	Discuss the applications of A-to-D converters.	[4]
	b	Interface ADC 0808 with 8086 using 8255 ports. Use port A of 8255 for transferring digital data output of ADC to the CPU and port C for control signals. Assume that an analog input is present at I/P2 of the ADC and a clock input of suitable frequency in available for ADC. Draw the schematic and write required ALP.	[8]
6.		What are interrupts? With a neat block diagram, discuss the working of Programmable Interrupt Controller 8259A.	[12]
7.	a	Explain the processor interfacing semiconductor memories to 8086 microprocessor.	[5]
	b	Explain the timers of 8051 microcontroller. Also explain the use of TMOD register.	[7]
8.		What are microcontrollers? With a neat diagram, discuss the internal architecture of 8051 microcontroller.	[12]

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Code No: I5702/R16

M. Tech. I Semester Regular/Supple Examinations, Jan/Feb -2018

CPLD AND FPGA ARCHITECTURES AND APPLICATIONS

Common to VLSI (57), VLSID (72), VLSI System Design (61), VLSI & Micro Electronics (76)

Time: 3 Hours **Max. Marks: 60**

Answer any FIVE Questions
All Questions Carry Equal Marks

1.	a	Implement a BCD to Excess-3 code converter by ROM. Calculate the cross point density of the implementation?	6M
	b	Explain few differences between programmable logic device and Complex programmable logic devices?	6M
2.	a	Explain the concept of Programmable I/O blocks in FPGAs?	6M
	b	Briefly discuss about the applications of FPGA?	6M
3.	a	What is a Trade-off? Discuss about the different design Trade-offs?	6M
	b	Draw and explain the CLB and IO Blocks of Xilinx XC2000 architecture?	6M
4.	a	How the ACT3 architecture is different from ACT2 architecture? Explain the ACT3 architecture in detail.	6M
	b	Explain the ACT2 architecture for high fan-in example?	6M
5.	a	Design a five bit binary counter with ACT devices?	6M
	b	Write a short note on a position tracker for a robot manipulator?	6M
6.	a	With neat block diagram, explain the architecture of Xilinx Cool Runner XCR3064XL CPLD?	6M
	b	When is CPLD better suited than SPLD? List out the comparisons between those two.	6M
7.	a	Tabulate the comparisons of different XC3000 family members?	6M
	b	Write a short note on Programming Technology?	6M
8.		Write a short note on i) Duplicated logic ii) Clock enables iii) Iterative design methodologies	12M

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Code No: I6804/R16

M. Tech. I Semester Regular/Supple Examinations, Jan/Feb-2018

HARDWARE SOFTWARE CO-DESIGN

Common to VLSI&ES (68), ES&VLSI (48), VLSID &ES (77), ES &VLSID (81), VLSI (57), VLSID (72), VLSI System Design (61), VLSI & Micro Electronics (76)

Time: 3 Hours **Max. Marks: 60**

Answer any FIVE Questions
All Questions Carry Equal Marks

1.	a	List out the different Issues in Hardware software co-design and explain each issue in detail	6M
	b	Explain the concept of Generic co-design methodology with one example	6M
2.		Define Synthesis? List out the different Co-synthesis algorithms used in Hardware software co-design and explain any two algorithms in detail.	12M
3.	a	List out the different techniques in Prototyping and Emulation of co-design and explain each technique in detail	6M
	b	Explain the concept of different Target architectures of co-design in detail	6M
4.		Draw the internal architecture of Dominated system of 8051 controller and explain its operation in detail	12M
5.	a	What are the different Compilation techniques of Embedded processor and explain each technique in detail	6M
	b	Explain the different Data dominated systems in Target architecture with examples	6M
6.	a	Draw the circuit diagram of co-design computational model and explain its operation.	6M
	b	What are the different verification tools used in co-design and explain its importance in detail	6M
7.	a	What are the different system level specification languages used in system level and explain each specification in detail	6M
	b	Write short notes on multi language co-simulation of a system level design	6M
8.		Write short notes on following terms (i) Cosyma system and Lycos system (ii) Co-design Models	12M

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Code No: I8707/R16

M. Tech. I Semester Regular/Supple Examinations, Jan/Feb-2018

REPAIR AND REHABILITATION OF STRUCTURES

Common to Structural Engineering (87) and Structural Design (85)

Time: 3 Hours **Max. Marks: 60**

Answer any FIVE Questions
All Questions Carry Equal Marks

1. Explain about
   i) Depth of carbonation
   ii) Impact echo methods

2. Explain about the strengthening techniques for Beams and Columns, with neat sketch

3. a Explain different methods of bond installation techniques
   b Explain clearly the rebound hammer test its limitations

4. Classify different types of Fly ash with properties and reaction mechanism

5. a Explain about FRC and the properties Applications of FRC
   b Write the Properties of flyash concrete

6. Explain about Ultrasound pulse velocity methods with neat sketches

7. Explain the step by step procedure to be followed to assess damage structure and to carry out rehabilitation work

8. Explain the development of high performance concretes and materials of high performance concretes

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Code No: G2207/R13

M. Tech. I Semester Supplementary Examinations, Jan/Feb-2018

GIS FOR TRANSPORTATION

Transportation Engineering (22)

Time: 3 Hours **Max. Marks: 60**

Answer any FIVE Questions
All Questions Carry Equal Marks

1.	a	List out the components of GIS and explain each one of them?	6M
	b	Explain the importance of data processing also write its advantages and disadvantages?	6M
2.	a	Classify the various types of Data input and output devices and explain each one of them?	6M
	b	Explain the importance of existing digital data system?	6M
3.	a	Explain the necessity of Data quality also write its advantages?	6M
	b	Briefly explain Data management also write its advantages and disadvantages?	6M
4.	a	What is meant by system justification also write any two practical examples?	6M
	b	Write a functions and implementation of GIS for transportation?	6M
5.		Discuss the following terms i) Road accessibility study ii) Decision support systems for planning	12M
6.		Explain the following terms i) Traffic congestion analysis ii) Impact assessment of GIS iii) Integration output formation	12M
7.		Write a detailed important analysis accident investigation also write its advantages and disadvantages?	12M
8.		Write a short notes on the following terms i) Decision support system ii) Justification and development iii) Data quality iv) System acquisition	12M

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Code No: G5613/R13

M. Tech. I Semester Supplementary Examinations, Jan/Feb-2018

PROGRAMMABLE LOGIC CONTROLLERS & APPLICATIONS

(Common to PS, PSC&A, EPE, EPS, and APS)

Time: 3 hours **Max. Marks: 60**

Answer any FIVE Questions
All Questions Carry Equal Marks

1.		Explain about the construction procedure of plc ladder diagrams?	12M
2.		Explain the programming examples in PLC programming using contacts and coils?	12M
3.		What are the input and output instructions in PLC programming. Explain them with examples.	12M
4.		Discuss the characteristics of registers and what its applications are.	12M
5.		State the importance of analog signal processing and multibit data processing.	12M
6.	a	Explain about counters and counter functions of industrial applications?	6M
	b	Give the comparison between number comparison functions and number conversion functions?	6M
7.		Write short on the following functions FIFO, FAL, ONS, CLR.	12M
8.		Explain the position indicator with PID control and PID functions.	12M

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Code No: G8707/R13

M. Tech. I Semester Supplementary Examinations, Jan/Feb-2018

REPAIR AND REHABILITATION OF STRUCTURES

Common to Structural Engineering (87) and Structural Design (85)

Time: 3 Hours **Max. Marks: 60**

Answer any FIVE Questions
All Questions Carry Equal Marks

1. Explain about
   i) Depth of carbonation
   ii) Impact echo methods

2. Explain about the strengthening techniques for Beams and Columns, with neat sketch

3. a Explain different methods of bond installation techniques
   b Explain clearly the rebound hammer test its limitations

4. Classify different types of Fly ash with properties and reaction mechanism

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8. Explain the development of high performance concretes and materials of high performance concretes

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