Seat No.	

B.E. (Computer Science & Engineering) (Semester-VII) (Revised) (New) Examination, May - 2017
ADVANCED COMPUTER ARCHITECTURE
Sub. Code : 67541

Day and Date : Monday, 15-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Attempt any three questions from each section.**
2) **Figures to right indicate full marks.**
3) **Assume suitable data if necessary.**

SECTION-I

Q1) a) Explain with block diagram Flynn's classification of computer architectures. **[8]**

b) What is MTBF? How it is measured? **[8]**

Q2) a) Explain the concept of linear pipelining. State the factors on which throughput rate is dependent. **[8]**

b) What are systolic arrays? Draw architecture of systolic array. How systolic arrays are different than SIMD array processors? **[8]**

Q3) a) Draw and explain scalable coherent multiprocessor model with distributed shared memory. **[8]**

b) What are different characteristics of the Cray-1 computer system. With block diagram explain front end system interface with Cray-1 architecture. **[8]**

Q4) Write Short Notes on (Any Three). **[3×6=18]**

a) Principle of multithreading

b) Associative Processors

c) Illiac IV - array processor

d) Vector Instructions

P.T.O.

SECTION-II

Q5) a) What is K map in Cm* loosely coupled architecture? What is function on queues in K map? **[8]**

b) Draw and explain the basic structure of a vector architecture VMIPS. **[8]**

Q6) a) What are Bernstein's conditions? How the parallelism in the code is checked? **[8]**

b) Draw and explain GPU memory structure. **[8]**

Q7) a) What is latency? State different latency hiding techniques? Explain any one in detail. **[8]**

b) What is data dependency analysis? How it is achieved? **[8]**

Q8) Write Short Notes on (Any Three). **[3×6=18]**

a) Grain packing

b) Hardware and Software parallelism

c) Tightly coupled architectures

d) Slocal

Seat No.	

B.E. (Computer Science & Engineering) -I (Semester-VII) (Revised) Examination, May - 2017
DISTRIBUTED SYSTEMS
Sub. Code : 67542

Day and Date : Tuesday, 16-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : 1) **Question 4 and question 8 are compulsory, attempt any two questions from que. 1 to 3 from section-I and que. 5 to 7 from section-II.**
2) **Figures to the right indicate full marks.**

SECTION-I

Q1) a) What do you mean by scalability of distributed system? Discuss various scalability problems that need to be solved while scaling distributed system. **[8]**

b) What are the different scaling techniques can be applied to achieve scalability in distributed system? **[8]**

Q2) a) Explain different architectural styles used in distributed systems. **[8]**

b) Explain simplified organization of an Internet search engine which comprises of user level, processing level and data level. **[8]**

Q3) a) Explain working of side effect mechanism used in RPC2 in CODA file system. **[8]**

b) Explain two-phase commit protocol in detail. **[8]**

Q4) Attempt any three. **[18]**

a) A ring algorithm

b) Network Time protocol

c) Process resilience

d) Compound procedures used in ONC RPC in NFS v4

P.T.O.

SECTION-II

Q5) a) Define Cloud computing, and explain essential characteristics of cloud Computing? **[8]**

b) Compare implementation levels of virtualization in Cloud Computing? **[8]**

Q6) a) What is public cloud and private cloud? Explain in detail. **[8]**

b) Why Cloud Computing brings new threats? **[8]**

Q7) a) What are the spciealized Cloud Services? **[8]**

b) What are the advantages of "Software as a Service" (SaaS). **[8]**

Q8) a) What are the different challenges with data fragmentation and data integration with respect to cloud data? **[9]**

b) Write note on Data Confidentiality and Encryption in cloud data? **[9]**

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Seat No.	

B.E. (Computer Science & Engineering) (Semester-VII) (Revised) Examination, May - 2017
ADVANCED DATABASE SYSTEMS
Sub. Code : 67543

Day and Date : Wednesday, 17-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Attempt any three questions from each section.**
2) **Figures to the right indicate full marks.**
3) **Assume suitable data wherever necessary.**

SECTION-I

Q1) a) With the help of a necessary figure, explain the front-end and the back-end functionality of a database in a client-server system. **[8]**

b) What are parallel systems? Explain speedup and scaleup in such systems with the help of a graph for each one. **[8]**

Q2) a) What do you mean by transient object and persistent object? Explain the concept of Naming and Reachability for making the object persistent. **[8]**

b) What is intraquery parallelism? Explain Range-Partitioning sort algorithm. **[8]**

Q3) a) What is Dynamic SQL? State its advantage and disadvantages? **[4]**

b) Define the terms procedure and function. Give an example of each. **[4]**

c) With the help of an appropriate figure, explain the database design process in detail. **[8]**

Q4) Write short notes on any three: **[6+6+6]**

a) Fragmentation

b) ODL

c) Simple join processing

d) Centralized versus decentralized design.

P.T.O.

SECTION-II

Q5) a) Explain the intuition behind the two rules in the Bell-LaPadula model for mandatory access control. **[8]**

b) Give an example of how covert channels can be used to defeat the Bell-LaPadula model. **[4]**

c) What is the role of the DBA with respect to security? **[4]**

Q6) a) Write queries in X Query on the bibliography DTD fragment in following Figure to do the following. **[9]**

i) Find all authors who have authored a book and an article in the same year.

ii) Display books and articles sorted by year.

iii) Display books with more than one author.

<!DOCTYPE bibliography [

<!ELEMENT book (title, author+, year, publisher, place?)>

<!ELEMENT article (title, author+, journal, year, number, volume, pages?)>

<!ELEMENT author (last-name, first-name)>

<!ELEMENT title (#PCDATA)>

… similar PCDATA declarations for year, publisher, place, journal, year, number, volume, pages, last-name and first-name

]>

b) Give the DTD for an XML representation of the following nested-relational schema. **[7]**

Emp = (ename, ChildrenSet setof (Children), SkillsSet setof(Skills))

Children = (name, Birthday)

Birthday = (day, month, year)

Skills = (type, ExamsSet setof (Exams))

Exams = (year, city)

Q7) a) What is data warehouse and what are its main characteristics? Expalin ETL process? **[8]**

b) What is OLAP? Explain the following operations with example. **[8]**

i) Roll-up.

ii) Drill-down.

iii) Slice and Dice.

iv) Pivoting.

Q8) Write short notes on any three: **[6+6+6]**

a) Discretionary access control mechanism.

b) Xml schema.

c) Clustering.

d) Business intelligence framework.

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Seat No.	

B.E. (Computer Science & Engineering) (Semester-VII) (Revised) (New) Examination, May - 2017
SOFT COMPUTING (Elective-I)
Sub. Code : 67545

Day and Date : Thursday, 18-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Attempt any THREE questions from each section.**
2) **Figures to the right indicate full marks.**
3) **Assume suitable data if necessary.**

SECTION-I

Q1) a) What are the hybrid systems? How they are classified? State advantages of Neuro Fuzzy Hybrid sytsem. **[8]**

b) What are major problem solving techniques in soft computing explain in detail. **[8]**

Q2) a) What are different types of neuron connection architectures? Draw and explain single layer feed foprward architecture. **[8]**

b) Why learning is important in ANN? What are different categories of learning in ANN? Explain any one in detail. **[8]**

Q3) a) Why is the Mc Culloch-Pitts neuron widely used in logic functions? Implement AND NOT functions using Mc Culloch-Pitts neuron. **[8]**

b) Explain how hebb rule is more suited for bipolar data than binary data? Explain algorithm for Hebb Network. **[8]**

Q4) Write Short Notes on (Any Three): **[3×6=18]**

a) Weight

b) Learning rate

c) Activation functions

d) Momentum factor

P.T.O.

SECTION-II

Q5) a) What are membership functions? Explain the features of membership functions. **[8]**

b) What is crossover point in fuzzy set? Explain height of fuzzy set. **[8]**

Q6) a) What is Mutation operation in GA? What are different mutation techniques in GA? Explain in detail. **[8]**

b) Compare between traditional algorithms and genetic algorithms. What are effects of Genetic operator? **[8]**

Q7) a) Explain Genetic Algorithm based Internet Search technique. **[8]**

b) Explain executional steps of Genetic Programming. **[8]**

Q8) Write Short Notes on (Any Three): **[3×6=18]**

a) The Schema theorem

b) Fuzzification & Defuzzification

c) Hybrid fuzzy controller

d) Holland classifier system

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SL-479

Total No. of Pages : 2

Seat No.	

B.E. (Computer Science & Engineering) (Semester-VII) (New) Examination, May - 2017
MOBILE APPLICATIONS (Elective-I)
Sub. Code : 67546

Day and Date : Thursday, 18-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Figures to the right indicates full marks.**
2) **Question no 4 and 8 are compulsory.**
3) **Attempt any two questions from remaining questions in each section.**

SECTION-I

Q1) a) Explain in detail about RWD (Responsive Web Design) with example. **[6]**

b) What is web service? How to create example for web service? **[6]**

c) What is pseudo browser? Give an example. **[4]**

Q2) a) What are different tools for mobile web development? **[6]**

b) Explain in detail WAP 1.0 Protocol. **[6]**

c) Write useful design tips for touch devices. **[4]**

Q3) a) What are different browsers and platforms for mobile web development? **[6]**

b) What are the steps to create new android application? Explain the addition of two numbers application in detail. **[6]**

c) Why to build mobile App? Explain various strategies. **[4]**

Q4) Write short note on (Any Three): **[18]**

a) JSON

b) HTML5 Forms

c) WML

d) Progressive Enhancement

P.T.O.

SECTION-II

Q5) a) What are different possible problems in feature support at client side? Describe their possible solutions. **[6]**

b) What are different types of Java Script APIs available for device interaction? Explain ANY one in detail. **[6]**

c) What is User agent spoofing? Explain in detail. **[4]**

Q6) a) Explain in detail problems and solutions associated with Mobile device detection. **[6]**

b) Explain Client side debugging in detail. **[6]**

c) List out Java Script UI Patterns. **[4]**

Q7) a) Explain Web Sockets in detail. **[6]**

b) Explain in detail W3C Geolocation API. **[6]**

c) How HTML5 Web Storage are used? What are the limits? **[4]**

Q8) Write short note on (Any Three): **[18]**

a) Modernizr

b) WURFL

c) Offline Web Apps

d) AJAX

Seat No.	

B.E. (Computer Science and Engineering) (Semester - VII)
Examination, May - 2017
AD HOC WIRELESS NETWORK (Elective - I)
Sub. Code : 67547

Day and Date : Thursday, 18 - 05 - 2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Solve any three questions from each section.**
2) **Figures to the right indicate full marks.**
3) **Make necessary assumptions if required.**

SECTION-I

Q1) a) What are the applications of Ad Hoc wireless network? **[8]**

b) Explain MACA-By Invitation in detail. **[8]**

Q2) a) What are the deployment considerations for Ad Hoc wireless network? **[8]**

b) Explain Receiver Initiated Busy Tone protocol for MAC layer. **[8]**

Q3) a) Write note on Classifications of Routing Protocols. **[9]**

b) What is the major difference between DSR and AODV? Explain AODV protocol in detail. **[9]**

Q4) a) Explain CGSR protocol in detail. **[8]**

b) Explain ZHLS protocol in detail. **[8]**

SECTION-II

Q5) a) Explain Bandwidth Efficient Multicast Routing Protocol. **[9]**

b) Why TCP does not perform well in Ad Hoc wireless network. **[9]**

P.T.O.

Q6) a) Explain Operations of Multicast routing protocols with Source Initiated and Receiver Initiated approach. **[8]**

b) What are the issues and challenges in security provisioning in Ad Hoc wireless network. **[8]**

Q7) a) Explain SWAN QoS model in detail. **[8]**

b) Explain Core Assisted Mesh Protocol in detail. **[8]**

Q8) a) Explain Feedback-Based TCP protocol with example. **[8]**

b) What are device and processor energy management schemes? **[8]**

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Seat No.	

B.E. (CSE) (Semester - VIII) (Revised)
Examination, April - 2017
DATA ANALYTICS
Sub. Code : 67824

Day and Date : Tuesday,25-04-2017 **Total Marks :100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Figures to the right indicate full marks.**
2) **Question no. 4 & Question no. 8 are compulsory.**
3) **Attempt any Two Question from Q. 1 to Q. 3 and From Q. 5 to Q. 7.**

Q1) a) Explain the main components of Business Intelligence System? **[8]**

b) Explain Star Schema, Snowflake Schema, Galaxy Schema with proper example? **[8]**

Q2) a) Explain different categories of mathematical models for decision making? **[8]**

b) Explain Data mining process in detail? **[8]**

Q3) a) Explain data validation process in data preparation. **[8]**

b) Describe working of Map-Reduce? **[8]**

Q4) Write a note on (Attempt Any Three). **[18]**

a) Bivariate & multivariate analysis.

b) Hadoop Ecosystem.

c) Components of decision making process.

d) Structure of Decision support system.

P.T.O.

Q5) a) Discuss the structure of regression model and explain simple linear and multiple linear regression models with an example. **[8]**

b) Discuss the structure and phases of the learning process for a classification along with neat diagram. **[8]**

Q6) a) Explain K - means algorithm for clustering. **[8]**

b) Explain the general association rules that is useful for range of applications. **[8]**

Q7) a) List and explain the different functions to handle the data in R workspace with an example. **[8]**

b) List and explain the various types of R commands to import data. **[8]**

Q8) Write a note on (Attempt Any Three). **[18]**

a) Single dimensional association rule.

b) Splitting rules in classification trees.

c) Exporting data from R.

d) K - mediods Algorithm.

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Seat No.	

B.E. (Computer Science and Engineering) (Part-IV)
(Semester - VIII) (Revised) Examination, April - 2017
PROJECT MANAGEMENT
Sub. Code: 67825

Day and Date :Thursday, 27 - 04 - 2017 **Total Marks : 100**
Time :2.00 p.m. to 5.00 p.m.

Instructions :
1) **Question No.4 and 8 is compulsory.**
2) **Attempt any two questions from question no. 1, 2 and 3.**
3) **Attempt any two questions from question no. 5, 6 and 7.**
4) **Figures to the right indicate full marks.**

Q1) a) Explain project management framework in detail. **[8]**

b) Discuss systems view of project. Explain three sphere model for systems management. **[8]**

Q2) a) Explain net present value analysis. **[8]**

b) Explain project management plan contents. **[8]**

Q3) a) Explain critical path analysis in schedule development. **[8]**

b) List and describe various types of cost estimates. **[8]**

Q4) Write short note on (Any Three): **[3×6=18]**

a) Project attributes.

b) Weighted Scoring Model.

c) WBS dictionary.

d) Four Frames of Organizations.

P.T.O.

Q5) a) Explain Planning quality management. **[8]**

b) Explain following with respect to quality control. **[8]**

i) Control chart

ii) Pareto chart

Q6) a) List and explain tools and techniques for managing project teams. **[8]**

b) Explain the process "Acquiring the project team" in detail. **[8]**

Q7) a) Explain the contents of risk register with example. **[8]**

b) Describe techniques used for quantitative risk analysis. **[8]**

Q8) Write a short note on (Any Three): **[3×6=18]**

a) Improving IT Project Quality.

b) McClelland's Acquired-Needs Theory.

c) Planning risk management.

d) Importance of human resource management.

EEE

Seat No.	

B.E. (Comp. Sci. and Engg.) (Semester - VIII) (Revised) Examination, April - 2017

REAL-TIME OPERATING SYSTEM

Sub. Code : 67826

Day and Date : Saturday, 29 - 04 - 2017 **Total Marks : 100**

Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Solve Any Three Questions from each section.**

2) **Figures to right indicate full marks.**

SECTION - I

Q1) a) What is need of real time systems? Explain different types of real time systems. **[8]**

b) Explain how devices are interfaced to the CPU using interrupts with block diagram. **[8]**

Q2) a) What is DMA? Explain in detail DMA operation with the help of timing diagram. **[8]**

b) What are pseudokernels? Explain following pseudokernels in detail: **[8]**

i) Polled loop

ii) Synchronous polled loop

iii) Cyclic Executives

iv) Co-routines

Q3) a) Explain Foreground/Background systems in detail. **[8]**

b) What is priority inversion? Explain priority ceiling protocol. **[8]**

Q4) Write a note on (Any Three): **[18]**

a) Tristate logic.

b) Test-and-Set Instruction.

c) RISC vs CISC.

d) Ring Buffers.

SECTION - II

Q5) a) With block diagram explain requirement engineering process for real time system. **[8]**

b) What are formal methods in software specification? State its limitations. **[8]**

Q6) a) Explain real time features of C# and Java. **[8]**

b) What are state charts? State various components of state charts. How concurrency is represented? **[8]**

Q7) a) Explain Halstead's metrics in detail. **[8]**

b) Explain cost estimation using COCOMO. **[8]**

Q8) Write a note on (Any Three): **[18]**

a) McCabe's metric.

b) Assembly languages.

c) Petri nets.

d) RTLinux.

SL-490

Total No. of Pages : 2

Seat No.	

B.E. (Computer Science and Engineering) (Semester-VIII) Examination, May - 2017

INTERNET OF THINGS

Internet of things (Elective-II)

Sub. Code : 67827

Day and Date : Wednesday, 3-05-2017 **Total Marks : 100**

Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Questions 4 and 8 are compulsory.**
2) **Solve any 2 Questions from 1 to 3 and any 2 questions from 5 to 7.**
3) **Figures to the right indicate full marks.**

Q1) a) Explain the concept of IoTand give its history. **[6]**

b) Draw Object Classification diagram and explain different characteristics of an Object. **[10]**

Q2) a) List and explain Structural Aspects of IoT. **[8]**

b) Draw a neat diagram of RFID reader and explain its operation. **[8]**

Q3) a) List and explain components of RFID System. **[8]**

b) Explain Preamble Sampling protocols and Frame-based Scheduled Protocols. **[8]**

Q4) Write short notes on any 3 of the following. **[3×6=18]**

a) Device Power and Sensor Technology

b) Principle of RFID

c) Identification of IoT Objects and Services.

d) Wireless Node or Mote in WSN.

P.T.O.

Q5) a) Draw Zigbee Protocol Stack and explain Zigbee/IEEE 802.15.4 for IoT. **[8]**

b) Explain in detail Dedicated Short Range Communications (DSRC) and related protocols. **[8]**

Q6) a) Explain Substantive principles for IoT Governance. **[8]**

b) Explain IoT Infrastructure Governance. **[8]**

Q7) a) Draw a neat diagram of Advanced Metering Infrastructure and explain its operation. **[8]**

b) Discuss in detail Home automation in IoT/M2M context. **[8]**

Q8) Write short notes on any 3 of the following. **[3×6=18]**

a) Bluetooth

b) Bodies subject to Governing Principles

c) NFC

d) Smart Cards in IoT environment.

SL - 1060

Seat No.	

Total No. of Pages : 2

B.E. (CSE) (Semester - VIII) (Revised) Examination, May - 2017
SOFTWARE TESTING AND QUALITY ASSURANCE
Sub. Code : 67828

Day and Date : Wednesday, 03 - 05 - 2017 **Total Marks : 100**

Time : 02.00 p.m to 05.00 p.m.

Instructions:
1) **Question no. 4 and 8 are compulsory.**
2) **Attempt any two questions from question no. 1 to 3 and any two question from question no. 5 to 7.**
3) **Figures to the right indicate full marks.**
4) **Assume data wherever necessary.**

SECTION - I

Q1) a) What is software testing? Why should we test? **[8]**

b) Explain V shaped software life cycle model. **[8]**

Q2) a) What should we measure during Testing? **[8]**

b) What is a use case ? How is it different from a use case diagram? What are the components of use case diagram? **[8]**

Q3) a) Explain issues which must be addressed by SRS document checklist. **[8]**

b) Write Alpha testing versus Beta testing. **[8]**

Q4) a) Describe various verification methods. **[6]**

b) Explains the various steps for the generation of test cases from the use cases. **[6]**

c) Explain Guidelines for generating validity checks. **[6]**

P.T.O.

SECTION - II

Q5) a) What is Regression Testing ? Which are the techniques to select test cases for the purpose of regression testing? **[8]**

b) How is risk analysis used in testing ? How can we prioritize test cases using risk factor? **[8]**

Q6) a) Explain the test process for object oriented programs. **[8]**

b) What is path testing ? Explain the various steps of path testing. **[8]**

Q7) a) What is web testing? Differentiate between client/server applications and web applications. **[8]**

b) What is usability testing ? What steps must be followed in usability testing? **[8]**

Q8) Write short notes on (Any three) : **[18]**

a) Security Testing

b) Measurement

c) Performance Testing.

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Seat No.	

B.E. (Computer Science and Engineering) (Semester-VIII) (Revised) Examination, May - 2017
INTRODUCTION TO MAINFRAMES (Elective-II)
Sub. Code : 67829

Day and Date : Wednesday, 3-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **All questions are compulsory.**
2) **Figures to the right indicates full marks.**

Q1) Attempt any two Questions.

a) Explain Online and Batch processing with its applications. **[8]**

b) What do you mean by instream and cataloged procedures. **[8]**

c) Explain key features and benefits of mainframe. **[8]**

Q2) Attempt any two Questions.

a) What is dataset? Explain different types VSAM datasets. **[8]**

b) Explain Different Operating systems on mainframe with its evolution. **[8]**

c) Explain the concept of JOBLIB and STEPLIB statement with simple JCL example. **[8]**

Q3) Write short notes on (Any Three). **[18]**

a) DD statement

b) EXEC statement

c) VTOC

d) IEHPROGM

P.T.O.

Q4) Attempt any two Questions.

a) List and explain the Divisions in COBOL program. **[8]**

b) Explain IF statement in COBOL with Example. **[8]**

c) What is the use of EVALUATE statement? Give and explain different forms of EVALUATE statement. **[8]**

Q5) Attempt any two Questions.

a) Explain MOVE Verb in COBOL with suitable Example. **[8]**

b) Write a sample COBOL program where all types of PERFORM verbs are used. **[8]**

c) Explain Arithmetic ADD verb in COBOL with example. **[8]**

Q6) Write short notes on (Any Three). **[18]**

a) DB2 CATLOG and DIRECTORY

b) USAGE Clause

c) Optimizer in DB2

d) DB2 structure and components.

Seat No.	

B.E. (Computer Science & Engineering) (Semester-VII) (Pre-Revised) (Old) Examination, May - 2017
ADVANCED COMPUTER ARCHITECTURE
Sub. Code : 47917

Day and Date : Monday, 15-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Attempt any three questions from each section.**
2) **Figures to right indicates full marks.**
3) **Assume suitable data if necessary.**

SECTION-I

Q1) a) What is memory bandwidth? Which factors affects memory bandwidth? **[8]**

b) Which classification scheme determines the degree of parallelism & pipelining in various subsystem levels? Explain in detail with suitable example. **[8]**

Q2) a) Draw and explain pipeline structure of a typical central processing unit. **[8]**

b) How pipeline architectures are classified according to levels of processing? Explain in detail each classification scheme. **[8]**

Q3) a) What are vector processors? Draw block diagram of front end system interface with Cray-1 architecture. **[8]**

b) Draw and explain Cm* loosely coupled architecture. **[8]**

Q4) Write Short Notes on (Any Three). **[3×6=18]**

a) Multithreading

b) Systollic arrays

c) SIMD array processors

d) Associative memory cell

P.T.O.

SECTION-II

Q5) a) What is latency? Explain Shared virtual memory latency hiding techniques. **[8]**

b) Draw and explain Master-Slave configuration in parallel operating systems. **[8]**

Q6) a) State and explain different data flow language properties. **[8]**

b) Explain any two parallel programming models. **[8]**

Q7) a) What are features of C# and Java programming languages for parallel programming? Explain in details how these languages are used to program parallel architectures. **[8]**

b) Draw and explain static and dynamic connection networks. **[8]**

Q8) Write Short Notes on (Any Three). **[3×6=18]**

a) Code generation and scheduling

b) Compiler Optimization

c) Data and Resource dependency

d) Scalar optimization

Seat No.	

B.E. (Computer Science & Engineering) (Semester-VII) (Pre-Revised) (Old) Examination, May - 2017
ADVANCED DATABASE SYSTEMS
Sub. Code : 47919

Day and Date : Wednesday, 17-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Attempt any three questions from each section.**
2) **Assume suitable data wherever necessary.**

SECTION-I

Q1) a) Give an overview of an object oriented concepts. **[8]**

b) Explain with example type inheritance and table inheritance. **[8]**

Q2) a) What is speed up and scale up? Explain with an appropriate graph. **[8]**

b) Expalin the concept of fragmentation and replication in distributed databases. **[8]**

Q3) a) Explain the structure of an XML data and XML schema. **[8]**

b) Explain various parallel database architectures. **[8]**

Q4) Write short notes on (any 3). **[6+6+6]**

a) Nested relations.

b) Complex objects.

c) Client-server Architecture.

d) Overview of SQL-3.

P.T.O.

SECTION-II

Q5) a) State and explain database connectivity standards. **[8]**

b) What is performance tuning? State and explain the various levels that the DBA can use to tune a system. **[8]**

Q6) a) What are decision tree classifiers? Explain with an example. **[8]**

b) What is performance benchmark? Explain suites of tasks with an example. **[8]**

Q7) a) What is a data warehouse? Explain the various components of it. **[8]**

b) What is E-commerce? Explain different types of E-commerce market places. **[8]**

Q8) Write short notes on (any 3). **[6+6+6]**

a) Transactional workflow.

b) Main Memory databases.

c) Long duration transactions.

d) Relevance Ranking in information retrieval.

Seat No.	

B.E. (Computer Science and Engineering) (Semester-VIII) (Old) Examination, May - 2017
AD HOC WIRELESS NETWORK (Elective-II)
Sub. Code : 49452

Day and Date : Wednesday, 3-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1) Solve any three question from each section.**
2) Figure to right indicates marks.
3) Make necessary assumptions if required.

SECTION-I

Q1) a) Write a note on Cellular and Ad Hoc wireless network. **[6]**

b) Write a note on Hidden and Exposed terminal problem. **[6]**

c) Write a note on issues in Ad Hoc wireless network. **[6]**

Q2) a) Explain Characteristics of ideal routing protocol for Ad Hoc wireless network in detail. **[8]**

b) Explain DSDV protocol in detail. **[8]**

Q3) a) What are the design goal of MAC protocols for Ad Hoc wireless network? **[8]**

b) What are the deployment consideration for Ad Hoc wireless network? **[8]**

Q4) a) Explain MACA-By Invitation protocol in detail. **[8]**

b) Explain DSR protocol in detail. **[8]**

P.T.O.

SECTION-II

Q5) a) Explain Architectural Reference Model for multicast routing in Ad Hoc wireless network. **[9]**

b) Why Does TCP not perform well in Ad Hoc wireless networks? **[9]**

Q6) a) What are the System Power Management schemes? Explain any one in detail. **[8]**

b) Explain multicast ZRP routing protocol in detail. **[8]**

Q7) a) Explain INSIGNIA QoS model in detail. **[8]**

b) List and explain Network Layer Attacks on Ad Hoc wireless network. **[8]**

Q8) a) Explain BEMR protocol in detail. **[8]**

b) What are issues and challenges in providing QoS in Ad Hoc wireless network. **[8]**

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Seat No.	

B.E. (Computer Science and Engineering) (Semester-VIII) (Old) Examination, May - 2017
Elective-II: BUSINESS INTELLIGENCE SYSTEM
Sub. Code : 49453

Day and Date : Wednesday, 3-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions :
1) **Answer any three questions from each section.**
2) **Answer to both the sections must be written in the same answer book.**
3) **Figures to the right indicate full mark.**
4) **Draw neat diagrams and suitable example whenever necessary.**

SECTION-I

Q1) a) Describe the major factor in determining infrastructure requirement for the back room and presentation server. **[9]**

b) Draw and explain front room technical architecture model. **[9]**

Q2) a) What are the benefits of dimensional modeling? **[8]**

b) Explain accumulating snapshot fact table for order fulfillment. **[8]**

Q3) a) Mention the major participants in dimensional modeling process and their role. **[8]**

b) Why we need to identify the role and participants required for dimensional modeling process. **[8]**

Q4) a) Discuss the three categories of metadata. **[8]**

b) What are the advantages of using surrogate dimension key instead of operational natural keys? **[8]**

SECTION-II

Q5) a) Describe the major components of ETL system. **[8]**

b) Describe the error event schema. **[8]**

Q6) a) Explain the types of BI application and consumer mode. **[8]**

b) Give the overview of data mining. **[8]**

Q7) a) Which standard element need to be included on every BI report. **[9]**

b) What are the process for designing and developing analytic BI application? **[9]**

Q8) a) Explain extract subsystem. **[8]**

b) What is dashboard and scorecards? Give the example of it. **[8]**

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Seat No.	

B.E. (C.S.E.) (Semester - VII) (Pre - Revised) (Old) Examination, May - 2017
CYBER LAWS (Elective - I)
Sub. Code : 47923

Day and Date : Thursday, 18 - 05 - 2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : 1) **Attempt any three questions from each section.**
2) **Figures to right indicate full marks.**
3) **Assume suitable data wherever necessary.**

SECTION - I

Q1) a) What is a certifying authority? Explain the power to suspend or revoke license. **[8]**

b) Explain the legal recognition of electronic signatures. **[8]**

Q2) a) Explain the scope of the IT ACT 2000. **[8]**

b) Explain the details regarding appointment of various officials of certifying authority? **[8]**

Q3) a) Explain the retention of electronic records as per IT ACT 2000. **[8]**

b) Explain the generation of digital signature certificate. **[8]**

Q4) Write short notes on: **[6 + 6 + 6]**

a) Object of IT ACT.

b) UNCITRAL.

c) Powers of CA.

P.T.O.

SECTION - II

Q5) a) What is a trade mark? Explain its function and essential features. **[8]**

b) Explain computer as target of crime. **[8]**

Q6) a) What is hacking? State and explain its type. **[8]**

b) What is cyber squatting? Explain by giving example. **[8]**

Q7) a) Explain publishing of obscene information in electronic form along with the punishment for it. **[8]**

b) Explain the provisions relating to breach of privacy and confidentiality. **[8]**

Q8) Write short notes on: **[6+6+6]**

a) Generic domain names.

b) Role of RBI in internet banking.

c) Tampering with computer source document.

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Seat No.	

B.E. (Computer Science and Engineering) (Part-II) (Semester-VIII) (Old) Examination, May - 2017
DATA MINING (Elective-II)
Sub. Code : 49451

Day and Date : Wednesday, 3-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions :
1) **Question 1 & 5 are compulsory.**
2) **Attempt any two from remaining for both sections.**
3) **Figures right side indicates full marks.**

SECTION-I

Q1) a) State & explain different issues faced by decision tree algorithm. **[10]**

b) Explain how data mining is different than data base processing. **[8]**

Q2) a) Draw & KDD process in detail. **[8]**

b) State & explain Bayes theorem. **[8]**

Q3) a) Explain how hypothesis testing is useful for data mining. **[8]**

b) State & explain different classification algorithms. **[8]**

Q4) a) Explain how regression technique is used for classification. **[8]**

b) Write & explain K nearest neighbor algorithm. **[8]**

P.T.O.

SECTION-II

Q5) a) State & explain different data structures used for web usage mining. **[10]**

b) State & explain different issues of clustering algorithm. **[8]**

Q6) a) List & explain different types of clustering algorithms. **[8]**

b) Define association rule. Explain how it is used for market basket analysis. **[8]**

Q7) a) What is sampling? How it is used for large data base. **[8]**

b) State & explain different types of crawlers. **[8]**

Q8) a) State & explain different activities of web usage mining. **[8]**

b) What is 'Dendrogram'? How it is used for clustering. **[8]**

SL-482

Total No. of Pages : 2

Seat No.	

B.E. (Computer Science & Engineering) (Semester-VII) (Old) (Pre-revised) Examination, May - 2017

DISTRIBUTED SYSTEMS

Sub. Code : 47918

Day and Date : Tuesday, 16-05-2017 **Total Marks : 100**

Time : 2.00 p.m. to 5.00 p.m.

Instructions :
1) **Attempt any three questions from each section.**
2) **Assume suitable data wherever necessary.**
3) **Figures to the right indicate full marks.**

SECTION-I

Q1) a) What do you understand by multi-tiered distributed architecture? Explain in brief with its organization and an example. **[8]**

b) Which are the general design issues for servers in a distributed computing environment? **[8]**

Q2) a) What are the actions to be taken with respect to the references to local resources when migrating code to another machine in a distributed system. **[8]**

b) Explain different message passing primitives of MPI. **[8]**

Q3) a) Explain how clock synchronization is done in wireless networks. **[8]**

b) Explain the distributed mutual exclusion algorithm. **[8]**

Q4) Write a short notes on any three of the following. **[18]**

a) Software agents.

b) Bully algorithm.

c) Virtualization in Distributed systems.

d) Bit Torrent file sharing system.

P.T.O.

SECTION-II

Q5) a) Describe cluster based distributed file systems. **[8]**

b) Which are the basic file locking operations supported by NFSv4? Explain the share reservation mechanism. **[8]**

Q6) a) Explain the design issues of process groups for fault tolerance in distributed systems. **[8]**

b) Describe Three-Phase commit protocol used in distributed systems. **[8]**

Q7) a) How memory management is done in MACH? **[8]**

b) Explain the features of Tiger Video file server. **[8]**

Q8) Write a notes on any three of the following. **[18]**

a) Types of failure models in distributed systems.

b) File management in Amoeba system.

c) RPC2 Subsystem features.

d) Client side caching in NFS and coda.

Seat No.	

B.E. (Computer Sci. & Engg.) (Part - II) (Old) (Semester - VIII) (Pre-revised) Examination, April - 2017
GRID TECHNOLOGY
Sub. Code : 49447

Day and Date : Tuesday,25-04-2017 **Total Marks :100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions :
1) **Q. 4 & Q. 8 are compulsory.**
2) **Attempt any two questions from Q. 1, Q. 2, Q. 3.**
3) **Attempt any two question from Q. 5, Q. 6, Q. 7.**
4) **Figures to the right indicates full marks.**

Q1) a) Describe the resource management services provided by GT3. **[8]**

b) Define Web service? Explain the structure of SOAP message and WSDL document? **[8]**

Q2) a) With data flow diagram how user can build distributed client/server application model using CORBA? **[8]**

b) Explain GT3 programming model with necessary data flow diagram? **[8]**

Q3) a) What is the relationship between OGSA, OGSI, and web service. **[4]**

b) Explain how web services are beneficial to the GRID? **[4]**

c) With neat schematic explain software architecture of portal Lab? **[8]**

Q4) Write a short notes on (Any Three). **[18]**

a) DAML-S and OWL-S.

b) Grid related standard bodies.

c) GT3 index services.

d) Portlet Wrapper Generator.

P.T.O.

Q5) a) Explain different authorization modes in GSI. **[8]**

b) With neat schematic explain architecture of Autopilot? **[8]**

Q6) a) Explain cloud deployement models? Discuss about pros and cons cloud computing? **[8]**

b) Explain the characteristics and types of virtualization in cloud computing? **[8]**

Q7) a) What is SOA? Explain characteristics of SOA. **[4]**

b) Discuss about services offered by Amazon AWS. **[4]**

c) Explain Job life cycle and Job management in Codor. **[8]**

Q8) Write a short note on (Any Three). **[18]**

a) GMA.

b) Daemons in condor pool.

c) Client Desktop.

d) Scheduling Paradigms.

Seat No.	

B.E. (Computer Science and Engineering) (Semester-VIII) (Old) Examination, May - 2017
INTRODUCTION TO MAINFRAMES
Sub. Code : 58286

Day and Date : Friday, 05-05-2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Figures to the right indicate full marks.**
2) **Attempt any three questions from each section.**
3) **Write your assumptions if needed.**

SECTION-I

Q1) a) Explain Classification of computer with applications. **[8]**

b) What do you mean by dataset? Explain different types of dataset in details. **[8]**

Q2) a) Describe instream and cataloged procedures. **[8]**

b) What is EXEC statement? Explain it with example. **[8]**

Q3) a) Describe DD statement? Explain different parameters on DISP statement. **[8]**

b) Explain following IBM utility programs. **[8]**
i) IEBGENER ii) IEHPROGM

Q4) a) Explain DASD Labels, Catalogs and Data set organization. **[9]**

b) Explain different roles in the mainframe environment. **[9]**

P.T.O.

SECTION-II

Q5) a) List and explain the Divisions in COBOL program. **[8]**

b) Explain the difference is between PERFORM...WITH TEST AFTER and PERFORM..... WITH TEST BEFORE with example. **[8]**

Q6) a) Explain following w.r.t. implementation of physical storage in DB2. **[8]**

i) Databases ii) Tablespaces

b) Write a simple COBOL program where all types of PERFORM verbs are used. **[8]**

Q7) a) What are the basic features of Embedded SQL? **[8]**

b) Explain PICTURE clause, VALUE clause, USAGE clause and RENAME clause in COBOL. **[8]**

Q8) a) Explain MOVE Verb in COBOL with suitable Example. **[9]**

b) Explain COBOL file handling verbs with their syntax. **[9]**

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Seat No.	

B.E. (Computer Science and Engineering) (Semester - VII) (Old) Examination, May - 2017
PROJECT MANAGEMENT (Elective - I)
Sub. Code : 47922

Day and Date : Thursday, 18 - 05 - 2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Figures to the right indicate full marks.**
2) **Attempt any three questions from each section.**
3) **Question no 4 and 8 is compulsory.**

SECTION-I

Q1) a) Explain different categories of projects. What are the approaches used for Selecting projects for execution? **[8]**

b) Briefly describe five project management process groups. **[8]**

Q2) a) Describe processes involve in "scope management". **[8]**

b) Explain use of Gantt charts and PERT. **[8]**

Q3) a) Explain Payback analysis. **[8]**

b) Explain in detail about Change Control Board. **[8]**

Q4) Write short note on (Any THREE). **[18]**

a) Scope Control.
b) Project portfolio management.
c) Arrow diagramming method.
d) Project stakeholders.

SECTION-II

Q5) a) Explain the following with respect to Quality, **[8]**
i) Quality control charts ii) Seven run rule.

b) Explain tuckman model of team development. **[8]**

P.T.O.

Q6) a) Differentiate between Brainstorming and Delphi technique. **[8]**

b) Describe content of risk management plan. **[8]**

Q7) a) How an organization use weighted decision matrix to evaluate proposals as part of seller selection. **[8]**

b) Explain statistical sampling and pareto analysis. **[8]**

Q8) Write short note on (Any THREE). **[3 × 6 = 18]**

a) Performance reporting.

b) Mcclelland's Aquired Needs theory.

c) Communication planning .

d) Types of contracts.

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Total No. of Pages : 2

Seat No.	

B.E. (Comp. Sci. and Engg.) (Semester - VIII) (Pre-Revised) (Old) Examination, April - 2017

REAL-TIME OPERATING SYSTEM

Sub. Code : 49449

Day and Date : Saturday, 29 - 04 - 2017 **Total Marks : 100**

Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Solve Any Three Questions from each section.**

2) **Figures to right indicate full marks.**

SECTION - I

Q1) a) What is IPC? How it is achieved in real time operating system. **[8]**

b) Define real-time system. Explain real time system design issues. **[8]**

Q2) a) Explain various memory technologies. **[8]**

b) With block diagram, explain how devices are interfaced to the CPU via interrupts. Comment on watchdog timers. **[8]**

Q3) a) What is role of kernel in OS? Draw and Explain functionality and associated taxonomy of various layers of OS. **[8]**

b) What is priority inversion problem? How it is solved? **[8]**

Q4) Write a note on (Any Three): **[18]**

a) Latching.

b) PAL/PLA.

c) RISC vs CISC.

d) Test-and-Set Instruction.

P.T.O.

SECTION - II

Q5) a) Explain Requirements-Engineering Process with suitable diagram. **[8]**

b) Explain Four way Intersection Traffic light control system problem, How design document is created? **[8]**

Q6) a) How structured analysis is done using structured design State problem in real-time applications of structured analysis. **[8]**

b) Explain Function points and Features points metrics in detail. State its advantages. **[8]**

Q7) a) Explain Semaphore & Mutex management in RTLinux. **[8]**

b) Explain cost estimation using COCOMO II model. **[8]**

Q8) Write a note on (Any Three): **[18]**

a) State Charts.

b) Lines of code.

c) Petri nets.

d) RTLinux.

Seat No.	

B.E. (Computer Science & Engineering) (Semester - VII) (Pre-Revised) (Old) Examination, May - 2017
SOFT COMPUTING (Elective - I)
Sub. Code :47921

Day and Date : Thursday, 18 - 05 - 2017 **Total Marks : 100**
Time : 2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Attempt any three questions from each section.**
2) **Figures to the RIGHT indicate FULL marks.**
3) **Assume suitable data if necessary.**

SECTION - I

Q1) a) What are Neuro Fuzzy Hybrid systems ? State its advantages. **[8]**

b) Define learning in ANN? Differentiate between supervised and unsupervised learning in ANN. **[8]**

Q2) a) What is learning rate parameter ? How does momentum factor makes faster convergence of a network. **[8]**

b) What is ART network ? State role of vigilance parameter in ART network. **[8]**

Q3) a) Draw model of Adaline network. Explain training algorithms used in Adaline network. **[8]**

b) How Madaline network formed ? How training adopted in Madaline network using majority vote rule? **[8]**

P.T.O.

Q4) Write Short Notes on (Any THREE). **[3×6=18]**

a) McCulloch- Pitts Model.

b) Genetic algorithms.

c) Fuzzy genetic hybrid system.

d) Bias.

SECTION- II

Q5) a) Explain in detail the operations and properties of fuzzy sets. **[8]**

b) What is fuzzy composition technique ? What are tolerance and equivalence relations in fuzzy sets. **[8]**

Q6) a) With block diagram explain Fuzzy Inference System (FIS). **[8]**

b) What are different types of FIS ? Explain Sugeno FIS in detail. **[8]**

Q7) a) What is lambda-cut for fuzzy sets? Explain properties of lambda-cut for fuzzy sets. **[8]**

b) Explain crossover operation in GA . What are different crossover methods in GA ? **[8]**

Q8) Write short notes on (Any Three). **[3×6=18]**

a) Hybrid fuzzy controller.

b) Applications of GA.

c) Fuzzy measures.

d) Defuzzification.

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Total No. of Pages :2

Seat No.	

B.E. (Computer Science and Engineering) (Part-IV) (Old)
(Semester - VIII) (Pre-revised) Examination, April - 2017
STORAGE NETWORKS
Sub. Code: 49448

Day and Date :Thursday, 27 - 04 - 2017 **Total Marks : 100**
Time :2.00 p.m. to 5.00 p.m.

Instructions : **1)** **Q.4 and Q.8 are compulsory.**
2) **Attempt any two questions from remaining in each section.**
3) **Figures to the right indicate full marks.**

SECTION-I

Q1) a) List and explain the components of disk drive. **[8]**

b) Explain how read and write operations are performed with cache. **[8]**

Q2) a) Explain different services provided by FC-3 of Fibre Channel protocol Stack. **[8]**

b) Explain front end command queuing inn Intelligent Storage System. **[8]**

Q3) a) Explain fundamental laws governing disk performance. **[8]**

b) Explain RAID Level 5 with diagram. Find write penalty for RAID Level 5. **[8]**

Q4) Write note on any three: **[18]**

a) Data Center Infrastructure.

b) Logical Unit Number (LUN).

c) iSCSI

d) Nested RAID.

P.T.O.

SECTION-II

Q5) a) Explain Symmetric Storage Virtualization in Network with advantages and disadvantages. **[8]**

b) Explain different Backup Considerations. **[8]**

Q6) a) Explain different Network attached storage (NAS) File-Sharing Protocols. **[8]**

b) Explain BC terminology and lifecycle. **[8]**

Q7) a) Explain the factors affecting NAS Performance and availability. **[8]**

b) Explain how data consistency is achieved in local replication. **[8]**

Q8) Write note on any three: **[18]**

a) Integrated NAS.

b) Objectives of virtualisation.

c) Purpose of Backup.

d) Storage-based Local Replication Technologies.

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