Seat No.	

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

Day and Date : Friday, 10 - 11 - 2017　　　　　　　Total Marks : 100
Time : 2.30 p.m. to 5.30 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)　In context of parallel processing explain different elements of a modern computer system.　**[8]**

　　　b)　What is implicit parallelism and explicit parallelism? State different software tools for the same.　**[8]**

Q2) a)　Draw and explain NUMA model state its applications?　**[8]**

　　　b)　What is concept of linear pipelining? Explain scalar and vector pipelines.　**[8]**

Q3) a)　With block diagram explain generic model of a message passing multicomputer.　**[8]**

　　　b)　What are array processors? Explain different configurations of array processors.　**[8]**

Q4) Write Short Notes on Following (Any Three) :　**[18]**

　　　a)　Vector instructions.

　　　b)　Systolic Arrays.

　　　c)　Cray -1 Architecture.

　　　d)　SIMD Machine Model.

SECTION - II

Q5) a) Draw loosely coupled multiprocessor Cm* architecture. How degree of memory conflict problem is avoided in loosely coupled systems? **[8]**

b) What is slocal in Cm* architecture? What is importance of Kmap processor? With block diagram explain network of clusters. **[8]**

Q6) a) Explain primary components of the instruction set architecture of VMIPS. State any five VMIPS instructions. **[8]**

b) What is latency? Explain shared virtual memory technique for latency hiding. What are the advantages of latency hiding? **[8]**

Q7) a) How parallelism in processes is checked? How data dependence analysis is carried out? Explain with suitable example. **[8]**

b) Explain grain packing approach of Kruatrachue and Lewis for parallel programming applications. **[8]**

Q8) Write Short Notes on Following (Any Three) : **[18]**

a) Prefetching Technique for latency hiding.

b) Multithreading.

c) Program Graph.

d) Cross cutting issues Tesla Versus Corei7.

◆ ◆ ◆

Seat No. [ ]

B.E. (CSE) (Part - IV) (Semester - VII) (Revised) Examination, November - 2017
DISTRIBUTED SYSTEMS
Sub. Code : 67542

Day and Date : Monday, 13-11-2017   **Total Marks : 100**

Time : 2.30 p.m. to 5.30 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) Explain the process of binding a client to a server in DCE RPC. **[8]**

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

Q2) a) Explain token ring mutual exclusion algorithm in detail. **[8]**

     b) Define the terms error and fault. Classify and explain the faults. **[8]**

Q3) a) Explain UNIX semantics, Session Semantics and Immutable files semantics of file sharing. **[8]**

     b) Explain the server replication mechanism used in CODA. **[8]**

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

     a) Sensor networks.

     b) Berkeley Algorithm.

     c) Collaborative distributed systems.

     d) Compound procedures used in ONC RPC in NFS v4.

SECTION-II

Q5) a) Describe implementation level of virtualization in Cloud Computing? **[8]**

b) What is the benefits using virtualization in Cloud Computing? **[8]**

Q6) a) Explain virtualization at Application level? **[8]**

b) Explain Database as a Service (DBaaS) in Cloud Computing? **[8]**

Q7) a) What are different threats on Data stored in cloud? **[8]**

b) What are the advantages of "Platform as a Service" (PaaS)? **[8]**

Q8) Write note on **[18]**

a) Advantages of Using cloud storage gateways (CSG).

b) Cloud Firewall.

c) Virtual Firewall.

✦ ✦ ✦

Seat No.

B.E. (CSE) (Part-IV) (Semester-VII) (Revised) Examination, November - 2017
ADVANCED DATABASE SYSTEMS
Sub. Code : 67543

Day and Date : Wednesday, 15-11-2017　　　　　　　　Total Marks : 100
Time : 2.30 p.m. to 5.30 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)　What do you mean by replication and fragmentation w.r.t. distributed database? Briefly explain the advantages and disadvantages to replication. **[8]**

　　b)　What are transaction-server systems? For data server systems, explain the following **[8]**

　　　　i)　Locking

　　　　ii)　Data caching

　　　　iii)　Lock caching

Q2) a)　What is an Object Identity? Explain the system-generated OID and the immutability Property of an object. **[8]**

　　b)　What is Persistent object? Explain the approaches to make the Object Persistent? **[8]**

Q3) a)　State some of the object database features that have been included in SQL. Also give an example of UDTS in SQL to create complex structured object. **[8]**

　　b)　With the help of an appropriate figure of the database life cycle, explain in detail database initial study phase. **[8]**

Q4) Write short notes on any three: **[18]**

    a)   2-phase commit

    b)   ODL

    c)   Persistence

    d)   top-down versus bottom-up design

SECTION-II

Q5) a)   Explain the intuition behind the two rules in the Bell-LaPadula model for manadatory access control.   **[4]**

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

    c)   Explain the statistical database security.   **[8]**

Q6) a)   Explain document type definition. Describe a DTD with suitable example for an XML.   **[8]**

    b)   Write the applications of XML.   **[4]**

    c)   What is Xquery? Explain FLOWR expression with example?   **[4]**

Q7) a)   What is data warehouse? What is the difference between data warehouse and operational database system?   **[6]**

    b)   Explain Following   **[4]**

        i)   Data cube

        ii)   OLAP

    c)   With neat schematic explain business intelligence architectural components?   **[6]**

Q8) Write a short note on(any three)   **[18]**

    a)   Polyinstantiation

    b)   XML schema

    c)   Classification algorithm

    d)   Grant and Revoke with example.

◆ ◆ ◆

Seat
No.

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

Day and Date : Tuesday, 21 - 11 - 2017   Total Marks : 100
Time : 2.30 p.m to 5.30 p.m.

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

SECTION - I

Q1) a)   Explain hidden terminal and exposed terminal problem Ad Hoc Wireless Network   **[8]**

     b)   How beacon signals are used by Associativity Based Routing Protocol ? Explain ABR in detail.   **[8]**

Q2) a)   Explain Location Aided Routing:- LAR1 and LAR2 approach in detail.   **[9]**

     b)   Explain Characteristics for ideal Routing Protocol for Ad Hoc wireless network.   **[8]**

Q3) a)   Explain ZRP routing protocol in detail.   **[8]**

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

Q4) a)   Explain MACAW protocol with neat timing diagram and control signals.   **[9]**

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

P.T.O.

Q5) a) Explain Bandwidth Efficient Multicast Routing protocol in detail. [8]

b) Why TCP does not perform well in Ad Hoc wireless network. [8]

Q6) a) Explain Prefered Link-Based Multicast Routing Protocol in details [8]

b) Explain Security Aware Routing AODV protocol in Ad Hoc wireless network. [8]

Q7) a) Explain INSIGNIA QoS model in detail. [9]

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

Q8) a) What are the Network Layer Attacks in Ad Hoc wireless network? Explain in detail. [9]

b) What are the design issues and challenges for Transport Layer in Ad Hoc Wireless network. [8]

&ತ &ತ &ತ

Seat No.	

B.E. (Computer Science and Engineering) (Semester-VII)
Examination, November - 2017
MOBILE APPLICATIONS (El. - 1)
Sub. Code : 67546

Day and Date : Tuesday, 21 - 11 - 2017   **Total Marks : 100**
Time : 2.30 p.m to 5.30 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)   What are mobile website navigatation techniques   **[6]**

　　　b)   What is native app, hybrid app and web app in mobile app technology stack.   **[6]**

　　　c)   Explain about standard OMA.   **[4]**

Q2) a)   Write a note on HTML 5.   **[6]**

　　　b)   Explain in detail about WAP 1.0   **[6]**

　　　c)   Write short note on Web Services   **[4]**

Q3) a)   Explain the difference between XML and JSON   **[6]**

　　　b)   What are the best practices while designing a mobile website?   **[6]**

　　　c)   Explain in detail about Fallback mechanism.   **[4]**

P.T.O.

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

a) Android emulator

b) W3C

c) RESS

d) Tools for Mobile Web Development

SECTION - II

Q5) a) Explain the role of responsive images in mobile application development How we can use Sencha. IO to create responsive images [6]

b) Explain various problems mobile application developer face regarding feature support on a particular platform. Briefly describe their solutions. [6]

c) Describe how we can use HTTP header for device detection at server side [4]

Q6) a) Explain in detail JavaScript APIs for handling touch and gesture events in mobile application [6]

b) Compare Zepto.js with jQmobi. [6]

c) What is J2ME? How are the tools available for J2ME programming? [4]

Q7) a) Describe how W3C Geolocation API is used for getting a location as well as tracking a particular location. [6]

b) Compare Native App And Mobile Web App. [6]

c) List various JavaScript mobile UI patterns. Explain ANY one. [4]

Q8) Write a short note on (any three)   [3×6=18]

   a)   Web Sockets.

   b)   Device Interaction.

   c)   GSMA One API.

   d)   HTTP Sniffing.

&   &   &

Seat No.	

B.E. (Computer Science & Engg.) (Semester - VIII) (Revised)
Examination, November - 2017
DATA ANALYTICS
Sub. Code : 67824

Day and Date : Wednesday, 01 - 11 - 2017   Total Marks : 100
Time : 10.00 a.m. to 1.00 p.m.

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

Q1) a)   Explain the phases in the developments of Business Intelligence System with the help of neat diagram?   [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 in detail process of univariate analysis?   [8]

Q3) a)   Explain HDFS Architecture and the working of Hadoop Heartbeat message in HDFS with proper figure?   [8]

     b)   Explain data validation process in data preparation.   [8]

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

     a)   Data Warehouse Architecture.

     b)   Hive, HBase, Pig & Pig Latin.

     c)   Multivariate Analysis.

     d)   Data mining tasks.

Q5) a) Explain simple linear regression model and structure of regression model.
[8]

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

Q6) a) Explain in detail any one algorithm used for partition methods. [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 short note on (Any Three) : [18]

a) Bayesian methods.

b) Exporting data from R.

c) Hierarchical clustering methods.

d) Apriori algorithm.

✦ ✦ ✦
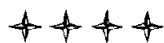
Seat No.	

B.E. (CSE) (Part - IV) (Semester - VIII) (Revised) Examination, November - 2017
PROJECT MANAGEMENT
Sub. Code: 67825

Day and Date :Thursday, 02 - 11 - 2017 **Total Marks : 100**
Time :10.00 a.m. to 1.00 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 Scope management and five main processes involved in it. **[8]**

   b) Explain Project Time Management and six main processes involved in it. **[8]**

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

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

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

   **b)** Discuss Project Management knowledge areas with tools and techniques. **[8]**

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

   a) Project attributes.
   b) Weighted Scoring Model
   c) Cost Control mechanism
   d) Activity Resource Estimation.

P.T.O.

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

    b) List and explain tools and techniques for quality control. **[8]**

Q6) a) Discuss Team-Building activities in detail. **[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 with respect to Human Resource Management. **[8]**

        i)   Maslow's Hierarchy of needs

        ii)   Herzberg's motivation Hygiene theory

        iii)   McClelland's Acquired-Needs Theory

        iv)   McGregor's Theory X and Theory Y.

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

    a) Quantitative Risk analysis.

    b) Planning Risk responses

    c) Planning risk management

    d) Importance of human resource management
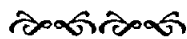
Seat
No.

B.E. (Computer Science) (Semester - VIII) (Revised) Examination, November - 2017
REAL-TIME OPERATING SYSTEM
Sub. Code:67826

Day and Date :Friday, 03 - 11 - 2017   Total Marks : 100
Time :10.00 a.m. to 1.00 p.m.

Instructions :   1)   Solve Any Three Questions from each section.
                  2)   Figures to right indicate full marks.

SECTION-I

Q1) a)   What is Real-Time System? Explain Real-time system examples.   **[8]**

b)   Explain following terminologies related to hardware interfacing: **[8]**

i)   Latching

ii)   Edge vs Level Triggered

iii)   Tristate logic

iv)   IEEE 1394 Firewire

Q2) a)   Explain memory-mapped I/O with suitable diagram.   **[8]**

b)   Explain operation of mailboxes? How critical section problem can be handled using mailboxes?   **[8]**

Q3) a)   What is priority inversion ? Explain priority ceiling protocol.   **[8]**

b)   Explain task control block model in detail.   **[8]**

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

    a)   Polled loop

    b)   Test-and-Set-Instruction

    c)   Watchdog timers

    d)   Ring Buffers

SECTION -II

Q5) a)   Explain requirement engineering process in desing of real time systems.

[8]

    b)   What are formal methods in software specification? State its limitations.

[8]

Q6) a)   Explain how to organize the requirements document.   **[8]**

    b)   What is COCOMO? Explain COCOMO-II in detail.   **[8]**

Q7) a)   Explain real-time features of C# and Java.   **[8]**

    b)   Explain semaphore and mutex management in RTLinux.   **[8]**

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

    a)   Mc Cabe's Metric

    b)   Function points

    c)   RTLinux

    d)   Assembly language

& & &

Seat No.	

B.E. (Computer Science and Engg.) (Semester-VIII) (Revised) Examination, November - 2017
SOFTWARE TESTING AND QUALITY ASSURANCE
(Elective-II)
Sub. Code : 67828

Day and Date : Monday, 06-11-2017 **Total Marks : 100**
Time : 10.00 a.m. to 1.00 p.m.

Instructions :   1) Q. 4 and Q. 8 are Compulsory.
2) Attempt any two questions from Q. 1 to Q. 3.
3) Attempt any two questions from Q. 5 to Q. 7.

SECTION-I

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

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

Q2) a) What are different software verification methods? **[8]**

b) What do you mean by software project audit? Explain in brief project audit and review checklist. **[8]**

Q3) a) Explain use cases and use case diagram in detail? **[8]**

b) What is regression testing? **[8]**

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

a) Software failures with example.

b) SRS document verification.

c) Risk analysis.

SECTION-II

Q5) a) Which are broad categories of software metrics? Explain in detail. **[8]**

b) Compare client server application and web based application. **[8]**

Q6) a) What should we measure during testing? **[8]**

b) Write a note on user interface testing. **[8]**

Q7) a) Which are the several problems with the function points measure? **[8]**

b) What is automated test data generation.? **[8]**

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

a) Measurement in software engineering.

b) Albretch's approach.

c) Security testing.

✈ ✈ ✈