B.E. (Computer Science and Engineering) (Part - IV) (Semester - VII) Examination, April - 2016

ADVANCED COMPUTER ARCHITECTURE

Sub. Code : 47917

Day and Date : Friday, 29 - 04 - 2016
Time : 03.00 p.m. to 06.00 p.m.

Total Marks : 100

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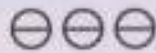
SECTION - I

Q1) a)   What are different methods for classification of computer architectures? Explain classification based on notions of instructions and data streams. [8]

b)   Draw and explain SIMD machine model. How it is specified using 5-tuple model? [8]

Q2) a)   What are different performance evaluation factors in pipeline architectures? Explain any two. [8]

b)   Draw systollic array and explain its working state any two applications of systollic arrays. [8]

Q3) a)   Why associative memories are called as content addressable memories? How it is different from RAM? With block diagram explain bit serial architecture. [8]

b)   Explain scalable coherent multiprocessor model state its applications. [8]

Q4) Write short notes on (any three)   [3 × 6 = 18]

a)   CM* architecture.

b)   Principle of multitheading

c)   Vector instructions

d)   Scalar pipelines

SECTION - II

Q5) a) State the difference between data flow and program flow architectures. State advantages of data flow architectures. [8]

b) What are different models of parallel operating systems? Draw and explain master-slave configuration. [8]

Q6) a) What are conditions of parallelism? What are different types of data dependency? [8]

b) What is latency? Explain any two latency hiding techniques. [8]

Q7) a) Explain static & dynamic connection networks what are advantages and disadvantages of each. [8]

b) State language features for parallelism. How language plays an important role in parallel processing. [8]

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

a) Open MP

b) Grain size

c) Data flow operators

d) Message passing model

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Seat
No.

B.E.(Computer Science and Engineering) (Semester - VIII)
Examination, April - 2016
Elective -II: ADHOC WIRELESS NETWORKS
Sub. Code:49452

Day and Date :Sunday, 24 -04 -2016   Total Marks : 100
Time :3.00 p.m. to 6.00 p.m.

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

SECTION -I

Q1) a) What makes ad hoc network suitable for military applications and
emergency operations?   [6]

   b) What are the major benefits of ad hoc network in terms of deployment?[6]

   c) Write a note hidden terminal and exposed terminal.   [6]

Q2) a) What are the issues to be considered for establishing a successful ad
hoc wireless Internet? Why we have to consider this issues?   [8]

   b) Explain Dynamic Source Routing Protocol in detail.   [8]

Q3) a) With neat diagram explain Cluster-Head Gateway Switch Routing
Protocol.   [8]

   b) Why we can not use MACA designed for wired network in ad hoc
network? Explain MACAW in detail.   [8]

Q4) a) Explain DSDV protocol in detail.   [8]

   b) What are the design goals of a MAC protocol for ad hoc wireless
networks?   [8]

P.T.O.

SECTION -II

Q5) a) Explain Feedback-Based TCP in detail. [8]

  b) Explain architectural reference model for multicast routing protocol.[9]

Q6) a) With a neat diagram explain concept of SWAN model. [8]

  b) List and explain Network Layer Attacks on ad hoc networks. [8]

Q7) a) Explain PAMAS protocol in detail. [8]

  b) Explain issues and challenges in providing Quality of Service in ad hoc networks. [8]

Q8) a) Explain Ad Hoc TCP protocol in detail. [9]

  b) With neat diagram explain Bandwidth-Efficient Multicast Routing Protocol. [8]

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Seat No.

B.E. (CSE) (Semester - VII) (Revised)
Examination, May - 2016
ADVANCED DATABASE SYSTEMS
Sub. Code : 47919

Day and Date : Monday, 02-05-2016

Total Marks : 100

Time : 3.00 p.m. to 6.00 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) Explain with example type and table inheritance. **[8]**

b) Compare between RDBMS, ORDBMS and OODBMS. **[8]**

Q2) a) What do you mean by a complex object? Explain with suitable example structured and unstructured complex object. **[8]**

b) Describe the structure of XML data and storage of XML data. **[8]**

Q3) a) What is I/O parallelism? State and briefly describe explain basic data partitioning strategies along with the type of access. **[8]**

b) State and explain three parallel database architectures with necessary figures. **[8]**

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

a) Synchronous & asynchronous replication.

b) Fragmentation.

c) SQL-3.

d) Semijoin.

P.T.O.

SECTION - II

Q5) a) What are the three broad levels at which a database system can be tuned to improve performance? Give atleast one example for each. [8]

b) What do you mean by performance benchmarks? State and briefly explain various TPC benchmark standards for database systems. [8]

Q6) a) What is data-mining? Explain the association rule for data-mining. [8]

b) What is E-commerce? State and specify the types of activities inclined in E-commerce. [8]

Q7) a) What are real-time transaction systems? Explain briefly various deadlines associated with it. [8]

b) Define a workflow. Give few examples of workflow. Explain workflow in a loan processing application. [8]

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

a) OLAP and OLTP.

b) TP monitor components.

c) Long duration transactions.

d) Main Memory databases.

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Seat
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B.E. (Computer Science and Engineering) (Part -II) (Semester - VIII)
Examination, April - 2016
BUSINESS INTELLIGENCE SYSTEM (Elective -II)
Sub. Code:49453

Day and Date :Sunday, 24 -04 -2016   **Total Marks : 100**
Time :3.00 p.m. to 6.00 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 mark.
                 4)   Draw neat diagrams and suitable example whenever necessary.

SECTION -I

Q1) a) Explain the benefits of sound DW/BI technical architecture.   [8]

   b) Explain operational data stores.   [8]

Q2) a) What are benefits of dimensional modeling.   [9]

   b) Explain hybrid slowly changing dimension techniques.   [8]

Q3) a) Explain dimensional modeling process flow diagram.   [8]

   b) Discuss the base facts and derived facts.   [8]

Q4) a) Discuss back room and presentation server infrastructure factor.   [8]

   b) Discuss slowly changing dimension.   [9]

SECTION -II

Q5) a) Explain change data capture system.   [8]

   b) Explain deduplication and conforming system.   [8]

Q6) a) Discuss the importance of business intelligence applications. [8]

b) Explain operational business intelligence. [8]

Q7) a) Explain BI Application navigation framework. [8]

b) Explain navigating application via the BI portal. [8]

Q8) Write short note on. [18]

a) Business Needs.

b) Archiving and lineage.

c) Pre- build analytic application.

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Seat
No.

B.E. (CSE) (Semester - VII) (Revised)
Examination, May - 2016
CYBER LAW (Elective - I)
Sub. Code : 47923

Day and Date : Tuesday, 03 -05 - 2016   **Total Marks : 100**
Time : 3.00 p.m. to 6.00 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)   State and explain the objectives and the scope of the IT ACT.   [8]

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

Q2) a)   Describe the generation of the digital signature certificates.   [8]

      b)   What is certifying authority? State and explain the functions of the
           controller of certifying authority.   [8]

Q3) a)   Explain the punishment for damage to computer & computer system.[8]

      b)   Explain the procedure for appointment of controller and deputy controller
           of certifying authority.   [8]

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

      a)   UNCITRAL.

      b)   Need of the IT ACT.

      c)   Retention of electronic records.

SECTION - II

Q5) a) What are domain names? Explain the top level domain name system. **[8]**

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

Q6) a) Explain Cyber squatting in detail with an appropriate example. **[8]**

b) Explain the role of RBI in E-banking and legal issues. **[8]**

Q7) a) What is hacking? Explain different types of hacking? **[8]**

b) What are metatags? Describe the issues related to it. **[8]**

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

a) Framing.

b) Credit card laws.

c) Tampering with computer source code.

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Seat
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**B.E. (Computer Sc. & Engineering) (Part - IV) (Semester - VIII)
Examination, April - 2016**

DATA MINING (Elective - II)

Sub. Code : 49451

Day and Date : Sunday, 24 - 04 - 2016   **Total Marks : 100**

Time : 03.00 p.m. to 06.00 p.m.

Instructions :   1)   Attempt any three questions from each sections.
                  2)   Figures to RIGHT indicates FULL marks.
                  3)   Assume suitable data if necessary.

SECTION - I

Q1) a)   Explain basic data mining tasks in detail.   [8]

   b)   State and explain issues in Data Mining   [8]

Q2) a)   Explain Bayes theorem with suitable example.   [8]

   b)   What is K-nearest algorithm? Explain with example.   [8]

Q3) a)   What is NN supervised learning? Explain back propagation algorithm.[8]

   b)   Explain rule based algorithm for decision trees [DT]. How rules are
         generated from DT.   [8]

Q4) Write short notes on (any three)   [3×6=18]

   a)   KDD process

   b)   Regression and correlation

   c)   CART

   d)   Data Mining from a database perspective

Q5) a) What is need of clustering? State different clustering attributes. **[8]**

b) State and explain agglomerative algorithm with suitable example. **[8]**

Q6) a) Explain apriori algorithm with suitable example. **[8]**

b) What are advanced association rule techniques? Explain any two in detail.**[8]**

Q7) a) What is Web mining? Explain web mining taxonomy in detail . **[8]**

b) Explain PageRank and Clever techniques of Web structure mining. **[8]**

Q8) Write short notes on (Any Three)

a) Outliers in clustering   **[3×6=18]**

b) BIRCH algorithm

c) Crawlers

d) Support and confidence

Seat No.

B.E. (Computer Science and Engineering) (Semester - VII)
Examination, April - 2016
DISTRIBUTED SYSTEMS
Sub. Code : 47918

Day and Date : Saturday, 30 - 04 - 2016
Time : 03.00 p.m. to 06.00 p.m.
Total Marks : 100

Instructions :
1) Solve any three questions from Q.No. 1 to Q. No. 4.
2) Solve any three questions from Q.No. 5 to Q. No. 8.
3) Assume suitable data wherever necessary.
4) Figures to right indicate full marks.

SECTION-1

Q1) a) What is distribution transparency? Explain different types of transparencies. **[8]**

b) Explain principles and working of Bit Torrent. **[8]**

Q2) a) Explain three tier server cluster architecture. **[8]**

b) What is RPC? Explain parameter marshalling in RPC. **[8]**

Q3) a) Explain general architecture of DSM system. **[8]**

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

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

a) Asynchronous RPC

b) Berkeley Algorithm

c) Grid Computing System

d) Goals of Distributed Systems

SECTION-II

Q5) a) Explain NFS architecture for UNIX system. [8]

b) Explain caching and replication in coda file system. [8]

Q6) a) What is checkpointing? Explain types of checkpointing. [8]

b) Explain system architecture of Amoeba. [8]

Q7) a) Explain design goals and main features of Mach. [8]

b) Describe typical infrastructure components in Multimedia applications.[8]

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

a) Characteristics of multimedia data

b) RPC's in NFS

c) Design issues in Process resilience

d) File management in Amoeba

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Seat
No.

B.E. (Computer Science and Engineering) (Part-II) (Semester - VIII)
Examination, April - 2016
GRID TECHNOLOGY
Sub. Code : 49447

Day and Date : Sunday, 17 -04 - 2016   Total Marks : 100
Time : 3.00 p.m. to 6.00 p.m.

Instructions : 1) Q.4 & Q.8 are compulsory.
                2) Attempt any two questions from Q1, Q2, Q3.
                3) Attempt any two questions from Q5, Q6, Q7.
                4) Figures to the right indicates full marks.

SECTION - I

Q1) a) What is grid computing? Explain different topologies of grid? Explain features of computational and data grid? [8]

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

Q2) a) With neat schematic explain software architecture of portal Lab? [8]

b) What are the characteristics of GT3 programming model? Explain server side and client side components in GT3? [8]

Q3) a) What is WSRF? What are the advantages of WSRF over OGSI and advantages of OGSI over WSRF? [8]

b) What is autonomic computing? Explain the features of autonomic computing? [8]

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

   a) Grid related Standard bodies.

   b) DAML+OIL and OWL.

   c) Core services in GT3.

   d) OGSA.

SECTION - II

Q5) a) What is GSI? Explain mutual authentication through digital signature and credential delegation & single sign-on? [8]

   b) How review criteria of grid monitoring system categorized and classified? [8]

Q6) a) Explain job life cycle and job management in condor? [8]

   b) What is cloud computing? What are characteristics of CC? Explain different delivery models of Cloud Computing? [8]

Q7) a) What is virtualization? What are the characteristics of virtualization? Explain foundational issues of virtualization? [8]

   b) What is storage as a service provider? Explain different aspects of data security? [8]

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

   a) SOA and Cloud.

   b) Client Desktop.

   c) Autopilot.

   d) Scheduling paradigms.

Seat
No.

B.E. (C.S.E) (Part - II) (Semester - VIII)
Examination, April - 2016
REAL TIME OPERATING SYSTEMS
Sub. Code: 49449

Day and Date : Friday, 22 - 04 - 2016

Total Marks : 100

Time : 3.00 p.m. to 6.00 p.m.

Instructions :
1) Attempt any THREE questions from each section.
2) Figures to the RIGHT indicates Full marks.
3) Assume suitable data if necessary.

SECTION - I

Q1) a) What are firm real time systems? Give any two examples of firm real time systems? **[8]**

b) State & explain issues in design of real time systems **[8]**

Q2) a) Discuss the relative advantages/disadvantages of DMA, programmed I/O and memory mapped data transfer as they pertain to real time systems. **[8]**

b) What is role of the kernel in operating systems? Explain synchronous polled loop & cyclic executives pseudo kernels. **[8]**

Q3) a) What are ring buffers? How simultaneous input and output is achieved using ring buffers? **[8]**

b) How mailboxes are used to exchange message in intertask communication operation? Explain how critical section problem is handled using mail boxes? **[8]**

Q4) Write short notes on following (any Three) [3×6=18]

a) Preemptive - priority system.

b) Foreground/Background systems.

c) Round Robin Scheduling.

d) Deadlock avoidance.

SECTION - II

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

b) Explain any two formal methods in software specification for real time systems. [8]

Q6) a) Explain different real time features of JAVA & C# programming languages. [8]

b) Explain different criterias for selection of commercial real time operating systems. [8]

Q7) a) What is need of Metric? What is the drawback of McCabe's metric? How it is overcome by Halstead's Metric? [8]

b) Explain basic COCOMO model. State the drawback of COCOMO model, how it is overcome by COCOMO II model? [8]

Q8) Write short Notes on (Any Three) [3×6=18]

a) Benefits of object orientation.

b) LOC.

c) POSIX.

d) RTLinux.

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Seat
No.

B.E. (CSE) (Part - IV) (Semester - VIII) (Revised)
Examination, April - 2016
STORAGE NETWORKS
Sub. Code : 49448

Day and Date : Wednesday, 20 -04 - 2016   **Total Marks : 100**
Time : 3.00 p.m. to 6.00 p.m.

Instructions :   1)   Attempt any three questions from each section.
               2)   Figures to the right indicate full marks.

SECTION - I

Q1) a)   What are the physical and logical components of connectivity?   **[8]**

    b)   Explain 8b/10b encoding, ordered sets and link control protocol described in FC-1 of Fibre Channel Protocol.   **[8]**

Q2) a)   Explain the following: **[8]**

       i)   Seek time.

       ii)   Rotational latency.

       iii)   Data transfer rate.

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

Q3) a)   What are the different types of Direct-attached storage (DAS)? Give benefits and limitations of DAS.   **[8]**

    b)   Explain Striping, mirroring and parity with advantages and disadvantages of each.   **[8]**

Q4) Write note on: [18]

    a) Data Center Infrastructure.

    b) Logical Unit Number (LUN).

    c) Fibre Channel SAN Evolution.

SECTION - II

Q5) a) Give steps to Host and Access Files on NAS. [8]

    b) Explain Storage-based Local Replication Technologies. [8]

Q6) a) Explain the stages of BC planning lifecycle. [8]

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

Q7) a) Explain Symmetric Storage Virtualization in Network with advantages
and disadvantages. [8]

    b) Explain backup and restore operations in detail. [8]

Q8) Write note on: [18]

    a) Comparison between FIBRE CHANNEL SAN and iSCSI SAN.

    b) Virtualisation in disk sub-system.

    c) Causes of Information Unavailability.

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