Seat No.	

B.E. (Computer Sc. & Engineering) (Semester - VII) (Revised) Examination, November - 2019
ADVANCED COMPUTER ARCHITECTURE
Sub. Code : 67541

Day and Date : Saturday, 23 - 11 - 2019 **Total Marks : 100**
Time : 10.00 a.m. to 1.00 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 different elements of a modern computer systems. Explain different shared memory multiprocessor models. Which model has faster access to a local memory with a local processor? **[8]**

b) What are symmetric and asymmetric multiprocessor architectures? Explain in detail. **[8]**

Q2) a) Explain following performance evaluation factors for pipeline architectures: **[8]**

i) MIPS Rate ii) Execution Time
iii) Throughput iv) Effective CPI

b) What are systolic arrays? State any two applications of systolic arrays. **[8]**

Q3) a) Draw and explain associative memory architecture. Explain its working with suitable example. **[8]**

b) Explain basic principle of Multithreaded architecture? How performance of multithreaded architectures is analyzed? **[8]**

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

a) The S-access memory organization
b) Multiprogramming
c) SIMD Array processor
d) Classification of pipeline architectures

P.T.O.

Scanned by CamScanner

SECTION - II

Q5) a) Draw network of clusters in Cm* architecture. how degree of memory conflict problem is handled in loosely coupled systems? **[8]**

b) Explain different components of Kmap processor in Cm* architecture. **[8]**

Q6) a) Draw basic structure of a vector architecture VMIPS. Explain following two vector instructions ADDVV.D V,V2,V3.

SUBVV.D V1, V2, V3. **[8]**

b) Draw and explain NVIDIA GPU memory structure? How local memory is shared by all threads of SIMD instructions within a thread block. **[8]**

Q7) a) What are Bernstein's conditions for parallelism? How it is important to apply before execution of code in parallel? **[8]**

b) What are latency hiding techniques? Explain any one in detail. **[8]**

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

a) Grain Size

b) Grain packing and scheduling

c) Resource dependences

d) Hardware parallelism

SUK-58995

Scanned by CamScanner

Seat No.	

B.E. (Computer Science and Engineering) (Semester - VII) Examination, November - 2019
DISTRIBUTED SYSTEMS - I
Sub. Code : 67542

Day and Date : Tuesday, 26 - 11 - 2019 **Total Marks : 100**
Time : 10.00 a.m. to 1.00 p.m.

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 the right indicate full marks.**

SECTION - I

Q1) a) Explain types of transparencies in distributed systems. **[8]**

b) Explain principle of RPC between client and server program with example. **[8]**

Q2) a) Explain layered architecture and object based architecture in distributed systems. **[8]**

b) Explain election algorithms (Bully and Ring). **[8]**

Q3) a) Explain Unix semantics and Session semantics of file sharing. **[8]**

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

Q4) Write a short note on (Any 3). **[18]**

a) Types of failure models in distributed systems.

b) Three phase commit protocol.

c) Berkeley Algorithm.

d) Client side caching in Coda file systems.

P.T.O.

SUK-36142
Scanned by CamScanner

SECTION - II

Q5) a) Describe different components of cloud computing. **[8]**

b) What are different challenges with cloud security? **[8]**

Q6) a) Explain Virtualization at operating System level. **[8]**

b) State the difference between public cloud & hybrid cloud. **[8]**

Q7) a) Explain data Confidentiality and Encryption in cloud. **[8]**

b) Explain Binary Translation with Full Virtualization. **[8]**

Q8) Write a short note on (Any 3). **[18]**

a) Community Clouds

b) Open Source Virtualization Technology

c) Infrastructure as a Service

d) Data Integrity

SUK-36142

Scanned by CamScanner

Seat No.	

B.E. (CSE) (Semester-VII) (Revised) Examination, November - 2019
ADVANCED DATABASE SYSTEMS
Sub. Code : 67543

Day and Date : Thursday, 28 - 11 - 2019 **Total Marks : 100**
Time : 10.00 a.m. to 1.00 p.m.

Instructions :
1) Attempt any 2 questions from Q1, Q2, and Q.3.
2) Q4 and Q8 are compulsory.
3) Attempt any 2 questions from Q5, Q6 and Q7.
4) Figures to the right indicate full marks.

SECTION-I

Q1) a) What is an object identity? Explain object structure and collection types. **[8]**

b) Evaluate the strategy for performing simple join and semijoin operation in a distributed system. **[8]**

Q2) a) What is multidatabase system? State and briefly explain some of the issues related to query processing in a heterogeneous system. **[8]**

b) With the help of figure, describe the inheritance hierarchy for the built in interfaces of the object model. **[8]**

Q3) a) What is a stored procedure? How to create a stored procedure? Illustrate with example. **[8]**

b) What is the goal of conceptual design? Explain data model verification step in it. **[8]**

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

a) Single Lock-manager approach.
b) Fragmented and Replicate join.
c) Persistence
d) DBMS software selection.

P.T.O.

Scanned by CamScanner

SECTION-II

Q5) a) Explain bell-lapadula model for multilevel security. [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 Xquery 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) Explain document type definition. Describe a DTD with suitable example for an XML. [7]

Q7) a) What is data warehouse and what are its main characteristics? Explain 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

Scanned by CamScanner

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

a) Association rule mining.

b) Business intelligent Framework.

c) Poly instantiation.

d) Classification algorithm.

SUK-98864

Scanned by CamScanner

Seat No.	

B.E. (Computer Science and Engineering)
(Part - IV) (Semester - VII)
Examination, November - 2019
AD HOC WIRELESS NETWORK (Elective - I)
Sub. Code : 67547

Day and Date : Saturday, 30 - 11 - 2019 **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 the right indicate full marks.
3) Make necessary assumptions if required

SECTION - I

Q1) a) What are the differences between cellular network and Ad Hoc wireless network? **[8]**

b) What are the design goals of MAC Protocol for Ad Hoc Wireless network? **[8]**

Q2) a) What are the applications of Ad Hoc wireless network? **[8]**

b) Explain hidden terminal and exposed terminal problem in Ad Hoc Wireless Network? **[8]**

Q3) a) How MARCH works? Explain in details. **[9]**

b) ZRP belongs to which category of routing protocol? Explain ZRP protocol in detail. **[8]**

Q4) a) Explain WRP protocol in detail. **[9]**

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

P.T.O.

SUK-67722
Scanned by CamScanner

SECTION - II

Q5) a) Explain MAODV protocol in detail. **[9]**

b) List and explain network security attacks in Ad Hoc Wireless Network. **[9]**

Q6) a) With a neat diagram explain Architectural Reference Model of Multicast routing protocols. **[8]**

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

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

b) What are the classifications of Energy Management Schemes? **[8]**

Q8) a) Write note on Processor Power Managment Scheme. **[6]**

b) Write note on Device Power Management Scheme. **[6]**

c) What are the challenges in providing QoS in Ad Hoc wireless network? **[6]**

SUK-67722

Scanned by CamScanner

Seat No.	

B.E. (Computer Science and Engineering) (Semester-VII) Examination, November-2019
MOBILE APPLICATIONS (Elective - I)
Sub. Code :67546

Day and Date : Saturday, 30 - 11 - 2019 **Total Marks : 100**
Time : 10.00 a.m. to 1.00 p.m.

Instructions :
1) figures to the right indcates 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 Responsive web Design with example. **[6]**
b) Explain in detail about Third party frameworks. **[6]**
b) Explain in detail about standards OMA. **[4]**

Q2) a) Explain the benefits of using Mobile apps against mobile web site in terms of Technology and usability. **[6]**
b) Explain in detail about WAP 1.0 **[6]**
c) Write short note on Android AVD Manager **[4]**

Q3) a) What is web service? Explain the difference between XML and JSON **[6]**
b) What are different browsers and platforms for mobile web development? **[6]**
c) What are the steps to create new android application? **[4]**

Q4) Write Short Notes on (Any Three) **[18]**
a) Native app, hybrid app and web app in mobile app
b) WML
c) Pseudo browser
d) HTML5 Web Apps

P.T.O.

SUK-28077
Scanned by CamScanner

SECTION - II

Q5) a) Explain in detail different possible problems in feature support at client side **[6]**

b) How HTML5 Web Storage are used? What are the limitation of it. **[6]**

c) Explain in detail CSS Fallbacks. **[4]**

Q6) a) Which Javascript framework is used in Mobile Application development? Explain any one. **[6]**

b) Explain in detail about offline web apps **[6]**

c) Write short note on HTTP sniffing. **[4]**

Q7) a) Explain in detail about polyfill mechanism. **[6]**

b) Explain in detail about GPS working. **[6]**

c) Explain in detail about J2ME and tools for J2ME programming **[4]**

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

a) AJAX

b) Assisted GPS

c) HTML Fallbacks

d) MOBILE HTML5 BOILER PLATE

SUK-28077

Scanned by CamScanner

Seat No.	

B.E. (CSE) (Semester - VIII)
Examination, November - 2019
DATA ANALYTICS
Sub. Code : 67824

Day and Date : Wednesday 13-11-2019 **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 & Question no.8 are compulsory.**
3) **Attempt any Two Questions from Q.1 to Q.3 and from Q.5 to Q.7.**

Q1) a) Discuss the phases in the development of Decision - support system? **[8]**

b) Explain the architecture of Data Warehouse. **[8]**

Q2) a) List and explain classes of Mathematical models? **[8]**

b) Explain data validation process in data preparation? **[8]**

Q3) a) Describe Map-Reduce Programming model with example? **[8]**

b) Explain HDFS Architecture and the working of Hadoop Heartbeat message in HDFS with diagram? **[8]**

Q4) Attempt Any Three: **[18]**

a) Discuss various applications of data mining.

b) Explain cube & Multidimensional Analysis

c) Write a note on types of decision

d) Write a note on YARN

P.T.O.

SUK-19435
Scanned by CamScanner

Q5) a) Explain structure of regression model along with simple linear regression **[8]**

b) Describe classification problem in data mining along with neat diagram? **[8]**

Q6) a) Explain single dimensional association rule? **[8]**

b) Explain K-means clustering Algorithm? **[8]**

Q7) a) Describe a matrix in R & manipulate with different commands? **[8]**

b) Write a note on reading and exporting Data from R? **[8]**

Q8) Attempt Any Three: **[18]**

a) Write a short note on different clustering techniques

b) Explain k-medoids clustering Algorithm

c) Describe Splitting rules in classification trees.

d) Explain creation of a matrix in R & manipulate with different commands

SUK-19435

Scanned by CamScanner

Seat No.	

B.E. (Computer Science and Engineering) (Part - IV)
(Semester - VIII) (Revised) Examination, November- 2019
PROJECT MANAGEMENT
Sub. Code : 67825

Day and Date : Thursday, 14- 11 - 2019 **Total Marks : 100**

Time : 2.30 p.m to 5.30 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.**

SECTION-I

Q1) a) Explain Organizations Frames and organizational structure and culture. **[8]**

b) Explain Context of IT projects and Project management process groups and mapping. **[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 approaches to developing Work Breakdown structure. **[8]**

b) Discuss Precedence diagramming method for network diagram. **[8]**

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

a) Gantt Chart

b) Critical Path Method

c) Cost Control mechanism

d) Activity Resource Estimation.

P.T.O.

SUK-79220
Scanned by CamScanner

SECTION-II

Q5) a) Explain types of cost estimates and cost estimation tools and techniques. **[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) Mc Clelland's Acquired-Needs Theory.

iv) Mc Gregor's Theory X and Theory Y.

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

a) Responsibility Assignment Matrices.

b) RACI chart.

c) Planning risk management.

d) Resource Loading.

SUK-79220

Scanned by CamScanner

Seat No.

B.E. (Computer Sci. & Engg.) (Part - IV) (Semester - VIII) (Pre-revised) (Old) Examination, November - 2019
GRID TECHNOLOGY
Sub. Code : 49447

Day and Date :wednesday , 13-11-2019 **Total Marks :100**
Time : 2.30 p.m.to 5.30 p.m.

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

SECTION - I

Q1) a) Draw basic structure of GT3 and explain base service resource management? **[8]**

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

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

Q2) a) Explain semantic activities with Following: **[8]**
i) Ontology based grid resource matching.
ii) Semantic workflow registration and discovery in mygrid.

b) With neat Schematic explain software architecture of portal Lab? **[8]**

Q3) a) With schematic explain J2EE and Apache axis framework for invoking web service? **[8]**

b) Explain OGSA-DAI portTypes and OGSA-DAI functionality? **[8]**

P.T.O.

Scanned by CamScanner

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

a) Topologies and types of grid.

b) DAML-S and OWL-S

c) Autonomic computing.

d) CORBA.

SECTION - II

Q5) a) With neat schematic explain Grid monitoring architecture? **[8]**

b) With neat schematic explain different daemons in condor pool. **[8]**

Q6) a) Explain the architecture of autopilot? **[8]**

b) What is cloud computing? what are the benefits and limitations of CC? Explain different security issues in cloud environment? **[8]**

Q7) a) What is virtualization? what are the types of virtualization? Explain storage virtualization? **[8]**

b) What is Desktop as a service? How desktop manages in cloud environment? **[8]**

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

a) GSI

b) Resource discovery and Resource selection in scheduling.

c) Delivery models of cloud computing.

d) Job life cycle and job management in condor.

Scanned by CamScanner