Seat No.	

SV - 213

Total No. of Pages : 2

B.E. (CSE) (Semester - VII) (Revised) Examination, May - 2019

ADVANCED DATABASE SYSTEMS

Sub. Code : 67543

Day and Date : Saturday, 04 - 05 - 2019 **Total Marks : 100**

Time : 02.30 p.m. to 05.30 p.m.

Instructions : 1) **Attempt any three questions from each section.**
2) **Q4 and Q8 are compulsory.**
3) **Figures to the right indicate full marks.**
4) **Assume suitable data wherever necessary.**

SECTION - I

Q1) a) With the help of a suitable diagram, explain a typical transaction server system accessing data in a shared memory. **[8]**

b) Explain linear scaleup in case of parallel systems. **[8]**

Q2) a) Describe how the two-phase commit protocol operates during normal operations. **[8]**

b) What are persistent objects? Explain any two concepts to make the object persistent. **[8]**

Q3) a) What do you mean by embedded SQL and dynamic SQL? State the advantages and disadvantages of dynamic SQL. **[8]**

b) Explain database software development life cycle with suitable figure. **[8]**

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

a) Reflection

b) ODL

c) Intra query parallelism

d) Object Identity and Structure

P.T.O.

SECTION - II

Q5) a) State and briefly explain database security mechanisms against unauthorized access. [8]

b) State the DBA's responsibilities to maintain database security. What actions are created by DBA-privileged commands. [8]

Q6) a) Explain the structure of XML data and XML schema. [8]

b) What do you mean by sensitivity of data? Specify those factors that make data sensitive. [8]

Q7) a) What is business intelligence? State the general steps involved in BI. [8]

b) What is star schema? Explain factor and dimensions as its components. [8]

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

a) OLAP client server architecture

b) Audit trials in database

c) Covert channels

d) Data mining

⊖⊖⊖

SV - 220

Seat No.	

Total No. of Pages : 2

B.E. (CSE) (Semester - VIII) Examination, May - 2019

Internet of Things (Elective - II)

Sub. Code : 67827

Day and Date : Wednesday, 22 - 05 - 2019 **Total Marks : 100**

Time : 10.00 a.m. to 01.00 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 IoT framework in detail. **[8]**

b) Explain H2H and H2M communication in detail. **[8]**

Q2) a) List and explain supportive technologies that are needed for wide-scale deployment of IoT applications. **[8]**

b) List and explain different structural aspect of the IoT. **[8]**

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

b) What are the challenges faced by a modern WSN? Explain in detail. **[8]**

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

a) ITU-T views

b) EPC

c) IEEE 802.15.6

d) Wireless Node or Mote in WSN

Q5) a) List and Explain any four WPAN technologies for IoT/M2M. **[8]**

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

P.T.O.

Q6) a) What are the aspects of governance? **[8]**

b) List and Explain Substantive principles for IoT governance. **[8]**

Q7) a) With neat diagram explain home automation. **[8]**

b) Discuss in detail smart metering in IoT context. **[8]**

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

a) Advantages of Cellular and mobile technologies

b) Bodies subject to Governing Principles

c) Zigbee/IEEE 802.15.4

d) eHealth/Body Area Network

❖❖❖❖

SV - 219

Seat No.	

Total No. of Pages : 2

B.E. (Computer Science & Engineering) (Semester - VIII) (Revised) Examination, May - 2019

REAL-TIME OPERATING SYSTEM (New)

Sub. Code : 67826

Day and Date : Monday, 20 - 05 - 2019 **Total Marks : 100**

Time : 10.00 a.m. to 01.00 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 RISC and CISC processor architectures? Compare between RISC and CISC processor architectures. **[8]**

b) What are different input/output methods in real time systems? Explain any one in detail. **[8]**

Q2) a) What is important role of kernel in operating systems? Explain synchronous polled loop pseudo kernel. **[8]**

b) Explain interrupt driven systems? How context switching is achieved? **[8]**

Q3) a) How the problem of testing and storing to a particular memory location is achieved in real time systems? Explain with suitable example. **[8]**

b) How Semaphores are used to handle critical section problems? How mailboxes can be used to implement semaphores? **[8]**

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

a) Round Robin Scheduling.

b) Priority Celling Protocol.

c) Cyclic Executives.

d) Intertask communication and synchronization.

P.T.O.

SECTION - II

Q5) a) What are petri nets? How Petri nets are used for requirement analysis? **[8]**

b) What are different elements of structured analysis and design? Illustrate structural analysis using suitable example. **[8]**

Q6) a) State advantages of object oriented languages over procedural languages for design of real time systems. **[8]**

b) What is recursion ? how it is important in real time software design? How recursion is implemented using procedural languages? **[8]**

Q7) a) State the difference between Feature point and Function point ? How feature point metric is computed? **[8]**

b) What are special real time languages ? State real time features of JAVA. **[8]**

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

a) Metric for object oriented software

b) Cost Estimation using COCOMO

c) RT Linux features

d) IC# Language

❖❖❖❖

SV - 220

Seat No.	

Total No. of Pages : 2

B.E. (CSE) (Semester - VIII) Examination, May - 2019

Internet of Things (Elective - II)

Sub. Code : 67827

Day and Date : Wednesday, 22 - 05 - 2019 **Total Marks : 100**

Time : 10.00 a.m. to 01.00 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 IoT framework in detail. **[8]**

b) Explain H2H and H2M communication in detail. **[8]**

Q2) a) List and explain supportive technologies that are needed for wide-scale deployment of IoT applications. **[8]**

b) List and explain different structural aspect of the IoT. **[8]**

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

b) What are the challenges faced by a modern WSN? Explain in detail. **[8]**

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

a) ITU-T views

b) EPC

c) IEEE 802.15.6

d) Wireless Node or Mote in WSN

Q5) a) List and Explain any four WPAN technologies for IoT/M2M. **[8]**

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

P.T.O.

Q6) a) What are the aspects of governance? [8]

b) List and Explain Substantive principles for IoT governance. [8]

Q7) a) With neat diagram explain home automation. [8]

b) Discuss in detail smart metering in IoT context. [8]

Q8) Write Short notes on any 3 of the following : [3 × 6 = 18]

a) Advantages of Cellular and mobile technologies

b) Bodies subject to Governing Principles

c) Zigbee/IEEE 802.15.4

d) eHealth/Body Area Network

❖❖❖❖

SV - 217

Seat No.	

Total No. of Pages : 2

B.E. (CSE) (Semester - VIII) (Revised) Examination, May - 2019

DATA ANALYTICS

Sub. Code : 67824

Day and Date : Tuesday, 14 - 05 - 2019 **Total Marks : 100**

Time : 10.00 a.m. to 01.00 p.m.

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

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]**

P.T.O.

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.