TE SEM-V (CBCGS) IT
OST / IT / Sem V / CBSGS
19-12-2016

Subj- OST

Q.P. Code : 594602

(3 Hours) [Total Marks : 80

N.B. : (1) Question number 1 is compulsory.
(2) Attempt any Three questions from remaining.
(3) Assume suitable data, if necessary.
(4) Draw suitable diagram wherever necessary.

1. Attempt any four sub questions :-
   a. Explain backup commands in Linux 5
   b. Describe role of init signal 5
   c. Explain permissions on directory and files 5
   d. Describe 'AndroidManifest.xml' file components 5

2. a. What is daemon process. Name any five daemon processes. Explain working of any two in details. 10
   b. What is an Activity? How is it created? Draw and explain activity life cycle. 10

3. a. What is process? Mention briefly the role of fork-exec mechanism in fork creation. 10
   b. Explain with example usage of given commands- grep, tr, cat, sort, export. 10

4. a. Explain networking commands- nslookup, traceroute, host, ping, ifconfig. 10
   b. What is data persistency in Android 10

5. a. Discuss significance of given files- /etc/passwd, /etc/shadow, /etc/group, /etc/gshadow 10
   b. Draw hierarchical structure of Linux File system and explain any five directories. 10

6. a. Explain various open source software licences. 10
   b. What is shell programming ? Write a shell script that will sequentially clear screen, print only name of current directory, display name of all currently logged in users. 10

TE IT Sem V CBGS ADMS 13/12/2016

TE SEM - V IT (CBGS)

Sub - ADMS

Q.P. Code : 594502

(3 hours) Marks : 80

Note : 1) Question no. **1** is **compulsory.**
2) Solve any **Three** questions out of remaining **Five** questions.

1. a) Explain different types of transparencies in distributed databases. 5
   b) What is a view? Discuss the difference between a view and a base relation. 5
   c) Explain Factless Fact Table. 5
   d) Illustrate the concepts of embedded SQL. 5

2. a) List and explain the operations on Files. 10
   b) Create an ER model for a Railway system with following constraints: 10
      i) Stations
      ii) Tracks, connecting stations. You can assume for simplicity that only one track exists between any two stations. All the tracks put together form a graph.
      iii) Trains, with an ID and a name
      iv) Train schedules recording what time a train passes through each station on its route. You can assume for simplicity that each train reaches its destination on the same day, and that every train runs every day. Also for simplicity, assume that for each train, for each station on its route, you store (a) time in, (b) time out (same as time in if it does not stop), and (c) a sequence number so the stations in the route of a train can be ordered by sequence number.
      v) Passenger booking consisting of train, date, from-station, to-station, coach, seat and passenger name; for simplicity, don't bother to model passengers as entities.

3. a) Explain the Object Database Concepts with. 10
      i) Object identity
      ii) Type constructors
      iii) Type hierarchies and inheritance and
      iv) Extents
   b) Why is the entity-relationship modeling technique not suitable for the data warehouse? How is dimensional modeling different? What are hierarchies and categories as applicable to a dimension table? 10

4. a) Design a schema in SQL for a Library System. Show one example each for Primary key and Foreign Key constraint. Create one suitable ECA example to enforce the Library constraint. **10**

b) Consider a data warehouse for a hospital, where there are three dimensions: **10**
i) Doctor, ii) Patient and iii) Time and
two measures i) Count and ii) Charge.
Using the above example describe the following OLAP operations
i) Rollup, ii) Drilldown iii) Slice iv) Dice and v) Pivot

5. a) Give three reasons why you think ETL functions are most challenging a data warehouse environment. **10**

b) Analyze the log after crash shown in Table-1 and briefly answer the following questions: **10**
i) What are the roles of the Analysis, Redo, and Undo phases in ARIES?
ii) What is done during Analysis? (Be precise about the points at which Analysis begins and ends and describe the contents of any tables constructed in this phase.)
iii) What is done during Redo? (Be precise about the points at which Redo begins and ends.)
iv) What is done during Undo? (Be precise about the points at which Undo begins and ends.)

Table 1: Log after a crash.

0	BEGIN CHECKPOINT
5	END CHECKPOINT (EMPTY XACT TABLE AND DPT)
10	T1: UPDATE P1 (OLD: YYY NEW: ZZZ)
15	T1: UPDATE P2 (OLD: WWW NEW: XXX)
20	T1: COMMIT

6. a) With suitable relational schema give at least two examples of Simple and Nested Queries. **5**

b) Explain in short the concerrency control in distributed databases. **5**

c) Explain Role-Based Access Control for Multilevel Security. **5**

d) Describe the following OQL concepts **(any two)**: **5**
i) Database entry points,
ii) Path expressions,
iii) Iterator variables,
iv) Named queries (views),
v) Aggregate functions, grouping, and quantifiers.

QP Code : 593201

Sub :- CTNC

(3 Hours) [Total Marks : 100

N.B. : (1) Question no. **1** is **compulsory**
(2) Answer **any four** questions from remaining **six** questions.
(3) Assumption to be made wherever applicable

1. (a) Draw and explain the block diagram of QPSK transmitter and receiver. 10
(b) Explain with the context of convergence of voice, data and image used in Various flexible networks. 10

2. (a) Explain in detail the security management in 3G UMTS network. 10
(b) Explain the issues of QOS and real time application support IP/SS7 internetworking and IP softswitching. 10

3. (a) Explain the functional areas and goals of Telecommunication Management Network (TMN). 10
(b) Derive an expression of probability of error for coherently detected BPSK. 10

4. (a) Explain in detail about various services of connection oriented and Connectionless networks with the help of diagram. 10
(b) Explain the concept of transparent source route bridging in Ethernet LAN's with an example. 10

5. (a) Explain the concept of signalling complexity in various networks. Also discuss the addressing structure of internet addressing in telecommunication network. 10
(b) Explain the working of DEPSK with an example mentioning pair of error occurring in the system. 10

6. (a) Compare and explain various signalling techniques ADSL, HDSL, & SDSL with an example. 10
(b) Explain about Handoff algorithms in wireless networks. 10

7. Write short on **any four** of the following :- 20
(a) Logical Link Control (LLC) Layer
(b) Bluetooth technology
(c) CDMA in UMTS networks
(d) Digital Signature and digital certificates
(e) Flow control v/s congestion control in traffic management

M&ES / IT / CBGS / NOV-DEC-2016

SEM - V

Sub : M & ES

Q.P. Code : 594400

(3 Hours) [Total Marks: 80

N.B.:- (1) Question No. **1** is **Compulsory**.
(2) Solve any **three** questions from the remaining **five** questions.
(3) **Figures** to the **right** indicate **full** marks.
(4) Assume **suitable** data where **necessary**.

1. (a) Define Embedded System. Explain application areas of embedded system. **5**
   (b) Explain the pin configuration of 8051 microcontroller. **5**
   (c) Compare AJMP, SJMP, LJMP instructions of 8051 **5**
   (d) Explain Real Time operating Systems and SoC in detail. **5**

2. (a) Explain various Embedded microcontroller cores in detail. **10**
   (b) Explain in detail ARM 7 pipelining **10**

3. (a) Write an assembly language program for 8051 microcontroller to find and count the number of negative numbers from an array of signed numbers. **10**
   (b) Explain the following SFR's of 8051: SCON, TCON, TMOD, PCON **10**

4. (a) Explain addressing Modes of 8051 microcontroller. **10**
   (b) Explain the following instructions with suitable examples w.r.t ARM processor **10**
   (i) BX
   (ii) TEQ
   (iii) BIC
   (iv) BKPT
   (v) STC

5. (a) What is Semaphore? Explain the use of semaphore with respect to embedded systems. **10**
   (b) Explain the architecture of 8051 microcontroller. **10**

6. Write note on (**any two**): **20**
   (a) Automated meter reading system
   (b) Digital clock as an Embedded system
   (c) 8051 Register Bank
   (d) Serial Port Communication in 8051

CGVR / IT / TE Sem VI / CBGS

28/11/16

QP Code:594304

Sub - CGVR

(3 Hours) | Total Marks : 80

CGVRold

N.B. : (1) Question **1** is compulsory.

(2) Attempt any **three** from remaining Questions.

(3) **Assume** suitable **data** wherever **necessary**.

(4) **Figure** in **right** indicates **marks**.

1. (a) What are different application of computer graphics **20**
   (b) Explain even odd method for inside test for polygone
   (c) Explain parallel and perspective projections
   (d) Various application of VR

2. (a) Explain Cohen Sutherland line clipping algorithm with example **10**
   (b) Derive the DDAline drawing algorithm. Take suitable example and draw a line between two points. **10**

3. (a) Write a short note on Homogeneous co-ordinate system. **10**
   (b) List various types of computing architectures of VR and explain any one in detail. **10**

4. (a) Explain Flood Fill Algorithm using 8-connected approach. What are its advantages over Boundary Fill Algorithm? **10**
   (b) Derive the matrix for Rotation about an arbitrary point for 2D Rotation. **10**

5. (a) Let ABCD be the rectangular window with A(20,20), B(90,20), C(90,70), and D(20,70). Find region codes for endpoints and use Cohen Sutherland algorithm to clip the lines P1P2 with P1 (10,30), P2 (80,90) and q1q2 with q1(10,tO),q2(70,60) **10**
   (b) Explain B spline curve **10**

6. (a) Show that transformation matrix for reflection about line y=x is equivalent to reflection to X axis followed by counter clockwise rotation of 90 degree. **10**
   (b) Derive mathematical representation for Beziers curve and state their property **10**