402 B.E.(IT) ~~ADR~~ VII old 30/5/12
Advance Data Base Syst.

Con.4495-12 (OLD COURSE) GN-8561
(3 Hours) [Total Marks 100

N.B.: (1) Question No. 1 is compulsory.
(2) Attempt any four of remaining six questions.
(3) Assume any suitable data if necessary and clearly state it.

1. a. Explain all the steps for mapping an EER to an ODB Schema. [10]
b. Explain various types of transparencies in distributed databases and also explain concurrency control and recovery in distributed databases. [10]

2. Consider a banking system where each bank has multiple branches and each branch can have multiple account and loan. [20]
(i) Draw an EER Diagram
(ii) Design object oriented Database Schema for the same
(iii) Using OQL retrive the name of all customers having a loan amount more than 2 lakh.
(iv) Prepare XML Schema design for the database.

3. a. Explain SQL3 features with examples. [10]
b. Explain ORDBMS with reference to [10]
(i) Representing multivalued attributes using VARRAY,
(ii) Nested Tables.

4. a. Consider the following relations: [12]
Customer (Cust_Id, Cust_Name, Street, City, Zip, phone)
Account (AccNo, AccType, BranchNo, Balance)
CustAccount (Cust_ID, AccNo, Interest)
i. Show the derived horizontal partitioning of CustAccount based on the partitioning of the Account.
ii. Write a query by which Customer may be horizontally partitioned.
b. Explain the Constraints on Specialization and Generalization. [08]

5. a. Draw and explain architecture for parallel database with the help of example. [10]
b. What are the software components in client sever system? Explain two tier and three tier client server architecture. [10]

6. a. Explain OQL with respect to database entry points, query result and path expression. [10]
b. Explain design and implementation issues for active databases with example. [10]

7. Write a short note on any four of the following: [20]
a) Spatial DB b) Temporal DB
c) Complex objects d) Deductive DB with respect to need, optimization.
e) Xquery and Xpath

BE / IT / VII (OLD) 25/5/2012
Computer simulation & modelling

46 : 1st half.12-AM(x)

Con. 4020-12. **(OLD COURSE)** **GN-6788**

(3 Hours) **[Total Marks : 100**

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** from remaining **six** questions.
(3) Assume any **suitable** data, if **necessary**.

1. Solve the following :—
   (a) Explain linear congruential method for generation of random numbers. **5**
   (b) Suppose that the life of an lamp, in thousand hrs, is exponentially distributed with failure rate $\lambda = 1/5$. What is the probability that the lamp will last longer than its mean life of 5000 hrs. ? Also find the probability that the industrial lamp will last between 3500 and 5500 hrs. **5**
   (c) Explain time advancement and event scheduling algorithm. **5**
   (d) Define terms : FEL, System State, Delay, Activity and Model. **5**

2. (a) Explain the steps involved in simulation study with flow chart. **10**
   (b) A grocery store has only one bill counter. Customers arrive at this counter at random times from 1 to 10 mins. having equal probabilities. The probability of service time distribution is given. Develop the simulation table for 10 customers. And also find respective performance characteristics. Use given Random digit : **10**
   RDs for Inter Arrival time : 34, 20, 18, 45, 67, 88, 53, 32, 97.
   Distribution of *Service* time :

ST.	1	2	3	4	5	6
PROB.	0·03	0·11	0·06	0·20	0·35	0·25

   RDs for service : 12, 60, 45, 32, 77, 58, 95, 46, 23, 19

3. (a) What are the features of Simulation software ? How is the selection of simulation software is done ? **10**
   (b) Explain different world views of discrete event simulation. **10**

4. (a) What are the methods used to generate random numbers ? State the properties of random numbers. **10**
   (b) Explain in detail the three step approach of Naylor and Finger in the validation Process of simulation. **10**

5. (a) Explain the steps involved in the development of a model of input data. **10**
   (b) The sequence of the random numbers 0·63,0·49, 0·24, 0·89, 0·57 and 0·71 has been generated. Use Kolmogorov- Smirnov test with $\alpha = 0{\cdot}05$ to determine if the hypothesis that the numbers are uniformly distributed on the interval [0, 1] can be rejected. **10**

6. (a) By using inverse transform technique which of the distributions random variate can be generated. Develop a random variate generator for a random variable X with the pdf $f(x) = 1\text{-}e^{-\lambda x}$. **10**
   (b) What are the long run measures of performance of the Queuing system ? Explain briefly. **10**

7. (a) Discuss output analysis for steady state simulations. **10**
   (b) Draw the block diagram of any case study in manufacturing and material handling simulation. Suggest performance measures. **10**

BE | IT | VII (OLD) 16/5/12
MIS

18 : 1st half.12-SHILPA(b)

Con. 3617-12. **(OLD COURSE)** **GN-6794**

(3 Hours) **[Total Marks : 100**

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions out of remaining questions.
(3) **Figures** to the **right** inidcate **full** marks.

1. (a) Explain Management Information and Systems Approach. **10**
   (b) Explain decision support and decision making systems. **10**

2. (a) Explain various responsibilities and decision making prospectives of Manager. **10**
   (b) Explain pitfalls in MIS developement. **10**

3. (a) Write short on – Information needs and Information resources. **10**
   (b) Explain Implementation Evaluation. **10**

4. (a) Describe – Supply Chain Management. **10**
   (b) Explain MIS control evaluation. **10**

5. (a) Explain the process to prepare the conceptual design report. **10**
   (b) Explain various techniques and sources to collect the information required for the system. **10**

6. (a) What are the various factors considered in maintenance of the MIS ? **10**
   (b) Mention the various steps and procedure to sketch the detailed operating sub system and information flow. **10**

7. Write short notes on :– **20**
   (a) Enterprise Resources Management (ERP)
   (b) D.R.M.