8 : 1st half 11-AM(m)

Con. 3006-11. (OLD COURSE) **RK-3117**

(3 Hours) [Total Marks : 100

N.B. : (1) Question No. 1 is **compulsory**.
(2) Attempt any **four** out of remaining **six** questions.
(3) Draw neat **diagrams** wherever **necessary**.
(4) Answers to the **sub-question** of an individual question should be written **together**.

1. (a) Discuss the concept of quality of information system. 10
   (b) Explain Simons Model and how Rubenstein and Haberstroh modified it. 10

2. (a) Explain the process of selection of ERP package. 10
   (b) Explain the process of Testing MIS in an organisation. 10

3. (a) Discuss MIS application in manufacturing sector. 10
   (b) Explain structured, semi-structured, unstructured dicision making with examples. 10

4. (a) Differentiate between MIS and DSS. 10
   (b) Explain systems approach in detail. 10

5. (a) Explain the pitfalls in designing MIS. 10
   (b) Explain strategic planning process. 10

6. (a) Explain the process of Implementation of MIS. 10
   (b) Explain system maintenance in detail. 10

7. Write short notes on any **two** of the following :—
   (a) Supply Chain Management 10
   (b) Procurement Management System 10
   (c) Customer Relationship Management 10
   (d) Conceptual System Design. 10

AGJ 1st half (u) 4

Con. 3519-11.   (OLD COURSE)   RK-3105

(3 Hours)   [Total Marks : 100

N.B. : (1) Q.No. 1.is compulsory
       (2) Attempt any four out of remaining six questions
       (3) Assume suitable data wherever required but justify them.

1. (a) Explain in detail Enhancement techniques in spatial domain used for images.   15

   (b) Show that Highpass = Original-Lowpass.   05

2. (a) Perform Histogram Equalization and draw the Histogram for the given grey levels of an image shown below.   10

Gray level	0	1	2	3	4	5	6	7
Frequency	123	78	281	417	639	1054	816	688

   (b) Show that the N X N cosine transform matrix C is Orthgonal. Verify your proof for the case N= 4.   10

3. (a) Explain the method of segmentation of images by Region splitting and Merging.   10

   (b) What is an edge? Discuss different edge detection techniques.   10

4. (a) For the following 4 X 4 image, determine its forward and inverse transforms and compare the inverse transforms with the digitized image data.

$$
\begin{array}{cccc}
2 & 0 & 1 & 0 \\
1 & 1 & 0 & 1 \\
1 & 0 & 0 & 1 \\
2 & 1 & 2 & 3
\end{array}
$$

   Use the following image Transforms :
       (a)The Discrete Fourier Transform
       (b)The Discrete Cosine Transform.   20

5 (a) Name and Explain different types of data redundancies associated with digital images.   10

   (b) Explain in detail DDA Algorithm with example.   10

6. (a) Describe the process of Image Enhancement using Homomorphic filter.   10

   (b) List any two properties of 2-D DFT and prove any one of them.   10

7. Write short notes on the following:
       (a) Closing and Opening
       (b) Match Band
       (c) Hit and Miss Transform
       (d) Isopreference curve.   20

8|6|2011

BE. IT VII (old)
Elective-I- Advanced Database
Systems

5   1st half 11-AM(p)

Con. 4065-11.   (OLD COURSE)   RK-3123

(3 Hours)   [Total Marks : 100

N.B. : (1) Question No. 1 is **compulsory**.
       (2) Attempt any **four** questions out of remaining **six** questions.

1. (a) Explain Replication in Distributed Databases.   5
    (b) Explain the characteristics of OID.   5
    (c) Explain SQL3.   5
    (d) Explain inheritance.   5

2. (a) Explain with proper example nested relation in ORDBMS.   10
    (b) Explain design and implementation issues in mobile databases.   10

3. (a) What are the main architectures used for building parallel databases ? Give 10
         advantages and disadvantages of each.
    (b) Explain object structure and type constructor.   10

4. (a) What is the need of fragmentation ? Explain horizontal and vertical fragmentation. 10
    (b) Explain XML DTD and XML schema with the help of example.   10

5. (a) Explain the different constrains on EER model.   10
    (b) Compare RDBMS, OODBMS and ORDBMS.   10

6. (a) Explain the temporal database with the help of example.   10
    (b) Explain concurrency control and recovery in distributed databases. 10

7. (a) Explain GIS.   10
    (b) Explain three tier client server architecture.   10

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3/6/2011

BE IT VII (old)
Computer Simulation & Modelling

ns Scan Paper 2.07
Con. 3013–11.   (OLD COURSE)   RK–3114

(3 Hours)   [Total Marks : 100

N.B. :   1.   Question No. **1** is **compulsory**.
       2.   Out of remaining questions, attempt any **four** questions.
       3.   Assume **suitable** data wherever required but **justify** the same.
       4.   **All** questions carry **equal** marks.
       5.   Answer to each new question to be started on a fresh page.
       6.   **Figure** to the **right** in brackets indicate full marks.
       7.   Use of statistical table is allowed.

1.   (a) Explain three phase approach.   (08)

    (b) State when simulation is appropriate.   (05)

    (c) Explain Acceptance Rejection Technique for random variate generation.   (07)

2.   (a) Write a GPSS or C++ program for a single server queue simulation.   (08)

    (b) Consider a drive in restaurant where carhops take order and bring food to the car. Cars arrive according to the interarrival distribution of cars. There are two carhops, Able and Baker. The distribution of their service time is also given.   (12)

Interarrival Time of cars (min)	2	3	4	5	6
Probability	0.18	0.25	0.27	0.17	0.13

Able's Service Time (min)	2	3	4	5
Probability	0.17	0.24	0.29	0.30

Baker's Service Time (min)	3	4	5	6
Probability	0.18	0.22	0.30	0.30

Develop the simulation table and analyze the system by simulating the arrival and service of 10 customers. Assume that the first customer is arriving to system at 0th time. Random digits for intrarriaval time and service are given below.

Customer No.	1	2	3	4	5	6	7	8	9	10
R. D. for Interarrival Time	---	32	66	41	21	37	79	18	60	98
R. D. for Service Time	49	53	34	17	30	52	22	62	56	73

3.   (a) Explain in detail the three steps Naylor – Finger approach in the validation process.   (10)

    (b) The number of accidents in a year to taxi driver in Dubai follows a Poisson distribution with mean equal to 3. Out of 100 taxi drivers, find approximately the number of drivers with:

      i.   No accidents in a year   (03)

      ii.   More than 3 accidents in a year   (04)

    (c) What are the useful statistical models for reliability system? Justify it.   (03)

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4. (a) Discuss the output analysis of terminating simulation.   (10)

(b) The sequence of numbers 0.63, 0.49, 0.24, 0.89, 0.57 and 0.71 has been generated. Use the Kolmogorov Smirnov test with $\alpha = 0.05$ to determine if the hypothesis that the numbers are uniformly distributed on the interval [0, 1] can be rejected.   (10)

5. (a) Discuss in detail the steps involved in the development of a useful model of input data   (10)

(b) What is queue behavior and queue discipline?   (05)

(c) How would you determine the cost in queueing system?   (05)

6. (a) The following data were available for the past 10 years on demand and lead time. Estimate correlation and covariance.   (10)

Lead Time	6.5	4.3	6.9	6.0	6.9	6.9	5.8	7.3	4.5	6.3
Demand	103	83	116	97	112	104	106	109	92	96

(b) Explain – simulation of computer system in detail.   (10)

7. (a) Explain the replication method for steady state simulation.   (10)

(b) Mention some important points which you would consider in selecting simulation software.   (05)

(c) Derive the conservation equation and state its significance.   (05)

N.B. : 1) Question NO.1 is compulsory.

       2) Attempt any four questions from the remaining.

1(a) Explain the architecture of a GSM System?   10

 (b) Explain MAC protocol for IEEE 802.11   ?   10

2(a) What do you understand by QOS in mobile network? Explain the parameter which determine QOS ?   10

 (b) Explain Bluetooth protocol stack with neat diagram?   10

3(a) Explain localization of user in satellite network ?   10

 (b) Explain in detail different types of TDMA ?   10

4(a) Explain WATM reference model with several access scenarios ?   10

 (b) Explain the need of spreading the spectrum. Explain in detail different types spreading the spectrum ?   10

5(a) Explain the different components and interfaces of the WAP architecture in detail ?   10

 (b) Explain Hiper LAN 2 basic structure and handover scenarios ?   10

6(a) Explain wireless datagram protocol ?   10

 (b) Explain indirect TCP, mobile TCP, and snooping TCP ?   10

7 Write short notes on any two of the following:—   20

    (a) IPV4 Vs. IPV6
    (b) WML Script.
    (c) GPRS.