Q.P. Code :02411

[Time: 3 Hours]   [Marks:80]

Please check whether you have got the right question paper.

N.B: 1. **Question No.1 is compulsory**
        2. **Attempt any four questions out of the remaining Q.2 to Q.7**

Q.1) Write short notes on any four of the following   20
    a) Compare servlet and CGI.
    b) Compare Applet and Application
    c) Difference between strut 1.X and strut 2.X
    d) Object serialization and Descrialization.
    e) Difference between AWT and swing.

Q.2   a) What is layout? Explain different types of Layout Manager in Java?   08
      b) What are the Different types of EJB and explain EJB Architecture with neat diagram?   07

Q.3   a) What are available drivers in JDBC? What does classforName() method do?   08
      b) What is cookie? Write a simple servlet program to design to page visit counter using cookie.   07

Q.4   a) Explain how Exception handling is done in java. Write a program to demonstrate use of throw and   08
          throws keyword.
      b) What is directives? Explain different types of directives in JSP?   07

Q.5   a) What is static Method and variable Explain with suitable Example?   08
      b) Explain the different resultset constant and resultset types?   07

Q.6   a) What are servlets? Explain servlets life cycle in detail with example?   08
      b) Explain thread life cycle in detail. Write a program to create two threads.   07

Q.7   a) Explain why java don't support Multiple inheritance. Write a program to demonstrate use of Interface.   08
      b) Explain Event delegation Method. Explain ItemListener and Mouselistner interface.   07

May-2017

Q.P. Code :02853

[Time:3 Hours] [Marks:80]

Please check whether you have got the right question paper.

N.B:
1. **Question No.1 is compulsory.**
2. **Attempt any Four questions from the remaining Six questions.**

Q1. a) Write short notes on (ant three):   12
   1. Shared Nothing Architecture   2. Metadata
   3. Bloomjoin   4. Clustering

   b) Compare following (any two)   08
   1. ROLAP and MOLAP
   2. OODBMS and ORDBMS
   3. OLAP and Data Mining

Q2. a) What are the various complex data types available in object Relational DBMS? Explain with suitable   08
   example.
   b) Define the terms fragmentation and replication in terms of where data in stored and also how the   07
   object are uniquely identified in distributed database?

Q3. a) What are frequent item sets? Describe an algorithm for finding frequent itemsets.   08
   b) Explain the features of XML and also differentiate between DTD and XML Schema.   07

Q4. a) Explain concurrency control and recovery in Distributed Database Management System.   08
   b) What is datawarehouse and why it is needed? Explain ETL (Extraction, Transformation and Loading)   07
   process in data warehouse.

Q5. a) Explain various operation of OLAP.   08
   b) Explain ORDBMS Implementation challenges in detail.   07

Q6. a) Find out the association rules with minimum support 20 percent and confidence atleast 50 percent   08
   from the following sample data:

Transitions	Items
T1	Pen, Pencil, ink, chalk
T2	Pen, Eraser, Notebook
T3	Pen, Notebook, Eraser, chalk
T4	Pencil ,paper ,Pen ,ink
T5	Ink, pen

   b) Explain Bitmap index and bitmap join index with example.   07

Q7. a) What is Classification technique in Data Mining? Discuss decision tree based ID3 algorithm for   08
   classification.
   b) Discuss deadlock detection in a distributed database.   07

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[Time: Three Hours]   [Marks:80]

Please check whether you have got the right question paper.

N.B: 1. Question.No.1 is compulsory.
         2. Attempt any four out remaining six.
         3. Figures to the right indicate full marks.

Q.1 A) Explain in detail Simulation application in any one of the following system:-   (10)
i) Job flow analysis at a Job Shop for Repair Jobs
ii) Customer flow analysis at an Airport.
iii) Check-out counter at Super Market.

B) Using the multiplicative congruential method to find the period of the generator for two different   (05)
seed values: X_0 = 2, 3. The multiplier and modulus are given respectively as: a = 13, and m = 2^6 =
64.   — ??

C) Accidents at an industrial site occur one at a time, independently, and completely at random, at a   (05)
mean rate of one per week. What is the probability that no accidents occur in the next three
weeks?

Q.2 A) Simulate Able-Baker Call Center Problem (an example of dual-channel queueing system) for 5   (08)
customer arrivals so as to compute the following measures of performance: a) Average Caller
delay, b) Probability that Able is Idle, and   c) Probability that Baker is Idle. Here Able is assumed as
more experienced than Baker and thus can provide service faster than Baker. Therefore when both
are idle Able should take the call. If both are busy the call goes on hold. Here it is assumed that
the first customer arrives at clock time zero. The probability distributions for inter-arrival times
and Able and Baker's service times are as zero. The probability distributions for inter-arrival times
and Able and Baker's service time are as under:

Table 1: Probability Distribution for Time between Calls (ranging from 1 to 4 minutes)

Inter-arrival Distribution of Calls	
Interarrival Time (in Minutes)	Probability
1	0.35
2	0.25
3	0.20
4	0.20

Table 2: Probability Distribution for Able's Service Times

Able's Service Time Distribution	
Service Time (in Minutes)	Probability
1	0.35
2	0.30
3	0.25
4	0.10

Table 3: Probability Distribution for Baker's Service Times.

Baker's Service Time Distribution	
Service Time (in Minutes)	Probability
2	0.40
3	0.23
4	0.20
5	0.17

Use the below random number sequences for generating service times and inter-arrival times:

Random Number seq for service Times	0.70, 0.38, 0.01, 0.66, 0.51
Random Number seq for inter-Arrival Times:	0.54, 0.04, 0.44, 0.88

(B) Explain in brief the general characteristics of Queueing System and some of the long run measures (07)
of performance used in evaluating queueing systems through simulations.

Q.3 A) Use inverse transform technique to develop a random-variate generator for random variable X   (08)
having exponential distribution with parameter λ.Apply the developed random-variate generator
to generate five exponential variates with $\lambda = 2$, using the following random numbers: 0.29, 0.94,
0.88, 0.85, and 0.66.

B) Explain and illustrate with diagram the steps to be followed to conduct a sound simulation study.   (07)

Q.4 A) The sequence of random numbers 0.45, 0.37, 0.89, 0.22 and 0.86 has been generated. Use the   (08)
Kolmogorov Smirnov test, with level of significance $\alpha = 0.05$ and critical value: $D_\alpha = 0.565$, to learn
whether the hypothesis that the numbers are uniformly distributed on the interval [0, 1] can be
rejected.

B) What do you mean by "Goodness of Fit"? What is the purpose of statistical methods devised to   (07)
test "Goodness of Fit" in the context of simulation modeling? Illustrate the working of Chi-Square
test in this context.

Q.5 A) Apply acceptance-rejection technique to generate poison variate with $\alpha = 0.2$ using the following   (08)
sequence of five random numbers: 0.2956, 0.9462, 0.3417, 0.1916, and 0.8783. How many poison
variate were you able to successfully generate?

B) Illustrate and explain the iterative process of model building, verification and validation with a   (07)
suitable diagram.

Q.6 A) Explain Poisson Process. Prove that if arrivals occur according to Poisson process with mean rate   (08)
λ then time between arrivals are exponentially distributed and independent with mean $1/\lambda$.

B) A professor gives four problems on each exam. Each problem requires an average of 30 minutes   (07)
grading time for the entire class of 15 students. The grading time for each problem is exponentially
distributed, and the problems are independent of each other.

Q.P. Code :01353

(a) What is the probability that the professor will finish the grading in 1.5 hours or less?

(b) What is the expected grading time?

Q.7 A) Write short notes on: (i) Input Modelling (ii) Time Series Input Models   (08)

B) Lead times have been found to be exponentially distributed with mean 3.7 days. Generate five   (07)
random lead times from this distribution using random numbers: 0.35, 0.68, 0.12, 0.30, and 0.95.

(3 Hours) [Total Marks: 80

N. B.: (1) Question number 1 is compulsory.
　　　　(2) Attempt any 4 from question Nos. 2 to 7.
　　　　(3) Illustrate answers with sketches wherever necessary.
　　　　(4) Do not reveal your identity in the letters and reports.

1. A] Discuss the strategies for bringing about effectiveness in communication for business purposes. 　10

　 B] Define the process of perception in detail with suitable examples. 　10

2. A] Explain various communication barriers and suggest a few measures to overcome them. 　08

　 B] Explain the process of communication through a diagram depicting the essential components of the process. 　07

3. A] What is the importance of Non-verbal Communication techniques in effective business communication? Justify your answer with suitable examples. 　08

　 B] Define personality and its determinants? Explain personality types and its impact on career growth. 　07

4. A] 'Listening is an art and like any other art, it has to be cultivated consciously'. Discuss 　08

　 B] What the SMART goals? Explain with suitable examples. 　07

5. A] Elaborate the merits of using technology in business communication. 　08

　 B] Discuss various conflict resolution techniques which can be used for managing conflicts in organizations. 　07

　 A] Define the term 'Resume' and write the do's and don'ts of writing a resume? 　08

　 B] Elucidate the principles of effective business writing. 　07

7. Write short notes on: (**any three, all carry equal marks**) 　15
　a) Kinesics
　b) Diagonal Communication
　c) Personality and Values
　d) Components of Attitude

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(3 Hours) [Total Marks: 80]

N.B.: 1) Question No.1 is **compulsory**.
2) Attempt any **four** from the remaining **six** questions.

1. A] Explain different categories of Electronic businesses with examples of each. List (10)
advantages and disadvantages of each type.

   B] What is EDI? Explain how EDI standards would help streamline business (10)
transactions across different organisations.

2. A] Discuss the personal traits required to become a successful entrepreneur. (07)

   B] Explain with examples, how have information systems changed the way (08)
businesses are run?

3. A] Discuss methods adopted by e-commerce portals to safeguard customer (07)
information.

   B] What are electronic markets? Explain the basic components and functions of (08)
electronic markets.

4. A] Explain various avenues of revenue generation for e-commerce portals. (07)

   B] How are Management Information systems useful in taking strategic decisions in (08)
a timely manner in an organisation?

5. A] What are information systems? Explain the organisation of information systems (07)
implemented by business firms.

   B] Explain how a Digital firm executes its core business processes through digital (08)
networks. Give relevant examples.

6. A] Discuss in detail the factors that affect the success of an E-business. (07)

   B] List and discuss factors responsible for managing the quality of information in a (08)
Management Information System.

7. Write short notes on (Any three) (15)
   a) Network Effect
   b) Whitley's model
   c) Enterprise Resource Planning tools
   d) Business value chain.

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Q. P. Code: 02859

Duration: 3 hrs.   Marks: 80

NOTE: I) Question no.1 is compulsory
      II) Attempt any 4 out of the remaining questions.

Q 1. (a) Design an user interface (by using concepts of HCI for designing good interface) for a mobile application that guides students through daily college routing of practical and lectures. The application that guides students through daily college routine of practical and lectures. The application should help monitor the grades scored in various internal and external examination and attendance and should display message to indicate academic health of the student on the basis of performance and attendance. Draw the interface(s) and also mention the HCI concepts used by you for designing user friendly and efficient interface.

(10)

(b) Explain selection controls and presentation controls in details.   (10)

Q 2. (a) Explain various methods for gaining and understanding of users requirements   (8)
(b) What are the various obstacles and pitfall in development process of user interface?   (7)

Q 3. (a) What is visually pleasing composition for a screen design in details   (8)
(b) List and explain different windows presentation styles   (7)

Q 4. (a) Explain various tools in building graphical user interface   (8)
(b) How text messages are important to communicate with user, explain with examples   (7)

Q 5. (a) Explain general principles of user interface design   (8)
(b) Explain various human characteristics which are considered while designing the user interface   (7)

Q 6. (a) Explain window management for designing an interface.   (8)
(b) How different kinds of graphical menu are important to communicate with user, explain with suitable examples   (7)

Q 7. Write short note (Any Three)   (15)
      A) Performance versus Preference
      B) Graphical system
      C) Human Interaction Speed
      D) Response Time for feedback