

QP Code : 25324

(3 Hours)

Note: 1) Question 1 is compulsory, answer any 4 from the remaining 6 questions
2) All questions carry equal marks.

- Q1. Write short note on following (any four) (20)
- a) XML & DTD
 - b) Session tracking in servlet
 - c) BorderLayout and GridLayout
 - d) abstract class
 - e) struts architecture
- Q2. a) What is constructor? Explain the types of constructor. (08)
b) What is package? Create one package by the named 'government' contains classes as 'Developmet', 'Yojana', 'Ministry' etc. Implement these classes each containing at least two methods, apply inheritance concept and write the Java program. (07)
- Q3. a) Which are the types of Exception? Explain try, catch, throw & throws keyword. (08)
b) Explain Life cycle of servlet. Write a servlet program to add cookies. (07)
- Q4. a) Explain Event Delagation.method. Explain ItemListener and MouseListener interface (08)
b) How do we achieve multiple inheritance in java? Explain with java program. (07)
- Q5. a) What is StringBuffer class? Write a program to append a String. (08)
b) Write a JSP program for the agriculture field to store farmer information in database. (07)
- Q6. a) What is synchronisation? How the Thread is created? Draw the life cycle of Thread. (08)
b) What is EJB? Explain Entity bean & message driven bean. (07)
- Q7. a) Which are the Stream classes? Explain it in detail. (08)
b) Write an applet program that will show GUI components like line, ellipse, polygon, etc. (07)
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[Total Marks : 80

(3 Hours)

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

1. (a) Briefly compare any three following concepts (12)
 - A. Data warehouse and Data mart.
 - B. OLTP and OLAP.
 - C. ROLAP and MOLAP.
 - D. Bloom Join and Semi Join.
- (b) Describe how the scanning, sorting and join operations can be parallelized using Data partition techniques. (08)
2. (a) Explain KDD process steps in detail with suitable diagram. (07)
- (b) Explain complex and structure data types in ORDBMS. (08)
3. (a) What is Association Rule mining? Explain Apriori Algorithm with example. (07)
- (b) What is data staging? Explain ETL process in data warehouse with example. (08)
4. (a) Explain 2PC protocol in details with suitable example. (07)
- (b) Explain major functions of OLAP with examples... (08)
5. (a) What are the challenges in implementing ORDBMS? Explain them briefly. (07)
- (b) Describe K-Means clustering with suitable example. (08)
6. (a) Explain Star schema, Snowflake schema and Fact constellation with suitable examples. (07)
- (b) what is a classification technique? Describe Decision Tree in detail. (08)
7. Write Short Notes on any three :- (15)
 - a) Data quality
 - b) Parallel DB Architectures
 - c) Web usage mining
 - d) Meta data
 - e) Multimedia database

QP Code : 25332

(3 hours)

(Total marks 80)

- N.B. (1) Question No. 1 is compulsory and carries 20 marks.
(2) Attempt any four questions out of remaining six questions.
(3) Use of calculator is allowed

- 1) a) Discuss simulation application in any one of the following system [10]

- Takeaway Food Delivery
- Cash Counter analysis in Bank
- Passenger flow analysis in an airport terminal

b) The highway between Mumbai and Pune has a high incidence of accidents along its 150 Km. Public safety officers say that the occurrence of accidents along the highway is randomly (uniformly) distributed, but the news media says otherwise. The public safety department published records for the month of March. These records indicated the point at which 15 accidents occurred, as follows:

88.3	40.7	36.3	27.3	36.3
91.7	67.3	7.0	45.2	23.3
98.8	90.1	17.2	23.7	97.4

Use Kolmogrov-Smirnov test to determine whether the distribution is uniformly distributed (Given $D_{0.05,15} = 0.338$) [10]

- 2) a) 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. Able is better in doing the job and works a little bit faster than Baker. When a customer arrives, if he finds Able free, the customer starts service immediately with Able. If able is not free but Baker is, then the customer starts service immediately with Baker. If both are busy, the customer starts service immediately with Baker. The distribution of their service time is also given: [8]

Interarrival time of cars (min)	1	2	3	4	5
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.
- How many minutes Able as well as Baker were busy?
- How many customers had to wait?
- What is the average waiting time?

Assume that the first customer is arriving to system at 0th time random digits for interarrival time and service are given below:

Customer .	1	2	3	4	5	6	7	8	9	10
R.D. for Interarrival time	—	32	66	41	21	37	79	18	60	96
R.D. for Service Time	49	53	34	17	30	52	22	62	56	73

b) Explain Naylor and Finger validation approach.

- 3) a) A baker is trying to determine how many dozens of bagels to bake each day. They probability distribution of the number of customers/day is given in table.

Probability distribution of number of customers/day

Number of customers/day	8	10	12	14
Probability	0.35	0.30	0.25	0.10

Customers order 1,2,3,4 dozen bagels according to probability distribution given in table.

Probability distribution of bagels ordered by customer

No. of dozen ordered / customer	1	2	3	4
Probability	0.4	0.3	0.2	0.1

Bagels sell for Rs.54 per dozen. They cost Rs. 38 per dozen to make. All bagels not sold at the end of the day are sold at half price to local grocery store. Assume that the baker baked 30 dozens every day, Make a simulation table and find out the total profit.

Random digits for bagel customer/day

R.D. for customer/day	44	63	83
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Random digits for dozens ordered / customer

RD for dozens order/customer	1	0	0	2	0	9	6	3	2	9	8	7	5	3	6	3	4	9	8
	3	1	0	7	2	8	7	4	8	5	1	7	1						

b) Discuss multivariate and Time-Series Input Models

- 4) a) What do you mean by simulation? Write down the steps in simulation study.

b) A college professor is leaving home for summer but would like to have a light bulb burning at all times to discourage burglars. The professor rigs up a device that will hold two light bulbs. The device will switch the current to the second bulb if the first bulb fails. The box in which the light bulbs are packaged says "Average life 1000 hours, exponentially distributed." The professor will be gone 30 days (2160 hours). What is the probability that a light will be burning when the summer is over and the professor returns?

- 5) a) How would you collect data to be used as input to simulation model? In case there is no data, then how would you generate samples to be used as input to simulation study?

- b) Write down the inverse transformation of Weibull Distribution.

The life time of a computer chip measured in hours is Weibull distributed with parameters $\alpha = 0.2$, $\beta = 0.5$ and $v = 0$. Generate two random life time of computer chip from this distribution?

Use $R_1 = 0.6173$ and $R_2 = 0.4829$

[7]

- 6) a) What are the properties of random Number? What are the methods used to generate random numbers? Explain with the help of example. [8]

- b) The following data were available for the past 10 years on demand and lead time. Estimate correlation and covariance. [7]

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

- 7) a) Explain output analysis of Terminating Simulation and Steady State Simulation [8]

- b) Consider the following sequence of 30 numbers [7]

0.12	0.01	0.23	0.28	0.89	0.31	0.64	0.28	0.83	0.93
0.99	0.15	0.33	0.35	0.91	0.41	0.60	0.27	0.75	0.88
0.68	0.49	0.05	0.43	0.95	0.58	0.19	0.36	0.69	0.87

Test whether the 3rd, 8th, 13th, numbers in the sequence are autocorrelated where $\alpha = 0.05$. (Given $Z_{0.025} = 1.96$)

MCA / SEM -IV (CBSCS) / Soft skill Development

QP Code : 25330

Time 3 Hrs

Total Marks 80

Instructions to the candidates:-

- (i) **Question No 1 is compulsory.**
- (ii) **Answer any four (4) of the remaining six (6) questions.**
- (iii) **Answers to the questions should be grouped and written together.**
- (iv) **Figures on the right indicate full marks assigned to the question.**
- (v) **Do not reveal your identity in the letters and reports**

- Q1. (a) What do you understand by the word "Communication". Explain the five elements of Communication. Elaborate with the help of example. 10
- (b) Explain few of the psychological barriers to communication. How do they affect Communication in a Business context 10
- Q2. (a) Explain the difference between Verbal and Nonverbal Communication. Explain any four types of Nonverbal Communication 08
- (b) What are the different types and determinants of Personality? How does personality influence organisational behaviour? 07
- Q3. (a) Draft the notice with agenda for a meeting of the Student's council to organize the Blood Donation Camp in your College. 08
- (b) Write Minutes of Meeting for the above 07
- Q4. (a) What are the techniques to be followed in Pre-Interview and during an Interview? 08
- (b) What are the Dos and Don'ts of a good group discussion? 07
- Q5(a) Explain Five Stage Model of Group Development 08
- (b) Explain Stress Management with respect to the Organization 07

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Q6. (a) Write an application with CV to apply for the post of Senior Software Engineer in ABC

Infotech

08

(b) Write a Letter of enquiry to a catering service for arranging a small party at your office.

07

Q7 Write short notes on any three:-

15

- (a) Time Management.
- (b) Motivation.
- (c) Leadership
- (d) Emotional Intelligence

Q.P. Code : 25346

(3 Hours)

[Total Marks : 80]

Note:

Question No.1 is Compulsory

Marks

Attempt any four Question between Question No.2 to 7

- Q 1. A) Explain the Factors affecting E business for the Success of E business. [10]
B) What E Market? Explain the advantage and Disadvantage of E Market. [10]
- Q 2. A) States the importance of beta testing in designing of an E business solution. [08]
B) Explain the risk of paper document versus electronics documents. [07]
- Q 3. A) What is EDI? Explain the various EDI standards in detail. [08]
B) With the help of appropriate illustration, Explain the different forms of cyber attacks. [07]
- Q 4. A) Explain the globalization of the Business impact on the Current Environment. [08]
B) What is the difference between e-business versus e-commerce portal. [07]
- Q 5. A) Explain the Impact of E Business on Society with detail. [08]
B) Explain legal issues pertaining to E Commerce with suitable example. [07]
- Q 6. **Write Short Notes(Any Three)** [15]
➤ M-Commerce
➤ Privacy and Security issues
➤ ISP
➤ SSL.
➤ DNS
- Q 7. A) Explain the Integration Function and business process. [08]
B) How a local E Business Becomes global e-business? [07]
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Q.P. Code : 25349

[Total Marks: 80

(3 Hours)

N.B.: (1) Question No. 1 is compulsory.

(2) Attempt any four questions from the remaining questions.

1. A) For a good user interface design what all human consideration characteristics and designing constraints required to take care of by a designer. (15)
- B) Explain different concepts in Web systems and its windowing capabilities. (5)
2. A) Explain various advantages and disadvantages of graphical system (8)
- B) Explain various techniques used for requirement gathering in user interface? (7)
3. A) What are the various obstacles and pitfall in development process of user interface? (8)
- B) What are functions for menu in user interface? (7)
4. A) Explain various visual composition for a screen design. (8)
- B) What are the different presentation styles available for developing good User interface? (7)
5. A) Explain how to select a proper device controls to user for making selections and entries. (8)
- B) Explain Window management for designing an interface? (7)
6. A) What are various forms of guidance and assistance to a user for an effective user interface? (8)
- B) Justify training and documentation are an integral parts of any development effort. Explain in briefly. (7)
7. Write short note (Any three) (15)
- A) Direct Manipulation
- B) Human Interaction speed
- C) Performance versus Preference
- D) Presentation Controls

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