

Internal Assessment Test MCA 3rd Semester
Course title: Scientific and Statistical Techniques using Fortran/R
Course Code: CSCC36
(2nd Test): 2017

Attempt all the Questions:

Time: 1 hr.

MM: 15

Date: 8/11/17

Q1a. Explain Poisson distribution.

<1>

b. Suppose that the average number of customer's phone calls at the customer care centre is 30 calls per hour. Use Poisson distribution to answer the following question:-

i. What is the probability that no calls will arrive in 3-minute interval? <2>

ii. What is the probability that more than five calls will arrive in 3-minute interval? <2>

Q2a. Explain the following with the help of suitable examples

<2>

i. Mean and Variance

ii. Correlation

b. Write a program in FORTRAN to find Mean, SD, and Correlation.

<3>

Q3a. An I-Q Test was administered to 5 persons before and after they are trained the results are given below:

Candidates	I	II	III	IV	V
IQ before training	110	120	123	132	125
IQ after training	120	118	125	136	121

Test whether there is any change in IQ after training. It is given that $t_{9,01}=4.6$ for df 4.

<3>

b. Explain chi-square test with the help of examples.

<2>

A	B	C	D	E	F
0	2	2	2	2	2
	4	2	2	6	2
		9	2	6	8
		9			8

DEPARTMENT OF COMPUTER SCIENCE
SESSIONAL II- COMPUTER NETWORKS (CSCC 35), MCA-III SEM
TIME: 60 mnts
DATE 08-11-17
M.M. : 15

NOTE: ATTEMPT ANY *three* QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS. GIVE PROPER JUSTIFICATION FOR ANSWERS.

- (1) An address in a block is given as 180.8.17.9. Find the number of addresses in the block, the first address, and the last address. Show a possible configuration of the network that uses this block.
- (2) Compare datagram and virtual- circuit subnets based on seven issues/parameters.
- (3) Illustrate shortest path routing algorithm.
- (4) Illustrate IP protocol header.

- a) What are the following?
- b) Explain the *Select* operator with an example.
- c) Write a query for the following:
Retrieve a list of employees and the projects they are working on, ordered by department and within each department, ordered alphabetically by last name and first name.

Department of Computer Science
DBMS
Sessional II

Q1) Attempt any two:

(5 marks)

- a) Explain Data Independence.
- b) What are the various DBMS interfaces?
- c) Discuss the main categories of data models.

Q2) Attempt any two:

(5 marks)

- a) Explain simple and composite attributes with suitable examples.
- b) What is degree of a relationship? Explain ternary relationship with a suitable example.
- c) Explain concept of Generalization.

Q3) Attempt any two:

(5 marks)

- a) What are Integrity constraints?
- b) Explain the *Select* operator with an example.
- c) Write a query for the following:
Retrieve a list of employees and the projects they are working on, ordered by department and within each department, ordered alphabetically by last name and first name.

MCA (3rd Semester)

Subject CSCC34

Paper: ADA

Time allowed: 1 hours

Max. Marks = 15

Attempt any two questions(7.5*2)

Qno1) Suppose we have the following six matrices

A1 * A2 * A3 * A4 * A5 * A6
5*2 2*3 3*4 4*6 6*7 7*8

Using dynamic programming find the optimal number of Matrix Multiplications

Qno2). Explain Huffman's encoding. Find an optimal binary code by constructing a binary tree for the following data:

Letters	:	a	b	c	d	e	f
Frequency	:	45	13	12	16	09	05

Qno3) Explain backtracking technique with the help of 4 queens problem? ✓

DEPARTMENT OF COMPUTER SCIENCE
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SESSIONAL TEST – II
(Odd Semester, 2017-18)

Course: CBCS for PG (Semester – III) Subject: CBCS31 (Adv. Prob. Sol.using Java)
Duration: 1 hour Max. Marks: 15

Attempt any **THREE** of the following questions.
All questions carry equal marks. Restrict to the relevant answers only.

1. What do you mean by Immutable String? Explain the purpose StringBuilder class with suitable example.
2. What do you mean by generic programming? Write a generic method swap() to swap the value of two generic type.
3. Define a class Triangle to store all the three sides of a triangle, with necessary setters/getters. Write a Java Program which creates 10 objects of Triangle and store it to an appropriate type of collection.
4. Write short answers of the following questions in one or two lines: (1x5=5)
 - i. What is a daemon thread?
 - ii. What is the purpose of run() method of a thread class?
 - iii. Give one example of setting priority of a thread.
 - iv. What is the use of throws keyword?
 - v. Write two restrictions of generic method?

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