NEW

2015

Part II 3-Tier

COMPUTER SCIENCE

PAPER-IIA

(General)

Full Marks: 50

Time: 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Group — A (System Analysis and Design)

(Marks: 20)

Answer any two questions.

2×10

- (a) What is System analysis? What are the role of System analyst?
 - (b) What is Documentation? What are the different types of documentations generated during the development of a software for a System?

 2+3

2.	(a)	What is DFD? Discuss different type of symbols used in DFD. 1+2
	(b)	What is logical DFD and physical DFD? 3
	(c)	Draw a DFD of Library Management System. 4
3.		Write the purpose of structure chart. Write the different type of structure chart symbol. 2+4
	(b)	Briefly describe the three levels of quality assurance.
		, ·

- 4. Write short notes (any two): 2×5
 - (a) System Analyst.
 - (b) Decision tree.
 - (c) Maintenance.
 - (d) Black box testing.

Group - B

(Database Management)

(Marks: 25)

		Answer any two questions:	$12\frac{1}{2} \times 2$
5.	(a)	What is normalization? What are the bene normalized database?	efits o
0	(b)	What is BCNF? Explain with example.	4
	(c)	"All Primary Keys are the Super Key but all	Supe
		Keys are not Primary Key" — Justify it.	$2\frac{1}{2}$
6.	(a)	Write the advantages of DBMS. What are the functions of a DBA?	e mair 3+4
	(b)	What are Physical and Logical data independ	lence 7 3
	(c)	Write the components of ER diagram.	$2\frac{1}{2}$
7.	(a)	What is mapping cardinalities? Describe the ditype of mapping cardinalities with example.	
. *	(b)	Write the difference between Sequential and Ir sequential file organisation with example.	ndexed
	(c)	What is foreign key? Give example.	$2\frac{1}{2}$

8. Consider the relation:

Book_detail (Isbn_no, Book_name, Book_author, Publisher, year_of_publish, price)

Write the following queries in SQL or Relational Algebra:

 $2\frac{1}{2}\times5$

- (i) Print all the books which is published by "TMGH" publication in the year 2014.
- (ii) Print the price of the book which name is "DBMS" and author is "KORTH".
- (iii) Print the publisher of the book which name is "DBMS" and author is "KORTH".
- (iv) Find the books whose price is less than Rs. 500/-.
- (v) Find all the books which published in the year of 2010.

[Internal Assessment — 5 Marks]

NEW

Part-II 3-Tier

2015

COMPUTER SCIENCE

(General)

PAPER—IIB (Set-1)

(PRACTICAL)

Full Marks: 50

Time: 2 Hours

The figures in the right-hand margin indicate full marks.

[Part-I]

Answer any two questions.

2×10

1. Create the database of Employee' which have the following field:

ename	eid#	esal	dept.
Ram	e141	25000	Accounts
Shyam	e425	12000	Clerk
Smith	e4251	20000	Cashier
John	e452	2000	Official

Perform the following operation:

- (i) Enter above record.
- (ii) Find the employee name whose name starts with 'S'.
- (iii) Find the employees whose salary is more than 10,000. 5+2+3

2. Create the following database of 'Stud' with following fields:

Stud_id	roll	name	address
St001	001	aaa	xyz
St002	002	bbb	wxy
St003	003	ccc	par
St004	004	ddd	mno

Perform the following operation:

- (i) Enter above record.
- (ii) Find only name of all student.
- (iii) Find the student name whose address is 'wxy'.

 5+2+3
- 3. (a) Create the following database 'Department' which have following fields:

dept_name	teacher_name	noof-stud	estd.
Math	Dr. Ram	80	1980
Physics	Dr. Shyam	100	1990
Bengali	Dr. Smith	100	2000
English	Dr. Lee	100	2000
Geography	Dr. Das	100 .	1995

Perform the following operation:

- (i) Enter above record.
- (ii) Find the teacher name of the Physics dept.
- (iii) Find the total number of students of all department.

5+2+3

4. Create the database of 'Library' which have following fields:

$Book_id$	Publisher_name	Book_name	Price
B004	PHI	VB.Net	375
B006	Gita Press	Ramayana	800
B116	Univ. Press	My Sql	400
B447	Gita Press	Amrita Katha	100

Perform the following operation:

- (i) Enter above record.
- (ii) Find the bookname with book_id "B116".
- (iii) Find all books name in the library.

 $5+2\frac{1}{2}+2\frac{1}{2}$

[Part-II]

Answer any two questions.

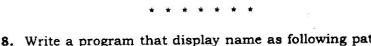
2×10

- 1. Write a program to calculate the product of the digits of an integer number.
- 2. Write a program to display your last name first. c
- 3. Write a program that calculate factorial of a number using recursion.
- 4. Write a program to join two string.

5. Write a program to transpose the following matrix:

$$\begin{bmatrix} 5 & 6 & 3 \\ 3 & 6 & 1 \\ 0 & 2 & 4 \end{bmatrix}$$

- 6. Write a program to generate n non-Fibonacci series.
- 7. Write a program to display as following:



- 8. Write a program that display name as following pattern:
 Sourav Ganguly as S. Ganguly.
- 9. Write a program to reverse a string without using function.
- 10. Write a program that calculate the following series :

$$1 + \frac{1}{2^2} + \frac{1}{3^2} + \frac{1}{4^2} + \frac{1}{5^2} + \dots + \frac{1}{n^2}$$

- 11. Write a program to check whether a number is armstrong or not.
- 12. Write a program to generate prime number series upto n.

Practical Note Book — 05

Viva-Voce — 05