OLD

2016

Part-II 3-Tier

COMPUTER SCIENCE

PAPER—II-A

(General)

Full Marks : 50

Time : 2 Hours

The figures in the 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

(Operating Systems)

Answer any *two* questions. 2×10

1. (a) What is feasibility study ? Brief describe of SDLC.

   (b) Write the role of a system analyst. (2+3)+5

2. (a) What is structure chart ? Write the purpose of a structure chart.

   (b) What is quality assurance ? Difference between validation and verification. (2+3)+(2+3)

3. (a) Explain the different types of maintainance.

   (b) Distinguish between data and information.

   (c) Define data dictionary. Draw a DFD for a hospital management system. 3+2+(2+3)

4. Write note on (any *two*) :

   (a) Documentation ;

   (b) Requirement analysis and specification ;

   (c) DFD ;

   (d) White-box-testing. 2×5

Group B

(Database Management)

Answer any *two* questions. $12\frac{1}{2}\times 2$

5. (a) What is DBMS ? Describe three level architecture of data abstraction.

(b) What are the main functions of DBA ?

(c) List the components of E-R diagram with symbols.

$(2+4\frac{1}{2})+4+2$

6. (a) Explain the terms with example :
Primary key, foreign key, candidate key.

(b) Write a short note on specialization.

(c) Explain Indexed sequential file system with example.

$(2+2+2)+4+2\frac{1}{2}$

7. (a) What is normalization ? What is the necessity of it ?

(b) What is 3NF ? Explain with example.

(c) What do you mean by functional dependency ?

(d) What are the difference between network and hierarchical model ?

$(2+2)+3+2+3\frac{1}{2}$

8. Consider the relation : $2\frac{1}{2}\times5$

employee_details (emp_id, date_of_joining, name, salary)

Write the following queries in SQL or relational algebra :

(i) Print all information of emp_id 005.

(ii) Print all employee names whose salary is greater than 10,000.

(iii) Print all information of employee_name Rikta and emp_id 001.

(iv) Print all employee names whose name starting with S.

(v) Print those employee information whose Date_of_joining 01/01/2014 to 31/01/2016.

[Internal Assessment — 5]

OLD

Part-II 3-Tier

2016

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. (a) Create a library database table with the following fields :

   BOOK (ISBN_No, Title, Author, Current_Stock)

   (b) Insert five set of dummy data set.

   (c) Find the details of the book which has highest stock in the library.

(d) Find all the books the title of which starts with 'S'.

$2\frac{1}{2} \times 4$

2. (a) Create the following database table :

EMPLOYEE (Emp_ID, Emp_Name, Salary, Date_of_joining).

(b) Insert five set of dummy datas.

(c) Find the list of the employees who joins on 5th April, 2016.

(d) Find the name of the employee who gets minimum salary.

$2\frac{1}{2} \times 4$

3. (a) Create the following database table :

EMPLOYEE (Emp #, Basic, DA, HRA, Total)

(b) Enter 5 sets of data. DA and HRA are 73% and 15% of the basic respectively.

(c) Find the details of the employee who gets the highest salary.

3+5+2

4. (a) Create the following database table :

COURSE (C_name, date_of_commencement, fees)

(b) Insert five set of dummy data.

(c) List the name of the course the fees of which is maximum.

(d) Find the course name, the class of which begins on 1st June 2016.

$2\frac{1}{2} \times 4$

[Part–II]

Answer any *two* questions : 2×10

1. Write a program to check if a given year is leap year or not.

2. Write a program to convert a integer to word.

e.g. 234 (input)

Two hundred thirty four. (output)

3. Write a program to find the sum of digits of an integer.

4. Write a program to find the initial of a name.

e.g. Vidyasagar University (input)

VU (output)

5. Write a program to find the sum of the series :

   $\frac{1}{1!} + \frac{2}{2!} + \frac{3}{3!} + \frac{4}{4!} + \cdots$ upto nth term.

6. Write a program to count the no. of vowels in s string.

7. Write a program to find the value of ${}^{n}P_{r}$.

8. Write a program to find an integer is palindrome or not.

9. Write a program to exchange the values of two variables without using third variable.

Viva-Voce — 05

Practical Note Book — 05

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OLD

Part-II 3-Tier

2016

COMPUTER SCIENCE

(General)

PAPER—IIB (Set-2)

(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. (a) Create the database table student which have the following fields :

STUDENT (Roll, Name, Address, Total Marks Obtained)

(b) Enter five set of dummy data.

(c) Find the name of the students who are from 'Midnapore'.

(d) Find the details of the student who obtained the highest marks.

$2\frac{1}{2} \times 4$

2. (a) Create the database table :

DOCTOR (Doctor_ID, Doctor_Name, Speciality)

(b) Insert five set of dummy data.

(c) Find all doctors who have speciality in 'Neurology'.

(d) Delete the entry of the doctor who has id = 5.

$2\frac{1}{2} \times 4$

3. (a) Create the following database table :

Customer (Customer#, Branch, Balance).

(b) List the details of the customers whose names start with 'A'.

(c) Find the customer# with the lowest balance.

(d) Find the average balance of the customer in branch 'Kolkata'.

$2\frac{1}{2} \times 4$

4. (a) Create the following database table :
   BOOK (BOOK_ID, Title, Author, Subject, Price)

   (b) Insert five set of dummy data.

   (c) Find the titles of the author named 'Tagore'.

   (d) Find the highest price of the book of subject 'Science'.

$2\frac{1}{2} \times 4$

[Part–II]

Answer any *two* questions : 2×10

1. Write a program to find the sum of digits of an integer.
2. Write a program to find the highest integer among a given integers.
3. Write a program to display the first and last characters of a string.
4. Write a program to generate the following pattern :

   1

   2 3

   3 4 5

   4 5 6 7

   . . . .

   . . . .

5. Write a program to determine the sum of the following series :

   $\frac{1}{2}+\frac{2}{3}+\frac{3}{4}+\frac{4}{5}+\cdots$ upto nth term.

6. Write a program to check if an integer is prime or not.

7. Write a program to check if an integer is Palindrome or not.

Viva-Voce — 05

Practical Note Book — 05

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OLD

Part-II 3-Tier

2016

COMPUTER SCIENCE

(General)

PAPER—IIB (Set-3)

(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. (a) Create the database table student which have the following fields :

STUDENT (Roll, Name, Address, Total Marks)

(b) Enter five set of dummy data.

(c) Find the details of the student who obtains the lowest marks.

(d) Find the name of the students whose address is 'Midnapore'.

2. (a) Create the following table :

CUSTOMER (Customer_id, Branch, Balance)

(b) Find the customer_id with the highest balance.

(c) List the details of the customer whose branch name is 'Midnapore'.

(d) Find the number of customers in branch 'Midnapore'.

3. (a) Create the database table :

DOCTOR (Doctor_id, name, speciality, address)

(b) Find the name of the doctors who have speciality in 'Cardiology'.

(c) Find the details of the doctor having Doctor ID = 10.

(d) Find the name of the doctors whose address is 'Midnapore'.

4. (a) Create the following table :

BOOK (Book_id, Title, Author, Subject, Price)

(b) Find the lowest price of the book of subject 'Computer Science'.

(c) Find the title of the book of subject 'Mathematics' having the highest price.

(d) Find the title and author of the book having Book ID = 10.

[Part–II]

Answer any *two* questions : 2×10

1. Write a program to calculate the factorial of a number.

2. Write a program to check whether a number is prime of not.

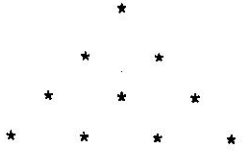
3. Write a program to calculate the GCD of two numbers.

4. Write a program to print the Fibonacci series upto 25.

5. Write a program to concatenate two strings.

6. Write a program to calculate the LCM of two numbers.

7. Write a program to print the following :



Viva-Voce — 05

Practical Note Book — 05

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