

**NEW**  
**Part-III 3-Tier**  
**2017**  
**COMPUTER SCIENCE**  
**PAPER—VIA (SET — 2)**  
**(Honours)**  
**(PRACTICAL)**  
*Full Marks : 50*  
*Time : 3 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.*

Answer any one question from Group—A & any one question from Group—B.

**Unit-I**

**Group—A**

**C++**

*(Marks : 25)*

Answer any one question from this group : 1×25

1. Write a C++ program for unary increment (++) and decrement (--) operator overloading.

2. Write a C++ program to read and print employee information using multiple inheritance.
3. Write a C++ program that illustrates the role of abstract class in building class hierarchy.
4. Write a C++ program to demonstrate example of constructor overloading.
5. Write a C++ program to write and read objects using read and write function.
6. Write a C++ program to print Floyd Triangle.
7. Write a C++ program that performs this series

$$S = 1 + \frac{1}{2!} + \frac{1}{3!} + \dots + \frac{1}{n!}$$

where n is entered from the keyboard.

8. Write a C++ program to implement bubble sort and insertion sort using templates.
9. Write a C++ program to perform calculate student marks by overloading new and delete operators.

**Group—B**

**(Compute Graphics)**

(Marks : 25)

Answer any one question :

1×25

1. Write a a program to scaling of a rectangle.
  2. Write a program to rotate a line.
  3. With a program for Mid Point Ellipse ordering algorithm.
  4. Draw a polygon using DDA.
  5. Draw a polygon using Bresnanlum line drawing algorithm.
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**Answer any one question from Group—A &  
any one question from Group—B.**

**Unit - II**

**DBMS**

*(Marks : 50)*

**Answer any two (Lottery basis) : 2x25**

**1. Consider the following database :**

**worker (w\_id, w\_name, w\_address, w\_salary)**

*(Turn Over)*

assign (w\_ed, p\_id)

project (p\_id, p\_name, p\_manager, p\_budget)

- (a) Create the above database using SQL.
  - (b) Display the worker name, address and manager name for the worker id are 2, 5, 8.
  - (c) Display the worker name and project name for the specified worker id.
  - (d) Display details of the project with lowest budget.
  - (e) Increase the worker salary at 15% for the odd number of worker id.
2. Consider the following a database :

5×5

suppliers (s\_id, s\_name, address)

parts (p\_id, p\_name, color)

catalog (s\_id, p\_id, cost)

- (a) Create the above database using SQL.
- (b) Find the suppliers name who supply a 'rod' whose price is under Rs. 100 or whose colors is 'brown'.
- (c) Find parts number of part supplied by at least two different suppliers.
- (d) Find the suppliers name whose supplies 'cement' but not rod.

3. Consider the following database :

student (SSN, name, major, b\_date)

course (course #, c\_name, dept)

ENROL (SSN, course #, quarter, grade)

Book Adoption (course #, quarter, Book ISBN)

Text (BOOKISBN, books title, publisher, author)

(a) Create the above database using SQL.

(b) Find the no. of courses taken by all students whose name begins with 'A' in winter 2000.

(c) List any department that has all its adopted books published by 'Tata Mc Graw Hill'

(d) Find the student details of all students who has enrolled for course 'computer Science'.

4. Consider the following databse.

emp (e\_no, e\_name, e\_address, e\_salary)

project (p\_no, p\_name)

work (e\_no, p\_no)

(a) Create the above database using SQL.

- (b) display details of the employee and project name for the even number of project no.
  - (c) Display details of the employee who gets second highest salary.
  - (d) Display details of the employees who is not working in any project.
  - (e) Display name of the employee who are working on a project 'college website'.
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