

UNIVERSITY OF PUNE
B.C.A. (SEM-II) Practical Examination 2013- 2014
LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

- Q.1)** A) Write a C Program to accept a four digit number from user and count zero , odd and even digits of the entered number. Marks: 100
[15 Marks]
- B) Write a **menu driven program** in 'C' that shows the working of a library. The menu option should be
 - Add book information.
 - Display book information.
 - Exit.
- (Using Structure Array)**
- Q.2)** Consider the following Entities and Relationships [25 Marks]
Customer (cust_no, cust_name, address, city) [30 Marks]
Loan (loan_no, loan_amt)
 Relation between Customer and Loan is **Many to Many**
Constraint: Primary key, loan_amt should be > 0 .
- Create a Database in 3NF & write queries for following.**
- Find details of all customers whose loan is greater than 10 lakhs.
 - List all customers whose name starts with 'ba'.
 - List names of all customers in descending order who has taken a loan in Nasik city.
 - Display customer details having maximum loan amount.
 - Calculate total of all loan amount.

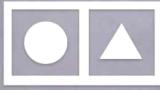
- Q.3)** Draw a histogram to represent the following frequency distribution using MS Excel.

Size of farm In hectares	1-20	21-40	41-60	61-80	81-100	101-120
No. of farms	12	38	16	5	3	1

[10 Marks]

- Q.4) Journal** [10 Marks]

- Q.5) Viva** [10 Marks]



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By Pranav4700

UNIVERSITY OF PUNE
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LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

Marks: 100

- Q.1) A) Write a C program to generate the following pattern for n lines:

Aa
Aa Bb
Aa Bb Cc
Aa Bb Cc Dd

[15 Marks]

- B) Write a 'C' Program to calculate factorial of given number by using recursion.

[25 Marks]

- Q. 2) Consider the following Entities and Relationships

[30 Marks]

Department (dept_no, dept_name, location)

Employee (emp_no, emp_name, address, salary, designation)

Relation between Department and Employee is **One to Many**

Constraint: Primary key, salary should be > 0 .

Create a Database in 3NF & write queries for following.

- Find total salary of all computer department employees.
- Find the name of department whose salary is above 10000.
- Count the number of employees in each department.
- Display the maximum salary of each department.
- Display department wise employee list.

- Q.3) Draw histogram for the following frequency distribution using MS Excel.

Monthly income	Frequency	Mid values
1000-3000	6	2000
3000-5000	16	4000
5000-7000	24	6000
7000-9000	30	8000
9000-11000	10	10000
11000-13000	4	12000

[10 Marks]

- Q.4) Journal

[10 Marks]

- Q.5) Viva

[10 Marks]



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Duration: 3 Hours

- Q.1)** A) Write a 'C' Program to check whether a given number is Armstrong or not Marks: 100
B) Write a 'C' Program to do the following [15 Marks]
 a) Create a text file 'input.txt'
 b) Print the contents of file in reverse order [25 Marks]
- Q.2)** Consider the following Entities and Relationships [30 Marks]
 Project (pno, pname, start_date, budget, status)
 Department (dno, dname, HOD)
 Relation between Project and Department is Many to One
 Constraint: Primary key.
 Project Status Constraints: C – completed,
 P-Progressive, I-Incomplete
Create a Database in 3NF & write queries for following.
 - List the project name and department details worked in projects that are 'Complete'.
 - Display total budget of each department.
 - Display incomplete project of each department
 - Find the names of departments that have budget greater than 50000
 - Display all project working under 'Mr.Desai'.
- Q.3)** Draw a frequency polygon & a frequency curve for the following data using MS Excel. [10 Marks]

Monthly house rent	100-300	300-500	500-700	700-900	900-1100	1100-1300
No. of families	6	16	24	20	10	4

- Q.4)** Journal [10 Marks]

- Q.5)** Viva [10 Marks]



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(1)

- Q.1)** A) Write a C program to calculate the sum of digits of a given number. Marks: 100
- B) Write a 'C' program to accept customer details such as: **Account_no, Name, Balance in account.**, Assume Maximum 10 customers in the bank. Write a function to print the account no and name of each customer with **balance below Rs.100.** (using structure) [15 Marks]
- Q. 2)** Consider the following Entities and Relationships [25 Marks]
- Room** (roomno, desc, rate) [30 Marks]
 - Guest** (gno, gname, no_of_days)
 - Relation between Room and Guest is **One to One.**
- Constraint:** Primary key, no of days should be > 0 .
- Create a Database in 3NF & write queries for following.**
- Display room details according to its rates in ascending order.
 - Find the names of guest who has allocated room for more than 3 days.
 - Find no. of AC rooms.
 - Display total amount for NON-AC rooms.
 - Find names of guest with maximum room charges.

- Q. 3)** Draw a less than cumulative frequency curve & more than cumulative frequency curve for the following for the following frequency distribution using MS Excel. [10 Marks]

Marks	0-10	10-20	20-30	30-40	40-50
No. of Students	5	12	43	32	8

- Q.4) Journal** [10 Marks]

- Q.5) Viva** [10 Marks]



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Q.1) A) Write a 'C' Program to accept a string from user and generate following pattern (e.g. input is string "abcd"). Marks: 100

a
a b
a b c
a b c d
a b c
a b
a

[15 Marks]

B) Write a 'C' Program to copy the contents of one file into another file. [25 Marks]

Q. 2) Consider the following Entities and Relationships
Book (Book_no, title, author, price, year_published) [30 Marks]
Customer (cid, cname, addr)
Relation between Book and Customer is **Many to Many** with quantity as descriptive attribute.

Constraint: Primary key, price should be >0.

Create a Database in 3NF & write queries for following.

- Display customer details from 'Mumbai'.
- Display author wise details of book.
- Display all customers who have purchased the books published in the year 2013.
- Display customer name that has purchased more than 3 books.
- Display book names having price between 100 and 200 and published in the year 2013.

Q.3) Draw the histogram, frequency polygon and ogive curves for the following frequency distribution by using Ms-Excel :

Weight in lb	80-89	90-99	100-109	110-119	120-129	130-139	140-149
Frequency	8	16	20	26	50	13	5

[10 Marks]

Q.4) Journal [10 Marks]

Q.5) Viva [10 Marks]



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LAB COURSE -C Programming, DBMS & Statistics**

Duration: 3 Hours

Marks: 100

- Q.1)** A) Write a 'C' Program to accept a string from user, delete all vowels from that string and display the result. [15 Marks]
- B) Write a C program to add all elements of a matrix by using dynamic memory allocation. [25 Marks]
- Q.2)** Consider the following Entities and Relationships [30 Marks]
Property (pno, desc, area, rate)
Owner (owner_name, addr, phno)
Relation between owner and Property is One to Many.
Constraint: Primary key, rate should be > 0
- Create a Database in 3NF & write queries for following.**
- Display area wise property details.
 - Display property owned by 'Mr.Patil' having minimum rate.
 - Display all properties with owner name that having highest rate of properties located in Chinchwad area.
 - Display owner wise property detail.
 - Display owner name having maximum no. of properties.
- Q.3)** Draw a histogram for the following income distribution by using Ms-Excel: [10 Marks]

Monthly Income	1000-2000	2000-2500	2500-3500	3500-5000
Frequency	120	125	180	150

[10 Marks]

- Q.4) Journal** [10 Marks]

- Q.5) Viva** [10 Marks]



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Duration: 3 Hours

Q.1) A) Write a C program to generate the following pattern for n lines: Marks: 100

```

1   2   3   4
5   6   7
8   9
10

```

B) Write a C program to perform the following operations on string using user defined function [15 Marks]

- a. Calculate length of string.
- b. Copy one string into another.

Q. 2) Consider the following Entities and Relationships [25 Marks]

Employee (emp_no, name, skill, payrate)

[30 Marks]

Position (posting_no, skill)

Relation between Employee and Position is **Many to Many** with day and shift as descriptive attribute.

Constraint: Primary key, payrate should be > 0 .

Create a Database in 3NF & write queries for following.

- Find the names and rate of pay all employees who allocated a duty.
- Give employee number who are working at posting_no. 201, but don't have the skills of waiter.
- Display a list of names of employees who have skill of chef and who has assigned a duty.
- Display emp_no and dates for all employees who are working on Tuesday and at least one other day.
- Display shiftwise employee details.

Q.3) Draw less than cumulative frequency curve for frequency distribution of intelligence quotient given below. Also obtain number of candidates having intelligence quotient between 105 and 125 by using Ms-Excel :

I.Q	60-69	70-79	80-89	90-99	100-109	110-119	120-129
Frequency	21	37	51	49	21	13	4

[10 Marks]

Q.4) Journal [10 Marks]

Q.5) Viva [10 Marks]



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**UNIVERSITY OF PUNE
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Duration: 3 Hours

Q.1) A) Write a C program to generate following pattern for n lines: Marks: 100

*
* * *
* * * *
* * * * *

B) Write a 'C' Program to calculate sum of elements of a mXn matrix. [15 Marks]

[25 Marks]

Q. 2) Consider the following Entities and Relationships

Bill (billno, day, tableno, total)

[30 Marks]

Menu (dish_no, dish_desc, price)

Relation between Bill and Menu is **Many to Many** with quantity as descriptive

attribute.

Constraint: Primary key, price should be > 0 .

Create a Database in 3NF & write queries for following.

- Display receipt which includes bill_no with Dish description, price, quantity and total amount of each menu.
- Find total amount collected by hotel on date 08/01/2013
- Count number of menus of billno 301.
- Display menu details having price between 100 and 500.
- Display total number of bills collected from each table on 01/12/2013.

Q.3) Draw a frequency curve, frequency polygon and histogram for the following data by using Ms-Excel :

Mid-values	25	35	45	55	65
No.of Student	5	12	33	13	7

[10 Marks]

Q.4) Journal

[10 Marks]

Q.5) Viva

[10 Marks]



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LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

- Q.1) A) Write a C program to calculate sum of Fibonacci series up to a given number.** Marks: 100
- B) Write a 'C' Program to accept 'n' numbers from user, store these numbers into an array and count the number of occurrence of each number.** [15 Marks] [25 Marks]

- Q. 2) Consider the following Entities and Relationships** [30 Marks]
- Musician** (mno, mname, addr, phno)
Album (title, copy_right_date, format)
 Relation between Musicians and Album is **One to Many**.

Constraint: Primary key.

Create a Database in 3NF & write queries for following.

- Display all albums composed by 'A R Rehman'.
- Display musician details who have composed Audio album.
- Find all musicians who have composed maximum albums.
- Display musician wise album details.
- Display Musician details from 'Pune'

- Q.3) Draw less than cumulative frequency curve and more than cumulative frequency curve for the following frequency distribution of marks in Statistics by using Ms-Excel :**

Marks	0-20	20-40	40-60	60-80	80-100
No. of Student	2	18	42	28	5

[10 Marks]

- Q.4) Journal**

[10 Marks]

- Q.5) Viva**

[10 Marks]



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Duration: 3 Hours

Q.1) A) Write a C program to calculate $x^{(y+z)}$ by using user defined function Marks: 100

- B) Write a menu driven program in 'C' which performs the following operations on strings. Write separate function for each option [15 Marks]
- Check if one string is substring of another string
 - Count number of occurrences of a character in the string.
 - Exit.

Q.2) Consider the following Entities and Relationships [25 Marks]

Sailor (sid, sname, age)

[30 Marks]

Boats (bid, bname, color)

Relation between Sailor and Boats is **Many to Many** with day as descriptive attribute.

Constraint: Primary key, age should be > 0 .

Create a Database in 3NF & write queries for following.

- Display details of all boats sailed by sailor 'Ram'.
- Display Sailor names working on blue boat.
- Count number of boats sailed by each sailor.
- Find the name of sailor who sailed the boat on both Tuesday & Friday.
- Display details of the boats which is sailed maximum times on Sundays.

Q.3) Draw Pie chart diagram of following data by using Ms-Excel:

Items	Food	Clothing	Recreation	Education	Rent	Miscellaneous
Expenditures(Rs)	84	27	10	15	23	21

[10 Marks]

Q.4) Journal

[10 Marks]

Q.5) Viva

[10 Marks]



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Duration: 3 Hours

Q.1) A) Write a C program to accept character & display its ASCII value and its next & previous character. Marks: 100

B) Write a 'C' Program to accept 'n' numbers and store all prime numbers in an array and display this array [15 Marks]

Q.2) Consider the following Entities and Relationships [25 Marks]

Supplier (sid, sname, addr)

Parts (pid, pname, pdesc)

Relation between Supplier and Parts is **Many to Many** with cost as descriptive attribute. [30 Marks]

Constraint: Primary key, cost should be > 0 .

Create a Database in 3NF & write queries for following.

- Display Supplier details from 'Mumbai' city.
- Update cost by 25 % for all parts supplied by supplier 'Mr. Pawar'.
- Display all parts supplied by each supplier.
- Display details of parts which are supplied at maximum price by each supplier.
- Display all suppliers who supply part 'wheel' and also display its cost.

Q.3) Draw a suitable diagram to present the following data by using Ms-Excel:

Category	Corporate tax	Income tax	Excise Tax	Customs
Revenue in % to total	43.5	35.0	9.5	12.0

[10 Marks]

Q.4) Journal

[10 Marks]

Q.5) Viva

[10 Marks]



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LAB COURSE -C Programming, DBMS & Statistics
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- Q.1)** A) Write a C program to calculate the x to the power y without using standard function. Marks: 100
- B) Write a 'C' Program to store the records of student (stud_no, Stud_name, stud_addr, stud_Percentage) in a file using structure. [15 Marks]
- Q.2)** Consider the following Entities and Relationships
Medical_store (mno, mname, city, phno) [30 Marks]
Drug (dno, dname, type, company, price)
Relation between Medical_store and Drug as **Many to Many** with quantity as descriptive attribute.

Constraint: Primary key, price should be > 0 .

Create a Database in 3NF & write queries for following.

- Update price of drug by 5 % of 'ABC' Company.
- Display names of all medical store where 'Crocin' is available.
- Count total number of drug of 'SunPharma' company in 'Sai medical' store.
- Delete all drugs supplied by 'SunPharma' Company in 'Sai medical' store.
- Display the details of medical store having maximum quantity of Crocin.

- Q.3)** From the following data construct following by using Ms-Excel :
- i. Histogram.
 - ii. Frequency Polygon
 - iii. Frequency Curve

Wages group(Rs)	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No. of workers	2	4	11	15	25	18	15	4	3

[10 Marks]

- Q.4) Journal** [10 Marks]

- Q.5) Viva** [10 Marks]



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Duration: 3 Hours

- Q.1)** A) Write a 'C' Program to accept a string from user and display the alternate characters Marks: 100
B) Write a 'C' Program to sort elements of an array in ascending order using dynamic memory allocation [15 Marks]
- Q.2)** Consider the following Entities and Relationships [25 Marks]
Account (ano, branchname, balance)
Customer (cust_no, cust_name, street, city) [30 Marks]
Relation between Account and Customer is **Many to Many**.
Constraint: Primary key, balance should be > 500 .
- Create a Database in 3NF & write queries for following.**
- Display customer details with balance between 100000 and 200000.
 - Display customers having more than two accounts in Chinchwad branch.
 - Delete account whose balance is below the balance < 500 .
 - Select names of all Customers whose street name include the substring "road" and whose city is 'Mumbai'.
 - Find number of depositor for each branch.
- Q.3)** The table below shows the distribution of the age of women at the time of marriage in Sri Lanka.

Age Group(Years)	15-19	20-24	25-29	30-34	35-39	40-44	45-49
No. of women	11	36	28	13	07	03	02

Represent the above data by less than type Ogive curve. Also locate the median age by using Ms-Excel. [10 Marks]

- Q.4) Journal** [10 Marks]

- Q.5) Viva** [10 Marks]



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Q.1) A) Write a C program to calculate the area of following: - Marks: 100

- i. Circle
- ii. Rectangle
- iii. Triangle

B) Write a 'C' Program to count the number of characters, number of words and number of lines from a text file and display the result. [15 Marks] [25 Marks]

Q.2) Consider the following Entities and Relationships [30 Marks]
Branch (bname , bcity ,assets)
Loan (loan_no, amount)

Relation between Branch and Loan is One to Many.

Constraint: Primary key, amount and assets should be > 0 .

Create a Database in 3NF & write queries for following.

- Display total loan amount given by DYP branch.
- Find total number of loans given by each branch.
- Find the name of branch that have maximum assets located in Mumbai.
- Display loan details in descending order of their amount.
- Display all branches located in Mumbai, Pune and Nasik.

Q.3) The following is a frequency distribution of number of mistakes per job by a keyboard operator in data entry.

No. of mistakes per job	20-29	30-39	40-49	50-59	60-69	70-79
No. of Jobs	16	31	22	7	3	1

Draw histogram for the above data & obtain the value of mode graphically by using Ms-Excel. [10 Marks]

Q.4) Journal [10 Marks]

Q.5) Viva [10 Marks]



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- Q.1)** A) Write a C program to check whether given number is Palindrome or not. Marks: 100
- B) Write a 'C' Program to find the union and intersection of the two sets of integer
(Store it in two arrays) [15 Marks]
- Q.2)** Consider the following Entities and Relationships
Employee (eno, ename, deptname, salary) [30 Marks]
Project (pno, name, budget)
Relation between Employee and Project is **Many to Many**.
Constraint: Primary key, salary should be > 0 .
- Create a Database in 3NF & write queries for following.**
- List the name of employee and department having salary > 50000 .
 - List names of all employees who works with 'Ramesh' on same project.
 - Find the names of employees who are working on project having budget greater than 30000.
 - List name of department that have at least two projects under them.
 - Update budget of a project done by employees of Computer Department by 15%.
- Q.3)** Draw a less than ogive curve for the following data & locate the median by using Ms-Excel:

Marks	0-20	20-40	40-60	60-80	80-100
No. of Students	2	18	42	28	5

[10 Marks]

Q.4) Journal [10 Marks]

[10 Marks]

Q.5) Viva [10 Marks]



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Q.1) A) Write a C program to check whether given number is perfect or not. Marks: 100

B) Write a C program to accept string from the user & replace all occurrences of character 'a' by '*' symbol. [15 Marks]

Q.2) Consider the following Entities and Relationships
Branch (bno, bname, bcity, assets) [25 Marks]
Account (acc_no ,balance) [30 Marks]

Relation between Branch and Account is **One to Many**.
Constraint: Primary key, balance and assets should be > 0 .

Create a Database in 3NF & write queries for following.

- Find the maximum account balance of each branch.
- Find branches where average account balance is more than 30000.
- Find names of all branches that have assets value greater than that of each branch in 'pune'.
- Decrease 3% balance on account whose balance is greater than 100000.
- Display details of branch whose city starts from 'A'.

Q.3) Draw the histogram for the following frequency distribution. Find mode graphically by using Ms-Excel:

Weight	80-89	90-99	100-109	110-119	120-129	130-139	140-149
Frequency	8	16	20	26	50	13	5

[10 Marks]

Q.4) Journal [10 Marks]

Q.5) Viva [10 Marks]



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Duration: 3 Hours

Q.1) A) Write a C program to generate following pattern for n lines. Marks: 100

```

A
B B
C C C
D D D D
E E E E E

```

B) Write a 'C' Program to accept 'n' numbers from user, store these numbers into an array. Find out Maximum and Minimum number from an Array(using function). [15 Marks]

Q.2) Consider the following Entities and Relationships [25 Marks]

Donor(donor_no, donor_name, city)

[30 Marks]

Blood_Donation(bid,blood_group,quantity,date_of_collection)

Relation between Donor and Blood_Donation is **One to Many**.

Constraint: Primary key, blood_group should not be null.

Create a Database in 3NF & write queries for following.

- Display total blood quantity collected on 25th December 2013.
- Display total blood donated by each donor.
- Display Donor details having blood group 'A+ve'.
- Display the donor who has donated blood more than two times.
- Display the donor information with blood group whose city name contains "sh" in it.

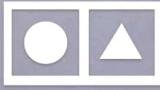
Q.3) Draw a histogram and frequency polygon for the following data by using Ms-Excel:

Monthly House Rent	100-300	300-500	500-700	700-900	900-100	1100-1300
No. of Families	6	16	24	20	10	4

[10 Marks]

Q.4) Journal [10 Marks]

Q.5) Viva [10 Marks]



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Duration: 3 Hours

Marks: 100

- Q.1)** A) Write a C program to convert a given string into uppercase & vice versa. [15 Marks]
B) Write a C' Program to create student structure having fields roll_no, stud_name, mark1, mark2, mark3. Calculate the total and average of marks and arrange the records in descending order of marks. [25 Marks]
- Q.2)** Consider the following Entities and Relationships
Bus (bus_no, capacity, depot_no) [30 Marks]
Route (rout_no, source, destination, no_of_stations)
Relation between Bus and Route is **Many to One**.
Constraint: Primary key.
Create a Database in 3NF & write queries for following.
- Find out the route details on which buses whose capacity is 20 runs.
 - Display number of stations from 'Chinchwad' to 'Katraj'.
 - Display the route on which more than 3 buses runs.
 - Display number of buses of route 'Swargate' to 'Hadapsar'.
 - Find the bust having maximum capacity from 'Nigadi' to 'Kothrud'..

- Q.3)** The following data relating to the strength of Indian Merchant shipping fleet gives the Gross Registered Tonnage (GRT) for different years represent data by suitable bar diagram using Ms-Excel :

Year	1961	1966	1971	1975	1976
GRT in 1000 as on 31 st December	901	1792	2500	4464	5115

[10 Marks]

- Q.4) Journal**

[10 Marks]

- Q.5) Viva**

[10 Marks]



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Q.1) A) Write a C program to generate following pattern for n lines:

1
3 5
7 9 11

[15 Marks]

B) Write a 'C' Program to accept Book details of 'n' books as book_title, author, publisher and cost. Assign the accession number to each book in increasing order Display these details as

1. Books of a specific author
2. Books by a specific Publisher
3. All Books costing Rs. 500 and above.
4. All Books.

(Using Structure Array)

[25 Marks]

Q. 2) Consider the following Entities and Relationships

Person (driver_id, driver_name, address)

[30 Marks]

Car (license_no, model, year)

Relation between Person and Car is **Many to Many** with date and time as descriptive attribute.

Constraint: Primary key.

Create a Database in 3NF & write queries for following.

- Display details of all persons who are driving 'Alto' car.
- Count the number of cars driven by each driver.
- Display car details manufactured before year 2000.
- In which day 'Mr. Ram' drives maximum number of cars.
- Display total number of persons who drives car in each year.

Q.3) Draw suitable diagram to represent the following data by using Ms-Excel:

Factory	Wages	Materials	Direct Expenses	Factory Expenses	Office Expenses
A	540	2160	600	360	180
B	700	2600	300	200	200
C	810	2700	350	300	270

[10 Marks]

Q.4) Journal

[10 Marks]

Q.5) Viva

[10 Marks]



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UNIVERSITY OF PUNE
B.C.A. (SEM-II) Practical Examination 2013- 2014
LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

Marks: 100

Q.1) A) Write a function isEven, which accepts an integer as parameter and returns 1 if the number is even, and 0 otherwise. Use this function in main to accept n numbers and check if they are even or odd.

[15 Marks]

B) Write a C program for multiplication of two matrices using dynamic memory allocation

[25 Marks]

Q.2) Consider the following Entities and Relationships

Person (pno, person_name, birthdate, income)

[30 Marks]

Area (area_name, area_type)

Relation between Person and area is **Many to One**.

Constraint: Primary key, income should be > 0 , area_type should be rural or urban.

Create a Database in 3NF & write queries for following.

- Display persons having income less than 1 lakhs in PCMC Area.
- Display population of each area.
- Display persons details from 'Urban' area.
- Display the details of area having population greater than that of in Pune.
- Display details of person from each area having minimum income.

Q.3) Construct a pie-diagram to represent the following frequency distribution by using Ms-Excel :

Marks	10-19	20-29	30-39	40-49	50-59
No. of Student	15	20	35	10	5

[10 Marks]

Q.4) Journal

[10 Marks]

Q.5) Viva

[10 Marks]



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LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

- Q.1) A) Write a C program to display multiplication table up to given number. [15 Marks]
- Marks: 100
- B) A scooter company has serial numbers from AA0 to FF9, the other characteristics of scooter are year of manufacture, colour, horsepower. Use a structure pointer and do the following:
- a. Retrieve all information of scooters within a range BB0 and CC9
 - b. Display the oldest scooter

[25 Marks]

Q.2) Consider the following Entities and Relationships

Book (book_no, book_name, price)

[30 Marks]

Publisher (pno, pname, city)

Relation between Book and Publisher is **Many to Many** with quantity as descriptive attribute.

Constraint: Primary key, price should be > 0 .

Create a Database in 3NF & write queries for following.

- Display total quantity of each book .
- Display Publisher names from 'Pune'.
- Display all publisher publishing more than two books.
- Display publisher having average books price less than average books price of 'BPV Publications'.
- Display publisher wise book details.

- Q.3) Represent the following data on percentage expenditure of different items in an average family budget by a pie diagram using Ms-Excel:

Items	Food	Rent	Clothing	Fuel	Others
%expenditure	40	20	15	10	15

[10 Marks]

- Q.4) Journal

[10 Marks]

- Q.5) Viva

[10 Marks]



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Duration: 3 Hours

Marks: 100

- Q.1) A) Write a program, which accepts a character from the user and checks if it is an alphabet, digit or punctuation symbol. If it is an alphabet, check if it is uppercase or lowercase and then change the case. [15 Marks]

$$\text{Sum} = 1 + 1/x + 1/x^2 + 1/x^3 + 1/x^4 + \dots$$

[25 Marks]

- Q.2) Consider the following Entities and Relationships

Student (stud_reg_no, stud_name, class)

[30 Marks]

Competition (cno, cname, ctype)

Relation between Student and Competition is Many to Many
with rank and year as descriptive attribute.

Constraint: Primary key.

Create a Database in 3NF & write queries for following.

- Display students from class 'F.Y. BCA' and participated in 'E-Rangoli' Competition.
- Find the number of student for programming competition.
- Display the names of first three winners of each competition.
- Display average number of students participating in each competition.
- Display total number of competition held in the year 2014.

- Q.3) Draw the Pie diagram to represent the following data by using Ms-Excel :

Component	Labour	Bricks	Cement	Steel	Timber	Supervision
Cost of Construction for House	25%	15%	20%	15%	10%	15%

[10 Marks]

- Q.4) Journal

[10 Marks]

- Q.5) Viva

[10 Marks]



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UNIVERSITY OF PUNE
B.C.A. (SEM-II) Practical Examination 2013- 2014
LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

Q.1) A) Write a C program to covert temperature from Celsius to Fahrenheit. Marks: 100

B) Write a C program to accept two strings str1 and str2 and compare them. [15 Marks]
 if they are equal display their length. if str1 > str2 , convert str1 to uppercase
 and str2 to lowercase and display the strings and vice versa. [25 Marks]

Q.2) Consider the following Entities and Relationships

Plan (plan_no, plan_name,nooffreecalls,freecalltime,fix_amt)

[30 Marks]

Customer (cust_no, cust_name, mobile_no)

Relation between Plan and Customer is One to Many.

Constraint: Primary key.

Create a Database in 3NF & write queries for following.

- Display the plan having minimum response.
- Display customer details starting their mobile number with 98.
- Display the customer details that are getting less number of free calls than that of the plan 'Let's Rock'.
- Delete the details of 'John' who has stopped 'Go Max' plan.
- Find the plan whose fixed amount is greater than 5000.

Q.3) The following is the frequency distribution and monthly amount of insurance policies sold by an agent for an insurance company by using Ms-Excel :

Monthly Sales(Rs)	10,000- 12,499	12,500- 14,999	15,000- 17,499	17,500- 19,999	20,000- 22,499	22,500- 24,999	25,000- 27,499	27,500- 29,999
frequency	2	4	7	5	6	8	2	1

Construct a relative frequency distribution and construct a relative frequency histogram by using Ms-Excel. [10 Marks]

Q.4) Journal

[10 Marks]

Q.5) Viva

[10 Marks]



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UNIVERSITY OF PUNE
B.C.A. (SEM-II) Practical Examination 2013- 2014
LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

Marks: 100

- Q.1) A) Write a 'C' Program to swap two numbers using bitwise operator [15 Marks]
- B) Write a C program to calculate sum of digits till it reduces to a single digit using recursion. [25 Marks]

- Q.2) Consider the following Entities and Relationships [30 Marks]
- Employee** (emp_id, emp_name, address)
Investment (inv_no, inv_name, inv_date, inv_amount)

Relation between Employee and Investment is **One to Many**.

Constraint: Primary key, inv_amount should be > 0 .

Create a Database in 3NF & write queries for following.

- Display employee details who have invested more than 100000.
- Display employee wise total investment amount.
- Display the employee names who invest on date 2nd Jan 2013.
- Display employee whose investment are more than 3.
- Find average investment of employees of Pune.

- Q.3) Given below is the pre-tax monthly income of residents of an industrial town

Pre- tax income (Rs)	No. of Residents (in thousands)
More than 7,000	2
More than 6,000	8
More than 5,000	10
More than 4,000	15
More than 3,000	35
More than 2,000	40
More than 1,000	55
More than 0	60

Draw a less than ogive curve and hence find out the highest income of the lowest 50% of the residents by using Ms-Excel. [10 Marks]

- Q.4) Journal [10 Marks]

- Q.5) Viva [10 Marks]



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UNIVERSITY OF PUNE
B.C.A. (SEM-II) Practical Examination 2013- 2014
LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

- Q.1)** A) Write a C program to accept n different numbers and display sum of all +ve & -ve numbers. Marks: 100
- B) Write a menu driven program in C to create a structure employee having fields empid , empname ,salary. Accept the details of n Employees from user and perform the following operations using function
- Search by Empld
 - Display Names of Employee having salary is greater than 10000
- [15 Marks]
- [25 Marks]

- Q.2)** Consider the following Entities and Relationships

Politicians (pno, pname, telephone_no) [30 Marks]

Party (party_code, party_name)

Relation between Politicians and Party is Many to One.

Constraint: Primary key.

Create a Database in 3NF & write queries for following.

- Display party names in ascending order.
- Find the party who is having less number of members than 'Congress' party.
- Display party wise politician name with details.
- Display the party name with the details of politicians whose name include "Rao".
- Which party has maximum politicians

- Q.3)** Represent the following data using suitable bar diagram in MsExcel

Year	1950	1951	1952	1953
No.of women	24	28	34	20

[10 Marks]

- Q.4) Journal**

[10 Marks]

- Q.5) Viva**

[10 Marks]



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B.C.A. (SEM-II) Practical Examination 2013- 2014
LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

- Q.1)** A) Write a program, which accepts a number n and displays each digit in words. Example: 6702 Output = Six-Seven-Zero-Two. Marks: 100 [15 Marks]
- B) Write a C program to display transpose of matrix using user defined function. [25 Marks]

Q.2) Consider the following Entities and Relationships

Game (game_name, no_of_players, coach_name)

[30 Marks]

Player (pid, pname, address, club_name)

Relation between Game and Player is **Many to Many**.

Constraint: Primary key, no_of_players should be > 0 .

Create a Database in 3NF & write queries for following.

- Display players from 'Delhi'.
- List all games which require more than 4 players.
- Find the total number of cricket players of 'sports club'.
- Display games having more number of players than that of football.
- Display coach wise player details.

Q.3) Represent the following data by a sub divided bar diagram.

College	Number Of Students		
	Arts	commerce	science
A	1000	800	700
B	650	400	500

[10 Marks]

Q.4) Journal

[10 Marks]

Q.5) Viva

[10 Marks]



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UNIVERSITY OF PUNE
B.C.A. (SEM-II) Practical Examination 2013- 2014
LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

- Q.1)** A) Write a C program to calculate sum of all even numbers in an array. Marks: 100
[15 Marks]
- B) Write a C program to create structure student having fields Rollno, Name. Accept the details of students from the user store it into the file and Calculate the size of File.

- Q.2)** Consider the following Entities and Relationships
Item (item_no, item_name, quantity) [30 Marks]
Suppliers (sup_no, sup_name, address, city, phone_no)
 Relation between Item and Supplier is **Many to Many** with rate and discount as descriptive attribute.

Constraint: Primary key.

- Create a Database in 3NF & write queries for following.**
- Delete items having quantity less than 2.
 - Display total number of suppliers who are supplying 'Refrigerator'.
 - Display all suppliers supplying 'Washing Machine' with minimum cost.
 - Give supplier details who give maximum discount on each item.
 - List suppliers supplying maximum number of item.

- Q.3)** Draw frequency curve and ogive curve using MS-EXCEL for the following frequency distribution:

Class	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	1	2	10	39	30	12	6

[10 Marks]

- Q.4) Journal**

[10 Marks]

- Q.5) Viva**

[10 Marks]



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UNIVERSITY OF PUNE
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LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

- Q.1)** A) Write a C program to accept string from user and display alternate character of string in upper case .(eg: I/P hello O/P hElLo) Marks: 100
 [15 Marks]
- B) Write a C program to accept n employee information(eno, enme, salary) and display the employee information having maximum salary. Use array of structure [25 Marks]

- Q.2)** Consider the following Entities and Relationships
Wholesaler (w_no, w_name, address, city)
Product (product_no, product_name, rate)
 Relation between Wholesaler and Product is **Many to Many** with quantity as descriptive attribute.

Constraint: Primary key, rate should be > 0 .
 Create a Database in 3NF & write queries for following.

- Display wholesaler from 'Pune' city and supplying 'Monitor'.
- Display total number of wholesaler of each product.
- Display all wholesalers who are supplying 'Keyboard' with maximum price.
- Display total quantity of each product sold by 'Mr. Khabia'.
- Decrement rate of all products by 5% supplied by wholesaler from 'Pune' city.

- Q.3)** Draw frequency curve and ogive curve using MS-EXCEL for the following frequency distribution:

Class	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89
Frequency	14	10	2	13	16	13	2

[10 Marks]

- Q.4) Journal**

[10 Marks]

- Q.5) Viva**

[10 Marks]



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UNIVERSITY OF PUNE
B.C.A. (SEM-II) Practical Examination 2013- 2014
LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

- Q.1) A) Write a C program to check whether a given number is palindrome or not. Marks: 100
- B) Write a C program to accept three integers as command line arguments and find the minimum, maximum and average of the three numbers. Display error message if the number of arguments entered are invalid [15 Marks]
- C) Consider the following Entities and Relationships [25 Marks]
- Client (client_no, client_name, address, birthdate) [30 Marks]
- Policy_info (policy_no, desc, maturity_amt, prem_amt, date)
- Relation between Client and Policy_info is **Many to Many**
- Constraint:** Primary key, prem_amt and maturity_amt should be > 0 .
- Create a Database in 3NF & write queries for following.
- Display Policy details having maturity amount > 500000 .
 - Find total number of policies purchased on 12th January 2013.
 - Find clients who have more than 3 policies.
 - Find all policies whose number of clients is same as that of policy 'Jeevan Raksha'.
 - Display policy wise client details.

- Q.3) Draw the less-than and greater than Ogives for the following data by using Ms-Excel:

Class Interval	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	80 - 90	90 - 100
Frequency	4	6	13	25	32	19	8	3

[10 Marks]

- Q.4) Journal [10 Marks]

- Q.5) Viva [10 Marks]



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UNIVERSITY OF PUNE
B.C.A. (SEM-II) Practical Examination 2013- 2014
LAB COURSE -C Programming, DBMS & Statistics

Duration: 3 Hours

- Q.1) A) Write a C program to check whether a given number is palindrome or not. Marks: 100
- B) Write menu driven program to convert decimal number in to binary, octal and hexadecimal. Write separate user defined function for each option. [15 Marks] [25 Marks]
- Q.2) Consider the following Entities and Relationships [30 Marks]
Train (train_no, train_name, depart_time, arrival_time, source_stn, dest_stn)
Passenger (p_id, p_name, address, age, gender)
 Relation between Train and Passenger is **Many to Many** with seat_no, amount and date as descriptive attribute.
Constraint: Primary key, seat_no should not be null.
- Create a Database in 3NF & write queries for following.
- Display passenger details having age>50
 - Display total amount collected for "Kokan Express" on 5th January 2013.
 - Find total number of passenger of "Pune to Mumbai" route.
 - Cancel all the trains of 21st January 2013.
 - Calculate total number of male passenger in "Shatabdi Express".

- Q.3) Consider following data is related to cloths/ready wares purchasing habits of customers as follows:

Frequency of Shopping	Once in a month	Once in 3 month	Once in 6 month	Once in a year	Occasionally
No. of customers	188	151	41	13	17

Draw a bar diagram by using Ms-Excel. [10 Marks]

- Q.4) Journal [10 Marks]

- Q.5) Viva [10 Marks]



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