

Subject Name	L	T	P	Credit
Database Concepts & RDBMS	3	1	4	6

Unit I

Introduction to DBMS: Basic concepts, Comparison between DBMS & Conventional file system, Role of DBMS, Advantages and Disadvantages of DBMS, Schema and Instance, Data Independence, Database Languages, Database Administrator, Database Users, Architecture of DBMS, Applications of DBMS, **Data Models:** Entity Relationship model, Elements–Entities, Attributes, Relationships, Key, Type of Keys, ER Diagram, Various data models.

Unit II

Relational Data models: Basic terminology of relational model, Kinds of relation, Relational database, DBMS v/s RDBMS, Relational algebra, Relational calculus, Functional & Additional operations, Functional dependencies, Multivalued dependencies, Normalization, Types of normalizations.

Unit III

Database Integrity: Definition, Transaction, ACID properties, Transaction state, Concurrency, Concurrency control, Recovery, Distributed database, Data storage, Data Warehousing and Mining, Introduction to oracle and its tools, Client/Server computing.

Unit IV

Introduction to SQL: Characteristics of SQL, Basic structure, Data types, SQL Commands, Data Definition Language (DDL), Data Manipulation Language (DML), Data Control Language (DCL), SQL Operators - Arithmetic Operator, Logical Operators, Pattern Matching, Data Constraints, Different Clauses, Joins.

Unit V

PL/SQL: Indexes, Views, Granting & Revoking permissions, PL/SQL-Block structure, Variables, Constants, Controls & Loops, Transactions- Commit & Rollback, Locks, Error handling in PL/SQL, Procedure & Functions, Database Triggers.

Reference Books:

1. Database System Concepts, Silberschatz Korth, Sudarshan, MH
2. Ullman, "principles of database systems", (2nd ed. Galgotia, 1984).
3. Naveen Prakash, Introduction to database management", TMH, 1993.
4. Ivan Bayross, SQL, PL/SQL " The Programming Language of Oracle" (2nd Revised ed.), BPB Publications

List of Experiments

1. To implement the DDL,DML and DCL commands in RDBMS.
2. Create table for student information like name, age, add, phone, class, college.
3. Insert data into tables using both types of insert commands.
4. Add another column into database using modify command.
5. Select particular type of data using select command like, functions .
6. Run commands like DROP table, ROLLBACK, EDIT, DESC, / .



7. Apply nested Queries by joining two tables & select particular data item from both tables.
8. Arrange columns data items in ascending or descending order.
9. Join tables using join command.
10. create customer table with following fields- cust_id, cust_name, cust_add, city, state and insert 10 record and apply the following constraints *NOTNULL, *PRIMARY KEY ,*unique.
11. Apply the Where clause on client(cid, cname, salary, cadd, city, state) table with
1.select 2.delete 3. To insert data into some other table.
12. Write a PL/SQL block to display whether the given number is odd or even.
13. Write a PL/SQL block to display LJIET 10 times using for loop.
14. Write a PL/SQL block using cursor to update salary of a given programmer by 25%.
15. Write a PL/SQL block to display addition of all the numbers in the given range
16. Write a PL/SQL block to display the detail about given employee from EMP table.
17. Write a PL/SQL block to find the salary of a given employee and raise his salary by 20%.
18. Create trigger on Supplier Detail on update or insert of Scity to convert first letter of scity into capital letter.

Subject Name	L	T	P	Credit
Programming in C	3	1	4	6

Unit I

Problem identification, analysis, design, coding, testing & debugging, implementation, modification & maintenance; algorithms & flowcharts; Characteristics of a good program – accuracy, simplicity, robustness, portability, minimum resource & time requirement, modularization; Rules/conventions of coding, documentation, naming variables; Top down design; Bottom-up design.

Unit II

History of C; Structure of a C program, Data types; Constant & Variable; Operators & expressions; Control Constructs – if-else, for, while, do-while; Case statement; Arrays; Formatted & unformatted I/O; Type modifiers & Storage classes; Ternary operator; Type conversion & type casting; Priority & associativity of operators.

Unit III

Functions; Arguments; Return value; Parameter passing – call by value, call by reference; Return statement; Scope, visibility and life time rules for various types of variable, static variable; Calling a function; Recursion – basics, comparison with iteration, tail recursion, when to avoid recursion examples.

Unit IV

Special constructs – Break, continue, exit(), goto & labels; Pointers - & and * operators, pointer expression, pointer arithmetic, dynamic memory management functions like malloc(), calloc(), free(); String; Pointer to function, Function to parameter, Structure – basic, declaration, membership operator, pointer to structure, referential operator, self referential structures, structure within structure, array in structure, array of structures; Union – basic, declaration; Enumerated data type; Typedef; Command line arguments.

Unit V

File handling and related functions; printf & scanf family; C preprocessor – basics, # Include, # define, # undef, conditional compilation directive like #if, #else, #endif, #ifdef and #ifndef; Variable argument list functions.

Reference Books:

1. Kerninghan & Richie: The C Programming language, PHI
2. Cooper Mullish: The Spirit of C, Jaico Publishing House, Delhi
3. Kanetkar Y: Let us C
4. Kanetkar Y: Pointers in C.

List of Experiments

1. Write a program for simple arithmetic operations?
2. Write a program for finding greatest number among two numbers?
3. Write a program for the greatest number among the three numbers?
4. Write a program for finding an even or odd number?
5. Write a program for finding leap year?
6. Write a program to swap two numbers using a third variable?
7. Write a program to swap two numbers without third variable?
8. Write a program for printing of table which is given by the user?

9. Write a program for printing of table with valid condition?
10. Write a program to print in * in the pattern pyramid?
11. Write a program to print binary number (0, 1) in pyramid pattern?
12. Write a program to find the largest number among two numbers using ternary operator?
13. Write a program to check given number is prime or not?
14. Write a program to generate the Fibonacci series?
15. Write a program for finding sum & average of array element?
16. Write a program to calculate the area of giving the shapes: 1. Circle 2. Triangle 3. Rectangle 4. Square using switch case statement?
17. Write a program to swap two numbers using a third variable to function?
18. Write a program to swap two numbers without using a third variable to function?
19. Write a program for triangle to the given pattern

```
 *
 * *
 * * *
 * * * *
 * * * * *
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20. Write a program for pyramid to the given pattern

```
 *
 * *
 * * *
 * * * *
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21. Write a program for finding reverse number which is given by the user?
22. Write a program for finding the sum of the given number?
23. Write a program to find even or odd number using functions?
24. Write a program to find largest and smallest element from an array?
25. Write a program for finding the sum of two matrices?
26. Write a program for finding the factorial number?
27. Write a program finding factorial using recursion?
28. Write a program finding power of a given number using recursion?
29. Write a program to print Fibonacci series using GOTO?
30. Write a program of special constructs using continue?
31. Write a program of special constructs using break?
32. Write a program to store information of student using structure?
33. Write a program to find the address of a variable using pointer variable?
34. Write a program finding power of a given number?
35. Write a program to connect two strings using string function?
36. Write a program to compare one string to another string using string function?
37. Write a program to calculate the length of string using string function?
38. Write a program to copy one string to another string using string function?



39. Write a program to copy one string to another string without string function?
40. Write a program to calculate the area of a circle using the macro function?
41. Write a program to include user defined header file in C Program.?
42. Write a program to check macros which is defined or not in the program?
43. Write a program to a read one character from the file using file function?
44. Write a program to a write one character to the file using file function?
45. Write a program to append one character to the file using file function?
46. Write a program to read numbers and characters from the file using file function?
47. Write a program to write numbers and characters to the file using file function?
48. Write a program to append numbers and characters to the file using file function?

Subject Name	L	T	P	Credit
HTML & CSS Lab	-	-	8	4

List of Experiments

1. Create a webpage with HTML describing your department. Use paragraph and list tags.
2. WAP which shows headings five time in ascending order. Align the heading also.
3. Write a program which show four paragraph under four headings.
4. Write a program for formatting the text & marked highlighted text.
5. Create links on the words e.g. "Wi-Fi" and "LAN" to link them to Wikipedia pages.
6. Insert an image and create a link such that clicking on image takes user to other page.
7. Change the background color of the page. At the bottom create a link to take user to the top of the page.
8. Create a table to show your class time-table.
9. Use tables to provide layout to your HTML page describing your university infrastructure.
10. Embed Audio and Video into your HTML web page.
11. Write a HTML program for designing registration form.
12. Write a HTML program for designing login form.
13. Write a HTML program using various semantic tags of HTML5, like header, section, nav etc.
14. Write HTML program which contains cascaded style sheet for p, h2, h3, body and font attribute.
15. Write HTML program which contains external style sheet with user defined Classes.
16. Write HTML program which contains cascaded style sheet with border attributes of style sheet.
17. Write HTML program which contains cascaded style sheet with margin attributes of style sheet
18. Write HTML program which contains external style sheet with background attributes of style sheet.
19. Write a HTML program to use various font properties available in CSS.
20. Write a HTML program to embed YouTube video in webpage using iframe.

Subject Name	L	T	P	Credit
Environmental Studies	3	1	-	4

Unit I

Introduction: Domestic and Global Environmental concerns, principles of sustainable development, Sustainable agriculture, organic farming, bio-fuels, Threats for sustainability.

Unit II

Environmental Ethics & Legislations: Enforcement of Environment laws in India – The water act, The Air (Prevention and Control of Pollution) Act, 1981, The Environment (Protection) Act, 1986, Environmental Auditing, value education – HIV/AIDS- Women and child welfare.

Unit III

Environmental Pollution: Air Pollution – sources, types of air pollutants, National Ambient Air Quality Standards, Controlling Air Pollution. Water pollution – sources, types of water pollutants, water quality indicators, water quality standards. Soil Pollution - types of soil pollutants: industrial wastes, pesticides ,fertilizers and manures, salination of soil, Controlling Soil Pollution. Noise: Sources of noise pollution Measurements of noise and indices, effect of metrological parameters on noise propagation, Noise exposure levels and Standards. Noise control and battement measures. Impact of noise on human health.

Unit IV

Environmental Challenges: Local Challenges - Solid Waste – Impact of solid waste on natural resources, Deforestation; Global Challenges - climate change and global warming, Kyoto Protocol Greenhouse Gases, Ways to reduce Greenhouse gases emissions, Carbon Footprint, ways to reduce carbon footprint, Carbon Trading.

Unit V

Sustainable habitat, industrialization and urbanization: Concept of Green Building, Volatile Organic Compounds (VOC), GRIHA Rating, LEED Rating, HVAC, Hybrid Car Technology, Industrial ecology, India's renewable energy capacity. *Green Technology & Green Business:* Green Business, Green Computing, E-waste management.

Reference Books:

1. R. Rajagopalan, Environmental Studies, Oxford IBH Pub, 2011.
2. Kogent Learning Solutions Inc., Energy, Environment, Ecology and Society, Dreamtech, 2012.
3. Rag, R. L, Ramesh, Lekshmi Dinachandran, Introduction to sustainable engineering.



Subject Name	L	T	P	Credit
Bridge Course – II (Mathematics)	3	1	-	4*

Unit I

Sets, Relation's and Functions: Set; Cartesian product of sets; Relations; Functions; Binary operations. **Trigonometrical Functions** : Angles; Circular functions or Trigonometrical functions; Trigonometrical identities; Cosine of the difference of two angles; Tables of trigonometric functions; Graphs of trigonometrical functions; Conditional identities involving the angles of triangles; Trigonometric Equations.

Unit II

Cartesian System of Rectangular Coordinates: Cartesian Coordinate system The number plane; Distance formula; Area of triangle; Section formula; Slope of Line; Locus and equations. **Straight Line** : Find the equation of a straight line parallel to an axis; The point-slope form; Two point form; intercept form; Slope-intercept form; Normal form; Symmetric form; General form; Angle between two lines; condition for concurrency of three straight lines. **Family of Lines** : Equation of family of lines; Pair of straight lines through origin; Angle between the pair of straight lines Angles between two lines.

Unit III

Circle and Family of Circle: Standard form of the equation of a circle General form of the equation of a circle; Equation of a curve in parametric form. Equation of a circle when the end points of a diameter are given: Point of intersection of a line and a circle with centre at origin condition of Tangency; Equation of a tangent to a circle and length of tangent; Families of circles through the intersection of two circles; Condition for two intersecting circles to be orthogonal.

Unit IV

Complex Numbers : The algebra of complex numbers; The Arg and Diagram and the Polar form; Polar representation ; Powers and Roots of Complex numbers. **Quadratic Equations** : Solution of quadratic equations; Symmetric functions of roots, Graph of a quadratic polynomial; Applications. **Inverse trigonometric functions:** Inverse trigonometric functions; Properties of inverse trigonometric functions.

Unit V

Sequences and Series: Sequences; Arithmetic progression (A.P.) Examples of A.P. and insertion of Arithmetic means; Geometric Progression (G.P.); Sum to infinity of a G.P., Arithmetic – geometric sequence; Sum to n terms of special Sequences. **Binomial Theorem:** The Binomial Theorem; Some applications of Binomial theorem, Binomial theorem for any index. **Exponential and Logarithmic Series:** Exponential Series; Logarithmic Series.

Reference Books:

1. Mathematics by M. S. Rangachari.

Subject Name	L	T	P	Credit
Business Foundations	3	1	-	4

Unit I

Marketing Basics: Meaning, nature and scope of marketing. Marketing segmentation, targeting and positioning. Concept of marketing mix – Product, price, place & promotion.

Unit II

Introduction to Financial accounting: Meaning, nature and concept of accounting. Rule of debit and credit. Trading, P&L, and balance sheet. Financial analysis and reporting.

Unit III

Operation Management: Meaning, nature & scope of operation management. Relationship with other functional areas. Just in time approach of operation management. New product design and process.

Unit IV

Personnel Management: Meaning, scope and concept of personnel management. Role of Personnel manager in organization. Human resource planning.

Unit V

Entrepreneurship: Meaning, elements, determinants and importance of entrepreneurship. Mobilizing resources for start-ups & basic start up problems.

Reference Books:

1. Desai, Vasant. Dynamics of Entrepreneurial Development and Management. Mumbai, Himalaya Publishing House.
2. Kuratko and Rao, Entrepreneurship: A South Asian Perspective, Cengage Learning.
3. Kotler, Philip, Gary Armstrong, Prafulla Agnihotri and Ehsanul Haque. Principles of Marketing. 13th edition. Pearson Education.
4. Michael, J. Etzel, Bruce J. Walker, William J Stanton and Ajay Pandit. Marketing: Concepts and Cases. (Special Indian Edition)., McGraw Hill Education
5. S.N. Maheshwari, and. S. K. Maheshwari. Financial Accounting. Vikas Publishing House, New Delhi.
6. Tulsian, P.C. Financial Accounting, Pearson Education Ivancevich, John M. Human Resource Management. McGraw Hill.
7. Wreather and Davis. Human Resource Management. Pearson Education.
8. Production and Operations Management, by K. Aswathappa and K Shridhara Bhat, HPH
9. Production and Operation Management, Evercct Adam Jy. Ronald, Ebert, PHI