C. U. SHAH UNIVERSITY
Wadhwan City

FACULTY OF:- Computer Science
DEPARTMENT OF: - Master of Science (Information Technology)
SEMESTER: - I
CODE: - 5CS01APL2
NAME: – Advanced Procedural Language & Data Concept

Teaching and Evaluation Scheme:-

Subject Code	Name of the Subject	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
							Theory				Practical (Marks)			
							Sessional Exam		University Exam		Internal		University	Total
		Th	Tu	Pr	Total		Marks	Hrs	Marks	Hrs	Pr/Viva	TW	Pr	
5CS01APL2	Advanced Procedural Language & Data Concept	4	-	-	4	4	30	1.5	70	3	-	-	-	**100**

Objectives :

- The aim of this course is to introduce to the students the rudiments of structured programming using C language.
- Students will become familiar with problem solving techniques and algorithm development.

Prerequisites:

Any programming language like C

Course Outline:

Sr. No.	Course Content	Hours
1	Introduction of C : Tokens, Operators and Expressions, Operators precedence & associatively Decision making & Branching : If, if-else, nested if-else, switch-case, For, Do-While, While Loop	06
2	Arrays : Introduction, one dimensional array, two dimensional arrays and muti-dimensional array, array to string	04
3	String Handling: Overview & Declaration of string, String-handling functions, String as array	04
4	Structures : Declaration, usage of structure, nested, structures, Union and its usage, structure to array	04
5	Function : Definition, using functions, recursion, command line arguments	04
6	Pointers : Declaring and initializing pointers, Array and Pointers, Pointers, and strings, Pointer to Pointer, Pointers and functions	04
7	Introduction and Classification of Data Structure :	03

	Primitive Data Structure, Non-Primitive Data Structure	
8	Stack : Introduction, stack, Operations on stack, application of stack	04
9	Queue : Introduction, simple queue, Circular queue, double ended queue, Priorities queue	05
10	linked lists : Overview of Linked Linear Lists , Circularly Linked Linear Lists , Doubly Linked, Linear Lists	05
11	Sorting : Introduction, Bubble sort, Insertion sort, Selection sort, Merge Sort	03

Learning Outcomes:

After completion of the course students should become reasonably good at problem solving and algorithm development. They would become capable of solving problems using computers through C programming language.

Teaching & Learning Methodology:

Using Whiteboard & Multimedia or OHP

Books Recommended:

Text Books :

1. Programming in ANSI C, **E. Balaguruswami**
2. Classic Data Structures , **Debasis Samanta**, PHI
3. Programming in C, **Pradip Dey & Manas** Oxford
4. Expert Data Structures With C, **Dr. R.B. Patel**, Khanna
5. Data Structure Using C and C**++, Y kanitkar**, PHI
6. Let us C, **Yashwant Kanitkar**, BPB

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FACULTY OF:- Computer Science
DEPARTMENT OF: - Master of Science (Information Technology)
SEMESTER: - I
CODE: - 5CS01DMS1
NAME: – Database Management System Concepts & Tools

Teaching and Evaluation Scheme:-

Subject Code	Name of the Subject	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
							Theory				Practical (Marks)			
							Sessional Exam		University Exam		Internal		University	Total
		Th	Tu	Pr	Total		Marks	Hrs	Marks	Hrs	Pr/Viva	TW	Pr	
5CS01DMS1	Database Management System Concepts & Tools	4	-	-	4	4	30	1.5	70	3	-	-	-	**100**

Objectives:

This course is designed to make student familiar with the fundamental concepts of DBMS for designing and implementing database systems.

Prerequisites:

Basic knowledge of working with computer.

Course Outline:

Sr. No.	Course Content	Hours
1	**Database Concepts and Architecture** Preliminary concepts: data, database, database systems, database management systems, Components of database system, Functions of DBMS Characteristics and elements of database system Schema, Instance and Database State Database Applications, Purpose and Advantages of Database Management System (over file systems), View of Data (Data Abstraction, Data Models) Data Storage and Querying (Components, Storage Manager, Query Processor) Database Architecture (Client/Server and Three Tier Architecture) Database User and Administrators	10
2	**Features of Entity Relationship Diagram**	10

	Entity Relational Model (Entity Sets, Relationship Sets, Attributes), Constraints (Mapping Cardinalities, Keys, Participation Constraints), Entity Relationship Diagram, Weak Entity Set, Extended E-R Features (Generalization, Specialization and Aggregation), E-R Notations Examples of ERD	
3	**Relational Model and Database Design** Relational structure – tables (relations), rows (tuples), domains, columns (attributes) Database design process, Anomalies in a database Functional Dependencies (Definition, Types of Functional Dependency) Decomposition: (Definition, Loosy Decomposition, Lossless join decomposition, Dependency preserving decomposition) Closure set of FD, Canonical Cover Normalization up-to 3NF	12
4	**Introduction to SQL** Basic Data Types of ORACLE Data Definition Language (DDL) Data Manipulation Language (DML) Data Control Language (DCL) Transaction Control Language (TCL) Data Constraints, Inbuilt Functions Subqueries, Join, Indexes, Views, Sequences, Synonyms, Set Operators ORACLE Utility – Import, Export	10
5	**Relational Algebra** Native Relational Operations (Selection, Projection, Join, Difference) Additional Operations (Rename, Assignment, Generalized Projection, Aggregation) Relational Algebra Examples	08

Learning Outcomes:

Enable the student to model the real world data into database framework. Creation of conceptual design using tools like E-R Diagram. Clear understanding of how to map the logical design of database into physical design.

Teaching & Learning Methodology:

Using Whiteboard & Multimedia or OHP

Books Recommended:

1. Database System Concepts, **Silberschatz, Korth, Sudarshan**, 5th Edition, McGraw Hill Publication

2. Fundamentals of Database Systems, **Elmsari, Navathe,** 5th Edition, Pearson Education (2008)

3. Database Management Systems, **Ramakrishnan", Gehrke**, McGraw Hill, Third Edition.

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FACULTY OF:- Computer Science
DEPARTMENT OF: - Master of Science (Information Technology)
SEMESTER: - I
CODE: - 5CS01BCA1
NAME: – Basics of Computer Architecture

Teaching and Evaluation Scheme:-

Subject Code	Name of the Subject	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
							Theory				Practical (Marks)			
							Sessional Exam		University Exam		Internal		University	Total
		Th	Tu	Pr	Total		Marks	Hrs	Marks	Hrs	Pr/Viva	TW	Pr	
5CS01BCA1	Basics of Computer Architecture	4	-	-	4	4	30	1.5	70	3	-	-	-	**100**

Objectives:

To be able to understand the concepts of Computer Basics. To develop Proficiency in Creating Circuits Designing.

Prerequisites:

Knowledge of Basic Computer Fundamentals

Course Outline:

Sr. No.	Course Content	Hours
1	**Basics of Computer** Introduction to Computer, block diagram of digital computer, Input-output devices (VDU, scanner, mouse, keyboard, printer, plotter, Joystick, multimedia projector)	3
2	**Number System** (I) Basics of Number System Introduction, Binary Number System, Decimal Number System Conversions Of Binary, Decimal, Octal, Hexadecimal number system (II) Binary Operations in number system Binary Addition,subtraction,multiplication,Division (III)Complements in Number system 1's Complements,2's Complements,n's complement Binary Addition & Subtraction using complements	8

	(IV) Binary Number System Codes Weighted and Non-weighted codes BCD Code: Excess Three (XS-3) Code Gray Code: Binary to Gray & Gray to Binary	
3	**Boolean Algebra** Introduction of Boolean algebra, Boolean Expression & Boolean Function Operations of Boolean algebra, Laws of Boolean algebra, De Morgan's law Perfect induction Method, Simplification of Boolean Expressions	7
4	**Application of Logic Gates & Bo0lean Algebra** Introduction to Gate, Types of Gate, Universal Gate(Proof of Universal gate) Duality in Boolean algebra	6
5	**Combinational Circuit** Introduction of Combinational Circuit, Half Adder, Full adder, BCD Adder(4-bit),Parallel Binary Adder,Half Subtractor, Full subtractor Decoder (Binary To Otcal Converter) , encoder,Decoder using NAND Gate, Multiplexer, DeMUX	5
6	**Sequential Circuit** Sequential Circuit, Differentiate Circuit differ from Combinational Circuit, Flip flop Introduction, using NAND & NOR gates.,SR flipflop using NAND & NOR gates(with truth table), JK Flipflop(with truth table), ,Master-slave JK Flipflop, Registers,Types of Registers, Counters, Binary Counters, Asynchronous Binary Counter	8
7	**Memory Unit** What is Memory? Types of Memory(Memory Hierarchy),RAM,ROM,RAM V/s ROM, Secondary Storage Memory(Harddisk, floopy disk, Magnetic Disk), Cache Memory, Virtual Memory	3
8	**CPU & I/O Organization** Stack Organization (Intro.),Instruction Formats,Addressing modes Asynchronous Data Transfer,Modes of Transfer,Direct Memory Access(DMA), Addressing Modes	7
9	**Basics of Microprocessor** Introduction to Microprocessor, Introduction To 8086 Microprocessor Instruction & pin Diagram of 8086 Microprocessor	3

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Learning Outcomes:

Student learn about the digital computer System from the beginning word “digit” to architecture of Microprocessor

Students will get the dept knowledge of Computer Architecture & Actual work of digital computer system.

Teaching & Learning Methodology:

Using Whiteboard & Multimedia or OHP

Books Recommended:

1. Computer System Architecture, **Moris Mano**, Pearson publication
2. Digital electronics, **Aditya Chaturvedi**, Khanna publication.

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FACULTY OF:- Computer Science
DEPARTMENT OF: - Master of Science (Information Technology)
SEMESTER: - I
CODE: - 5CS01SMC1
NAME: – Statistical Methods for Computer Science

Teaching and Evaluation Scheme:-

Subject Code	Name of the Subject	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
							Theory				Practical (Marks)			
							Sessional Exam		University Exam		Internal		University	Total
		Th	Tu	Pr	Total		Marks	Hrs	Marks	Hrs	Pr/Viva	TW	Pr	
5CS01SMC1	Statistical Methods for Computer Science	4	-	-	4	4	30	1.5	70	3	-	-	-	**100**

Objectives:

The objective of this course is to present the foundations of many basic computer related concepts and provide a coherent development to the students for the courses. This course will enhance the student's ability to think logically and mathematically.

Prerequisites:

Knowledge of basic arithmetic.

Course Outline:

Sr. No.	Course Content	Hours
1	**Data and Statistics** Data, Data Sources, Tabular and Graphical Representations, Qualitative data, Quantitative data, Cross-tabulations and Scatter diagrams	4
2	**Descriptive Statistics:** Measures of Location: Mean, Median, Mode, Percentiles, Quartiles Measures of Variability Measures of Association between Two Variables The Weighted Mean and Working with Grouped Data	6

3	**Probabilities:** Events and their probabilities Relationship of Probabilities Conditional Probabilities Bayes' Theorem	4
4	**Correlation** Perfect Positive Correlation, Perfect Negative Correlation, Moderately Positive Correlation, Moderately Negative Correlation, Lack of Correlation The Pearson Product Moment Correlation Spearman's Rank Correlation	4
5	**Regression** Regression Line, Regression Coefficients	3
6	**Dispersion** Range, Quartile Deviation, Mean Deviation, Standard Deviation	3

Learning Outcomes:

The student will be able to apply concepts to RDBMS, perform minimization of Boolean functions, shall learn the fundamentals representations methods of graphs and trees. They shall be able to use different logical reasoning to prove theorems.

Teaching & Learning Methodology:

Using Whiteboard & Multimedia or OHP

Books Recommended:

1. Statistics for Business and Economics, **Anderson, Sweeney & Williams, Cengage Learning**, 11th Edition
2. Statistics Concepts and Applications, **Nabendu Pal & Sahadeb Sarkar**, PHI.

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FACULTY OF:- Computer Science
DEPARTMENT OF: - Master of Science (Information Technology)
SEMESTER: - I
CODE: - 5CS01CSS2
NAME: – Communication & Soft Skills Development

Teaching and Evaluation Scheme:-

Subject Code	Name of the Subject	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
							Theory				Practical (Marks)			Total
							Sessional Exam		University Exam		Internal		University	
		Th	Tu	Pr	Total		Marks	Hrs	Marks	Hrs	Pr/Viva	TW	Pr	
5CS01CSS2	Communication & Soft Skills Development	4	2	-	6	5	30	1.5	70	3	50	-	-	**150**

Objectives:

The purpose of this course is to develop the students' competence in communication at an advanced level. Assuming that the students are fairly proficient in the basic communication skills of listening, speaking, and reading & writing in English. To give a global competitive edge to the students by way of honouring their professional communication skills. To enhance the employability skills of the students, train them to prepare career oriented contributor To make them aware of the process of interview and competencies required.

Prerequisites:

Students should have basic knowledge of English language and grammar. Students should have ability to speak and write correct sentence in their day to day language. Students should be familiar with correct usage of language. Students should have basic knowledge of professional communication.

Course Outline:

Sr. No.	Course Content	Hours
1	**Features of Indian English Communication** Correction of sentences – Informal conversation Vs Formal expression – Verbal and non-verbal communication, barriers to effective communication – kinesics – Types of communication–Listening, Speaking, Reading and Writing, Telephone etiquette.	5
2	**Technical presentations** Types of presentation–video conferencing–participation in meeting–chairing sessions–	5

	Formal and informal interviews–interviewing in different setting and for different purposes performance appraisal, Public Speaking, Debate and Group Discussion	
3	**Written communication** Differences between spoken and written communication – features of effective writing such as clarity and brevity.	6
4	**Letter-writing** Business letters–pro-forma culture–format – style – effectiveness, promptness - Analysis of sample letters collected from industry – email, fax.	6
5	**Technical Report writing** Business and Technical Reports Types of reports – progress reports, routine reports – Annual reports – format – Analysis of sample reports from industry – Synopsis and Dissertation writing.	12
6	**Personality development, personal grooming and soft skills**	4
7	**Employability skills**	4
8	**Interviews**	4
9	**Resume Writing**	4

Learning Outcomes:

Develop their personality and personal grooming to work effectively at workplace.

Be able to prepare their resume in highly contributor manner and develop their employability skills, for interview and technical report writing.

Teaching-Learning Methodology:

The teaching will be made effective through interactive class room approach. Different kind of soft skills will be improved through drilling method. Active and inactive resources such as Audio & Video will be utilized for effective teaching learning process.

Books Recommended:-

1. Technical Communication, Principles and Practice, 2/E, **Meenakshi Raman, Sangeeta Sharma**
2. Essentials of Business Communication, **Rajendra Pal, JS KorlahaHi: Sultan Chand & Sonn**
3. :Basic Communication Skills for Technology, **Andrea J. Rutherford: Pearson Education Asia**

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4. Business Communication, **RK Madhukar**, Vikas Publishing House Pvt. Ltd.

5. English for Technical Communication – vols. 1 and 2, **K.R. Lakshminarayana**, SCITECH Publications

6. Writing Remedies: Practical Exercises for Technical Writing, **Edmond H Weiss**, Universities Press, Hyderabad.

FACULTY OF:- Computer Science
DEPARTMENT OF: - Master of Science (Information Technology)
SEMESTER: - I
CODE: - 5CS01APL3
NAME: – Practical Experiments – I (APL)

Teaching and Evaluation Scheme:-

Subject Code	Name of the Subject	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
							Theory				Practical (Marks)			
							Sessional Exam		University Exam		Internal		University	Total
		Th	Tu	Pr	Total		Marks	Hrs	Marks	Hrs	Pr/Viva	TW	Pr	
5CS01APL3	Practical Experiments – I (APL)			4	4	2					20	-	80	**100**

Objectives :

- The aim of this course is to introduce to the students the rudiments of structured programming using C language.
- Students will become familiar with problem solving techniques and algorithm development.

Prerequisites:

Any programming language like C

Sr. No.	Course Content	Hours
1	W.A.P to add, multiply, divide two integer and float numbers, W.A.P to accept no of days and print year, month and remaining days	2
2	W.A.P to check whether entered number is prime or not, W.A.P to check whether entered number is odd or even	4
3	Print Series 2,4,16,...,n*n using shorthand operator and while loop	6
4	W.A.P to generate Fibonacci number, W.A.Pto find a factorial of entered number	8
5	W.A.P to print multiplication table	10
6	W.A.P to print all the numbers and sum of all the integers that are greater than 100 and less than 200 and divisible by 7	12

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Learning Outcomes:

After completion of the course students should become reasonably good at problem solving and algorithm development. They would become capable of solving problems using computers through C programming language.

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FACULTY OF:- Computer Science
DEPARTMENT OF: - Master of Science (Information Technology)
SEMESTER: - I
CODE: - 5CS01DMS2
NAME: – Practical Experiments – II (DMBS)

Teaching and Evaluation Scheme:-

Subject Code	Name of the Subject	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
							Theory				Practical (Marks)			
							Sessional Exam		University Exam		Internal		University	Total
		Th	Tu	Pr	Total		Marks	Hrs	Marks	Hrs	Pr/Viva	TW	Pr	
5CS01DMS2	Practical Experiments – II (DMBS)			4	4	2					20	-	80	100

Objectives:

This course is designed to teach the concepts of DBMS for designing, implementing and querying the database systems by using the tools like SQL and PLSQL.

Prerequisites:

Basic knowledge of working with computer.

List of Practical:

Sr. No.	Course Content	Hours
1	Create the following tables: Create LOCATION Table with columns Location_Id, Regional_Group. Constraints on LOCATION table: Location_Id Primary Key. Insert the following records into the table LOCATION: LOCATION_ID REGIONAL_GROUP ---------- ---------- 122 NEW YORK 123 DALLAS 124 CHICAGO 167 BOSTON Create DEPARTMENT Table with columns Department_Id, Name, Location_ID.	

Constraints on DEPARTMENT table: Department_Id Primary Key, Location_Id references LOCATION table.

Insert the following records into DEPARTMENT table:

DEPRATMEMT_ID	NAME	LOCATION_ID
10	ACCOUNTING	122
20	RESEARCH	124
30	SALES	123
40	OPERATIONS	167

1. Create JOB Table with columns Job_Id, Funcation.

   Constraints on JOB table: Job_ID Primary Key.

2. Insert the following records into JOB table:

JOB_ID	FUNCTION
667	CLERK
668	STAFF
669	ANALYST
670	SALESPERSON
671	MANAGER
672	PRESIDENT

Create EMPLOYEE Table with columns Employee_Id, Last_Name, First_Name, Middle_Name, Job_Id, Manager_Id, Hire_Date, Salary, Comm, Department_ID.

Constraints on EMPLOYEE table: Employee_Id Primary Key, Last_Name NotNull, Department_Id references DEPARTMENT table.

Insert the following records into EMPLOYEE table:

EMPLOYEE_ID	LAST_NAME	FIRST_NAME	MIDDLE_NAME	JOB_ID	MANAGER_ID	HIRE_DATE	SALARY	COMM	DEPARTMENT_ID
---	---	---	---	---	---	---	---	---	---
7369	SMITH	JOHN	Q	667	7902	17-DEC-	800	NULL	20

						84			
7499	ALLEN	KEVIN	J	670	7698	20-FEB-85	1600	300	30
7505	DOYLE	JEAN	K	671	7839	04-APR-85	2850	NULL	30
7506	DENNIS	LYNN	S	671	7839	15-MAY-85	2750	NULL	30
7507	BAKER	LESLIE	D	671	7839	10-JUN-85	2200	NULL	40
7521	WARK	CYNTHIA	D	670	7698	22-FEB-85	1250	500	30

2 Perform the following queries on the tables given in Set no. 1:

List all job details.

List all the locations.

List out first name,last_name,salary, commission for all employees.

List out employee_id,last_name,department_id for all employees and rename employee_id as “ID of the employee”, last_name as “Name of the employee”, department_id as “department ID”.

List out the employee’s annual salary with their names only.

List out the employees who are working in department 20.

List out the employees who are earning salary between 3000 and 4500.

List out the employees who are working in department 10 or 20.

List out the employees whose name starts with “S”.

List out the employees whose name length is 4 and start with “S”

3 Perform the following queries on the tables given in Set no. 1:

1. List out the employee id, last name in ascending order based on the employee id.
2. List out the employee id, name in descending order based on salary column.
3. List out the employee details according to their last_name in ascending order and salaries in descending order.

	4. List out the employee details according to their last_name in ascending order and then on department_id in descending order. 5. How many employees who are working in different departments wise in the organization 6. List out the department wise maximum salary, minimum salary, average salary of the employees 7. List out the no. of employees for each month and year, in the ascending order based on the year, month. 8. List out the department id having at least four employees. 9. How many employees in January month. 10. Which is the department id, having greater than or equal to 3 employees joined in April 1985.	
4	11. Perform the following queries on the tables given in Set no. 1: 12. Display the employee who got the maximum salary. 13. Display the employees who are working in Sales department. 14. Display the employees who are working as "Clerk". 15. Find out no. of employees working in "Sales" department. 16. List our employees with their department names. 17. Display employees with their designations (jobs). 18. How many employees who are working in different departments and display with department name. 19. How many jobs in the organization with designations. 20. Display employee details with all departments. 21. List out the common jobs in Research and Accounting Departments in ascending order.	
5	Create the following tables: 1. Create STUDENT Table with fields rollno, name, class, birthdate Constraints on STUDENT table: rollno primary key and rollno must start with latter 'R'. 2. Insert the following records into Student Table: ROLLNO NAME CLASS BIRTHDATE ---------- ---------- -------- ---------- R1 Pritesh Patel A 23-FEB-89 R2 Sugeet Patel A 05-SEP-85	

R3	Dipesh Patel	B	24-MAR-76
R4	Chandresh patel	B	17-APR-87
R5	Bhavin Jilvaani	A	25-DEC-75

Create COURSE Table with fields courseno, coursename, max_marks, pass_marks

Constraints on COURSE table: courseno primary key, check for max_mark>0, also check for pass_mark>0 and pass_marks<max_marks.

Insert the following records into Course Table:

COURSENO	COURSENAME	MAX_MARKS	PASS_MARKS
610001	FOP	90	40
610002	FOP Prac	90	40
610003	MATHS	90	40
610004	COMP ORG	90	40
610005	DBMSI	90	40
610006	SQL & PL/SQL	90	40
610007	ERFM	90	40

Create SC Table with fields rollno, courseno, marks:

Constraints on Sc table: marks must be greater than 0, rollno, courseno primary key, rollno references students and couseno references course.

1. Insert the following records into SC Table:

ROLLNO	COURSENO	MARKS
R3	610005	70
R3	610001	70
R3	610002	68
R3	610003	58
R3	610004	74
R3	610006	59
R3	610007	55
R1	610001	80
R1	610002	89
R1	610003	78

	R1 610004 88 R1 610005 76 R1 610006 85 R1 610007 90 R2 610001 90 R2 610002 85 R2 610003 78 R2 610004 75 R2 610005 68 R2 610006 59 R2 610007 74 R4 610001 75 R4 610002 45 R4 610003 58 R4 610004 68 R4 610005 78 R4 610006 62 R4 610007 63 R5 610001 70 R5 610002 78 R5 610003 52 R5 610004 79 R5 610005 85 R5 610006 76 R5 610007 80	
6	Perform the following queries on the tables given in Set no. 5: 1. Add constraint that marks entered are between 0 to 100 only. 2. While creating COURSE table, primary key constraint was forgotten. Add the primary key now. 3. Display details of student where course is 'Data Base Management System' 4. Select student names who have scored more than 70% in Computer Networks and have not failed in any subject. 5. Select names and class of students whose names begin with 'A' or 'B'. 6. Display average marks obtained by each student. 7. Select all courses where passing marks are more than 30% of average maximum marks. 8. Select the course where Second and third characters are 'AT'	

9. Display details of students born in 1975 or 1976.
10. Find out the cousewise average marks from SC table.

7 Perform the following miscellaneous queries:

1. Add 15 days to current date.
2. Add and subtract 5 months from current month.
3. Calculate months between current months and '3-7-2008'
4. Find last day of current month.
5. How many days left in a current month?
6. Find ASCII value of letter 'R'.
7. Find name of all constraint based on particular table.
8. Find difference between current date and specified date.
9. Find username and userid from current login.
10. Find the occurrence of 'or' in the string.

8 Create the following table named table as CUSTOMER with following fields-Cust_No, First_Name, Last_Name, Address, City, State, Pin, B_Date, Status. 14

Constraints on table CUSTOMER: Cust_No Primary Key, First_Name Not Null and the values for status must be in ('V','I','A').

Insert the following records into the table CUSTOMER:

CUST_NO	FIRST_NAME	LAST_NAME	ADDRESS	CITY	STATE	PIN	B_date	STATUS
1003	RAJ	BAHADUR	SHANTI VILLA	UDP	KARNATAKA	576101	1-AUG-70	V
1004	FELIX	SIMON	M-J-56	PJM	GOA	403002	12-FEB-71	A
1005	RAJAN	KUTTY	A1 TRAD	KNR	KERALA	670001	9-JU	A

				ERS				N-71	
	1006	SHILPA	PAI	12/4B	MNG	KARNATAKA	574154	11-DEC-70	I
	1007	BOSCO	RAKSHIT	R.K. PLAZA	BNG	KARNATAKA	576201	1-JAN-71	A

9	Perform the following queries on the tables given in Set no. 8: Display all the records from the table where state is KARNATAKA. Delete the row from the table where PIN CODE is 576201. Change the ADDRESS as "KAVI MUDDANNA MARG" AND PIN=576104 where CUST_NO=1003. Delete the records of KARNATAKA state from the table and then retrieve all the records back. Select all the records with single occurrence of state from the table. Sort and display the customer data, in the alphabetic order of state. Sort and display the state field in the in descending order. Retrieve records of Karnataka / Kerala customers who are ACTIVE ('A'). Retrieve rows where name contains the word RAJ embedded it. Display all the rows whose dates are in the range of 10-JAN-70 and 31-JUL-96.	16
10	Write a program to calculate the AREA and store that value in the table AREAS (RADIUS NUMBER (5), AREA NUMBER (14,2))	18
11	Write a program that accepts 2 numbers from the user and interchange the values of those 2 numbers.	20
12	Write a program of mark sheet with displays the SEAT_NO, NAME, marks of 5 subjects, total of 5 subjects and percentage, also display the class of student.	22
13	Write a program that will accept the a/c no. from the user and debit an amount of Rs.2000 from the a/c. If the a/c has the minimum balance of Rs.500 after the amount is debited. For this problem use ACCOUNT table.	24
14	Write a program that print 1 to 100 numbers using FOR LOOP. Write a program that prints 1 to 100 number using LOOP Command. Write a program that prints 1 to 100 number using WHILE LOOP Command.	26
15	Write a program that uses a cursor attribute SQL%ROWCOUNT to raise the salary of employees by 10% that are working in department number 10 and also display the appropriate message based on the existence to the record in the EMP table. (Use Implicit Cursor)	28
16	Write a program that uses a cursor attribute %ISOPEN and %NOTFOUND to raise the salary of employees of department number 20 by 5% and also display the appropriate message based on the existence to the record in the EMP table. Whenever any such raise is given to the employees, a record for the same is maintained in the emp_update table. (Use Explicit Cursor)	30
17	Write a program that explains the use of NO_DATA_FOUND exception. (Use System Exception) Write a program that explains the use of TOO_MANY_ROWS exception. (Use System Exception)	32

Learning Outcomes:

Clear understanding of how to map the logical design of database into physical design. To get familiar with the SQL query environment. Representation of queries into equivalent relational algebraic expression. Get the feel of SQL and PLSQL programming environment.

Books Recommended:

1. SQL/PLSQL, The Programming Language of ORACLE, **Ivan Bayross**, BPB Publication
2. Database Systems : Design, Implementation and Management, **Peter Rob, Carlos Coronel**, 7th Edition, Cengage Learning (2007)
3. Database Management Systems, **Ramakrishnan, Gehrke**, , McGraw Hill, Third Edition.

C. U. SHAH UNIVERSITY
Wadhwan City

FACULTY OF:- Computer Science
DEPARTMENT OF: - Master of Science (Information Technology)
SEMESTER: - I
CODE: - 5CS01SEM1
NAME: – Seminar on Tech. Topics

Teaching and Evaluation Scheme:-

Subject Code	Name of the Subject	Teaching Scheme (Hours)				Credits	Evaluation Scheme							
							Theory				Practical (Marks)			
							Sessional Exam		University Exam		Internal		University	Total
		Th	Tu	Pr	Total		Marks	Hrs	Marks	Hrs	Pr/Viva	TW	Pr	
5CS01SEM1	Seminar on Tech. Topics	-	-	2	2	1	-	-			50	-	-	**50**