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| 13CS22P1 | - | Databases Laboratory |

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| Hours / Week | : | 3 |  | Day-to-day Evaluation and a test | : | 40 |
| Credits | : | 2 |  | End Examination Marks | : | 60 |

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| 1. Creation, altering and dropping of tables and inserting rows into a table (use constraints while creating tables) examples using SELECT command.
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| 1. Queries (along with sub Queries) using ANY, ALL, IN, EXISTS, NOTEXISTS, UNION, INTERSET, Constraints.
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| 1. Queries using Aggregate functions (COUNT, SUM, AVG, MAX and MIN), GROUP BY, HAVING and Creation and dropping of Views.
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| 1. Queries using Conversion functions (to\_char, to\_number and to\_date), string functions (Concatenation, lpad, rpad, ltrim, rtrim, lower, upper, initcap, length, substr and instr), date functions (Sysdate, next\_day, add\_months, last\_day, months\_between, least, greatest, trunc, round, to\_char, to\_date)
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| 1. a) Creation of simple PL/SQL program which includes declaration section, executable section and exception –Handling section (Ex. Student marks can be selected from the table and printed for those who secured first class and an exception can be raised if no records were found)

b) Insert data into student table and use COMMIT, ROLLBACK and SAVEPOINT in PL/SQL block. |
| 1. Develop a program that includes the features NESTED IF, CASE and CASE expression.
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| 1. Program development using WHILE LOOPS, numeric FOR LOOPS, nested loops using ERROR Handling, BUILT –IN Exceptions
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| 1. Programs development using creation of procedures, passing parameters IN and OUT of PROCEDURES.
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| 1. Program development using creation of stored functions, invoke functions in SQL Statements and write complex functions.
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| 1. Develop programs using features parameters in a CURSOR, FOR UPDATE CURSOR, WHERE CURRENT of clause and CURSOR variables.
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| 1. Develop Programs using BEFORE and AFTER Triggers, Row and Statement Triggers and INSTEAD OF Triggers
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| REFERENCE BOOKS |
| 1. ORACLE DATA BASE LOG PL/SQL Programming SCOTT URMAN, Tata Mc- Graw Hill.
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