LDRP Institute of Technology and Research, Gandhinagar
Bachelor of Engineering (CE/IT) – Semester IV

Subject Code: CT403-N **Subject Title:** Computer Organization & Architecture

Unit-1 Overview of Register Transfer And Micro-operations

Q.1 Explain the Register TransferLanguage

Q.2 Explain the Register Transfer in detail with block diagram and timing diagram.

Q.3.Design and explain a common bus system for four register

Q.4 A digital computer has a common bus system for 16 registers of 32 bits each. (i) How many selection input are there in each multiplexer? (ii) What size of multiplexers is needed? (iii) How many multiplexers are there in a bus?

Q.5 Explain three-state bus buffer. OR Explain the operation of three state bus buffers and show its use in design of common bus.

Q.6 Explain Memory Transfer.

Q.7 Explain Arithmetic Micro-operation.

Q.8 Explain Binary Adder in detail.

Q.9 Explain Binary Adder-Subtractor in detail.

Q.10 Explain Binary Incrementer.

Q.11 Draw block diagram of 4-bit arithmetic circuit and explain it in detail

Q.12 Draw and explain Logic Micro-operations in detail

Q.13 Explain selective set, selective complement and selective clear

Q.14 Explain shift micro operations and draw 4-bit combinational circuit shifter.

Q.15 Draw and explain one stage of arithmetic logic shift unit.

Unit-3 Programming the Basic Computer

Q.1 Define Program and Categories of programs.

Q.2 Explain Assembly language and also state the rules of language.

Q.3 Explain pseudo instruction.

Q.4 Define Assembler and explain First Pass of an assembler with flow chart.

Q.5 Draw Only Flowchart for first pass of assembler.

Q.6 Draw Only Flowchart for second pass of assembler.

Q.7 Explain the working of Second pass assembler with its Flowchart.

Q.8 Write short note on subroutine.

Q.9 Explain the Input and Output programming in detail.

Q.10 Explain SKI, SKO, ION and IOF instructions.