Gujarat University Question Bank
Subject: Computer Organization and Architecture
Branch – Information Technology Semester –V

1	Compare the following 1. Register reference and memory reference instruction. 2. External interrupt and internal interrupt
2	List the important characteristics of RISC architecture and explain the use of overlapped register windows.
3	Explain the Common Bus System with its diagram..
4	List all the three address, two address, one address, zero address and RISC instructions with its examples.
5	Explain the Direct and Indirect address with example.
6	Explain the instruction pipeline with example.
7	What is stack? Give the organization of register stack with all necessary elements and explain the working of push and pop operations.
8	Draw the circuit for control unit of basic computer and explain its working.
9	What do you mean by completeness of instruction set? Give the reasons to choose the instructions in each category.
10	Describe the first pass of assembler with the help of flowchart and show how symbol table is generated using an example.
11	What is program interrupt? What happens when it comes? What are the tasks to be performed by service routine?
12	Describe the following terms with proper example in each case: micro operation, microinstruction, microprogram, microcode.
13	Show the block diagram of the hardware that implements the following register transfer statement. T2: R2 - R1 , R1 – R2
14	Explain 4 bit incrementer with a necessary diagram
15	Show the contents of the registers E, A, Q, SC during the process of multiplication of two binary numbers 11111(multiplicand) 10101 (multiplier). The signs are not included.
16	Draw the space time diagram for six segment pipeline showing the time it takes to process 8 tasks.
17	Explain Stack and evaluate the following expression using stack (3+4)*[10(2+6)+8]
18	Explain booth algorithm for multiplication with a flowchart.
19	Write an assembly level program for the following pseudo code. SUM = 0 SUM = SUM + A + B DIF = DIF – C SUM = SUM + DIF
20	Define the following terms. (i) Effective address (ii) Immediate instruction (iii) Register transfer language (iv) Sequencer (v) Computer organization

Q.21	What is an addressing mode? List and explain various addressing modes of a computer with example.
Q.22	Define Instruction Cycle. Explain its phases in brief with example
Q.23	Define and explain following terms. 1. RTL 2.Micro-operation 3.Accumulator 4.Interrupt 5.Parallel processing
Q.24	Demonstrate the process of Second Pass of Assembler using a suitable diagram.
Q.25	Draw and explain the organization of microprogrammed control unit.
Q.26	What is Assembly Language? Why do we need it? What is the function of Assembler? What is Address symbol table? Describe in brief.
Q.27	What are the flag bits? Give the meaning of each and use of them in programming.
Q.28	Explain various types of interrupts.
Q.29	Explain four types of instruction formats.
Q.30	Explain following terms:1)BSA 2)STA 3)ISZ 4)STA 5)HALT
Q.31	Explain Input & Output configuration in details.
Q.32	Discuss the design and logic of a Microprogram sequencer for a control memory.
Q.33	Explain Input Output Configuration.
Q.34	Explain four segment instruction pipelines.
Q.35	Explain types of memory.
Q.36	Compare RISC with CISC architecture.
Q.37	State and explain the rules in arithmetic operation on floating point numbers.
Q.38	With a neat diagram, explain the working principle of DMA.
Q.39	With example, explain Data transfer, Logic and Program control instruction.
Q.40	Explain Micro instruction Format in detail.

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