



MGM's College of Engineering and Technology
Kamothe Navi Mumbai – 410 209
Department of Computer Engineering

Course Code: CSC304
Class: SE

Course Name: Digital Logic & Computer Organization and Architecture
AY: 2021-22
Assignment No. 3

Q. No	Question	Module	Bloom's Taxonomy level	Program Indicator	CO
Q1. Justify Your Answers					
	(a) _____ addressing mode is most suitable to change the normal sequence of execution of instructions.	M3	L2	1.7.1	CO1
	(b) When both inputs of a J-K flip-flop cycle, the output will _____	M3	L2	1.7.1	CO1
	(c) MAR stand for _____	M3	L2	1.7.1	CO1
	(d) If the control signals are generated by combinational logic, then they are generated by a type of _____ controlled unit.	M4	L2	1.7.1	CO1
	(e) Individual control word of micro routine are called as _____	M4	L2	1.7.1	CO1
Q2. Choose Correct Options					
	(a) Whose operations are more faster among the following? a) Combinational circuits b) Sequential circuits c) Latches d) Flip-flops	M3	L2	1.7.1	CO1
	(b) When both inputs of a J-K flip-flop cycle, the output will _____ a) Be invalid b) Change c) Not change d) Toggle	M3	L2	1.7.1	CO1
	(c) In S-R flip-flop, if Q = 0 the output is said to be _____ a) Set b) Reset c) Previous state d) Current state	M3	L2	1.7.1	CO1
	(d) The addressing mode, where you directly specify the operand value is _____ a) Immediate b) Direct c) Defined) Relative	M3	L2	1.7.1	CO1
	(e) Which is the simplest method of implementing hardwired control unit? a) State Table Method b) Delay Element Method c) Sequence Counter Method d) Using Circuits	M4	L2	1.7.1	CO1
Q3. State whether the following statements are true or false (Give Reasons)					
	(a) In auto increment, the operand is retrieved first and then the	M3	L3	1.7.1	CO1

	address altered				
	(b) Micro-program consists of a set of microinstructions which are strings of 0s and 1s.	M4	L3	1.7.1	CO1
	(c) A decoder is required in case of a Vertical Microinstruction .	M4	L3	1.7.1	CO1
Q4. Name the following or define or design the following					
	(a) Design full adder using NAND gate	M3	L2	1.7.1	CO1
	(b) State the instruction format	M4	L3	1.7.1	CO1
	(c) Convert SR flip flops to JK FF and T FF	M3	L3	1.7.1	CO1
Q5. Answer the following questions in brief (20 to 30 words)					
	(a) Justify how race around condition is overcome in Master Slave JK Flip-flops.	M1	L4	1.7.1	CO1
	(b) Differentiate between Hardwired control unit and micro programmed control unit	M4	L4	1.7.1	CO1
	(c) Explain the Hardwired control unit method in detail and Justify which method of Hardwired control unit is best.	M1	L4	1.7.1	CO1
Q6. Answer the following questions in brief (50 to 70 words)					
	(a) Explain in detail Addressing modes	M1	L2	1.7.1	CO1
	(b) Draw and explain the Micro Instruction format	M1	L2	1.7.1	CO1
	(c) Write the instruction format and instruction Cycle in register organization	M1	L2	1.7.1	CO1
Q7. Think and Answer					
	(a) Why Addressing modes is needed?	M1	L4	2.6.1	CO1
	(b) Justify with any the example of micro programs.	M1	L5	2.6.1	CO1
Q8. My Ideas					
	(a) Design the control unit for one real time application .	M1	L6	5.4.1	CO1

a. Relative b. not change c. Memory Address Register d. Hardwired e. Micro instruction