[No. of CO: 06] Seat No: [Total No. of Pages: 02]

G. H. Raisoni College of Engineering and Management, Pune.

(An Autonomous Institution Affiliated to Savitribai Phule Pune, University)

S. Y. B. Tech (Com/IT/E&TC) (Term-III)

ESE Winter -2020 (2016 Pattern)

Computer Architecture and Organization (BCOL203)

Time:-- 3 Hours] **[Max. Marks 60]**

URSE OUTCOMES:

1. To introduce basic fundamental units of a computer system
2. To perform arithmetic operations using various algorithms.
3. To develop skills to understand control unit design.
4. To build concepts of memory system.
5. To study communication of I/O devices
6. Describe working of parallel systems.

tructions to the candidates:

All questions compulsory.

Neat diagrams must be drawn wherever necessary.

Figures to the right indicate full marks.

Assume suitable data, if necessary.

Other Instructions, if any

CO1	a)	Analyze the instruction execution cycle with diagram	[4]
	b)	Elaborate the detail structure of IAS computer (Von Neumann machine)	[8]
CO2	a)	Draw flowchart for restoring division operation. Perform division of following numbers using restoring division Dividend=$(1100)_2$ Divisor=$(11)_2$	[6]
	b)	Multiply 110101and 011011 using Booth's bit pair recoding method	[5]
	c)	Determine the performance of micro-programmed control unit over hardwired control unit	[5]
CO 3	a)	Write control sequence for execution of instruction Add(R3), R1 using single bus organization	[6]
		OR	
	b)	Elaborate pipeline processing with diagram	[6]

5 a) Using input output gating for the register in single bus organization , explain the operation of [8]

1) Fetching a word from memory
2) Storing a word in memory

b) Demonstrate I/O techniques [4]

c) How interrupt generated? What is necessity of it? [4]

6 a) State difference between RISC and CISC [6]

b) Analyze the necessity of superscalar processor over scalar processor. [4]

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