



P.E.S. College of Engineering, Mandya - 571 401
 (An Autonomous Institution affiliated to VTU, Belagavi)
Third Semester, B.E. - Computer Science and Engineering
Semester End Examination; Dec. - 2019
Computer Organization

Time: 3 hrs

Max. Marks: 100

Note: i) PART - A is compulsory. **Two** marks for each question.

ii) PART - B: Answer any **Two** sub questions (from a, b, c) for Maximum of **18 marks** from each unit.

Q. No.	Questions	Marks
I : PART - A		10
I a.	Write a neat diagram of processor cache.	2
b.	Give input/output instructions.	2
c.	List the steps involved in execution of a complete instruction.	2
d.	Give the memory hierarchy of a computer.	2
e.	Write generate and propagate function of carry lookahead addition.	2
II : PART - B		90
UNIT - I		18
1 a.	Describe basic functional units of a computer with a neat diagram.	9
b.	Explain the connection between the processor and the memory in detail.	9
c.	i) Brief explains Big-Endian and Little-Endian methods.	9
	ii) Write basic performance equation and briefly explain the parameters.	9
UNIT - II		18
2 a.	List and explain the various addressing modes with an example.	14
b.	Write an ALP to add N numbers stored in memory and store the result in memory.	14
c.	Explain the instruction associated with substances call and return.	4
UNIT - III		18
3 a.	With a block diagram, explain single bus organization of the data path inside a processor.	14
b.	Explain the execution of the instruction Add (R3), R1.	14
c.	Explain memory mapped I/O and programmed controlled I/O.	4
UNIT - IV		18
4 a.	Explain with diagram the organization of ROM.	9
b.	Explain different mapping techniques of cache memory with a diagram.	9
c.	Explain memory performance consideration.	9
UNIT - V		18
5 a.	Explain 4 bit carry Lookahead adder.	9
b.	Explain hardware arrangement for sequential circuit binary multiplier with block diagram.	9
c.	Explain IEEE standard for floating point numbers with example each.	9