

FACULTY OF COMPUTER SCIENCE



Master of Computer Application (Integrated) (Sem-I) In Effect from Academic Year 2023-24

Branch Name:	IMCA
Program Code:	CS301
Course Name:	Fundamentals of Computer Organization
Course Code:	1CS3010103T
Pre-requisite Course:	NIL

Course Objective:

1. To understand the fundamentals of computer organization memory organization and working of devices.
2. The course aims to make the student aware of working principles of components involved in a typical computer system.
3. It intends to make the student learn about various number systems and conversion among them.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture	Tutorial	Practical	Credit	Theory		Practical		Total
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
4	-	-	4	60	40	-	-	100

Course Contents:

Unit No	Topic	Total Hours	Weightage (%)
1	Computer basics, Computer generations, Classifications of Computers: Digital & Analog systems, Logic levels and pulse waveforms, digital computer, Major parts of computer, Hardware, Software - Application and System Software. Computer Generations. Classifications of Computers.	12	25
2	Working Principles of Input / Output devices : Input devices: Keyboard, Mouse, Light pen, Joystick, Scanner, Voice input system, Touch screen Output devices: Monitor - CRT terminals (Monitor / VDU), Non – CRT terminals (LCD, Plasma display, LED) Printer - Dot matrix printer, Inkjet printer, Laser printer, Line printer, Plotter	12	25
3	Working Principles of Memory and Storage Devices Understanding the principles of Main/Cache memory, Primary/Secondary memory, Physical/Virtual memory Magnetic memory - Magnetic Tape, Hard disk, Floppy disk, Semiconductor memory - RAM, ROM, Flash memory Optical memory - CD, CD-ROM, CD-RAM, DVD, DVD-ROM, DVD-RAM	12	25

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4	Number system, Number system Conversion Number system - Binary, decimal, octal, hexadecimal Conversion - Binary to decimal, decimal to binary, octal to decimal, decimal to octal, octal to binary, binary to octal, hexadecimal to binary, binary to hexadecimal, hexadecimal to Decimal, decimal to hexadecimal, hexadecimal to octal, octal to hexadecimal	12	25
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Text Books:

1. V. Rajaraman - Fundamentals of Computers - PHI.
2. Ron White – How Computers Work – Tech Media

References Books:

1. Fundamentals of computers – By. Anand Kumar, PHI Publication
2. B. Ram, Computer Fundamentals, Architecture and organization, New Age International Publication.
3. M. Morris Mano, Computer System Architecture, Prentice Hall.
4. K M Hebbar, Computer Architecture, MacMillan Publication
5. Sinha P. K., Computer Fundamentals, BPB Publication

List of Open-Source Software/learning website:

1. <http://williamstallings.com/ComputerOrganization>
2. <https://www.pearsonhighered.com/cs-resources/products/product.html#product,isbn=0132916525>

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Describe the basics of computers.	Remembering Understanding
CLO2	Discuss the working of computer components.	Understanding
CLO3	Distinguish working of Input Devices.	Understanding,
CLO4	Distinguish working of Output Devices.	Understanding,
CLO5	Illustrate organization of memory.	Understanding
CLO6	Comprehend the architecture of computers.	Understanding

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Mapping of CLOs with Pos & PSOs

Course Learning Outcomes	Program Outcomes(POs)												Program Specific Outcomes (PSOs)	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CLO1	H	H		M		L		L	M		L		M	
CLO2		H	H		M		L		M	L				M
CLO3			H	M		L		L		M		M	H	
CLO4	L		H		M				M		L		L	
CLO5		M		H	H	H		L		M		L		L
CLO6	M		L		H	H		M			M		M	

H:High, M:Medium, L:Low