

COURSE DETAILS

SUBJECT: Computer Organization

● OBJECTIVE OF THE PROGRAM:

This course will help the students in following aspects,

1. A clear view of the basic concept of the subject.
2. Understand how the components of computer are organized together
3. Students will be able to solve the GATE level questions and can even appear for the same.
4. Students can even get into research work once they get along the subject and find their area of interest.

● COURSE CONTENT:

CLASSES	TOPICS
CLASS I	Machine Instructions and addressing modes
CLASS II	Processing Unit
CLASS III	Memory Subsystem
CLASS IV	Instruction Pipelining
CLASS V	I/O Subsystem

● SESSION PLAN:

SESSION	TOPICS	CONTENT	MODE OF LEARNING	TIME
CLASS I	Machine Instructions and addressing modes	Instruction and its types, Opcode and Operand	Chalk & Duster/Notes	30mins.
		Instruction Format, Types of instructions, Flags, Addressing Modes, Usage of Addressing Modes	Examples of how the addressing mode differs for various functionalities	1 Hr & 30mins

SESSION	TOPICS	CONTENT	MODE OF LEARNING	TIME
CLASS II	Processing Unit	Organization of a processor- Registers,Memory, Bus,Data Path	An animated model to show the architectural design	1 Hr
		Microinstructions and Micro-operations,Control Unit and its usage	Question sets and Quizzes	1Hr
		Types of Control Unit,Pros and Cons of the Design	Chalk and talk Session	40 min
CLASS III	Memory Subsystem	Memory Cells- SRAM,DRAM, Numericals,Memory Configuration,Byte Orientation vs Word Orientation,Memory Hierarchy	Question Discussion and PPT	1Hr.
		Cache Memory,Addressing Cache,Mapping Cache,Fetch and Write mechanisms,Locality of Reference,Levels of Cache,Cache Block replacement Techniques,Concept of Virtual Memory,Problem Discussion	PPT and Quiz	2Hr
CLASS IV	Instruction Pipelining	Brief discussion on mutiprogramming, Need of Pipelining,Performance Metrics,Pipelining Hazards,Dependencies,Removal of Hazards	Chalk & Duster	1Hr.
Class V	I/O Subsystem	Access to I/O Devices,Interrupts and DMA mode,Problem Discussion	Chalk & Duster	1Hr 30 min

FACULTY PROFILE:



PROF. Kakuli Mishra
ASST PROFESSOR
DEPT OF COMPUTER SCIENCE
AND ENGINEERING, CIT
MOBILE: 8972523909

ACADEMIC PROFILE:

- Passed M.Tech in Information Security from IIT(ISM) Dhanbad, Jharkhand with 87%.
- Passed B.Tech in Computer Science and Engineering from Durgapur Institute of Advanced Technology and Management, Rajbanh, Durgapur
- Passed H.S. Examination from S.S.L.N.T College, Dhanbad, Jharkhand with 1st Division.
- Passed S.E. from DE Nobili School Mugma, Jharkhand with 1st Division.

TEACHING EXPERIENCE:

- Working as Assistant Professor in Computer Science and Engineering department of Camellia Institute of Technology since July'2016.
- GATE qualified