



Yogoda Satsanga Mahavidyalaya

JAGANNATHPUR, DHURWA, RANCHI – 834004

Email address: ysmranchi4@gmail.com

(NAAC Accredited, Grade: B++, CGPA: 2.89)

COURSE PLAN

NAME OF THE DEPARTMENT:	Computer Application
NAME OF THE FACULTY:	Prof. Goutam Sanyal, Prof. Jayanti Kumari, Prof. Priyanka Kumari
ACADEMIC SESSION:	2023-24
YEAR:	2024
PROGRAMME:	BCA
SEMESTER:	I
COURSE TYPE:	Core
COURSE:	Computer System Architecture
COURSE CODE:	C-2
TOTAL CREDIT:	6



PROGRAMME OUTCOMES (POs):

PO1: Scientific & Computational Knowledge: - Apply the information on scientific & computational ideas, software engineering and innovation basics.

PO2: Problem Analysis, Design & Implementation: - Identify, formulate and analyze real world problem. Design solution for Software, Hardware & Networking problems and implementation using Software & Network tools.

PO3: Modern tool usage: - Ability to select modern computing tools, skills and techniques necessary for innovative software solutions.

PO4: Project Management: - Show information and comprehension of the Software Engineering and Technology standards and apply these to one's own work, as a part and pioneer in a group, to oversee projects and in multidisciplinary conditions.

PO5: Carrier Development and Entrepreneurship: Classify opportunities, private enterprise dream and use of original thoughts to build worth and means for the betterment of the human being and the world.

PO6: Communication Skill: Communicate effectively on computational & information Technology activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO7: Professional Ethics: Ability to apply and commit professional Ethics, cyber regulations & control on software piracy in a global economic environment.

PROGRAMME SPECIFIC OUTCOMES (PSO):

PSO1: Explore technical comprehension in varied areas of Computer Applications and experience a conducive environment in cultivating skills for thriving career and higher studies.

PSO2: Application of modern technology Critical understand the concept of Programing logic, Web designing logic, Signal processing, Image processing, Mobile Applications, Multimedia Media.

PSO3: Preparing students in various disciplines of technologies such as Server side Web applications, computer networking, software engineering, database concepts and programming.

PSO4: Preparing students for future aspects by building and improving their creativity, social awareness, and general knowledge.

COURSE OUTCOMES (COs):

CO1: Understand the fundamental of digital circuit.



CO2: Understand the binary arithmetic & internal data representation.

CO3: Understand the architecture and functionality of Memory & Central Processing Unit.

CO4: Understand & implementation of register transfer, micro operations and input- output organization.

CO5: Learn the concepts of parallel processing, pipelining and inter processor communication.

CO6: Understand & apply Assembly Language program.

COURSE TEACHING AND LEARNING ACTIVITIES

A. PEDAGOGY

- i. Whiteboard
- ii. Flipped Class
- iii. PPT

B. COURSE COMPLETION PLAN

UNIT	NO. OF LECTURES			TEST	QUIZ	ASSIGNMENT
	THEORY	PRACTICAL	TUTORIAL			
1	8	8	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	10	10	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	13	13	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	15	15	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	6	6	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	8	8	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

A. COURSE DELIVERY PLAN:

UNIT	TOPIC/SUBTOPIC	LECTURE REQUIRED	CO ADDRESSED	ASSIGNMENT/TEST/QUIZ
1	Introduction:- Logic gates, Boolean algebra, combinational circuits, circuit simplification, flip-flops and Sequential circuits, decoders,	8	CO1	<input checked="" type="checkbox"/>



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	multiplexers, registers, counters and memory units.			
2	Data Representation and Basic Computer Arithmetic :- Number systems, complements, fixed and floating point representation, character representation, addition, subtraction, magnitude comparison, multiplication and division algorithms for integers	10	CO2	<input checked="" type="checkbox"/>
3	Basic Computer Organization and Design :- Computer registers, bus system, instruction set, timing and control, instruction cycle, memory reference, input -output and interrupt, Interconnection Structures, Bus Interconnection design of basic computer	13	CO3	<input checked="" type="checkbox"/>
4	Central Processing Unit :- Register organization, arithmetic and logical micro-operations, stack organization, micro programmed control. Instruction formats, addressing modes, instruction codes, machine language, assembly	15	CO4	<input checked="" type="checkbox"/>



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	language, input output programming, RISC, CISC architectures, pipelining and parallel architecture.			
5	Memory Organization:- Cache memory, Associative memory, mapping	6	CO5	<input checked="" type="checkbox"/>
6	Input-Output Organization:- Input / Output: External Devices, I/O Modules, Programmed I/O, Interrupt-Driven I/O, Direct Memory Access, I/O Channels.	8	CO5	<input checked="" type="checkbox"/>

B. COURSE OUTCOME ASSESSMENT PLAN

a. DIRECT ASSESSMENT

(Please tick the appropriate column)

COURSE OUTCOME	ASSESSMENT				REMARKS
	QUIZ	TEST	MID SEMESTER	END SEMESTER	
CO1		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
CO2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
CO3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
CO4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
CO5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

b. INDIRECT ASSESSMENT (STUDENT SURVEY)

Name of the Student:
University Roll no/ Class roll no.:
Name of the Programme:
Semester and Session:
Course and Course Code:

Rate the following aspects of course outcomes. Use the scale 1-3



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S. No	Course Outcome	1	2	3
1.	CO1			
2.	CO2			
3.	CO3			
4.	CO4			
5.	CO5			

1. Average
2. Good
3. Very Good

C. SUGGESTED READINGS

- TEXT BOOKS** M. Mano, Computer System Architecture, Pearson Education 1992, B Ram , Computer Organization, Eighth edition,
- REFERENCE BOOKS**W. Stallings, Computer Organization and Architecture Designing for Performance, 8 Edition, Prentice Hall of India,2009
- VIDEO RESOURCE**
 - Lecture Series on Digital Computer Organization by Prof.P.K. Biswas, Department of Electronics and Electrical Communication Engineering, IIT Kharagpur.
Link:
<https://www.youtube.com/playlist?list=PL2DC54ABD5C0221FE>
 - <https://www.youtube.com/playlist?list=PLxCzCOWd7aiHMonh3G6QNKq53C6oNXGrX>
- WEB RESOURCES:-**
 - <https://www.geeksforgeeks.org/computer-organization-and-architecture-tutorials/>
 - <https://www.tutorialspoint.com/Computer-System-Architecture>
- E-RESOURCE**
https://drive.google.com/drive/folders/1krZQFU1W2aa4M8g4uGsLsJC_m_9yd-t
- CONTENT COVERED WITH YOUTUBE:**
 - Lecture Series on Digital Computer Organization by Prof.P.K. Biswas, Department of Electronics and Electrical Communication Engineering, IIT Kharagpur.
Link:
<https://www.youtube.com/playlist?list=PL2DC54ABD5C0221FE>



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2. <https://www.youtube.com/playlist?list=PLxCzCOWd7aiHMonh3G6QNKq53C6oNXGrX>
3. <https://www.youtube.com/playlist?list=PLVSOCPDnF-ReTY7u-GHjdYPvWbZuY2idT>