



SANATAN DHARMA COLLEGE, AMBALA CANTT

College with Potential for Excellence, UGC, New Delhi
NAAC Accredited Grade "A+" with CGPA 3.51 in 3rd cycle
ISO 9001:2015 & ISO 14001:2015 Certified



Department of Computer Science Lesson Plan (Session 2022-2023)

Class: BCA

Sem: VI

Course Code: 242

Nomenclature: Logical Organization of Computers – II

Dates: 2 Feb, 2023- 14 May, 2023

SYLLABUS

BCA- Logical Organization of Computers – II

Maximum Marks: 50

External: 40

Time: 3 hours

Internal: 10

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. A candidate will be required to answer five questions in all, selecting one question from each unit in addition to compulsory Question No. 1. All questions will carry equal marks.

UNIT - I

Sequential Logic: Characteristics, Flip-Flops, Clocked RS, D type, JK, T type and Master-Slave flip-flops. State table, state diagram. Flip-flop excitation tables

UNIT - II

Sequential Circuits: Designing registers – Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO), Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO) and shift registers. Designing counters – Asynchronous and Synchronous Binary Counters, Modulo-N Counters and Up-Down Counters

UNIT - III

Memory & I/O Devices: Memory Parameters, Semiconductor RAM, ROM, Magnetic and Optical Storage devices, Flash memory, I/O Devices and their controllers.

UNIT - IV

Instruction Design & I/O Organization: Machine instruction, Instruction set selection, Instruction cycle, Instruction Format and Addressing Modes. I/O Interface, Interrupt structure, Program-controlled, Interrupt-controlled & DMA transfer, I/O Channels, IOP.

TEXT BOOKS

1. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd.
2. V. Rajaraman, T. Radhakrishnan, An Introduction to Digital Computer Design, Prentice Hall of India Pvt. Ltd.

Course Outcomes

After the completion of this course, prospective Computer professionals will have the ability to

CO-1	Understand and Apply Flip-Flops, Clocked RS, D type, JK, T type and Master Slave flip-flops. State table, state diagram. Flip-flop excitation tables
CO-2	Understand and design Sequential Circuits, registers, counters
CO-3	Understand and explain Memory & I/O Devices: Semiconductor RAM, ROM, Magnetic and Optical Storage devices, Flash memory, I/O Devices and their controllers.
CO-4	Understand and apply Machine instruction, Instruction set selection, Instruction cycle, Instruction Format and Addressing Modes
CO-5	Explain I/O Interface, Interrupt structure, Program-controlled, Interrupt-controlled & DMA transfer, I/O Channels, IOP.
CO-1	Understand and Apply Flip-Flops, Clocked RS, D type, JK, T type and Master Slave flip-flops. State table, state diagram. Flip-flop excitation tables
CO-2	Understand and design Sequential Circuits, registers, counters

S.No	Instructional Technique	Assessment Methods (AM)
1	Chalk & Talk	Assignments
2	ICT tools	Quiz
3	Group discussions	Group Discussions
4	Industrial visit	Oral Tests
5	Case studies	Sessional
6	Small Projects	Presentations
7	Workshop	Seminar
8	Spoken Tutorials	University Exams
9	Flipped Class	
10.	E-Resources	

Detailed Lesson Plan SEC A

Date	Topics to be covered	Instructional Technique	Assessment Method
02.02.2023	Sequential Logic: Characteristics	1	1,2,3,4
03.02.2023	Flip-Flops	1	1,2,3,4
04.02.2023	Clocked RS	1	1
05.02.2023	SUNDAY		
09.02.2023	Revision	2-(PPT/Projector)	1,2,3,4
10.02.2023	D type, JK	2-(PPT/Projector)	1,2,3,4
11.02.2023	T type and Master-Slave flip-flops.	2-(PPT/Projector)	1,2,3,4
12.02.2023	SUNDAY		
16.02.2023	State table, state diagram. Flip-flop excitation tables	2-(PPT/Projector)	1,2,3,4
17.02.2023	Revision		
18.02.2023		1	1,2,3,4
19.02.2023	SUNDAY		
23.02.2023	Sequential Circuits: Designing registers – Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO)	2-(PPT/Projector)	1,2,3,4
24.02.2023	Sequential Circuits: Designing registers – Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO)	2-(PPT/Projector)	1,2,3,4
25.02.2023	Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO)		
26.02.2023	SUNDAY		
02.03.2023	Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO)		
03.03.2023	shift registers	8,10,2	1,2,3,4,
04.03.2023	shift registers	8,10,2	1,2,3,4,
05.03.2023	SUNDAY		
16.03.2023	Designing counters – Asynchronous and Synchronous Binary Counters	6	1,2,3,4
17.03.2023	Designing counters – Asynchronous and Synchronous Binary Counters	1	6
18.03.2023	Modulo-N Counters and Up-Down Counters	2-(PPT/Projector)	

19.03.2023	SUNDAY		
23.03.2023	HOLIDAY		
24.03.2023	Class Test	2-(PPT/Projector)	1,2,3,4
25.03.2023	Memory & I/O Devices: Memory Parameters	2-(PPT/Projector)	1,2,3,4
26.03.2023	SUNDAY		
30.03.2023	HOLIDAY		
31.03.2023	Sessional		
01.04.2023	Magnetic and Optical Storage devices,	6	1,2,3,4
02.04.2023	SUNDAY		
06.04.2023	Flash memory	2-(PPT/Projector)	1,2,3,4
07.04.2023	I/O Devices and their controllers	2-(PPT/Projector)	1,2,3,4
08.04.2023	I/O Devices and their controllers	2-(PPT/Projector)	1,2,3,4
09.04.2023	SUNDAY		
13.04.2023	Instruction Design & I/O Organization: Machine instruction,	2-(PPT/Projector)	
14.04.2023	HOLIDAY		
15.04.2023	Instruction set selection, Instruction cycle	9,10	1,2,3,4
16.04.2023	SUNDAY		
20.04.2023	Instruction Format and Addressing Modes		
21.04.2023	I/O Interface	2-(PPT/Projector)	1,2,3,4
22.04.2023	Holiday		
23.04.2023	SUNDAY		
27.04.2023	Interrupt structure, Program-controlled	2-(PPT/Projector)	1,2,3,4
28.04.2023	Interrupt-controlled & DMA transfer	2-(PPT/Projector)	
29.04.2023	I/O Channels	2-(PPT/Projector)	1,2,3,4
30.04.2023	SUNDAY		

04.05.2023	IOP	2-(PPT/Projector)	1,2,3,4
05.05.2023	IOP	2-(PPT/Projector)	1,2,3,4
06.05.2023	Revision		
07.05.2023	SUNDAY		
11.05.2023	Revision		
12.05.2023	Revision of Previous Years Question Papers		
13.05.2023	Revision of Previous Years Question Papers		
14.05.2023	SUNDAY		

Detailed Lesson Plan SEC B

Date	Topics to be Covered	Instructional Technique	Assessment Method
01.02.2023	Sequential Logic: Characteristics	1	1,2,3,4
05.02.2023	SUNDAY		
06.02.2023	Flip-Flops, Clocked RS	1	1
07.02.2023	Flip-Flops, Clocked RS	1	1,2,3,4
08.02.2023	Revision	2-(PPT/Projector)	1,2,3,4
12.02.2023	SUNDAY		
13.02.2023	D type, JK	2-(PPT/Projector)	1,2,3,4
14.02.2023	T type	1	1,2,3,4
15.02.2023	Master-Slave flip-flops.	2-(PPT/Projector)	1,2,3,4
19.02.2023	SUNDAY		
20.02.2023	State table, state diagram. Flip-flop excitation tables		
21.02.2023	Example	2-(PPT/Projector)	1,2,3,4
22.02.2023	Revision	2-(PPT/Projector)	1,2,3,4
26.02.2023	SUNDAY		
27.02.2023	Sequential Circuits: Designing registers – Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO)	1	1,2,3,4
28.02.2023	Sequential Circuits: Designing registers – Serial Input Serial Output (SISO), Serial Input Parallel	2-(PPT/Projector)	1,2,3,4

	Output (SIPO)		
01.03.2023	Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO)	9	1,2,3,4,6
05.03.2023	SUNDAY		
06.03.2023	HOLI VACATIONS		
07.03.2023			
08.03.2023			
09.03.2023			
10.03.2023			
11.03.2023			
12.03.2023	SUNDAY		
13.03.2023	Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO)	1	1,2,3,4
14.03.2023	shift registers	2-(PPT/Projector)	1,2,3,4
15.03.2023	shift registers	2-(PPT/Projector)	1,2,3,4
19.03.2023	SUNDAY		
20.03.2023	Designing counters – Asynchronous and Synchronous Binary Counters	2-(PPT/Projector)	1,2,3,4
21.03.2023	Modulo-N Counters and Up- Down Counters	6	1,2,3,4
22.03.2023	Memory & I/O Devices: Memory Parameters		4
26.03.2023	SUNDAY		
27.03.2023	Semiconductor RAM, ROM	2-(PPT/Projector)	1,2,3,4
28.03.2023	Magnetic and Optical Storage devices,	1	1,2,3,4
29.03.2023	Revision	2-(PPT/Projector)	1,2,3,4
02.04.2023	SUNDAY		
03.04.2023	Flash memory	2-(PPT/Projector)	1,2,3,4
04.04.2023	HOLIDAY		
05.04.2023	I/O Devices and their controllers	9,10	1,2,3,4
09.04.2023	SUNDAY		
10.04.2023	I/O Devices and their controllers	1	1,2,3,4
11.04.2023	Instruction Design & I/O Organization: Machine instruction,	1	1,2,3,4
12.04.2023	Instruction Design & I/O Organization: Machine instruction,	1	1,2,3,4

16.04.2023	SUNDAY		
17.04.2023	Revision	1	1,2,3,4
18.04.2023	Sessional	2-(PPT/Projector)	1,2,3,4
19.04.2023	Instruction set selection	1	1,2,3,4
23.04.2023	SUNDAY		1,2,3,4
24.04.2023	Instruction cycle	2-(PPT/Projector)	1,2,3,4
25.04.2023	Instruction Format and Addressing Modes	6	1,2,3,4
26.04.2023	I/O Interface	2-(PPT/Projector)	1,2,3,4
30.04.2023	SUNDAY		
01.05.2023	Interrupt structure, Program-controlled	2-(PPT/Projector)	1,2,3,4
02.05.2023	Interrupt-controlled	2-(PPT/Projector)	1,2,3,4
03.05.2023	DMA transfer	1	1,2,3,4
07.05.2023	SUNDAY		
08.05.2023	I/O Channels	1	1,2,3,4
09.05.2023	IOP	1	1,2,3,4
10.05.2023	Revision		4
14.05.2023	SUNDAY		
15.05.2023	Revision of Previous Years Question Papers		4
16.05.2023	Revision of Previous Years Question Papers		4
17.05.2023	Revision of Previous Years Question Papers		4

	Teacher Incharge	Head of the Department
Name	Shikha Verma	Dr. Girdhar Gopal
Sign with Date		