



# SANATAN DHARMA COLLEGE, AMBALA CANTT

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



## Department of Computer Science

### Lesson Plan (Session 2022-2023)

Class: BCA      Sem: II      Section A & B      Course Code: 125  
Nomenclature: Structured System Analysis and Design  
Dates: 2 Feb, 2023- 30 April, 2023

#### SYLLABUS

##### BCA-125 Structured System Analysis and Design

Maximum Marks: 100

Time: 3 hours

External: 80

Internal: 20

**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. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

#### UNIT – I

System Concept: Definition, Characteristics, Elements of system, Physical and abstract system, open and closed system, man-made information systems.

System Development Life Cycle: Various phases of system development, Considerations for system planning and control for system success.

Role of system analyst.

#### UNIT – II

System Planning: Bases for planning in system analysis: Dimensions of Planning.

Initial Investigation: Determining user's requirements and analysis, fact finding process and techniques.

Tools of structured Analysis: Data Flow diagram, data dictionary, IPO and HIPO charts, Gantt charts, pseudo codes, Flow charts, decision tree, decision tables. Feasibility study: Technical, Operational & Economic Feasibilities.

#### UNIT – III

Cost/Benefit Analysis: Data analysis cost and benefit analysis of a system.

Input/ Output and Form Design, File Organization and database design: Introduction to files and database, File structures and organization, objectives of database design, logical and physical view of data.

#### UNIT – IV

System testing: Introduction, objectives of testing, test planning, testing techniques.

Quality assurance: Goal of quality assurance, levels of quality assurance

System implementation and software maintenance: primary activities in maintenance, reducing maintenance costs.

#### TEXT BOOKS:

1. Awad M. Elias, "System Analysis and Design", Galgotia Publication.

#### REFERENCE BOOKS:

1. Igor Hawryszkiewycz, "Introduction to System Analysis and Design", Prentice-Hall.
2. Jeffrey L. Whitten, and Lonnie D. Bentley, "Systems analysis and Design Methods", Tata McGraw-Hill.
3. Mark Lejk, and David Deeks, "An Introduction to System Analysis Techniques", Prentice Hall.

## Course Outcomes

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

<b>Course Code</b>	<b>BCA-125</b>
<b>Course Title</b>	<b>STRUCTURED SYSTEM ANALYSIS AND DESIGN</b>
<b>CO No.</b>	<b>Course Outcomes</b>
1.	Identify Characteristics, Elements of system, Physical and abstract system, open and closed system, MIS.
2.	Explain System Development Life Cycle: Various phases of system development, Considerations for system planning and control for system success.
3.	Demonstrate knowledge on the different phases of Systems Development Life Cycle (SDLC)
4.	Explain Role of system analyst.
5.	Demonstrate the use of systems design techniques, methodologies, and tools.
6.	Understand System Planning: Bases for planning in system analysis: Dimensions of Planning.
7.	Understand and Explain Initial Investigation: Determining user's requirements and analysis, fact finding process and techniques.
8.	Demonstrate use of Tools of structured Analysis: Data Flow diagram, data dictionary, IPO and HIPO charts, Gantt charts, pseudo codes, Flow charts, decision tree, decision tables.
9.	Apply Feasibility study: Technical, Operational & Economic Feasibilities in designing the system
10.	Explain Cost/Benefit Analysis: Data analysis cost and benefit analysis of a system
11.	Explain Input/ Output and Form Design,
12.	Perform File Organization and database design in designing systems
13.	Perform System testing and demonstrate test planning, testing techniques.
14.	Explain Quality assurance: Goal of quality assurance, levels of quality assurance System implementation
15.	Explain software maintenance

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	

### Lesson Plan for B.C.A(2nd Sem) Section A

Date	Topics to be covered	Instructional Technique	Assessment Method
02.02.2023	System Concept: Definition	1	1,2,3,4
03.02.2023	Characteristics, Elements of system	1	1,2,3,4
04.02.2023	Physical and abstract system, open and closed system	1	1
05.02.2023	<b>SUNDAY</b>		
09.02.2023	Man-made information systems	2-(PPT/Projector)	1,2,3,4
10.02.2023	Introduction to System Development Life Cycle	2-(PPT/Projector)	1,2,3,4
11.02.2023	Discussion over Various phases of system development	2-(PPT/Projector)	1,2,3,4
12.02.2023	<b>SUNDAY</b>		
16.02.2023	Discussion over Various phases of system development(Continued)	2-(PPT/Projector)	1,2,3,4
17.02.2023	Considerations for system planning and control for system success		
18.02.2023	<b>HOLIDAY</b>		
19.02.2023	<b>SUNDAY</b>		

23.02.2023	Role of system analyst.	2-(PPT/Projector)	1,2,3,4
24.02.2023	System Planning: Bases for planning in system analysis: Dimensions of Planning	2-(PPT/Projector)	1,2,3,4
25.02.2023	Initial Investigation: Determining user's requirements and analysis		
26.02.2023	<b>SUNDAY</b>		
02.03.2023	Fact finding process and techniques.		
03.03.2023	Tools of structured Analysis: Data Flow diagram, data dictionary	8,10,2	1,2,3,4,
04.03.2023	IPO and HIPO charts, Gantt charts, pseudo codes, Flow charts	8,10,2	1,2,3,4,
05.03.2023	<b>SUNDAY</b>		
16.03.2023	Decision tree, decision tables	6	1,2,3,4
17.03.2023	Feasibility study: Technical, Operational & Economic Feasibilities	1	6
18.03.2023	Revision of important topic of Unit 1 and Unit 2		
19.03.2023	<b>SUNDAY</b>		
23.03.2023	<b>HOLIDAY</b>		
24.03.2023	<b>Sessional</b>	2-(PPT/Projector)	1,2,3,4
25.03.2023	Introduction of Cost/Benefit Analysis	2-(PPT/Projector)	1,2,3,4
26.03.2023	<b>SUNDAY</b>		
30.03.2023	<b>HOLIDAY</b>		
31.03.2023	Data analysis cost and benefit analysis of a system		
01.04.2023	Input/ Output and Form Design	6	1,2,3,4
02.04.2023	<b>SUNDAY</b>		
06.04.2023	File Organization and database design: Introduction to files and database	2-(PPT/Projector)	1,2,3,4

07.04.2023	File structures and organization, objectives of database design	2-(PPT/Projector)	1,2,3,4
08.04.2023	Logical and physical view of data	2-(PPT/Projector)	1,2,3,4
09.04.2023	<b>SUNDAY</b>		
13.04.2023	Introduction, objectives of system testing		
14.04.2023	<b>HOLIDAY</b>		
15.04.2023	Test planning, Various Testing Techniques	9,10	1,2,3,4
16.04.2023	<b>SUNDAY</b>		
20.04.2023	Quality assurance: Goal of quality, Levels of quality assurance		
21.04.2023	System implementation and software maintenance: primary activities in maintenance, reducing maintenance costs	2-(PPT/Projector)	1,2,3,4
22.04.2023	<b>Holiday</b>		
23.04.2023	<b>SUNDAY</b>		
27.04.2023	Revision of important topic of Unit 3 and Unit 4	2-(PPT/Projector)	1,2,3,4
28.04.2023	Discussion of Previous year Question Papers		
29.04.2023	Discussion of Previous year Question Papers	2-(PPT/Projector)	1,2,3,4
30.04.2023	<b>SUNDAY</b>		

### Lesson Plan for B.C.A(2nd Sem) Section B

Date	Topics to be Covered	Instructional Technique	Assessment Method
01.02.2023	System Concept: Definition	1	1,2,3,4
05.02.2023	<b>SUNDAY</b>		
06.02.2023	Characteristics, Elements of system	1	1
07.02.2023	Physical and abstract system, open and closed system	1	1,2,3,4

08.02.2023	Man-made information systems	2-(PPT/Projector)	1,2,3,4
12.02.2023	<b>SUNDAY</b>		
13.02.2023	Introduction to System Development Life Cycle	2-(PPT/Projector)	1,2,3,4
14.02.2023	Discussion over Various phases of system development(Continued)	1	1,2,3,4
15.02.2023	Discussion over Various phases of system development(Continued)	2-(PPT/Projector)	1,2,3,4
19.02.2023	<b>SUNDAY</b>		
20.02.2023	Considerations for system planning and control for system success		
21.02.2023	Role of system analyst.	2-(PPT/Projector)	1,2,3,4
22.02.2023	System Planning: Bases for planning in system analysis: Dimensions of Planning	2-(PPT/Projector)	1,2,3,4
26.02.2023	<b>SUNDAY</b>		
27.02.2023	Initial Investigation: Determining user's requirements and analysis	1	1,2,3,4
28.02.2023	Fact finding process and techniques	2-(PPT/Projector)	1,2,3,4
01.03.2023	Tools of structured Analysis: Data Flow diagram, data dictionary	9	1,2,3,4,6
05.03.2023	<b>SUNDAY</b>		
06.03.2023	<b>HOLI VACATIONS</b>		
07.03.2023			
08.03.2023			
09.03.2023			
10.03.2023			
11.03.2023			
12.03.2023	<b>SUNDAY</b>		
13.03.2023	IPO and HIPO charts, Gantt charts, pseudo codes, Flow charts	1	1,2,3,4
14.03.2023	Decision tree, decision tables	2-(PPT/Projector)	1,2,3,4
15.03.2023	Feasibility study: Technical, Operational & Economic Feasibilities	2-(PPT/Projector)	1,2,3,4
19.03.2023	<b>SUNDAY</b>		
20.03.2023	Revision of important topic of Unit 1 and Unit 2	2-(PPT/Projector)	1,2,3,4
21.03.2023	<b>Sessional</b>	6	1,2,3,4
22.03.2023	Introduction of Cost/Benefit		4

	Analysis		
26.03.2023	<b>SUNDAY</b>		
27.03.2023	Data analysis cost and benefit analysis of a system	2-(PPT/Projector)	1,2,3,4
28.03.2023	Input/ Output and Form Design	1	1,2,3,4
29.03.2023	File Organization and database design: Introduction to files and database	2-(PPT/Projector)	1,2,3,4
02.04.2023	<b>SUNDAY</b>		
03.04.2023	File structures and organization, objectives of database design	2-(PPT/Projector)	1,2,3,4
04.04.2023	<b>HOLIDAY</b>		
05.04.2023	Logical and physical view of data	9,10	1,2,3,4
09.04.2023	<b>SUNDAY</b>		
10.04.2023	Introduction, objectives of system testing	1	1,2,3,4
11.04.2023	Test planning, Various Testing Techniques	1	1,2,3,4
12.04.2023	Quality assurance: Goal of quality, Levels of quality assurance	1	1,2,3,4
16.04.2023	<b>SUNDAY</b>		
17.04.2023	Introduction to System implementation and software maintenance & maintenance costs	1	1,2,3,4
18.04.2023	Discussion over Primary activities in maintenance, reducing maintenance costs	2-(PPT/Projector)	1,2,3,4
19.04.2023	Revision of important topic of Unit 3 and Unit 4	1	1,2,3,4
23.04.2023	<b>SUNDAY</b>		1,2,3,4
24.04.2023	Discussion of Previous year Question Papers	2-(PPT/Projector)	1,2,3,4
25.04.2023	Discussion of Previous year Question Papers	6	1,2,3,4
26.04.2023	Discussion of Previous year Question Papers	2-(PPT/Projector)	1,2,3,4
30.04.2023	<b>SUNDAY</b>		

	Teacher Incharge	Head of the Department
Name	Manu Gupta	Dr. Girdhar Gopal
Sign with Date		