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: B.Voc (S.D)   Sem: I   Course Code: BVSD-11
Nomenclature: Computer Fundamentals   Duration: 16 Weeks
Dates: 1 Sep, 2022- 24 Dec, 2022

SYLLABUS

Maximum Marks: 100   External: 80
Time: 3 hours   Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of objective type/short-answer type questions covering the entire syllabus. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus. 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. All questions will carry equal marks.

Unit I

Evolution of Computer – Generations, Types of Computer, Computer System Characteristics, Basic Components of a Digital Computer – Control Unit, ALU, Input/Output Function and Memory, Memory Addressing Capability of a CPU, Word Length of a Computer, Processing Speed of a Computer, Computer Classification.

Unit II

Input/Output Units - Keyboard, Mouse, Trackball, Joystick, Digitizing Tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-Code Reader, Analog Size, Resolution, Refresh Rate, Dot Pitch, Video Standard – VGA, SVGA, XGA etc., Printers & its Types – Daisy Wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter; Sound Card and Speakers.

Unit III

Memory – RAM, ROM, EPROM, PROM and Other Types of Memory, Storage Fundamentals – Primary Vs Secondary Data Storage, Various Storage Devices – Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive, Flash Drives, Video Disk, Blue Ray Disc, SD/MMC Memory Cards, Physical Structure of Floppy & Hard Disk, Drive Naming Conventions in PC, DVD, DVD-RW, USB Pen Drive.

Unit IV

Information Representation - Number Systems, Conversion from one Number System to another Number System, Integer Representation – Sign Magnitude, 1's Complement, 2's Complement, BCD Codes. Floating-point Representation, Binary Arithmetic – Addition, Subtraction, Multiplication, Division.

TEXT BOOKS:

- Rajaraman V., Fundamentals of Computers, PHI, Feb., 2010
- Sinha P.K., Computer Fundamentals, BPB Publication, 2004

REFERENCE BOOKS:

- Basandra S.K., Computers Today, Galgotia Publications, 1998
- Ram B., Computer Fundamentals, New Age International Publisher, June, 2007

Course Outcomes

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

CO-1	Making the students understand and learn the basics of computer how to operate it.
CO-2	To make familiar with the part and function of computer, its types, how to use computer in our day-to-day life
CO-3	To know Its characteristics, its usage, Limitations and benefits etc.
CO-4	Understand the difference between an operating system and an application program, andwhat each is used for in a computer
CO-5	Describe some examples of computers and state the effect that the use of computertechnology has had on some common products
CO-6	Identify and analyze computer hardware, software, and network components
CO-7	Understand the fundamental hardware components that make up a computer's hardware andthe role of each of these components

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**	

Week	Date	Topic to be covered	Instructional Technique	Assessment Method
I	01-09-2022	Evolution of Computer – Generations	1	1
II	05-09-2022	Types of Computer	1	1,2,3,4
	06-09-2022	Computer System Characteristics	2-(PPT/Projector)	1,2,3,4
	07-09-2022	Basic Components of a Digital Computer – Control Unit, ALU, Input/output Function and Memory	2-(PPT/Projector)	1,2,3,4
III	12-09-2022	Memory Addressing Capability of a CPU, Word Length of a Computer	2-(PPT/Projector)	1,2,3,4
	13-09-2022	Processing Speed of a Computer, Computer Classification	1	1,2,3,4
	14-09-2022	Revision	2-(PPT/Projector)	1,2,3,4
IV	19-09-2022	Input/output Units - Keyboard, Mouse, Trackball, Joystick, Digitizing Tablet, Scanners, Digital Camera	--	---
	20-09-2022	MICR, OCR, OMR, Bar-Code Reader	2-(PPT/Projector)	1,2,3,4
	21-09-2022	Analog Size, Resolution, Refresh Rate, Dot Pitch	2-(PPT/Projector)	1,2,3,4
V	26-09-2022	**HOLIDAY**		
	27-09-2022	Video Standard – VGA, SVGA, XGA etc.	2-(PPT/Projector)	1,2,3,4
	28-09-2022	Printers & its Types – Daisy Wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter; Sound Card and Speakers	2-(PPT/Projector)	1,2,3,4
VI	03-10-2022	Revision	---	6
	04-10-2022	Assignment	9	1,2,3,4,6
	05-10-2022	**HOLIDAY**		
	10-10-2022	Memory – RAM, ROM, EPROM, PROM and Other Types of Memory	2-(PPT/Projector)	1,2,3,4

VII	**11-10-2022**	Storage Fundamentals – Primary Vs Secondary Data Storage, Various Storage Devices – Magnetic Tape, Magnetic Disks, Cartridge Tape	**2-(PPT/Projector)**	**1,2,3,4**
	12-10-2022	Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive	**9**	**1,2,3,4**
VIII	**17-10-2022**	Flash Drives, Video Disk, Blue Ray Disc, SD/MMC Memory Cards	**2-(PPT/Projector)**	**1,2,3,4**
	18-10-2022	Physical Structure of Floppy & Hard Disk, Drive Naming Conventions in PC	**2-(PPT/Projector)**	**1,2,3,4**
	19-10-2022	DVD, DVD-RW, USB Pen Drive	**---**	**6**
IX	**31-10-2022**	Revision	**2-(PPT/Projector)**	**1,2,3,4**
	01-11-2022	**HOLIDAY**		
	02-11-2022	Information Representation - Number Systems	**2-(PPT/Projector)**	**1,2,3,4**
X	**07-11-2022**	Conversion from one Number System to another Number System	**2-(PPT/Projector)**	**1,2,3,4**
	08-11-2022	**HOLIDAY**		
	09-11-2022	Conversion from one Number System to another Number System	**2-(PPT/Projector)**	**1,2,3,4**
XI	**14-11-2022**	Integer Representation – Sign Magnitude	**2-(PPT/Projector)**	**1,2,3,4**
	15-11-2022	1's Complement, 2's Complement	**2-(PPT/Projector)**	**1,2,3,4**
	16-11-2022	BCD Codes	**8,10,2**	**1,2,3,4,**
XII	**21-11-2022**	Sessional	**2-(PPT/Projector)**	**1,2,3,4**
	22-11-2022	Floating-point Representation	**2-(PPT/Projector)**	**1,2,3,4**
	23-11-2022	Binary Arithmetic – Addition	**9**	**1,2,3,4**
	28-11-2022	Subtraction, Multiplication, Division	**2-**	**1,2,3,4**

			(PPT/Projector)	
XIII	**29-11-2022**	Revision	**2-** **(PPT/Projector)**	**1,2,3,4**
	30-11-2022	Revision		
XIV	**05-12-2022**	Revision		
	06-12-2022	Revision		
	07-12-2022	Revision		
XV	**12-12-2022**	Revision of previous years question papers	**2-** **(PPT/Projector)**	
	13-12-2022	Revision of previous years question papers	**2-** **(PPT/Projector)**	
	14-12-2022	Revision of previous years question papers	**2-** **(PPT/Projector)**	
XVI	**19-12-2022**	Revision of previous years question papers	**2-** **(PPT/Projector)**	
	20-12-2022	Revision of previous years question papers	**2-** **(PPT/Projector)**	
	21-12-2022	Revision of previous years question papers	**---**	