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 2021-2022)

Class: B.Voc (S.D) **SEM: I** **Course Code: BVSD-11**
Nomenclature: Computer Fundamentals **Duration: 16 Weeks**
Dates: Oct-Jan 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
1	11.10.21	Evolution of Computer – Generations	**1**	**1**
2	12.10.21	Types of Computer	**1**	**1,2,3,4**
	13.10.21	Computer System Characteristics	**2-(PPT/Projector)**	**1,2,3,4**
	18.10.21	Basic Components of a Digital Computer – Control Unit, ALU, Input/output Function and Memory	**2-(PPT/Projector)**	**1,2,3,4**
3	19.10.21	Memory Addressing Capability of a CPU, Word Length of a Computer	**2-(PPT/Projector)**	**1,2,3,4**
	20.10.21	Processing Speed of a Computer, Computer Classification	**1**	**1,2,3,4**
	25.10.21	Revision	**2-(PPT/Projector)**	**1,2,3,4**
4	26.10.21	Input/output Units - Keyboard, Mouse, Trackball, Joystick, Digitizing Tablet, Scanners, Digital Camera	**--**	**---**
	27.10.21	MICR, OCR, OMR, Bar-Code Reader	**2-(PPT/Projector)**	**1,2,3,4**
	1.11.21	Analog Size, Resolution, Refresh Rate, Dot Pitch	**2-(PPT/Projector)**	**1,2,3,4**
5	2.11.21	**HOLIDAY**		
	3.11.21	Video Standard – VGA, SVGA, XGA etc.	**2-(PPT/Projector)**	**1,2,3,4**
	8.11.21	Printers & its Types – Daisy Wheel, Dot Matrix, Inkjet, Laser, Line Printer, Plotter; Sound Card and Speakers	**2-(PPT/Projector)**	**1,2,3,4**
6	9.11.21	Revision	**---**	**6**
	10.11.21	Assignment	**9**	**1,2,3,4,6**
	15.11.21	**HOLIDAY**		
	16.11.21	Memory – RAM, ROM, EPROM, PROM and Other Types of Memory	**2-(PPT/Projector)**	**1,2,3,4**

7	17.11.21	Storage Fundamentals – Primary Vs Secondary Data Storage, Various Storage Devices – Magnetic Tape, Magnetic Disks, Cartridge Tape	**2-(PPT/Projector)**	**1,2,3,4**
	22.11.21	Hard Disk Drives, Floppy Disks (Winchester Disk), Optical Disks, CD, VCD, CD-R, CD-RW, Zip Drive	**9**	**1,2,3,4**
8	23.11.21	Flash Drives, Video Disk, Blue Ray Disc, SD/MMC Memory Cards	**2-(PPT/Projector)**	**1,2,3,4**
	24.11.21	Physical Structure of Floppy & Hard Disk, Drive Naming Conventions in PC	**2-(PPT/Projector)**	**1,2,3,4**
	29.11.21	DVD, DVD-RW, USB Pen Drive	**---**	**6**
	30.11.21	Revision	**2-(PPT/Projector)**	**1,2,3,4**
	1.12.21	**HOLIDAY**		
	8.12.21	Information Representation - Number Systems	**2-(PPT/Projector)**	**1,2,3,4**
10	13.12.21	Conversion from one Number System to another Number System	**2-(PPT/Projector)**	**1,2,3,4**
	14.12.21	**HOLIDAY**		
	15.12.21	Conversion from one Number System to another Number System	**2-(PPT/Projector)**	**1,2,3,4**
11	20.12.21	Integer Representation – Sign Magnitude	**2-(PPT/Projector)**	**1,2,3,4**
	21.12.21	1's Complement, 2's Complement	**2-(PPT/Projector)**	**1,2,3,4**
	22.12.21	BCD Codes	**8,10,2**	**1,2,3,4,**
12	27.12.21	Sessional	**2-(PPT/Projector)**	**1,2,3,4**
	28.12.21	Floating-point Representation	**2-(PPT/Projector)**	**1,2,3,4**
	29.12.21	Binary Arithmetic – Addition	**9**	**1,2,3,4**
13	3.1.22	Subtraction, Multiplication, Division	**2-**	**1,2,3,4**

			(PPT/Projector)	
	4.1.22	Revision	**2-(PPT/Projector)**	**1,2,3,4**
	5.1.22	Revision		
14	10.1.22	Revision		
	11.1.22	Revision		
	12.1.22	Revision		
15	17.1.22	Revision of previous years question papers	**2-(PPT/Projector)**	
	18.1.22	Revision of previous years question papers	**2-(PPT/Projector)**	
	19.1.22	Revision of previous years question papers	**2-(PPT/Projector)**	
16	24.1.22	Revision of previous years question papers	**2-(PPT/Projector)**	
	25.1.22	Revision of previous years question papers	**2-(PPT/Projector)**	
	26.1.22	Revision of previous years question papers	**---**	