

SWARNIM STARTUP & INNOVATION UNIVERSITY

School of Computer Application (BCA)

Introduction to Computer & Emerging Technologies

Semester 1

CODE: _____

Teaching & Evaluation Scheme:-

Teaching Scheme				Credits	Evaluation Scheme				
Th	Tu	Pr	Total		Internal		External		Total
					Th	Pr	Th	Pr	
2	-	2	4	4	30	50	70	-	150

Objectives:- The objective of this course is introducing the fundamental in information technology. The course covers different aspects in information technology such as

- Basics of Data and Information.
- Acquisition of different types of information like numbers, text, multimedia etc.
- Issues of Data Storage and organization.
- Processing of different types of information.
- Emerging trend, societal impacts and applications of Information technology.

Prerequisites:- To familiarize the trainee with basic concepts of computer programming and developer tools. To present the syntax and semantics of the “C” language as well as data types offered by the language. To allow the trainee to write their own programs using standard language infrastructure regardless of the hardware or software platform

Course outline:-

Sr. No.	Course Contents	Number of Hours
1	Introducing Today’s Technologies: Computers, Devices, and the Web Today's Technology	8

	<ul style="list-style-type: none"> ○ Computers ○ Mobile and Game Devices ○ Data and Information ○ The Web ○ Digital Security and Privacy ○ Programs and Apps ○ Operating Systems ○ Applications ○ Communications and Networks ○ Wired and Wireless Communications ○ Networks ○ Computers and Mobile Devices ○ Mobile Computers and Desktops ○ Servers ○ Supercomputers ○ Cloud Computing ○ Ports and Connections 	
2	Processors, Memory, Adapters and Buses Inside the case : <ul style="list-style-type: none"> ○ Motherboard ○ Processors ○ Memory ○ Adapters ○ Buses Digital Storage <ul style="list-style-type: none"> ○ Storage ○ Hard Drives ○ Portable Flash Memory Storage 	6
3	Input and Output Devices <ul style="list-style-type: none"> ○ Input Devices ○ Keyboards ○ Pointing Device ○ Touch Screens ○ Scanners and Reading Devices ○ Output Devices ○ Displays ○ Printers ○ Other Output Devices 	6
4	Computer Codes <ul style="list-style-type: none"> ○ Introduction to Computer Codes ○ Decimal System ○ Binary System ○ Hexadecimal System ○ Octal System ○ 4-bit BCD System ○ 8-bit BCD System ○ ASCII code 	7

	<ul style="list-style-type: none"> ○ 16-bit Unicode 	
5	Conversion of Numbers (includes fixed and fractional numbers) <ul style="list-style-type: none"> ○ Non-Decimal to Decimal ○ Binary to Decimal ○ Decimal to Binary ○ Binary to Octal ○ Octal to Binary ○ Octal to Decimal ○ Decimal to Octal ○ Binary to Hexadecimal ○ Hexadecimal to Binary ○ Hexadecimal to Decimal ○ Decimal to Hexadecimal 	7

Learning Outcomes:-

On the completion of the course students will be able to:

- 1) Know the fundamental terms associated with computers, mobile devices and new technologies.
- 2) Know different types of computers, mobile devices, memory and various input and output devices.
- 3) Understand the basic uses and applications of computer in business and society.
- 4) Get familiar with various computer codes

Teaching & Learning Methodology:-

During theory lectures foundations of information technology related concepts will be introduced to students. Emphasis will be given on acquisition, storage and processing of data to generate meaningful information. Students will be made familiar with applications related to information technology. Emerging trends and societal impacts of information technology will be discussed to students. Students will give practical exposure by demonstrating real information technology system.

Books Recommended:-

1. Discovering Computers 2016 (First Edition) Cengage Learning By Misty E. Vermaat; Susan L. Sebok; Steven M. Freund; Jennifer T. Campbell; Mark Frydenberg (Shelly Cashman Series)
2. Pearson India By M. Morris R. Mano
3. Fundamentals of Computer(First Edition- 2009) Publisher: McGraw-Hill by Balaguruswamy
4. Computer Fundamentals(First Edition-2010) Publisher: Pearson by Anita Goel

E-Resources:-

1. http://sct.emu.edu.tr/courses/it/index.php?id=itec103&page_type=file_directory&lemen_t_id=2 [Information Technology fundamentals]
2. <http://technology.ku.edu/software> [Information Technology related applications]

3. <http://www.managementstudyguide.com/emerging-trends-in-informationtechnology.htm> [Emerging trends in Information Technology]

Practical List:-

Sr. No.	Practical
1	Run different commands of MS DOS – CD, DIR, COPY, REN, CLS, MD, CD, RD etc.
2	Study information of Internet connectivity components line, VSAT, Broadband
3	Study information of Internet connectivity components Modem, IP Sharer, Hub, and Switch.
4	Study different web Browsers- Internet Explorer, Fire fox, downloading of files
5	Connect the Internet; open any website of your choice and save the Webpages. Search any topic related to your syllabus using any search engine and download the relevant material.