

GUJARAT TECHNOLOGICAL UNIVERSITY

School of Applied Sciences and Technology

Integrated M.Sc. Biotechnology

FUNDAMENTALS OF COMPUTER NETWORKING & GRAPHICAL DESIGN

Prerequisite:

Students should have knowledge of basics in computer, computer applications and operating system.

Rationale:

This course will discover the definition of computer networking, its types, computer networks work, networking concepts, commonly used terms, networking and internet, how it works, and network topologies.

Course Scheme:

Teaching Scheme			Total Credits	Assessment Pattern and Marks				Total Marks
L	T	P	C	Theory		Tutorial/ Practical		
				University exams (ESE)	Progressive Assessment (PA)	External Practical /viva Exam(ESE)	Internal evaluation Practical /viva Exam(PA)	
0	0	4	2	0	0	0	50	50

Course Content:

Unit No.	Content	No. of Hours	Weightage (%)
1	Understanding of computer network and Internet Web and HTTP, E-mail, DNS, TCP and UDP, Introduction and transport layer services.	3	20
2	Operating system Operating system concepts, salient features of Windows, UNIX and GNU/Linux, different flavours of Linux, Why use Linux? Unix file system, file and directory commands, file permissions.	3	20
3	Linux Administration Creating new accounts, Managing processes (The init process, The init Script, Runlevels, Choosing default run-levels, Manually controlling a	3	20

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	process), Shutting down the system, Formatting & Disk Partitioning (Device names, using fdisk, Primary and extended partitions, Adding Partitions, Formatting file systems), Installing software (using rpm package, Installing Manually)		
4	Linux utilities awk, sed, clear, cut, env, find, grep, gzip, gunzip, zip, unzip, tar, killall, rm etc. Vi as text editor	3	20
5	Digital content Flyer, Brochure, Project reports, business plans, ppts, designing using Adobe photoshop, coral draw or canva.	3	20
	Total Hours:	15	

Textbook:

Linux for Beginners by Jason Cannon first edition publisher Independently Published

Reference Books:

The Linux Command Line, 2nd Edition: A Complete Introduction by William Shotts

Course Outcomes:

No.	Course Outcomes	RBT Level*
1	Student will learn Linux	UN,AP,AN
2	Student will learn Graphical designing tools	UN,AP,AN
3	Deep understanding of computer networking and different operating systems	UN,AP,AN

*RM: Remember, UN: Understand, AP: Apply, AN: Analyze, EL: Evaluate, CR: Create

Suggested Course Practical List:

5. Basic commands in Linux (file and directory handling, file permissions)
6. Linux utilities awk, sed, clear, cut, env, find, grep, gzip, gunzip, zip, unzip, tar, killall, rm etc. Vi as text editor
7. Data transfer over network
8. Graphical designing using Adobe photoshop
9. Graphical designing using canva

List of Laboratory/Learning Resources Required

1. <https://nptel.ac.in/courses/117106113>
2. https://onlinecourses.nptel.ac.in/noc20_cs23/preview
3. https://onlinecourses.swayam2.ac.in/ntr20_ed15/preview

