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Co				n n o	n n o	n n	n n	C
A	Critical Thinking And Elementary Statistics	Generic	Theory	20	80	-	-	6
	Introduction To Research Methodology AndReport Writing	Generic	Theory	20	80	-	-	6
- **A**	Linux Operating System	Skill	Theory & Practical	10	40	10	40	6
- **A**	Firewall Technology	Skill	Theory & Practical	10	40	10	40	6
- **A**	Advanced Routing and Switching	Skill	Practical	-	-	20	80	6

Co				n n o	n n o	n n	n n	C
A	Entrepreneurship Development Programme	Generic	Theory					

BIOS: Introduction, Connecting & disconnecting computer peripherals and componentsMouse, Keyboard, Monitor, Hard Disk. Window installation, Hard disk: partitioning and formatting, creating, formatting and deleting partitions using DISKPART in Command Prompt and Graphical User Interface. Antivirus: features and Significance, Installing third party application. Firewall: Introduction to firewall, Features of firewall.

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of **A A** questions comprising two questions from each unit, including Question No.1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

- Each question carries 5 marks.
- Practical file carries 5 marks and 20 marks for practical work and viva-voce.
- Practical paper will be conducted by the college in collaboration with the respective experts and marks will be submitted to Panjab University.

Boo k o n
- Tannenbaum, A.S., 2003: Computer Networks, Prentice Hall.
-

Connector), Fiber LC (Local Connector), MT-RJ (Mechanical Transfer Registered Jack), USB (Universal Serial Bus), LAN Patch Panel, Network Switch Rack

A

The objective of this paper is to familiarize the students with the importance of ethics in business and understanding of issues related to corporate social responsibility and corporate governance.

Note:
- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of questions comprising Two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

Unit I

Business Ethics: Meaning and Concept, Principles of Business Ethics, Characteristics of Ethical Organisations, Theories of Business Ethics.

Unit II

Globalization and Business Ethics, Stakeholder's Protection, Corporate Governance and Business Ethics. Ethical Issues in Indian Business.

Unit III

Professional Values:Objectives, Morals, Values, Ethics, Integrity, Work ethics, Service learning, Virtues, Respect for others, Living peacefully, Caring, Sharing, Honesty, Courage, Valuing time, Cooperation, Commitment, Empathy, Self-confidence, Challenges in the work place, Spirituality.

Unit IV

Corporate Social Responsibility Social Responsibility of business with respect to different stakeholders, Arguments for and against social responsibility of business, Social Audit,Corporate Social Responsibility and Corporate Governance.

Suggested Readings

1. J.P. Sharma, *Corporate Governance, Business Ethics & CSR*, Ane Books Pvt. Ltd., Nee Delhi.

2. Andrew Crane, Dirk Matten, *Business Ethics*, Oxford University Press, New Delhi.

3. Daniel Albuquerque, *Business Ethics, Principles and Practices*, Oxford University Press, New Delhi

4. Fr. Floriano C. Roa, *Business Ethics and Corporate Responsibility*, Rexestore.

   O. C. Ferrell, John Fraedrich, Linda Ferrell, *Business Ethics, Ethical Decision making & Cases*, Cengage Learning

   Michael Blowfield, Alan Murray, *Corporate Responsibility*, A Critical Introduction, Oxford University Press, New Delhi.

- Practical file carries 5 marks and 20 marks for practical work and viva-voce.
- Practical paper will be conducted by the college in collaboration with the respective experts and marks will be submitted to Panjab University.

Boo* o   n

Books on

- Govindarajalu, B., IBM-PC and Clones – Hardware Troubleshooting and Maintenance, Tata McGraw Hill, 2nd ed. N.D.
- Basandra, S. K., Computers Today, Galgotia Publications
- Craig Zacker., The Complete Reference: PC Hardware, TMH Publication
- Scott Mueller., Upgrading and Repairing PC, Pearson
- Jean Andrew., A+ Guide to Hardware, 6th Edition

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Viewing, Expanding and collapsing, Backing up and restoring files. Components of Windows: format of a window, moving windows, resizing windows, minimizing and maximizing windows.
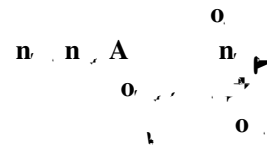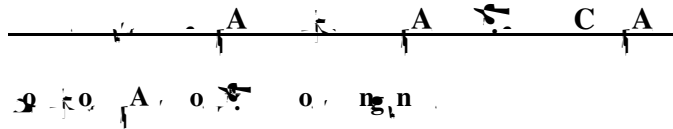
This course provides an integrated and comprehensive coverage of networking topics from fundamentals to advanced application and services, it enable the students to enhance career development skill in the field of networking.

Instruction

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of NINE questions comprising Two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

UNIT – A

Router: Introduction, components of routers, Types of Routers: Broadband Routers, Wireless Routers, Edge Router, Subscriber Edge Router, Inter-provider Border Router, Core Router, Wired and Wireless Routers. Functions of routers, router modes, Configuration of Router: names, passwords, password encryption, interfaces name, creating a login banner, saving configuration and erasing configuration.

UNIT – B

Routing: Introduction, Types of routing: static and dynamic routing, Static routing: Configuring a static route, permanent keyword, static routes and administrative distance, configuring default route. Dynamic routing: Dynamic Routing Protocols: RIPv1, RIPv2, IGRP, EIGRP and OSPF. Delivery Semantics: unicast, anycast, multicast, broadcast, geocast. Configuring and Verifying RIP, IGRP, OSPF, EIGRP.

UNIT – C

Switch: introduction, roles of switches in network, types of switches: managed and unmanaged switch. Working of switch in different layers. Configuration of Switch: Command Mode, Setting Host Names, Setting Passwords, Setting IP Addresses and Default Gateways, Setting Operational Speed, Switch Port Security, Sticky MAC Addresses.

UNIT – D

Switching: Introduction, Switching Services, Bridging vs LAN Switching, Switch Functions at Layer 2, Definition of Spanning Tree Protocol (STP), Operations of STP, STP Port States, Definition of VLAN, Typing of VLAN: Static and Dynamic, VLAN Identification Methods, VLAN Trunking Protocol (VTP), VTP Modes of Operation, Routing between VLANs, Configuring Inter-VLAN Routing.

Instruction

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any three question
- Each question carries 5 marks.
- Practical file carries 5 marks and 20 marks for practical work and viva-voce.
- Practical paper will be conducted by the college in collaboration with the respective experts and marks will be submitted to Panjab University.

Books Recommended

- Lacoste, CCNP Routing and Switching TSHOOT 300 - 135: Official Cert Guide, Pearson India
- Todd Lammleccna, Routing and Switching Study Guide, Wiley India Pvt Ltd

Configure and verify inter VLAN routing (Router on a stick), sub interfaces, upstream routing, encapsulation, Configure SVI interfaces, Manage Cisc

The objective of this paper is to provide knowledge to students about the essentials of undertaking projects in an organizational environment.
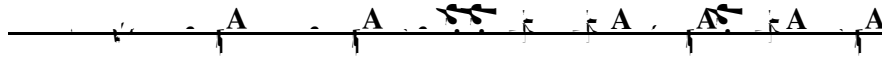
n on
- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of **A A** questions comprising Two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

A

Concept of Project: Meaning, Characteristics, Classification of Projects, Project Life Cycle and its Phases. Project Manager: Roles and Responsibilities, Project Management as a Profession.

A

Generating and Screening Ideas – Steps, Monitoring the Environment, Scouting for Project Ideas, Preliminarily Screening, Project Rating Index. Feasibility Studies – Technical, Financial, Economic, Social, Legal and Managerial.

A

Project Appraisal Techniques: Objectives, Types and Methods. Project Risks: Meaning, Types, Measurement of Risk,. Decision Tree Analysis (Basic Concepts only).
Project Evaluation – Meaning, Evaluation v/s Appraisal, Objectives, Types of Evaluation, Techniques.

A

Project Organization and Control – Project Network Analysis (Basic concepts of PERT,

The objective of this paper is to provide practical knowledge to the students about the Network Server.This course is meant to examine Windows Server while giving maximum learning potential to new Windows Administrators and Windows Developers.

on

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of A A questions comprising Two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions)-9.23579(k892(s)-4.6166(t)1.40381(i)1.40381(ons)6.02.8511(a)-2.80762(1279(e)-2.80892(d
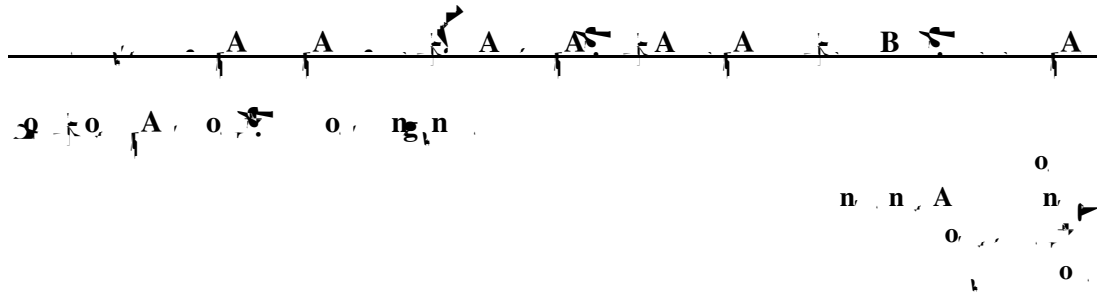
The goal of this course is to train students to an exceptionally high standards in network planning, implementation, administration and support.

Instruction

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of EIGHT questions comprising Two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

Backing UP and Restoring IOS Software and Configuration: Boot system commands, IOS file system, backing up configuration to a TFTP server, restoring configuration to a TFTP server, backing up the IOS software to a TFTP server, restoring/upgrading the IOS software

Security Device Manager: SDM connecting with CLI and GUI, SDM Express Wizard with no CLI pre-configuration, resetting the router to factory defaults, SDM user interfaces, configuration routing using SDM, SDM monitor mode, SDM to configuration a router as a DHCP server & client, SDM configuration NAT/PAT.

on - A

<div align="right">
Practical: 40
Internal Assessment: 10
Total Marks:50
Time:3 hours
</div>

n on

- Examiner will set total of four questions covering the whole syllabus.
- Student will attempt any three question
- Each question carries 5 marks.
- Practical file carries 5 marks and 20 marks for practical work and viva-voce.
- Practical paper will be conducted by the college in collaboration with the respective experts and marks will be submitted to Panjab University.

Switching technology provides an integrated and comprehensive coverage of

Describe how VLANs create logically separate networks and the need for routing between them, Explain network segmentation and basic traffic management concepts, Configure and verify VLANs.

A

Configure and verify trunking on Cisco switches: dtp (topic), auto-negotiation, Identify enhanced switching technologies: RSTP, PVSTP, Ether channels, Configure and verify PVSTP operation: Describe root bridge election, Spanning tree mode. Configure and verify Switch Port Security: Sticky mac, MAC address limitation,

- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

A

Research - Meaning, Characteristics, Types, Process and Utility,. Research Design - Meaning, Types and Features of good research design. Qualitative and Quantitative research. Importance of review of literature. The research proposal.

A

Primary and Secondary data. Methods of data collection. Measurement and scaling, Designing of Questionnaire and schedule.

A

Sampling Design and Sampling procedure. Sampling and non-sampling errors. Data analysis and interpretation. Role of computers in research.

A

Business Reports and Proposals: Introduction, Meaning a Report? Steps in Writing a Routine Business Report, Format of Proposals, Four Key Elements in Winning Business Proposals; Case Studies.

Boo

- 'Research Methods and Techniques' by C.R. Kothari, Eastern Wiley Publications.
- 'Business Research Methods' by A. Bryman, and E. Bell, Oxford University Press, New York.
- 'Research Methodology A Step by Step Guide for Beginners' by R. Kumar, Pearson Education.
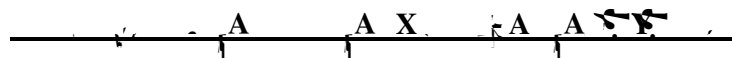
Theory: 40
Internal Assessment: 10
Total Marks:50
Time:3 hours

This course enables students to get familiar with Linux system, its commands, files & directories, shell programming, and system administration. Student will learn to Work in the Linux environmentand administrate the Linux machine.

n on

- The syllabus of this paper has been divided into FOUR units.
- Examiner will set a total of A A questions comprising Two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.

- The students are required to attempt one question from each unit and the entire Compulsory Question No. 1.
- All questions carry equal marks.

A

Introduction: Linux Operating System, features, Basic Architecture, features of Kernel and Shell. Linux File system - Boot block, super block, Inode table, data blocks, How Linux kernel access files, Linux standard file system. Structure of file system, Essential Linux commands - Commands for files and directories : cat, cd, ls, cp, md, rm, mkdir, rmdir, pwd, file, more, less, file comparisons – cmp & comm, View files, disk related commands, checking disk free spaces, chmod with its options, cal,date,who,tty, lp,stty.

A

Filters and pipes: head, tail, wc, pr, cut, paste, sort, uniqe, grep, egrep, fgrep, tee. The process : shell process, parent and children ,process status, system process, multiple jobs in background and foreground, changing process priority with nice, premature termination of process, Mathematical commands- bc, expr, factor, units.

A

Creating and editing files with VI editor with their command options, Operators, text deletion, text movement, changing text, yanking text, filtering text, the ex-mode, moving text from one file to another. Communication: The bulletin board –news, write, mesg, talk, mail, elm, pine, finger, vacation and connecting to remote machine.

A

System administration Common administrative tasks, identifying administrative files – configuration and log files, Role of system administrator, Managing user accounts-adding &deleting users, changing permissions and ownerships, Installation of Linux system– Linux Installation requirement, complete Procedure steps, Partitioning the Hard drive, System startup and shut-down process, init and run levels. File system mounting, lpstat, backup strategy, installing software on Linux.

on - A

Practical: 40

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- Practical paper will be conducted by the college in collaboration with the respective

Web Admin: Web Admin Menu Button bar, lists searching in lists, dialog boxes, buttons and icons, object lists. Dashboard: dashboard settings, flow monitor, Management: System settings, organizational, hostname, time and date, scan settings, reset configuration or passwords. Web admin settings: general, access control, user rights HTTPs certificate, user preferences, Licensing, up2date, backup/restore, user portal, notifications, hardware and software requirements, status system status configuration, shutdown and restart.

Definitions & Users: Network definitions, MAC address definitions, service definitions, time period definitions, users and groups, global settings Interfaces and routing, Network Services: DNS: global, forwarders, request routing, static entries, DynDNS, DHCP: Servers, Relay, DHCPv6 Relay, Static Mappings, IPv4 table, Network Protection: Firewall, Rules, Country Blocking, Country Blocking Exceptions, ICMP, Advanced, NAT: Masquerading, NAT, Advanced Threat Protection: Global, Intrusion Prevention: Global attack patterns, Anti-Dos/Flooding, Anti-Portscan, Exceptions, Advanced, Server Load Balancing: Balancing Rules

Web Protection: Web filtering: some key differences, common tasks, migration, Global, Https, Policies: Filter action wizard, categories, websites, downloads, antivirus, Web filter Profile: Filter profiles, filter actions, parent proxies, Filtering options: exceptions, websites, bypass users, potentially unwanted applications categories, Logging & Reporting : View Log

Book o n

-

Network Device Security: Configure and ^A verify network device security features: Device password security, enable secret versus enable, Transport, disable telnet, SSH, VTYs, physical security, service password.

Describe external authentication methods. Configure and verify a basic WAN serial connection, Configure and verify a PPP connection between Cisco routers, Configure and verify Frame Relay on Cisco routers, Implement and troubleshoot PPPoE.

Boo̸k̸ o n

- Lacoste, CCNP Routing and Switching TSHOOT 300 - 135: Official Cert Guide, Pearson India
- Todd Lammleccna, Routing and Switching Study Guide, Wiley India Pvt Ltd
- CCNA Cisco Certified Network Associate Study Guide 3rd Edition, Mcgraw Hill Education
- Mcmillan,Cisco Networking Essentials, Author: John Wiley & Sons
- Crypto and Network Security, 3rd Edition, Mcgraw Hill Education
-

- Examiner will set a total of **A** **A** questions comprising Two questions from each unit, including Question No. 1 (compulsory) of short answer type covering the whole syllabus.
- The students are required to attempt one question from each unit and the entire

- 'Quality Management – Concepts and Tasks' by V. Narayana & N.S.Sreenivasan, New Age International.
- Total Quality Management for Engineers' by Zeiri, Wood Head Publishers.

   'Total Quality Management' by James R. Evans, Cengage Learning
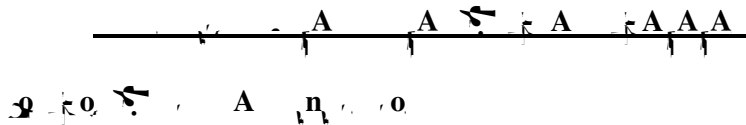
Industrial Training of 5-6 weeks of 6 credits in each year followed by Report Writing and Viva-voce. These credits will be evaluated in Semester VI