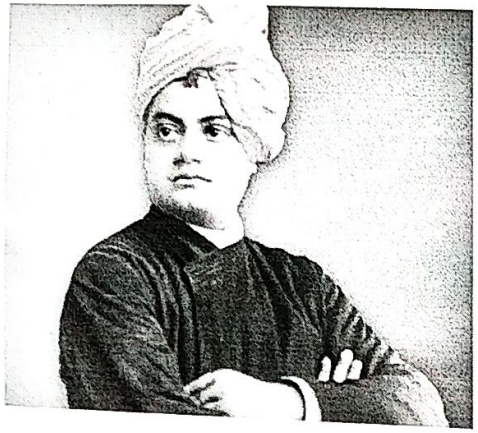
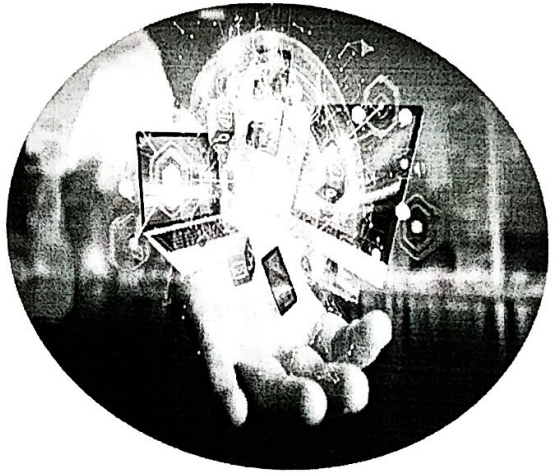


"Take up one idea. Make that one idea your life; dream of it; think of it; live on that idea. Let the brain, the body, muscles, muscles, nerves, nerves, every part of your body be full of that idea, and just leave every other idea alone. This is the way to success, and this is the way great spiritual giants are produced."

– Swami Vivekananda



For Further Details

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Department of Computer Applications

Organizes

Certificate course on

CCNA Routing and Switching Introduction to Network

Venue: **Seminar Hall**

Date: **26.12.2016**

ABOUT US

Ramakrishna Mission Vidyalaya, Coimbatore, is a vast complex of 18 service wings, commenced its educational activities in the year 1930 with the blessing of Bhagavan Sri Ramakrishna. The father of our Nation, Mahatma Gandhi laid the foundation stone of the first wing, a school.

Ayya Sri T.S. Avinashilingam, the Founder-Director, nurtured the institution with his visionary and devoted service. As envisaged by the great Swami Vivekananda, the Vidyalaya strives hard to impart man-making and character-building education to youth, that are necessary to develop leadership, responsibility and love for the country.

ABOUT OUR COLLEGE

Our college was started in the year 1964. Affiliated to the Bharathiar University, it was conferred with autonomous status in the year 1981-82. The college offers 13 UG and 6 PG programmes in both aided and unaided streams, besides offering 9 MPhil and PhD programmes. It was Re-accredited by NAAC with 'A' grade.

ABOUT THE DEPARTMENT

The School of Computer Studies constitute of B.Sc(CS), BCA, MCA and B.Sc(IT).

The team of faculties comprises of skilled and motivated persons, having meritorious academic track record with excellent interpersonal and intrapersonal skills.

The Departments is equipped with spacious laboratories and sufficient time for conducting various certification courses like CCNA of CISCO, Hardware & Networking, Multimedia, Web Services, Big Data of DELL EMC and IoT of EASY Design Systems.

OBJECTIVES OF THE COURSE

CCNA R&S: Introduction to Networks (ITN) covers networking architecture, structure, and functions. The course introduces the principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations to provide a foundation for the curriculum.

The 40-hour, includes activities using Packet Tracer, hands-on lab work, and a wide array of assessment types and tools.

By the end of the course, students will be able to:

- Explain network technologies.
- Explain how devices access local and remote network resources.
- Describe router hardware.
- Explain how switching operates in a small to medium-sized business network.
- Design an IP addressing scheme to provide network connectivity for a small to medium-sized business network.
- Configure initial settings on a network device.
- Implement basic network connectivity between devices.
- Configure monitoring tools available for small to medium-sized business networks.

Other Course Offered

- IT Essential Course
- Routing and Switching Essential
- Oracle Certification

CISCO Networking Academy

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SRKV Post, Periyanaickenpalayam, Coimbatore – 641020

Syllabus for
CCNA Routing and Switching : Introduction to Network

Ch.	Introduction to Networks		Objectives
1	**Explore the Network**		
	1.1	Globally Connected	Explain how multiple networks are used in everyday life.
	1.2	LANs, WANs, and the Internet	Explain how topologies and devices are connected in a small to medium-sized business network.
	1.3	The Network as a Platform	Explain the basic characteristics of a network that supports communication in a small to medium-sized business.
	1.4	The Changing Network Environment	Explain trends in networking that will affect the use of networks in small to medium-sized businesses.
2	Configure a Network Operating System		
	2.1	IOS Bootcamp	Explain the features and functions of the Cisco IOS Software.
	2.2	Basic Device Configuration	Configure initial settings on a network device using the Cisco IOS Software.
	2.3	Address Schemes	Given an IP addressing scheme, configure IP address parameters on devices to provide end-to-end connectivity in a small to medium-sized business network.
3	Network Protocols and Communications		
	3.1	Rules of Communication	Explain how rules facilitate communication.
	3.2	Network Protocols and Standards	Explain the role of protocols and standards organizations in facilitating interoperability in network communications.
	3.3	Data Transfer in the Network	Explain how devices on a LAN access resources in a small to medium-sized business network.
4	Network Access		
	4.1	Physical Layer Protocols	Explain how physical layer protocols and services support communications across data networks.
	4.2	Network Media	Build a simple network using the appropriate media.
	4.3	Data Link Layer Protocols	Explain the role of the data link layer in supporting communications across data networks.
	4.4	Media Access Control	Compare media access control techniques and logical topologies used in networks.

Ch.	Introduction to Networks	Objectives
5	Ethernet	
5.1	Ethernet Protocol	Explain the operation of Ethernet.
5.2	LAN Switches	Explain how a switch operates.
5.3	Address Resolution Protocol	Explain how the address resolution protocol enables communication on a network.
6	Network Layer	
6.1	Network Layer Protocols	Explain how network layer protocols and services support communications across data networks.
6.2	Routing	Explain how routers enable end-to-end connectivity in a small to medium-sized business network
6.3	Routers	Explain how devices route traffic in a small to medium-sized business network.
6.4	Configuring a Cisco Router	Configure a router with basic configurations.
7	IP Addressing	
7.1	IPv4 Network Addresses	Explain the use of IPv4 addresses to provide connectivity in small to medium-sized business networks.
7.2	IPv6 Network Addresses	Configure IPv6 addresses to provide connectivity in small to medium-sized business networks.
7.3	Connectivity Verification	Use common testing utilities to verify and test network connectivity.
8	Subnetting IP Networks	
8.1	Subnetting an IPv4 Network	Implement an IPv4 addressing scheme to enable end-to-end connectivity in a small to medium-sized business network
8.2	Addressing Schemes	Given a set of requirements, implement a VLSM addressing scheme to provide connectivity to end users in a small to medium-sized network.
8.3	Design Considerations for IPv6	Explain design considerations for implementing IPv6 in a business network.
9	Transport Layer	
9.1	Transport Layer Protocols	Explain how transport layer protocols and services support communications across data networks.
9.2	TCP and UDP	Compare the operations of transport layer protocols in supporting end-to-end communication.
10	Application Layer	
10.1	Application Layer Protocols	Explain the operation of the application layer in providing support to end-user applications.
10.2	Well-Known Application Layer Protocols and Services	Explain how well-known TCP/IP application layer protocols operate.
11	Build a Small Network	
11.1	Network Design	Explain how a small network of directly connected segments is created, configured and verified.
11.2	Network Security	Configure switches and routers with device hardening features to enhance security.
11.3	Basic Network Performance	Use common show commands and utilities to establish a relative performance baseline for the network.
11.4	Network Troubleshooting	Troubleshoot a network.

M. Arshad
HOD

Co-ordinator