



## ADITYA COLLEGE OF ENGINEERING & TECHNOLOGY

Affiliated to JNTUK, Kakinada \* Approved by AICTE, New Delhi \* Accredited by NAAC

Recognized by UGC Under section 2(f) and 12 (B) of UGC Act 1956

ADB ROAD, ADITYA NAGARA, SURAMPALEM-533437

### Department of Electronics & communication Engineering

Date: 16.08.2019.

To  
The principal  
Aditya College of Engineering & Technology  
Surampalem

Respected sir,

[Through Head of the Department]

Sub: Request for your approval to organize a certification course on "CCNA ROUTING AND SWITCHING: INTRODUCTION TO NETWORKS" – reg.

It's our greatest pleasure to bring to your kind notice that, we the Department of Electronics & communication Engineering would like to train our B.Tech students in the **CCNA ROUTING AND SWITCHING: INTRODUCTION TO NETWORKS** adapted initially, with the help of our staff; as the present scenario Networking is more helpful and strengthen the software development and data analytics. It will be more helpful to the students in theoretical and technical point of view. In this regard we are requesting your permission for further proceedings.

Resource Person : Mr. P Janardhan Reddy  
Assistant Professor  
Honorarium : Rs. 8000/-

PRINCIPAL  
Aditya College of  
Engineering & Technology  
SURAMPALEM- 533 437

Course Coordinator



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Date: 19.08.2019

### CIRCULAR

All the B.Tech students are hereby informed that a one-week program is arranged to enhance the knowledge on **CCNA ROUTING AND SWITCHING: INTRODUCTION TO NETWORKS**, as per the schedule from 2<sup>nd</sup> September, 2019. All interested students can attend the program and utilize the opportunity. The schedule is attached.

Course Coordinator: Mr. Arava Mohan  
+919502228464

**Head of the Department**

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## Department of Electronics & communication Engineering

### CCNA ROUTING AND SWITCHING: INTRODUCTION TO NETWORKS Syllabus

**Network Fundamentals** -role and function of network components, Routers , L2 and L3 switches , Next-generation firewalls and IPS, Access points, Controllers (Cisco DNA Center and WLC), Endpoints, Servers

**Network topology architectures**- 2 tier, 3 tier, Spine-leaf , WAN , Small office/home office (SOHO), On-premises and cloud,

**Physical interface and cabling types**- Single-mode fibre, multimode fibre, Connections (Ethernet shared media and point-to-point), Concepts of PoE

Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed), TCP to UDP, Configure and verify IPv4 addressing and subnetting, verify IPv6 addressing.

**IPv6 address types**- Global unicast, Unique local, Link local, Anycast, Multicast, Modified EUI 64, Verify IP parameters for Client OS (Windows, Mac OS, Linux)

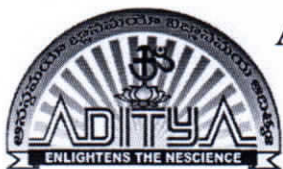
**wireless principles**- Nonoverlapping Wi-Fi channels, SSID, RF, Encryption, virtualization fundamentals (virtual machines)

**switching concepts**- MAC learning and aging, Frame switching , Frame flooding , MAC address table

Course Coordinator

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## Department of Electronics & communication Engineering

### **Schedule of CCNA ROUTING AND SWITCHING: INTRODUCTION TO NETWORKS:**

Day-1:

FN Inauguration of the Program and speakers talk about the objectives of the event.

AN **Network Fundamentals** -role and function of network components, Routers, L2 and L3 switches

Day-2:

FN Next-generation firewalls and IPS, Access points, Controllers (Cisco DNA Center and WLC), Endpoints, Servers

AN **Network topology architectures**- 2 tier, 3 tier, Spine-leaf , WAN , Small office/home office (SOHO), On-premises and cloud,

Day-3:

FN **Physical interface and cabling types**- Single-mode fibre, multimode fibre, Connections (Ethernet shared media and point-to-point), Concepts of PoE

AN Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed), TCP to UDP, Configure and verify IPv4 addressing and subnetting, verify IPv6 addressing

Day-4:

FN **IPv6 address types**- Global unicast, Unique local, Link local, Anycast, Multicast, Modified EUI 64, Verify IP parameters for Client OS (Windows, Mac OS, Linux)

AN **Wireless principle**- Nonoverlapping Wi-Fi channels, SSID, RF, Encryption, virtualization fundamentals (virtual machines)

Day-5:

FN **switching concepts**- MAC learning and aging, Frame switching , Frame flooding , MAC address table

AN Valedictory

  
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