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 Computer Science Engineering

Date: 09.10.2020.

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 CyberOps" – reg.

It's our greatest pleasure to bring to your kind notice that, we the Department of Computer Science Engineering would like to train our B.Techstudents in the **CCNA CyberOps**adapted initially, with the help of our staff; as the present Scenario in the world is focused of cyber security. 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. G A K S Rajeev Kumar Designation
Honorarium	:	Rs. 8000/-

forward to principal
M-Anil

Course Coordinator

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Department of Computer Science Engineering

Date: 13.10.2020

CIRCULAR

All the B.Techstudents are here by informed that a one-week program is arranged to enhance the knowledge on**CCNA CyberOps,** as per the schedule from 09thNovember,2020. 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 Computer Science Engineering

CCNA CyberOpsSyllabus

Network Concepts-network models, operations, network services, network device types, network security systems as deployed on the host, network, or the cloud, IP subnets and communication, VLANs and data visibility, operation of ACLs, packet filters, interfaces of network devices, deep packet inspection with packet filtering and stateful firewall operation, inline traffic interrogation and taps or traffic mirroring, network traffic.

Security Concepts-Risk, Threat, Vulnerability, Exploit, Threat actor, Run book automation (RBA), Chain of custody (evidentiary), Reverse engineering, Sliding window anomaly detection, PII& PHI, Principle of least privilege, Risk scoring/risk weighting, Risk reduction, Risk assessment, Discretionary access control, Mandatory access control, Nondiscretionary access control, Network and host antivirus, Agentless and agent-based protections, SIEM and log collection, Asset management, Configuration management, Mobile device management, Patch management, Vulnerability management

Cryptography-hash algorithm, encryption algorithms, symmetric and asymmetric encryption algorithms, digital signature creation and verification, PKI, secure communications protocols, cryptographic exchange impacts security investigation.

Host-Based Analysis-security monitoring, Host-based intrusion detection, Antimalware and antivirus, Host-based firewall, Application-level whitelisting/blacklisting, Systems-based sandboxing (such as Chrome, Java, Adobe reader), Windows security event logs, Unix-based syslog, Apache access logs, IIS access logs

Security Monitoring-TCP Dump, NetFlow, Next-Gen firewall, Traditional stateful firewall, Application visibility and control, Web content filtering, Email content filtering, Full packet capture, Session data, Transaction data, Statistical data, Extracted content, Alert data, Access control list, NAT/PAT, Tunneling, TOR, Encryption, P2P, Encapsulation, Load balancing, NextGen IPS event types, Connection event, Intrusion event, Host or endpoint event, Network

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discovery event, NetFlow event, function of protocols in security monitoring, DNS, NTP, SMTP/POP/IMAP, HTTP/HTTPS

Attack Methods-attack surface and vulnerability, network attacks, Denial of service, Distributed denial of service, Man-in-the-middle, web application attacks, SQL injection, Command injections, Cross-site scripting, Phishing, Evasion methods, Encryption and tunnelling, Resource exhaustion, Traffic fragmentation, Protocol-levelmisinterpretation, Traffic substitution and insertion, Pivotendpoint-based attacks, Buffer overflows, Command and control (C2), Malware, Rootkit, Port scanning, Host profiling, privilege escalation, remote exploit and a local exploit

Course Coordinator **Head of the Department**

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Department of Computer Science Engineering

Schedule of CCNA CyberOps:

Day-1:

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

AN Network models, operations, network services, network device types, network security systems as deployed on the host, network, or the cloud, IP subnets and communication, VLANs and data visibility

Day-2:

FN Operation of ACLs, packet filters, interfaces of network devices, deep packet inspection with packet filtering and stateful firewall operation, inline traffic interrogation and taps or traffic mirroring, network traffic.

AN Risk, Threat, Vulnerability, Exploit, Threat actor, Run book automation (RBA), Chain of custody (evidentiary), Reverse engineering, Sliding window anomaly detection, PII& PHI, Principle of least privilege, Risk scoring/risk weighting, Risk reduction, Risk assessment,

Day-3:

FN Discretionary access control, Mandatory access control, Nondiscretionary access control, Network and host antivirus, Agentless and agent-based protections, SIEM and log collection, Asset management, Configuration management, Mobile device management, Patch management, Vulnerability management

AN Hash algorithm, encryption algorithms, symmetric and asymmetric encryption algorithms, digital signature creation and verification, PKI, secure communications protocols, cryptographic exchange impacts security investigation.

Day-4:

FN Host-Based Analysis-security monitoring, Host-based intrusion detection, Antimalware and antivirus, Host-based firewall, Application-level

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whitelisting/blacklisting, Systems-based sandboxing (such as Chrome, Java, Adobe reader), Windows security event logs, Unix-based syslog, Apache access logs, IIS access logs

AN TCP Dump, NetFlow, Next-Gen firewall, Traditional stateful firewall, Application visibility and control, Web content filtering, Email content filtering, Full packet capture, Session data, Transaction data, Statistical data, Extracted content, Alert data, Access control list, NAT/PAT, Tunneling, TOR, Encryption, P2P, Encapsulation, Load balancing

Day-5:

FN NextGen IPS event types, Connection event, Intrusion event, Host or endpoint event, Network discovery event, NetFlow event, function of protocols in security monitoring, DNS, NTP, SMTP/POP/IMAP, HTTP/HTTPS

AN attack surface and vulnerability, network attacks, Denial of service, Distributed denial of service, Man-in-the-middle, web application attacks, SQL injection, Command injections, Cross-site scripting, Phishing, Evasion methods, Encryption and tunnelling.

Day-6:

FN Resource exhaustion, Traffic fragmentation, Protocol-levelmisinterpretation, Traffic substitution and insertion, Pivotendpoint-based attacks, Buffer overflows, Command and control (C2), Malware, Rootkit, Port scanning, Host profiling, privilege escalation, remote exploit and a local exploit.

AN Valedictory

Course Coordinator **Head of the Department**

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