



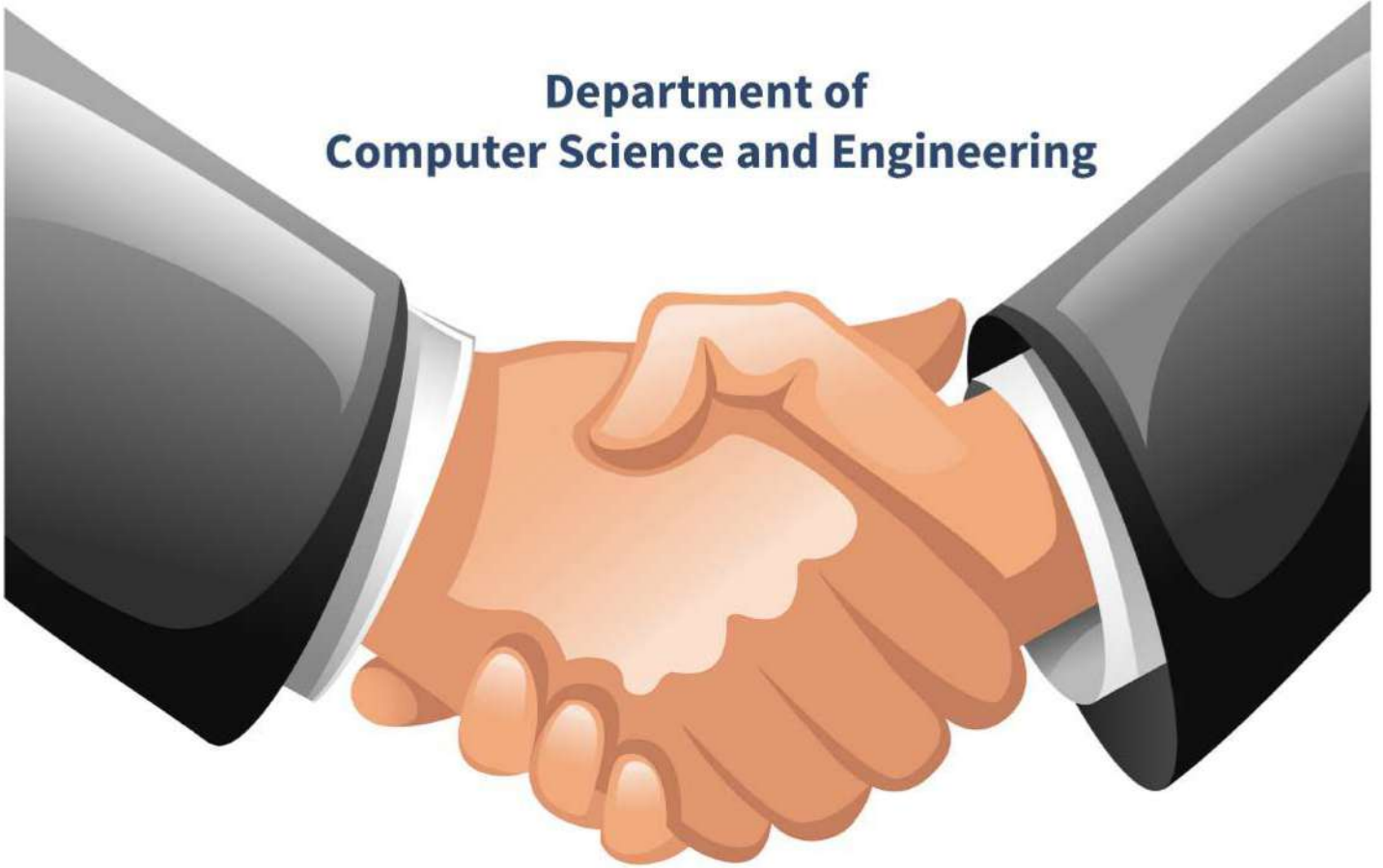
NANDHA

ENGINEERING COLLEGE

(Autonomous)



Department of Computer Science and Engineering



Accredited by



virtusa



MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (“MOU”) is executed on this, the October 18, 2021, at Hyderabad



VIRTUSA

About Virtusa

The image shows the Virtusa logo in white, three-dimensional letters mounted on a grey building facade. The logo is slightly blurred, suggesting a shallow depth of field. The background shows a blue sky with some clouds.

At Virtusa we help you to drive your transformation at the pace and passion of a startup, with expert execution at global scale. Business today requires transformational change at a scale and speed that defines traditional ways of working. We spark change through our Digital Transformation Studio that delivers deep digital engineering and industry expertise through client-specific and integrated agile scrum teams.

SERVICES

- Consulting & Design
- Digital Engineering
- Cloud Transformation
- Managed services



VIRTUSA

26 STUDENTS GOT PLACED

WITH

5.5 LPA

ECE STUDENTS



DHARANI .C

GOWRISHANKAR .K

HARINI .V.G

HARIVIGNESH.S.P.S

JANANEE .S

LOGESHWARI.S

VINOTH .S

IT STUDENTS



PREETHA .R

SANJAI .R

THIRUNAVUKKARASU A

SANJAY .P

RADHAKRISHNAN .B

MAHEERA
KHATOON .M

CSE STUDENTS



GOKULAKANNAN. R

KARTHIK K

KARTHIKEYAN K

KAVIN K

KOWSHALYA S P

MONA C

NAVEEN
PRASANTH A



PRADEEP
KUMAR M

SATHIYA SREE S

SNEHA M

SRIVATHSUN MA

VIKRAM S

ANAND S

IT OPERATIONS			
COURSE OBJECTIVES AND OUTCOMES			
Course Objectives		Course Outcomes	
1.0	To understand the basics of IT operations and differentiate IT Operation Management & IT Service Management.	1.1	The student will be able to understand the key concepts of IT Operations Management & IT Service Management.
2.0	To learn policies and procedures to achieve a safe working environment in terms of health and safety regulations.	2.1	The student will be able to keep the Corporate Etiquettes and make the working environment safer.
3.0	To know the different kinds of security threats in networks and solutions to solve them.	3.1	The students will be able to employ security mechanism in networks.
4.0	To learn the components required to operate and manage enterprise IT environments.	4.1	The student will be able to properly implemented IT infrastructure and manage its operations.
5.0	To learn the basics of commonly used tools in IT Operations.	5.1	The student will be able to work in Microsoft 365, ServiceNow, UiPath Platforms.

UNIT I - IT OPERATIONS

IT Operation Definition - Roles & Responsibilities of IT Operations - IT Monitoring - Introduction to ITOM & ITSM - ITOM vs ITSM - IT operations Management - Responsibilities of IT operations Management. IT Service Management: IT Service Management Best Practices - ITIL - The Service Life Cycle(Service Strategy - Service Design - Service Transition - Service Operation - Continual Service Improvement) Functions of IT Service Management (Incident Management, Event Management, Request fulfillment, Problem Management, Change Management, Availability Management - The Service Desk) - Escalation & Governance Management.

UNIT II - HEALTHY SAFE AND SECURE WORKING ENVIRONMENT & ETIQUETTE

Health and Safety Essentials - Control and Management Systems - Facilities Management and Ergonomics - Managing Equipment - Managing Material. Etiquette: Professionalism in Relationships - First Impressions - Conducting Yourself in a Working Environment - Make Your Work Place Healthy - Dining Etiquette - Elevator Etiquette - Cafeteria Etiquette - Meeting Etiquette - Telephone Etiquette - Dealing with Difficult People and Conflicting Situations.

UNIT III - INFORMATION SECURITY

Risks, Threats and Vulnerabilities - Tenets of Information Security System (CIA) - Access Controls: Four Part Access Control - Two Types of Access Control - Authorization Policies - Centralized and Decentralized Access Control. Security Administration - Compliance - Professional Ethics - The Infrastructure for an IT Security Policy - Auditing, Testing and Monitoring - Risk, Response and Recovery: Risk Management and Information Security - The Risk Management Process - Business Continuity Management - Backing Up Data and Applications - Incident Handling - Recovery From a Disaster.

UNIT IV - IT INFRASTRUCTURE

Definition - Components of IT Infrastructure (Hardware, Software, Network) - Types of IT infrastructure (Traditional, Cloud, Hyperconverged) - Security (Log Management,SIEM) - Security Information Event Management: Importance of SIEM - Elements - Features - Architecture - flow Process. Infrastructure Maintenance Service vs Application maintenance Service.

UNIT V - INTRODUCTION TO COMMONLY USED TOOLS

- Microsoft 365
- ServiceNow
- UiPath

IT OPERATIONS ADVANCED			
COURSE OBJECTIVES AND OUTCOMES			
Course Objectives		Course Outcomes	
1.0	To introduce the basic concepts and techniques of Machine Learning, Deep Learning and Artificial Intelligence.	1.1	The students will be able to apply the appropriate machine learning strategy for any given problem
2.0	To understand basic concepts of cloud platform & design intelligent Cloud Services and Applications.	2.1	The students will be able to design Applications using Amazon Web Services.
3.0	To explore the concepts of Map Reduce Programming.	3.1	The students will be able to create a Hadoop Environment and Generate a Map-Reduce Programming.
4.0	To understand the key concepts of intelligent automation.	4.1	The student will be able to apply AIOps & RPA technologies to automate the identification and resolution of common IT issues.
5.0	To learn how to use ServiceNow to manage IT tasks at any organization.	5.1	The student will be able to track the life cycle of help desk tickets and fulfillment requests in ServiceNow.

UNIT I - ARTIFICIAL INTELLIGENCE & MACHINE LEARNING
Introduction to Machine Learning, Deep Learning & Artificial Neural Network - Artificial Intelligence vs Machine Learning vs Deep Learning - Types of Learning - Computer Vision - Image Classification - CNN Architecture (LeNet-5, AlexNet, VGGNet, Inception & GoogLeNet, ResNet) - Object Detection - Non Maximum Suppression (NMS) - Object Detection with R-CNN, SSD and YOLO.
UNIT II - CLOUD COMPUTING
Definition - History - Goals & Benefits - Risks & Challenges - Fundamental Concepts of Cloud - Cloud Characteristics - Cloud Delivery Models (IaaS, PaaS, SaaS) - Cloud Deployment Models (Public Cloud, Private Cloud, Community Cloud, Hybrid Cloud) - AWS vs Azure vs Google Cloud Platforms. Amazon Web Services: Architecture - AWS Global Infrastructure - Amazon Cloudfront - AWS Lambda - AWS Serverless Applications - Amazon Kinesis - Amazon Sage Maker - Amazon Disaster Recovery.
UNIT III - BIG DATA AND DATA SCIENCE
Introduction to Big Data & Data Science - Data Source - Hadoop : History , Features & Apache Hadoop Ecosystem - Hadoop Distributed File System (HDFS) - Hadoop MapReduce Framework - Essential Hadoop Tools (Pig, Hive, Sqoop, Flume) - Hadoop Yarn Applications.
UNIT IV - AIOps & ROBOTIC PROCESS AUTOMATION
AIOps: Introduction - Three capabilities of AiOps Platform - AiOps Technologies - Stages of the AIOps Process - Benefits & Drawbacks of AiOps - Observability-in-a-Box - Benefits of Integration Observability-in-a-Box with AiOps - Robotic Process Automation: Introduction - Flavors of RPA - History of RPA - Benefits of RPA - Components of RPA - RPA Skills - Process Methodologies (Applying Lean & Six Sigma to RPA) - RPA Framework - UiPath - Bot Development using UiPath.
UNIT V - SITE RELIABILITY ENGINEERING & SERVICE NOW
Site Reliability Engineering : Introduction - DevOps vs SRE - SRE Overview - SRE Terms (Toil, SLI, SLO, Error Budget) - SRE Team Responsibilities - Skill set of SRE - Identify & Eliminate Toil - Release Management - Incident Management. ServiceNow: Introduction to Interface - Lists & Forms - UI Customization - Understanding Data and Relationships - Tasks & Workflow - UI & Data Policies - Scripting : Server Side Scripting & Client Side Scripting.



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