SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**V/III**	**3**	**0**	**0**	**3**
Subject Name		**Introduction to E-Governance**				
Subject Code		**DCS20S501**				
Paper	**English**					
	Hindi					
Max. Marks		**100**				

Course Objectives:

To cover the concepts of e-Governance and to understand how technologies and business models shape the contours of government for improving citizen services and bringing in transparency.

Course Outcomes:

At the end of the course, the student should be able to

CO1. Understand and appreciate the essence of e-Governance.

CO2. Develop skills to critically evaluate government web sites and eservices against current "best practice" principles and standards.

CO3. Understand the major federal and state laws and regulations impacting the evolution of e-government.

CO4. Be able to articulate the policy and social issues facing agencies in implementing e-government initiatives.

CO5. Be able to apply basic business case and government IT management concepts in preparing e-government proposals, plans or strategies.

Unit	Syllabus	Periods
UNIT – I	Exposure to emerging trends in ICT for development, Understanding of design and implementation of e-Government projects, e-governance lifecycle.	**10**
UNIT – II	Need for Government Process Re-engineering (GPR); National e-Governance Plan (NeGP) for India; SMART Governments & Thumb Rules.	**10**
UNIT – III	Architecture and models of e-Governance, including Public Private Partnership (PPP); Need for In- novation and Change Management in eGovernance; Critical Success Factors; Major issue including corruption, resistance for change, e-Security and Cyber laws.	**10**

UNIT – IV	Focusing on Indian initiatives and their impact on citizens; Sharing of case studies to highlight best practices in managing e-Governance projects in Indian context. Visits to local e-governance sites (CSC, eSeva, Post Office, Passport Seva Kendra, etc) as part of Tutorials.	**10**
UNIT – V	Case Study – primarily evaluation of various e-governance projects.	**8**

TEXT BOOKS:

1. Managing Transformation –Objectives to Outcomes. J Satyanarayana, Prentice Hall India.

REFERENCE BOOKS:

1. The State, IT and Development. Kenneth Kenniston, RK Bagga and Rohit Raj Mathur, Sage Publications India Pvt Ltd.
2. E-Government -The Science of the Possible. J Satyanarayana, Prentice Hall, India.

COMPUTER SCIENCE & ENGINEERING

Class	**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year	**V/III**	**3**	**0**	**0**	**3**
Subject Name	**Internet of Things**				
Subject Code	**DCS20S502**				
Paper **English**					
Hindi					
Max. Marks	**100**				

Course Objectives:

Internet of Things (IoT) is presently an important technology with wide ranging interest from Government, academia and industry.

IoT cuts across different application domain verticals ranging from civilian to defence sectors which includes agriculture, space, health care, manufacturing, construction, water, mining, etc. Today it is possible to build different IoT solutions such as shopping system, infrastructure management in both urban and rural areas, remote health monitoring and emergency notification systems, and transportation systems. Therefore, it is very important to learn the fundamentals of this emerging technology.

Course Outcomes:
At the end of the course, the student should be able to:

CO1. Have good understanding of various aspect of IoT.

CO2. Know some tools and have basic implementation skills.

CO3. Understand the definition and significance of the Internet of Things.

CO4. Discuss the architecture, operation, and business benefits of an IoT solution.

CO5. Examine the potential business opportunities that IoT can uncover.

Unit	Syllabus	Periods
UNIT – I	Introduction to IoT; Sensing; Actuation.	**6**
UNIT – II	Basics of IoT Networking, Communication Protocols, Sensor networks.	**8**
UNIT - III	Introduction to Arduino programming, Integration of Sensors Actuators to Arduino.	**8**
UNIT – IV	Implementation of IoT with Raspberry Pi; Data Handling Analytics.	**8**
UNIT - V	Case Studies: Agriculture, Healthcare, Activity Monitoring.	**8**

TEXT BOOKS:

1. "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", by Pethuru Raj and Anupama C. Raman (CRC Press).

REFERENCE BOOKS:

1. Internet of Things by Dr. Jeeva Jose, Khanna Publishing House (Edition 2017).
2. "Internet of Things: A Hands-on Approach", by Arshdeep Bahga and Vijay Madisetti (Universities Press).
3. Internet of Things: Architecture and Design Principles, Raj Kamal, McGraw Hill.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class		Diploma-CSE	L	T	P	C
Semester/Year		V/III	3	0	0	3
Subject Name		Advance Computer Networks				
Subject Code		DCS20S503				
Paper	English					
	Hindi					
Max. Marks		100				

Course Objectives:

This course aims to provide advanced background on relevant computer networking topics to have a comprehensive and deep knowledge in computer networks and introduce Advance Networking Concepts, Theories and Tools.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. Understanding core concepts/theories/algorithms of computer networks.

CO2. Some hands-on capability on various network devices and tools.

CO3. Capability to design and implement a computer network.

CO4. Understand and building the skills of subnetting and routing mechanisms.

CO5. Identify the different types of network devices and their functions within a network.

Unit	Syllabus	Periods
UNIT – I	Review of Networking Basics; Advance Topics in IPv4 , Sub-netting, Multicasting, Multicast Routing Protocols (IGMP, PIM, DVMRP); Advance Topics in TCP – flow management, congestion avoidance, protocol spoofing; IPv6.	**10**
UNIT – II	Telecom Networks, Switching Techniques; Introduction to Frame Relay, ATM, MPLS; VSAT Communication – Star and Mesh architectures, bandwidth reservation; Wireless Networks – Wi-Fi, WiMax, Cellular Phone Technologies – GSM, CDMA, 3G, 4G.	**10**
UNIT - III	Network Redundancy, Load Balancers, Caching, Storage Networks; QoS; Network Monitoring – SNMP, RMON.	**8**
UNIT – IV	Introduction to Network Security – VLAN, VPN, Firewall, IPS, Proxy Servers.	**8**
UNIT - V	Network Simulation, Network design case studies and exercises, IP Addressing schema, Protocol Analysers (Wire shark, etc.).	**8**

TEXT BOOKS:

1. An Engineering Approach to Computer Networking, S. Keshav.
2. Data Networks, Bertsekas-Gallager.

REFERENCE BOOKS:

1. Communication Networking – An Analytical Approach, Anurag-Manjunath-Joy.
2. TCP/IP Illustrated (Vol.1, 2), Stevens.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class	Diploma-CSE	L	T	P	C

Semester/Year		V/III	3	0	0	3
Subject Name		Information Security				
Subject Code		DCS20S504				
Paper	English					
	Hindi					
Max. Marks		100				

Course Objectives:

To learn how to evaluate and enhance information security of IT infrastructure and organisations.

Course Outcomes:

At the end of the course, the student should be able to

CO1. Understand the security needs and issues of IT infrastructure.

CO2. Have basic skills on security audit of networks, operating systems and application software.

CO3. Understand the security in operating systems.

CO4. Understand and analyse descriptions of IT systems and set requirements for their security.

CO5. Apply techniques and tools for secure system deployment and operation.

Unit	Syllabus	Periods
UNIT - I	Introduction to Information Security, Various aspects of information security (PAIN), Security Features of Operating Systems – Authentication, Logs, Audit Features, File System Protection, User Privileges, RAID options, Anti-Virus Software, etc.	**10**
UNIT - II	Understanding security weaknesses in popular networking protocols – IP, TCP, UDP, RIP, OSPF, HTTP, SMTP, etc.; security weaknesses in common networking devices – Hub, switch, router, Wi-Fi; Security solutions to mitigate security risk of networking protocols (IPsec, HTTPS, etc.) and devices (VLAN, VPN, Ingress Filtering, etc).	**12**
UNIT - III	Basics of Cryptography, PKI, Security considerations while developing software's.	**8**
UNIT - IV	Network Security Products – Firewall, IDS/IPS, VPN Concentrator, Content Screening Gateways, etc.	**8**
UNIT - V	Introduction to Security Standards – ISO 27001, Indian IT Act, IPR Laws; Security Audit procedures; Developing Security Policies; Disaster Recovery, Business Continuity Planning.	**10**

TEXT BOOKS:

1. Information Security and Cyber Laws, Sarika Gupta, Khanna Publishing House.

REFERENCE BOOKS:

1. Mark Stamp, Information Security: Principles and Practice, 2/e (2011, Wiley).
2. William Stallings, Cryptography and Network Security: Principles and Practice, 5/e (2010, Prentice Hall).
3. Paul van Oorschot, Computer Security and the Internet: Tools and Jewels (2020, Springer).

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class	**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year	**V/III**	**3**	**0**	**0**	**3**
Subject Name	**Network Forensics**				
Subject Code	**DCS20S505**				

Paper	English	
	Hindi	
Max. Marks		**100**

Course Objectives:

To understand various network forensic aspects for analysing network security breach.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. Understand the basics of computer and network forensics.
CO2. Be well-trained as next-generation computer crime investigators.
CO3. Be prepared for active research at the forefront of these areas.
CO4. Describe and critique digital forensics process models.
CO5. Discuss the ways in which digital evidence is authenticated.

Unit	Syllabus	Periods
UNIT - I	Review of Networking concepts and Protocols, Introduction to Network Forensics, various aspects of Network Forensics.	**8**
UNIT - II	Introduction to Network Forensic Tools and techniques: Wireshark, TCP Dump, Syslog, NMS, Promiscuous Mode, Network Port Mirroring, snooping, scanning tools, etc.	**10**
UNIT - III	Understanding and Examining Data Link Layer, Physical Layer, Ethernet Switch Logs, MAC Table, ARP Table, etc. Understanding and Examining Network Layer, Router Logs, WiFi Device logs, Firewall logs.	**12**
UNIT - IV	Understanding audit features of OS and applications; Enabling and Examining Server logs, User activity logs, Browser history analysis, Proxy server logs, Antivirus logs, Email logs.	**10**
UNIT - V	Limitations and challenges of network forensics due to encryption, spoofing, mobility, storage limitations, privacy laws, etc.	**10**

TEXT BOOKS:

1. Handbook of Digital Forensics and Investigation, Eoghan Casey, Elsevier Academic Press.

REFERENCE BOOKS:

1. Cyber Forensics, Albert Marcella and Doug Menendez, CRC Press.

2. Computer Forensics (5 volume Set) mapping to CHFI (Certified Hacking Forensics Investigator), by EC-Council.

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SYLLABUS

DIPLOMA

Class		**Diploma (EX/CSE/ME/CE)**	**L**	**T**	**P**	**C**
Semester/Year			**3**	**-**	**-**	**3**
Subject Name		**Industrial Automation**				
Subject Code		**DOC20S506**				
Paper	**English**					
	Hindi					
Max. Marks		**100**				
Course Objectives:						

1. To present the basic fundamentals of industrial automation and engineering.
2. To expose the Student to different element of automation, their properties, structures and imperfections present in them.

Course Outcomes:

CO1: State the principles of Industrial automation.
CO2: Discuss various types of automation.
CO3: Use different types of hydraulic and pneumatic systems.
CO4: Understand working of sensors and actuators.
CO5: Understand the working of industrial automation and control system.

Unit	Syllabus	Periods
UNIT-I	Introduction to Automation: Definition and fundamentals of automation, reasons for Automating, basic elements of an automated system: Power, Program and control system Advanced automation functions: safety, maintenance & repair diagnosis, error detection and recovery Levels of automation Automation principles and strategies: USA principle, ten strategies of automation and production system, automation migration strategy.	**10**
UNIT-II	Mechanization and Automation: Mechanization and automation, product cycle, hard Vs flexible automation, Capital- intensive Vs low cost automation Types of systems-mechanical, electrical, hydraulic, pneumatic and hybrid systems Automation using CAMS, Geneva mechanisms, gears etc. Assembly line Automation: automated assembly systems, transfer systems, vibratory bowl feeders, non-vibratory feeders, part orienting, feed track, part placing & part escapement systems. Introduction to Material storage/ handling and transport systems, and its automation using AS/RS, AGVS and conveyors etc.	**10**
UNIT-III	Pneumatics and hydraulics: Hydraulic and pneumatic devices-Different types of valves , Actuators and auxiliary elements in Pneumatics & hydraulics , their applications and use of their ISO symbols Synthesis and design of circuits (up to 3 cylinders)–pneumatic, electro pneumatics and hydraulics Design of Electro-Pneumatic Circuits using single solenoid and double solenoid valves; with and without grouping.	**11**

UNIT-IV	Sensors & Actuators Sensors: Selection of sensors (Displacement, temperature, acceleration, force /pressure) based on static and dynamic characteristics Interfacing: Concept of interfacing, bit accuracy and sampling speed, amplifying electronics, and microcontroller Actuators: Principle and selection of mechano-electrical actuators (1) DC motors (2) Stepper Motors (3) Solenoid Actuators (4) Servo Motors (5) BLDC.	**10**
UNIT-V	Industrial control systems: Process industries versus discrete manufacturing industries, Continuous verses discrete control, Computer process control, Forms of computer process control Discrete control using PLC- discrete process control, Programmable logic controller, its architecture, ladder digs, Ladder Logic Programming for different types of logic gates, Latching, Timers, Counter, Practical Examples of Ladder Programming.	**14**
	Text Books: 1. Nagrath & Gopal "*Control System*", TMH. 2. Majumdar S. R., "*Pneumatic Systems*", Tata McGraw Hill, New Delhi.	
	Reference Books: 1. Esposito A., "Fluid Power with Applications", Prentice Hal of India, New Delhi. 2. Groover, M.P., "Automation, Production Systems & Computer Integrated Manufacturing", Prentice Hall of India, New Delhi.	

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DIPLOMA

Class		**Diploma (EX/CSE/ME/CE)**	**L**	**T**	**P**	**C**
Semester/Year		**V/III**	**3**	**0**	**0**	**3**
Subject Name		**Sensor Network**				
Subject Code		**DOC20S507**				
Paper	**English**					
	Hindi					

Max. Marks	100

Course Objectives:

1. To learn about the issues and challenges in the design of wireless ad hoc networks.
2. To understand the working of MAC and Routing Protocols for ad hoc and sensor networks
3. To learn about the Transport Layer protocols and their QoS for ad hoc and sensor networks.
4. To understand various security issues in ad hoc and sensor networks and the corresponding solutions.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. Identify different issues in sensor networks.
CO2. Analyse protocols developed for sensor networks.
CO3. Identify and understand security issues in sensor networks.
CO4. Understand sensor data acquisition, processing and handling.
CO5. Understand communication architecture and protocols for WSN (MAC, Link, Routing).

Unit	Syllabus	Periods
UNIT - I	Challenges for Wireless Sensor Networks, Enabling Technologies For Wireless Sensor Networks.	**8**
UNIT - II	**Architectures** Single-Node Architecture - Hardware Components, Energy Consumption of Sensor Nodes, Operating Systems and Execution Environments, Network Architecture -Sensor Network Scenarios, Optimization Goals and Figures of Merit, Gateway Concepts.	**12**
UNIT - III	Physical Layer and Transceiver Design Considerations, MAC Protocols for Wireless Sensor Networks, Low Duty Cycle Protocols And Wakeup Concepts - S-MAC , The Mediation Device Protocol, Wakeup Radio Concepts, Address and Name Management, Assignment of MAC Addresses, Routing Protocols- Energy-Efficient Routing, Geographic Routing.	**12**
UNIT - IV	Infrastructure Establishment Topology Control, Clustering, Time Synchronization, Localization and Positioning, Sensor Tasking and Control.	**10**
UNIT - V	Sensor Network Platforms and Tools Sensor Node Hardware – Berkeley Motes, Programming Challenges, Node-level Software platforms, Node-level Simulators, State-centric programming.	**10**

TEXT BOOKS:

1. Holger Karl & Andreas Willig, “Protocols and Architectures for Wireless Sensor Networks”, John Wiley, 2005.
2. Feng Zhao & Leonidas J. Guibas, “Wireless Sensor Networks- An Information Processing Approach", Elsevier, 2007.

REFERENCE BOOKS:

1. Kazem Sohraby, Daniel Minoli, & Taieb Znati, “Wireless Sensor Networks- Technology, Protocols,

And Applications", John Wiley, 2007.
2. Anna Hac, "Wireless Sensor Network Designs", John Wiley, 2003.

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DIPLOMA

Class		**Diploma (EX/CSE/ME/CE)**	**L**	**T**	**P**	**C**
Semester/Year			**3**	**0**	**0**	**3**
Subject Name		**Space Science**				
Subject Code		**DOC20S508**				
Paper	**English**					
	Hindi					
Max. Marks		**100**				

Course Objectives:

Students will be able to:

1. To impart knowledge in concepts of interplanetary space.
2. To understand fundamental particles and basic forces.
3. To understand Kepler's Laws.

Course Outcomes:

Students will be able to:

CO1. Understand planetary and interplanetary space.
CO2. Structure of earth's atmosphere.
CO3. Apply observational and experimental tools for astronomy and space science.
CO4. Understand fundamental particles and basic forces.
CO5. Understand electromagnetic spectrum and astronomer's tools.

Unit	Syllabus	Periods
UNIT-I	Solar System, Kepler's Laws, Earth-Moon System, Solar and Lunar types, Exploration of Solar System by Telescopes, Rockets and Satellites.	**8**
UNIT-II	Structure of Earth's Atmosphere- Lower, Middle and Upper Troposphere (0-10 km), Stratosphere (10-50km), Ionosphere (50-1000 km), Proton sphere (10,000 to 60,000 km towards sun), Interplanetary space (Beyond 60,000 km towards the sun), Earth as a Magnetic Comet.	**8**

UNIT-III	In-situ measurements of chemical, physical and dynamical parameters using Kites, Balloons, Aero planes, Rockets and Satellite Payloads.	**7**
UNIT-IV	Protons, Electrons, Neutrons, Neutrinos, Mesons, leptons, and quarks. The concept of Basic forces viz., strong, weak, electromagnetic and gravitational forces.	**7**
UNIT-V	The nature of light: Light as an electric vibration, the electromagnetic radiation from a heated object, Doppler shift. Optical telescopes, (Galielian, Newtonian, Cassegranian & Hubble Space Telescope), Magnifying power & Resolving power of telescopes, UV, x-ray, IR, Radio & gravitational Astronomy, Spectroscope.	**8**

Text Books:

1. Ionospheric Radio Propagation by Kenneth Davis. National Bureau of Standards, Monograph 80 (1965), US Government Printing office, Washington D.C.
2. Physics of the Upper Atmosphere edited by J, A. Ratcliffe, Cavendish Laboratory, University of Cambridge. Academic Press New York and London (1960).

Reference Books:-

1. Research in Geophysics:Vol.1- Sun, Upper Atmosphere and space edited by Hugh Odishaw, National Academy of Sciences. Washington D.C.

2. Source book on the Space Sciences - Samuel Glasstone, Princeton, New Jersey.

3. The Upper Atmosphere - S K Mitra, The University of Michigan, Asiatic Society, 2010.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**V/III**	**0**	**0**	**4**	**2**
Subject Name		**Hardware Installation & Maintenance Lab**				
Subject Code		**DCS20S509**				
Paper	**English**					
	Hindi					
Max. Marks		**50**				

Course Objectives:

The objective of the subject Hardware Installation and Maintenance is to impart essential knowledge about hardware.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. Have Knowledge about hardware.
CO2. Do installation of hardware.
CO3. Do installation of driver software.
CO4. Do troubleshooting devices.
CO5. Assemble Computer System.

List of Experiments

1. Installation and troubleshooting the Motherboard.
2. Installation and troubleshooting the CPU.
3. Installation and troubleshooting the heat sink and cooling fan.
4. Installation and troubleshooting RAM.
5. Installation and troubleshooting SMPS to different devices.
6. Installation and troubleshooting the hard-drive and its cables.
7. Installation and troubleshooting optical drives.
8. Installation and troubleshooting the video card, sound cards and other cards.
9. Installation and troubleshooting PCI.
10. Installation and troubleshooting Expansion cards.
11. Operating System Installation i.e. Windows and Open Source OS (Linux, SUN).
12. Device Driver Installation.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**V/III**	**0**	**0**	**4**	**2**
Subject Name		**Java Programming Lab**				
Subject Code		**DCS20S510**				
Paper	**English**					
	Hindi					
Max. Marks		**50**				

Course Objectives:

The course introduces students to the design of Java language, syntax of Java, programming applets and applications that can perform multiple actions in parallels.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.
CO2. Read and make elementary modifications to Java programs that solve real-world problems.
CO3. Validate input in a Java program.
CO4. Identify and fix defects and common security issues in code.
CO5. Document a Java program using Javadoc.

List of Experiments

1. Programs using various decisions making & looping statements of JAVA.
2. Programs to demonstrate the use of array, Class & packages.
3. Programs using Concept of public, private and protected, Final Variables & Methods.
4. Programs using Final Classes, Finalize Methods, Abstract methods & Classes, Static class.
5. Program for creating & extending thread.
6. Programs to demonstrate the use of multiple threads.
7. Programs to Designing data entry forms using various building blocks at client side using Applet.
8. Program to connect single & multiple databases using JDBC concept.
9. Program to read & write a text file.
10. Program for GUI design using JOptionPane class.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**V/III**	**0**	**0**	**0**	**2**
Subject Name		**Summer Internship-II**				
Subject Code		**DCS20S511**				
Paper	**English**					
	Hindi					
Max. Marks		**50**				

Course Objectives:

1. To encourage students to read, study & understand different topics of Computer Science engineering.
2. To make student acquire good oral & written communication skills.
3. To promote the habit of lifelong learning.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. Observe various activities in field.
CO2. Examine the utility of general and specific Software tool for Development.
CO3. Differentiate the construction projects individually and in team.
CO4. Develop the writing and communication skills for various engineering problems.
CO5. Adapt lifelong learning for benefit of society.

Syllabus

Each candidate shall have to undergo 15 days in-house summer internship at the institute after the completion of their 4th Semester exams (in summer vacations). Candidate can choose from various modules which are offered by the institute and after successful completion of internship they have to submit detailed report.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**V/III**	**0**	**0**	**4**	**2**
Subject Name		**Major Project –I**				
Subject Code		**DCS20S512**				
Paper	**English**					
	Hindi					
Max. Marks		**50**				

Course Objectives:

1. To develop an Application of Computer science engineering problems & have a feel of real life situations in planning & development of projects.
2. To impart training of handling various types of Computer Science engineering problems by use software's.

Course Outcomes:

At the end of the course, the student should be able to

CO1. Recognize various engineering problems and techniques to solve them.
CO2. Reproduce the solution of the problems upon the need of society.
CO3. Cooperate to work within group.
CO4. Develop the writing and communication skills for various engineering problems.
CO5. Adapt lifelong learning.

Syllabus

Each candidate shall work on a unique project of Computer Science engineering work and shall submit report.

OR

Shall submit a detailed report of experimental work / software package on any specific problem of importance.

SCHOOL OF ENGINEERING

SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class	**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year	**VI/III**	**3**	**0**	**0**	**3**
Subject Name	**Dot Net Technologies**				
Subject Code	**DCS20S601**				
Paper **English**					
Hindi					
Max. Marks	**100**				

Course Objectives:

Introduce students to technology subject; the prerequisite subject for this subject is knowledge of Fundamentals of Web Page Design. Creating dynamic web pages in a website is challenging task today. To fulfil this task, .NET platform is used. ASP.NET Technology is used to configure, build, debug, deploy and secure enterprise-wide applications including collecting end user data from the Internet, integrating multiple data sources, creating new Web Services, and integrating existing Web Services.

Course Outcomes:

At the end of the course, the student should be able to

CO1. Understand the Microsoft .NET Framework and ASP.NET page structure.
CO2. Design web application with variety of controls.
CO3. Access the data using inbuilt data access tools.
CO4. Use Microsoft ADO.NET to access data in web Application.
CO5. Configure and deploy Web Application and develop secured web application.

Unit	Syllabus	Periods
UNIT - I	Introduction to .NET Introduction to Microsoft.Net Framework, Building blocks in .Net, Drawback of previous languages, Understand .Net, Common language runtime (CLR), Common type system (CTS), Difference between ASP and ASP. Net, Introduction to IIS, web application and its usage, ASP.Net IDE Visual studio .Net, Creation of web forms, Using web form controls.	**10**
UNIT - II	ASP.Net Objects and components Response object, Server object, Application object, Session object, ASP.Net scope, state, view state,	

	post back and configuration, Object Creation: Scripting, Drive, Folder, File, Use of object, Server Components: Ad Rotator, Content Linker, Browser Capabilities Use and Creation of global.asa file, Application object: Events, Methods and collections, Example, Session object: Enabling and disabling of session, Event, Properties, Method, Collection.	**12**
UNIT - III	ADO.Net ADO.Net in ASP. Net: Connection, Dataset and data reader, Data table and data row, Web.config introduction, Binding data with data grid, Accessing and manipulating data, ADO .Net: Server control templates and data binding techniques, Data access in .Net using ADO.Net, Server control templates available for data binding like repeater, data list and data grid controls.	**12**
UNIT - IV	ASP Transactions and e-mail Transactions, Transaction db design, CDONTS object, Email sending web page creation data, and introduction to Matlab.	**8**
UNIT - V	Working with XML in ASP.NET Basics of XML, XML support in .NET, XML Validation Overview, XML Parsing API's in .NET, Parsing XML with the XmlTextReader, Parsing XML using DOM Objects, Generating XML with the XmlTextWriter, Introduction to XSLT, Transforming XML using. NET's XSLT classes, Viewing relational data as XML, Dataset XML Properties and Methods, Using the XmlDataDocument Class Syncing between DataSets and XmlData Documents.	**10**

TEXT BOOKS:

1. G. Andrew Duthie Microsoft ASP.Net ,Step, Microsoft .Net.
2. Programming with C# .NET by J.G. R. Sathiaseelan and N. Sasikala devi , PHI Learning.

REFERENCE BOOKS:

1. Stephen Walther, ASP.Net Unleashed, SAMS.
2. Microsoft ASP.NET 4.0 Step by Step by Shepherd, PHI Learning.
3. Jesse Liberty, Dan Hurwitz-Programming ASP.Net.
4. Dave Mercer-ASP.Net, TMH.

SCHOOL OF ENGINEERING

SYLLABUS
COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**VI/III**	**3**	**0**	**0**	**3**
Subject Name		**Fundamental of AI**				
Subject Code		**DCS20S602**				
Paper	**English**					
	Hindi					
Max. Marks		**100**				

Course Objectives:

To introduce students to the domain of Artificial Intelligence.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. Have general idea about Artificial Intelligence.

CO2. Explore AI tools effectively.

CO3. Compare AI with human intelligence and traditional information processing.

CO4. Apply the basic principles, models, and algorithms of AI to recognize, model, and solve problems' in the analysis and design of information systems.

CO5. Analyse the structures and algorithms of a selection of techniques related to searching, reasoning, machine learning, and language processing.

Unit	Syllabus	Periods
UNIT - I	**Introduction** Overview and Historical Perspective, Turing test, Physical Symbol Systems and the scope of Symbolic AI, Agents.	**8**
UNIT - II	**Search** Heuristic Search: Best First Search, Hill Climbing, Beam Search, Tabu Search Randomized Search: Simulated Annealing, Genetic Algorithms, Ant Colony Optimization.	**10**

UNIT - III	Finding Optimal Paths: Branch and Bound, A*, IDA*, Divide and Conquer approaches, Beam Stack Search. Problem Decomposition: Goal Trees, AO*, Rule Based Systems, Rete Net. Game Playing: Minimax Algorithm, AlphaBeta Algorithm, SSS*.	**12**
UNIT - IV	Planning and Constraint Satisfaction: Domains, Forward and Backward Search, Goal Stack Planning, Plan Space Planning, Graph plan, Constraint Propagation.	**10**
UNIT - V	Logic and Inferences: Propositional Logic, First Order Logic, Soundness and Completeness, Forward and Backward chaining.	**10**

TEXT BOOKS:

1. Deepak Khemani. A First Course in Artificial Intelligence, McGraw Hill Education (India).
2. M.C. Trivedi, A classical approach to Artificial Intelligence, Khanna Publishing House.

REFERENCE BOOKS:

1. Stefan Edelkamp and Stefan Schroedl. Heuristic Search, Morgan Kaufmann.
2. Pamela McCorduck, Machines Who Think: A Personal Inquiry into the History and Prospects of Artificial Intelligence, A K Peters/CRC Press.
3. Elaine Rich and Kevin Knight. Artificial Intelligence, Tata McGraw Hill.
4. Stuart Russell and Peter Norvig. Artificial Intelligence: A Modern Approach, Prentice Hall.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**VI/III**	**3**	**0**	**0**	**3**
Subject Name		**Data Sciences: Data warehousing and Data Mining**				
Subject Code		**DCS20S603**				
Paper	**English**					
	Hindi					
Max. Marks		**100**				

Course Objectives:

Introduce students to the domain of Data Warehousing and Data Mining.

Course Outcomes:

At the end of the course, the student should be able to

CO1. Understand Data Warehouse fundamentals, Data Mining Principles.
CO2. Design data warehouse with dimensional modelling and apply OLAP operations.
CO3. Identify appropriate data mining algorithms to solve real world problems.
CO4. Compare and evaluate different data mining techniques like classification, prediction, clustering and association rule mining.
CO5. Describe complex data types with respect to spatial and web mining.

Unit	Syllabus	Periods
UNIT - I	**Introduction -** Motivation, Importance, Definitions, Kind of Data, Data Mining Functionalities, Kinds of Patterns, Classification of Data Mining Systems, Data Mining Task Primitives, Integration of A Data Mining Sys- tem with A Database or Data Warehouse System, Major Issues in Data Mining, Types of Data Sets and Attribute Values, Basic Statistical Descriptions of Data, Data Visualization, Measuring Data Similarity. PREPROCESSING: Data Quality, Major Tasks in Data Pre-processing, Data Reduction, Data Transformation and Data Discretization, Data Cleaning and Data Integration.	**12**

UNIT - II	**Data Warehousing and on-line Analytical Processing** Data Warehouse basic concepts, Data Warehouse Modeling - Data Cube and OLAP, Data Warehouse Design and Usage, Data Warehouse Implementation, Data Generalization by Attribute-Oriented Induction, Data Cube Computation.	**10**
UNIT - III	**Patterns, Associations and Correlations** Mining Frequent Patterns, Associations and Correlations: Basic Concepts, Efficient and Scalable Frequent Item set Mining Methods, Pattern Evaluation Methods, Applications of frequent pattern and associations. Frequent Patterns and Association Mining: A Road Map, Mining Various Kinds of Association Rules, Constraint-Based Frequent Pattern Mining, Extended Applications of Frequent Patterns.	**12**
UNIT - IV	**Classification** Basic Concepts, Decision Tree Induction, Bayesian Classification Methods, Rule-Based Classification, Model Evaluation and Selection, Techniques to Improve Classification Accuracy: Ensemble Methods, Handling Different Kinds of Cases in Classification, Classification by Neural Networks, Support Vector Machines, Pattern-Based Classification, Lazy Learners (or Learning from Your Neighbors).	**12**
UNIT - V	**Cluster Analysis** Basic Concepts of Cluster Analysis, Clustering Structures, Major Clustering Approaches, Partitioning Methods, Hierarchical Methods, Density-Based Methods, Model-Based Clustering, Why outlier analysis, Identifying and handling of outliers, Outlier Detection Techniques. WEB MINING: Basic concepts of web mining, different types of web mining, PAGE RANK Algorithm, HITS Algorithm.	**10**

TEXT BOOKS:

1. Amitesh Sinha, Data Warehousing, Thomson Learning, India.

REFERENCE BOOKS:

1. Jiawei Han, Micheline Kamber, Jian Pei, Data Mining: Concepts and Techniques, Elsevier.
2. Margaret H Dunham, Data Mining Introductory and Advanced Topics, Pearson Education.
3. Xingdong Wu, Vipin Kumar, the Top Ten Algorithms in Data Mining, CRC Press, UK.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**VI/III**	**3**	**0**	**0**	**3**
Subject Name		**Free and Open Sources Software(FOSS)**				
Subject Code		**DCS20S604**				
Paper	**English**					
	Hindi					
Max. Marks		**100**				

Course Objectives:

Exposure to free and open source software philosophy and tools.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. Install and run open-source operating systems.

CO2. Gather information about Free and Open Source Software projects from software releases and from sites on the internet.

CO3. Build and modify one or more Free and Open Source Software packages.

CO4. Use a version control system and to interface with version control systems used by development communities.

CO5. Contribute software to and interact with Free and Open Source Software development projects.

Unit	Syllabus	Periods
UNIT - I	**FOSS PHILOSOPHY** Understanding the FOSS Community and FOSS Philosophy, Benefits of Community based Software Development, Guidelines for working with FOSS community, Requirements for being open, free soft- ware, open source software, FOSS Licensing Models, FOSS examples.	**12**
UNIT - II	**LINUX** Linux Installation and Hardware Configuration, Boot Process, Dual-Booting Linux and other Operating Systems, Kernel Options during	**12**

	Boot, X Windows System Configuration, System Administration (Server Administration, Backup and Restore Procedures, Strategies for keeping a Secure Server).	
UNIT - III	**Programming Tools** Libreoffice Tools; Samba: Cross platform; Introduction about LAMP; Brief Introduction to Programming using languages like Java /Python / Perl.	**10**
UNIT - IV	Database Systems Mysql, PostgreSQL or equivalent; Open Source UML Tools; Introduction to Mobile Programming; Version Control Systems like SVN, Git or equivalent; Project Management Tools; Bug Tracking Systems; Package Management Systems.	**10**
UNIT - V	**FOSS Case Studies** Some example case studies of FOSS implementation.	**6**

TEXT BOOKS:

1. "Free/Open Source Software Development" by Stefan Koch.
2. Linux in a Nutshell, by Ellen Siever.

REFERENCE BOOKS:

1. "Free and Open Source Software: Policy, Law, and Practice" by Noam Shemtov and Ian Walden.
2. "Pro Linux System Administration: Learn to Build Systems for Your Business Using Free and Open Source Software" by Dennis Matotek and James Turnbull.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class	**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year	**VI/III**	**3**	**0**	**0**	**3**
Subject Name	**Software Testing**				
Subject Code	**DCS20S605**				
Paper **English**					
Hindi					
Max. Marks	**100**				

Course Objectives:

Inculcate essential software testing knowledge and skills, required to reasonably test a system under development in a systematic manner.

Course Outcomes:
At the end of the course, the student should be able to:

CO1. Develop skills to understand the system.
CO2. Choose suitable testing methods, strategies, tools and technology.
CO3. Execute and report the test.
CO4. Understand need and usage of test automation.
CO5. Gain expertise in test automation tool.

Unit	Syllabus	Periods
UNIT - I	**Basics** Introduction to Software Quality basics: Verification and validation, quality perspectives, Testing terminology, Software Testing Life Cycle (STLC), "V" model of Testing, QA process, cost of testing, types of tests.	**8**
UNIT - II	**Writing Test Cases:** Writing test cases, Functional Testing, non-functional testing, (Performance testing), UI tests. Preparing test data, Writing Unit test, Integration test and User Acceptance Tests, preparing test scenarios from Software requirements.	**10**

UNIT - III	**Test Execution and Management** Test execution, Test Oracles, test planning, test strategy including when to stop testing, test-coverage- Traceability matrix, JIRA, Bugzilla and other bug tracking tools. Test data mining, test reporting.	**12**
UNIT - IV	**Test Automation** Why automation, when not to automate, writing simple automated test cases, learn and practice any one automated testing framework like Selenium.	**10**
UNIT - V	**Other quality Assurance** Quality and Defect management - Code reviews, Quality tools, Change management, version control.	**10**

TEXT BOOKS:

1. Software Engineering – A Practitioner's Approach, 7th Edition, Roger Pressman.

REFERENCE BOOKS:

1. Effective Software Test Automation: Developing an Automated Software Testing Tool by Kanglin Li & Mengqi Wu.
2. Selenium Testing Tools Cookbook, 2nd Edition: by Unmesh Gundecha.

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SYLLABUS

DIPLOMA

Class		**Diploma (EX/CSE/ME/CE)**	**L**	**T**	**P**	**C**
Semester/Year		**VI/III**	**3**	**0**	**0**	**3**
Subject Name		**Entrepreneurship and Startups**				
Subject Code		**DOC20S606**				
Paper	**English**					
	Hindi					
Max. Marks		**100**				

Course Objectives:

1. Acquiring Entrepreneurial spirit and resourcefulness.
2. Familiarization with various uses of human resource for earning dignified means of living.
3. Understanding the concept and process of entrepreneurship - its contribution and role in the growth and development of individual and the nation.
4. Acquiring entrepreneurial quality, competency, and motivation.
5. Learning the process and skills of creation and management of entrepreneurial venture.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. Understand the dynamic role of entrepreneurship and small businesses.

CO2. Organize and Manage a Small Business.

CO3. Understand Financial Planning and Control.

CO4. Understand Forms of Ownership for Small Business.

CO5. Understand Strategic Marketing Planning.

Unit	Syllabus	Periods
UNIT - I	Introduction to Entrepreneurship and Startup: • Definitions, Traits of an entrepreneur, Entrepreneurship, Motivation. • Types of Business Structures, Similarities/differences between entrepreneurs and managers.	**10**

UNIT - II	Business Ideas and their implementation: • Discovering ideas and visualizing the business • Activity map • Business Plan	**8**
UNIT - III	Idea to Start-up: • Market Analysis – Identifying the target market, • Competition evaluation and Strategy Development, • Marketing and accounting, • Risk analysis.	**10**
UNIT - IV	Management: • Company's Organization Structure, • Recruitment and management of talent. • Financial organization and management	**10**
UNIT - V	Financing and Protection of Ideas: • Financing methods available for start-ups in India. • Communication of Ideas to potential investors – Investor Pitch • Patenting and Licenses. • Exit strategies for entrepreneurs, bankruptcy, and succession and harvesting strategy.	**10**

TEXT BOOKS:

1. The Startup Owner's Manual: The Step- by-Step Guide for Building a Great Company Steve Blank and Bob Dorf K & S Ranch ISBN – 978-0984999392.
2. The Lean Start-up: How today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses Eric Rise Penguin UK ISBN – 978-0670921607.

REFERENCE BOOKS:

1. Demand: Creating What People Love Before They Know They Want It. Adrian J. Slywotzky with Karl Weber Headline Book Publishing ISBN – 978-0755388974.
2. The Innovator's Dilemma: The Revolutionary Book That Will Change the Way You Do Business Clayton M. Chris- tensen Harvard business ISBN: 978-142219602.

EKLAVYA UNIVERSITY
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Estd. by Madhya Pradesh Niji Vishvavidyalaya (Sthapna Evam Sanchalana) Adhyadesh, 2020

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SYLLABUS

DIPLOMA

Class		**Diploma (EX/CSE/ME/CE)**	**L**	**T**	**P**	**C**
Semester/Year		**VI/III**	**3**	**0**	**0**	**3**
Subject Name		**Energy Conservation, Management & Audit**				
Subject Code		**DOC20S607**				
Paper	**English**					
	Hindi					
Max. Marks		**100**				

Course Objectives: -

Students will be able to:

1. Impart knowledge in concepts energy conservation.
2. Impart knowledge of fundamental energy efficiency in boilers, furnaces, steam systems
3. Impart knowledge of energy audit.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. Understand energy conservation.
CO2. Understand energy efficiency in thermal & electrical utilities
CO3. Understand objective and principles of energy management.
CO4. Understand energy economics.
CO5. Understand climate policy.

Unit	Syllabus	Periods
UNIT-I	Principles of energy conservation, Energy Conservation Act 2001 and its features, Electricity Act-2003 & its features, Energy consumption pattern, Resource availability, Energy pricing, Energy Security, Estimation of energy use in a building. Heat gain and thermal performance of building envelope -Steady and non-steady heat transfer through the glazed window and the wall -Standards for thermal performance of building envelope, Evaluation of the overall thermal transfer.	**8**
UNIT-II	Energy efficiency in boilers, furnaces, steam systems, cogeneration utilities, waste heat recovery, compressed air systems, HVAC&R systems, fans and blowers, pumps, cooling tower Energy efficiency for electric motors, lighting systems, Characteristics of Light, Types of Lighting, Incandescent Lighting, Fluorescent Lighting, Vapor Lighting, Street	**10**

	Lighting, LED Lighting, Lighting Design, Light Dimming, Tips for Energy Conservation, Products for Energy Conservation in lighting system.	
UNIT-III	Definition, objective and principles of Energy Management, Need of Energy Audit and Management, types of energy audit, audit process, Guidelines for writing energy audit report, data presentation in report, findings recommendations, impact of renewable energy on energy audit recommendations and energy audit report, energy audit of building system, lighting system, HVAC system, Water heating system, heat recovery opportunities during energy audit, Industrial audit opportunities, Instruments for Audit and Monitoring Energy and Energy Savings	**9**
UNIT-IV	Kyoto protocol, Clean development mechanism (CDM), Geopolitics of GHG control; Carbon Market.	**7**
UNIT-V	Simple Payback Period, Time Value of Money, Internal Rate of Return, Net Present Value, Life Cycle Costing, Equivalent uniform annual cost (EUAC), Life cycle cost, Discounting factor, Capital recovery, Depreciation, taxes and tax credit, Impact of fuel inflation on life cycle cost, Cost of saved energy, cost of energy generated, Energy performance contracts and role of Energy Service Companies (ESCOs).	**8**

Text Books:

1. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc.
2. Clark R.S., Marine Pollution, Clanderson Press Oxford (TB).
3. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumabai.
4. De A.K., "Environmental Chemistry", Wiley Eastern Ltd.

Reference Books:-

1. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards', Vol I and II, Enviro Media (R).
2. Boyle, Godfrey, Bob Everett, and Janet Ramage (Eds.) (2004), Energy Systems and Sustainability: Power for a Sustainable Future. Oxford University Press.
3. Schaeffer, John (2007), Real Goods Solar Living Sourcebook: The Complete Guide to Renewable Energy Technologies and Sustainable Living, Gaiam.

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SYLLABUS
DIPLOMA

Class		**Diploma (EX/CSE/ME/CE)**	**L**	**T**	**P**	**C**
Semester/Year		**VI/III**	**3**	**0**	**0**	**3**
Subject Name		**Management Information System**				
Subject Code		**DOC20S608**				
Paper	**English**					
	Hindi					
Max. Marks		**100**				

Course Objectives:

The overall aim of this course is to provide students with an understanding at how to use and manage information system in order to revitalize business processes, improve business decision making, and gain competitive advantage.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. Know about MIS, MIS Theory, and Systems Approach.
CO2. Understand the concept of decision making and MIS.
CO3. Learn about conceptual system design, detailed system design.
CO4. Understand implementation, evaluation and maintenance of MIS.
CO5. Identify the major management challenges to building and using information systems in organizations.

Unit	Syllabus	Periods
UNIT - I	Introduction of MIS What is MIS, Decision support systems, systems approach, The systems view of business, MIS organization within the Company. Management organizational theory and the systems approach: Development of organizational theory, Management and organizational behaviour, Management information and the systems approach.	**10**
UNIT - II	Information systems for decision-making: Evolution of an information system, Basic information systems, Decision making and MIS, MIS as technique for making programmed decisions, design assisting information systems. Strategic and project planning for MIS General business planning, appropriate MIS response, MIS planning-general, MIS planning-details.	**10**

UNIT - III	Conceptual System Design Define the problems, Systems objectives, Establish system constraints, Determine information needs, Determine information sources, Develop alternative conceptual designs and select one, Document the system concept, Prepare the conceptual design report.	**10**
UNIT - IV	Implementation, Evaluation and Maintenance of the MIS Plan the implementation, Acquire floor space and plan space layouts organized for implementation, Develop procedures for implementation, Train the operating personnel, Computer related acquisitions, Develop forms for data collection and information dissemination, Develop the files, Test the system, Cut over, Document the system, Evaluate the MIS, Control and maintain the system.	**12**
UNIT - V	Pitfalls in MIS Development Fundamental weaknesses, Soft spots in planning, Design problem, Implementation the TAR PITF.	**8**

TEXT BOOKS:

1. Ladon K.C., Landon, J.P., Management Information Systems, 4th edition, Prentice-Hall of India.
2. Murdick R.G., Russ J.B., Clagget J.R., Information Systems for modem management.
3. Kanter J., Managing with Information, 4th edition, Prentice - Hall of India.

REFERENCE BOOKS:

1. Effy OZ, Management Information Systems, 3rd edition, Thomson.
2. Jawadekar W.S., Management Information System.
3. Brien J.A.O., Irwin, Management Information Systems, McGraw Hill.
4. Dour's G.B., Olson M.H., Management Information Systems, 2nd edition, McGraw Hill.
5. Thireramp R.J., Decision Support Systems for Effective Planning and Control, PHI.
6. Sadagopan S., Management Information Systems, 4thedition, Prentice-Hall of India.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**VI/III**	**0**	**0**	**8**	**4**
Subject Name		**Major Project –II**				
Subject Code		**DCS20S609**				
Paper	**English**					
	Hindi					
Max. Marks		**100**				

Course Objectives:

1. To develop an Application of Computer science engineering problems & have a feel of real life situations in planning & development of projects.

2. To impart training of handling various types of Computer Science engineering problems by use software's.

Course Outcomes:

At the end of the course, the student should be able to

CO1. Recognize various engineering problems and techniques to solve them.

CO2. Reproduce the solution of the problems upon the need of society.

CO3. Cooperate to work within group.

CO4. Develop the writing and communication skills for various engineering problems.

CO5. Adapt lifelong learning.

Syllabus

Each candidate shall work on a unique project of Computer Science engineering work and shall submit report.

OR

Shall submit a detailed report of experimental work / software package on any specific problem of importance.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**VI/III**	**0**	**0**	**2**	**2**
Subject Name		**Summer Internship-III**				
Subject Code		**DCS20S610**				
Paper	**English**					
	Hindi					
Max. Marks		**50**				

Course Objectives:

1. To encourage students to read, study & understand different topics of Computer Science engineering.
2. To make student acquire good oral & written communication skills.
3. To promote the habit of lifelong learning.

Course Outcomes:

At the end of the course, the student should be able to:

CO1. **Observe** various activities in field.

CO2. **Examine** the utility of general and specific Software tool for development.

CO3. **Differentiate** the construction projects individually and in team.

CO4. **Develop** the writing and communication skills for various engineering problems.

CO5. **Adapt** lifelong learning for benefit of society.

Syllabus

Each candidate shall have to undergo 15 days in-house summer internship at the institute after the completion of their 5th Semester exams (in summer vacations). Candidate can choose from various modules which are offered by the institute and after successful completion of internship they have to submit detailed report.

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SYLLABUS

COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**VI/III**	**0**	**0**	**2**	**1**
Subject Name		**Dot Net Technologies**				
Subject Code		**DCS20S611**				
Paper	**English**					
	Hindi					
Max. Marks		**50**				

List of Experiments
1. Design registration form of polytechnic college using text box, text area, radio list, check list, button etc. using Autopostback property.
2. Design application for following function: (1) Login (2) Surfing (3) Logout taking into considerations (Application, Session, Server object, global.asa file and their events, methods and collection) also demonstrate enabling and disabling of session).
3. Creation of file, entry, reading data from a file.
4. Create following using components: a. Advertisement (using Adrotator). b. Book example (using Next function). c. Find capabilities of browser (Browser object capabilities).
5. Online application (student, employee, product, shoping mall) (a)Using dataset, datareader. (b)Using datatable and datarow (use datagrid to display data). (c)Bind data to datagrid using properties/templates. (d)Display details (student, employee, product, etc.) using data list (4 cols per line).
6. Application to send email.
7. Using the Xml Text Reader to Parse XML.
8. Creating XML Documents with the Xml Text Writer.
9. Examining the Web. config File.

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SYLLABUS
COMPUTER SCIENCE & ENGINEERING

Class		**Diploma-CSE**	**L**	**T**	**P**	**C**
Semester/Year		**VI/III**	**0**	**0**	**2**	**1**
Subject Name		**Fundamental of AI**				
Subject Code		**DCS20S612**				
Paper	**English**					
	Hindi					
Max. Marks		**50**				

List of Experiments
1. Study of Prolog.
2. Write simple fact for the statements using PROLOG.
3. Write predicates One converts centigrade temperatures to Fahrenheit, the other checks if a temperature is below freezing.
4. Write a program to solve the Monkey Banana problem.
5. WAP in turbo prolog for medical diagnosis and show the advantage and disadvantage of green and red cuts.
6. WAP to implement factorial, fibonacci of a given number.
7. Write a program to solve 4-Queen problem.
8. Write a program to solve traveling salesman problem.
9. Write a program to solve water jug problem using LISP.