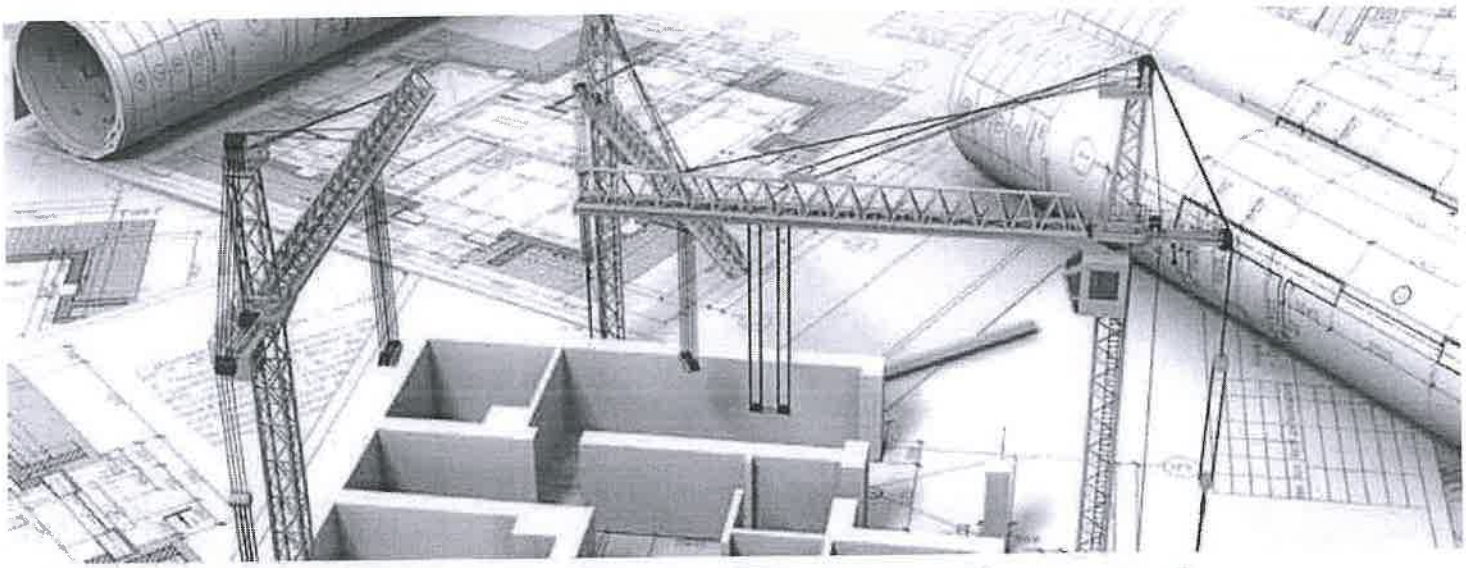
GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

VALUE ADDED COURSES

SYLLABUS

Session 2017-2018

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR



Civil Engineering Department

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

YOGA

Total Duration: 35 Hrs.

Course Objectives:

Yoga are considered as art and science of healthy by our ancient gurus. It is a method to bring harmony of body and for general well being. Yoga is considered as one of the greatest gift to the world by indian for healthy living. Students in particular are benifitted by learning yoga.

Course Outcome:

1. Understands the importance of good health.
2. Recognizes the importance of yoga in developing moral values
3. Earns to do the yoga and asanas.

Detailed Syllabus:

Unit I - INTRODUCTION

Meaning , Definition of Yoga, History of Yoga Need for yoga in daily Life

Unit II – Eight Limbs of Yoga

Yama, Niyama Asana, Pranayama, Pratyahara, Dharana Dhyana And Samadhi

Unit III – Effect of Yoga

Yoga for Physical Fitness,
Yoga for Health & wellness Yoga for Health & Diseases.

Unit IV – Suryanamakar And Asana's

Meaning Of Asana's , Guidelines For Practicing Asanasi, Do's & don't of Asana's Difference between Asana's & Physical Exercise- techniques and benefits.

Unit V – Pranayama & Mudra's

Concept Of Puraka, Rechaka And Kumbhaka, Different Pranayama Exercises

Reference:

1. Chandrasekaran, K. (1999). Sound health through Yoga. Saidapet: Prem Kalyan Publications.
2. Iyenger, B.K.S. (1982). Light of Yoga. Great Britain: Geroga Allen & Unwin.
3. Moorthy, D.M. & Alagesan, S. (2004). Yoga Therapy. Coimbatore: TPH.
4. Sharma, P.D. (1984). Yogasana and Pranayama for health. Ahmadabad: Navneet Publications.

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR

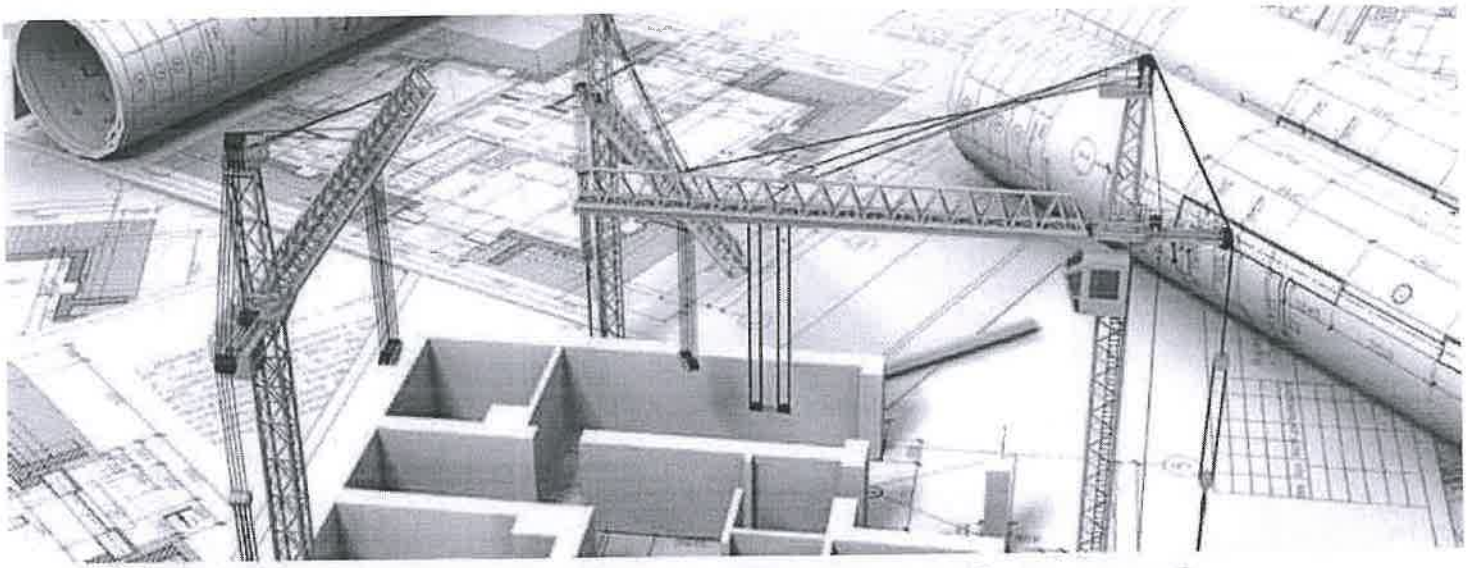
GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

VALUE ADDED COURSES

SYLLABUS

Session 2017-2018

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR



Civil Engineering Department

PRINCIPAL
Guru N- Dev Engg. College, Bidar

STADD PRO

Total Duration: 36 Hrs.

Course Objectives:

1. To train the students in structural Modeling, Designing and Analysis.
2. This course will help the students to familiarize on the analysis and design of different kinds of structures
3. STAAD.Pro is one of the popular software that is used for analysing & designing structures like – buildings, towers, bridges, industrial, transportation and utility structures

Course Outcome:

1.Student will be able to complete object-oriented instinctive 2D/3D graphic model generation.
2.learn to rectify modeling, load application, and run time errors.
3.To create constants, supports, and sSpecifications.
4.Learn how to interpret the analysed results from Staad Pro & create economic Designs.
5.Students will know to perform code check, member selection, and optimized member selection consisting of analysis/design

About STADDPRO: STAAD.Pro® is one of the most widely-used software for developing and analyzing the designs of various structures, such as petrochemical plants, tunnels, bridges etc. STAAD.Pro® v8i, the latest version, allows civil engineering individuals to analyze structural designs in terms of factors like force, load, displacements etc. It supports all types of various steel, concrete, and timber design codes. Using STAAD Pro, civil engineers can design any type of structure, and later share the synchronized model data amongst the entire design team

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR

Detailed Syllabus:

UNIT I

Modelling

Introduction to STAAD · Starting a project · Modeling a structure Creating Nodes & Members Geometry wizard · Property definition · Material definition · Support definition · Specifications

UNIT II

Loading

Nodal load · Member loads · Uniform Force and Moment · Concentrated Force and Moment · Linear Varying Load · Trapezoidal Load · Hydrostatic Load · Area load · Floor load

UNIT III

Load definitions

Wind load · Creating Load Combination · Automatic Load Combination · Edit Auto Load Rules · Moving load · Seismic load

UNIT IV

Analysis and Design

Frame Analysis – Truss Analysis – Concrete Design – Steel Design

UNIT V

Project report

Importing CAD Models · Report Setup – Plotting from STAAD.Pro – Final Project

References Book

1. Staad Pro V8i for Beginners by T.S.Sarma
2. Design of R.C.C. Buildings Using Staad Pro V8i by T.S.Sarma
3. STAAD. Pro 2005 Tutorial (with U.S. Design Codes) by Munir M. Ahmad

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR

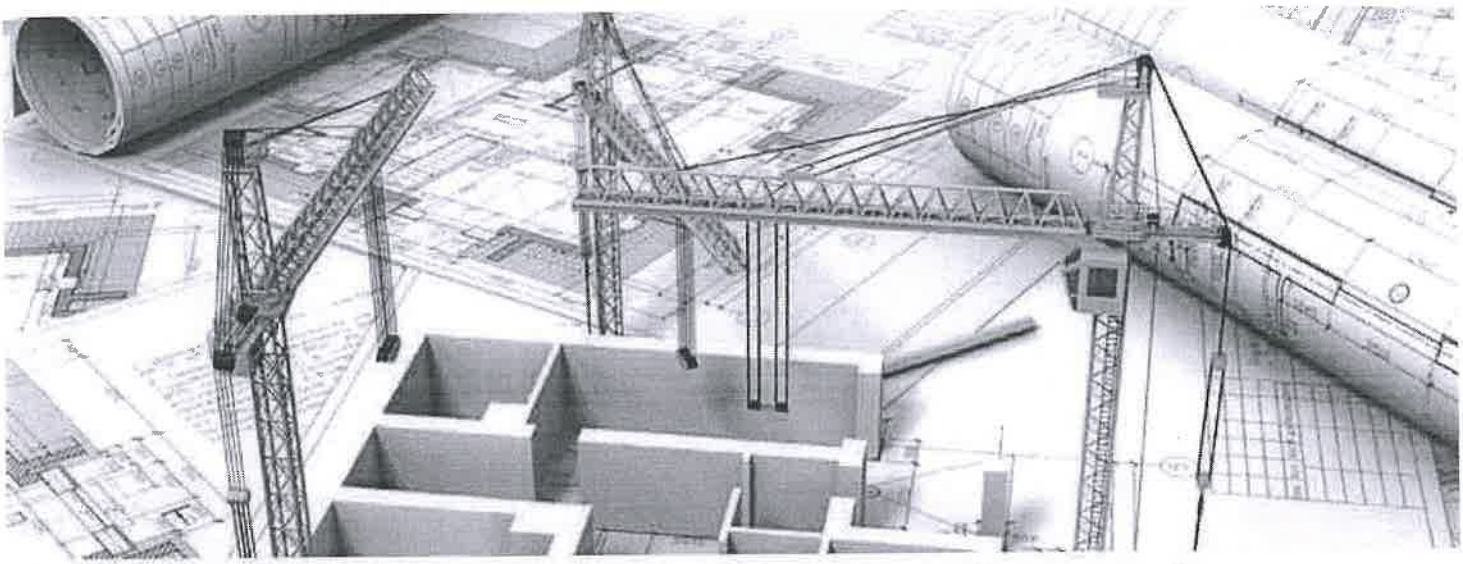
GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

VALUE ADDED COURSES

SYLLABUS

Session 2018-2019

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR



Civil Engineering Department

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Surveying Using Total Station

Total Duration: 35 Hrs.

Course Description

This course covers the different features of total station, from basic operations till a layout preparation and setting out operations. The students will be introduced to the concept of Electronic distance measurements (EDM) and processing of the data.

Learning objective

The objective of this course is to enable the students to prepare layout of buildings, roads and carry setting out operations.

Detailed Syllabus:

Unit I - INTRODUCTION TO TOTAL STATION

About Total station · components– functions – difference from conventional instruments – Electronic display and data reading · Tripod setting – Bubble setting and Tilt setting – Focussing · optical prism handling.

Unit II – PRELIMINARY OPERATIONS

Creating New Job/File, Station setting, orientation – angle, coordinates · Back Sight, Fore Sight – change point · measuring and storing points

Unit III – APPLICATIONS

Data collect – Missing line measurements · Resection – Set out – Area & Volume – Remote elevation – Road Stake out.

Unit IV – DATA MANAGEMENT

Data manager – Data transfer – Exporting and Importing data – Working with GEOMAX office · File Conversions 4

Unit V – PROJECT REPORT

Preparation of Layout sketches – Buildings and sample road projects.

References Book

1. Advanced Surveying: Total Station, GIS and Remote Sensing by Satish Gopi
2. Surveying & Levelling, 2/E—Subramanian—Oxford University Press
3. Surveying and Levelling Vol. II by T. P. Kanetkar and S. V. Kulkarni Pune Vidyarthi Publication.

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

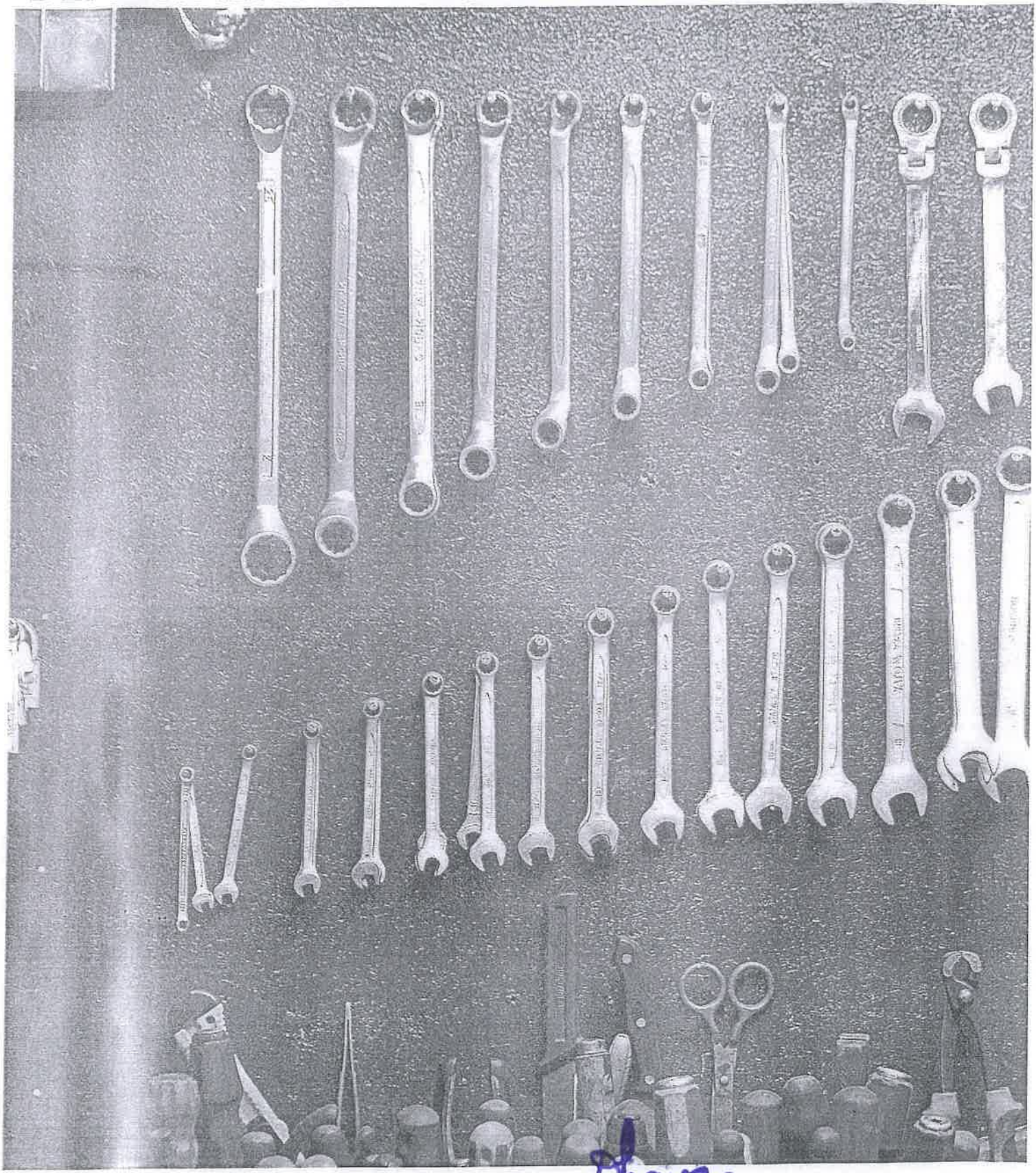
ADD ON COURSES

SYLLABUS

Session 2017-2018

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR

DEPARTMENT OF MECHANICAL ENGINEERING



PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

3-D Printing

Total Duration: 30 Hrs.

Course Objectives:

3D Printing is a method of creation that requires computer skills. This course will allow students to discover the potential of 3D printing. This course is an excellent option for anyone who ever wanted to prototype an invention, create a work of art, customize a product

Course Outcomes:

Upon completion of this course, students will be able to:

- Demonstrate knowledge of key historical factors that have shaped manufacturing over the centuries Explain current and emerging 3D printing applications in a variety of industries
- Describe the advantages and limitations of each 3D printing technology
- Evaluate real-life scenarios and recommend the appropriate use of 3D printing technology
- Identify opportunities to apply 3D printing technology for time and cost savings
- Discuss the economic implications of 3D printing including its impact on startup businesses and supply chains
- Design and print objects containing moving parts without assembly

About 3D Printing

Industries and institutions are fast adopting 3D Printing. They employ engineers and designers with 3D printing training as prototype and product engineers. 3D Printing experts are employed in design houses that provide 3D design, 3D computer-aided design (CAD) modeling, biological and scientific modeling.

Detailed Syllabus:

MODULE- I

Introduction to 3D Printing.Types of 3D Printing ,Working Principal of 3D Printer

MODULE-II

Principle Processes-Extrusion, Wire granular Lamination, Photo polymerization, Materials-Paper, plastics,Metals,Ceramic s, Glass , Wood, Fiber, Sand, Biological

PRINCIPAL
Guru Nanak D... College

tissues Hydrogels, Graphene, Material selection-Processes,applications,limitations

MODULE-III

Inkjet Technology Printer-Working principles , Positioning systems, Print head, print bed, Frames, Motion control; print head considerations- Continuous Inkjet , Thermal Inkjet, Piezoelectric Drop on Demand

MODULE-IV

Material formulation for jetting: Liquid based fabrication Continuous Multijet Powder based fabricxation-color jet

MODULE-V

Industrial Applications; Product Models, manufacturing –Printed electronics, Biopolymers, Packaging,Healthcare , Food , Medical,Biotechnoly,Display : Open Source: Future Trends

References Book

1. Functonal Design for 3D Printing: Designing Printed Things for Every Usebook – Clifford Smyth
2. 3D concrete PrintingTechnology: Construction and Building Applications –Jay G Sanjayan Publisher Butterworth Heinemannh
3. 3D Printing Technology, Applications and Selection –Rafiq Noorani

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

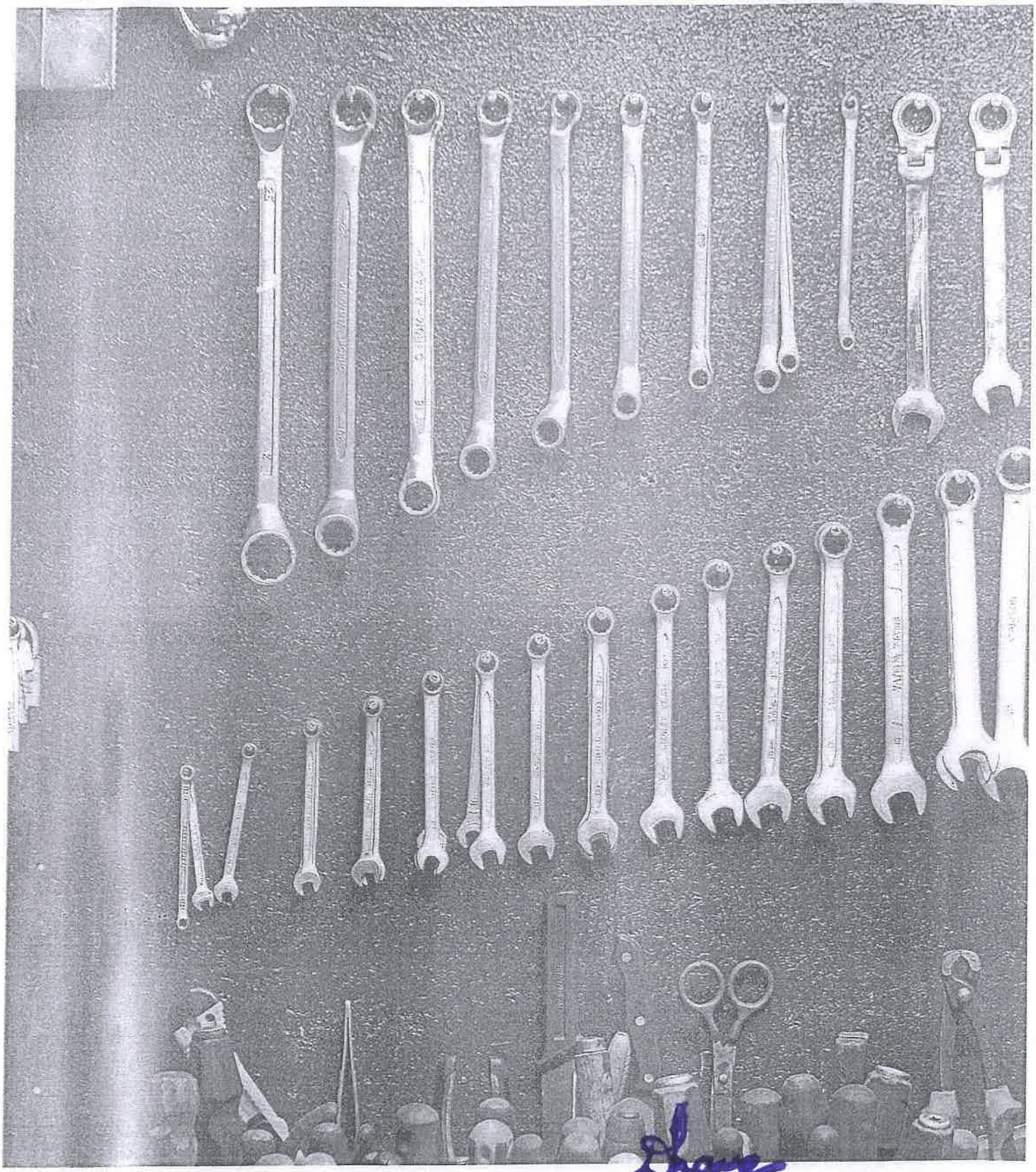
ADD ON COURSES

SYLLABUS

Session 2017-2018

PRINCIPAL
Guru Nanak Dev Engg. College
Bidar

DEPARTMENT OF MECHANICAL ENGINEERING



PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Desktop Publication (DTP)

Total Duration: 30 Hrs.

Course Objectives:
This course provides an opportunity to produce a series of publications suitable for portfolio inclusion. Students will use industry-standard page-layout and graphics software. They will gain a thorough grounding in print production technology and procedures, including how to communicate with other print professionals, estimate costs, and deal with digital output

Course Outcome:
• Acquire and apply the skills to write works of fiction and non-fiction, edit professionally, create digital content, design print and web-based products, develop and manage writing and editing projects
• apply and creatively adapt theoretical and technical knowledge and skills to reflect the needs and expectations of varied readerships and markets

MODULE I:
Introduction to DTP, Introduction to Printing, Types of Printing, Offset Printing, Working of offset Printing, Transparent Printout, Negative & Positives for Plate ware making, Use of DeskTop Publishing in Publications, Importance of D. T. Pin Publication, Advantage of D. T. Pin Publication, Mixing of graphics & Image in a single page production, Laser printers - Use, Types, Advantage of laser printer in publication

MODULE II:
Introduction to adobe PageMaker/In-Design, PageMaker tool box, PageMaker palettes Menus, Icons and dialog box, the control palette, page layout, creating and saving documents, typography, Modifying character attributes, importing graphics, Editing and cropping images, Using the picture palette, The color palette.

MODULE III:
Introduction to Coral Draw graphics, Features of Corel Draw, Corel Draw Interface, Tool Box, Effects, Drawing and Coloring, Creating Basic Shapes, Working with Bitmaps, Applying effects on Bitmaps, Introduction to Text Tool, Artistic and paragraph text, Wrapping Text around Object.

MODULE IV:
Introduction to Basics of Quark express, navigating a QuarkXPress Document, Setting Up the Document, multi-page documents, formatting text, Manipulating Graphics

MODULE V :
Introduction to Photoshop, Understanding Tools & Workspace, Image/Photo Editing-Mixing- Enhancements, Converting Color to b/w and b/w to Color, Shortcuts to work efficiently, Creating Web Graphics.

TEXT & REFERENCE BOOKS:
1.Adobe PAGE MAKER .
2.Prakhar complete course for DTP

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

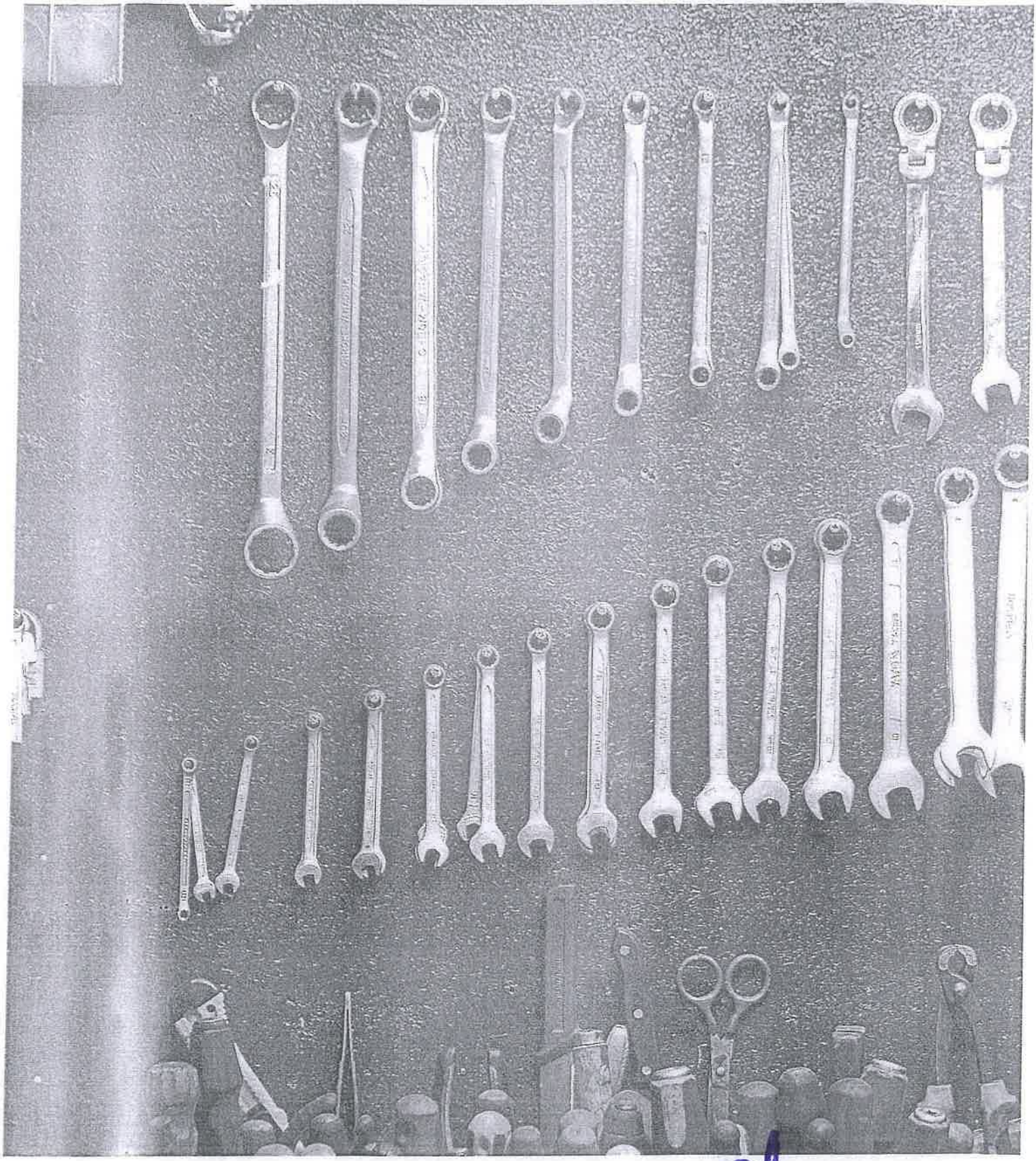
ADD ON COURSES

SYLLABUS

Session 2017-2018

PRINCIPAL
Guru Nanak Dev Engg. College

DEPARTMENT OF MECHANICAL ENGINEERING



PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

ROBOTIC PROGRAMMING

Total Duration: 30hrs

COURSE OBJECTIVES:

To impart knowledge on

- Fundamentals of robot working, programming and integration in a manufacturing process
- Working of robot mechanical, power, measuring and control system, robot kinematics, dynamic,control and programming, Kinematics, path planning and control.
- Visualization on the view of the robotics impact in human future

COURSE OUTCOMES :

Upon completion of the course students will be able to

- Identify the importance of robotics in today and future goods production
- Explore knowledge on basics of robotics programming like VAL, AML
- Perform robot configuration and subsystems
- Analyze the principles of robot programming and handle with typical robot

MODULE I

Fundamentals of robot programming

- Robot – Definition
- Robot Anatomy
- Co-ordinate Systems,
- Pitch, Yaw, Roll, Joint Notations, Speed of Motion, Pay Load
- Robot Parts and Functions
- Need for Robots
- Different Applications

MODULE II

- Introduction to Robo DK
- 3D Mouse Navigation
- Keyboard Shortcuts
- Menu icons
- Robot controls and Simulation

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR

MODULE III

- Robotics
- Computer Vision
- Microworld Simulation
- Introduction to dLife
- ControlCenter
- dLife Examples

MODULE IV

- Vision
- Introduction to Python and Pyro
- Control Paradigms

MODULE V

- Manipulation
- Learning
- Mapping
- Multi-robot communication

WEB REFERENCES:

1. http://www.robotc.net/
2. http://www.toptal.com/robotics/programming-a-robot-an-introductory-tutorial
3. http://www.robotmaster.com/en/why-robotmaster

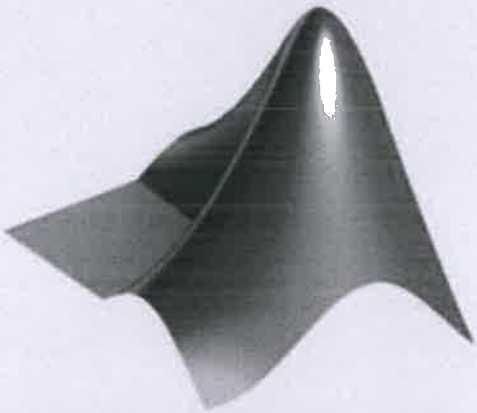
PRINCIPAL
Guru Nanak Dev Engg. College

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

ADD-ON COURSES

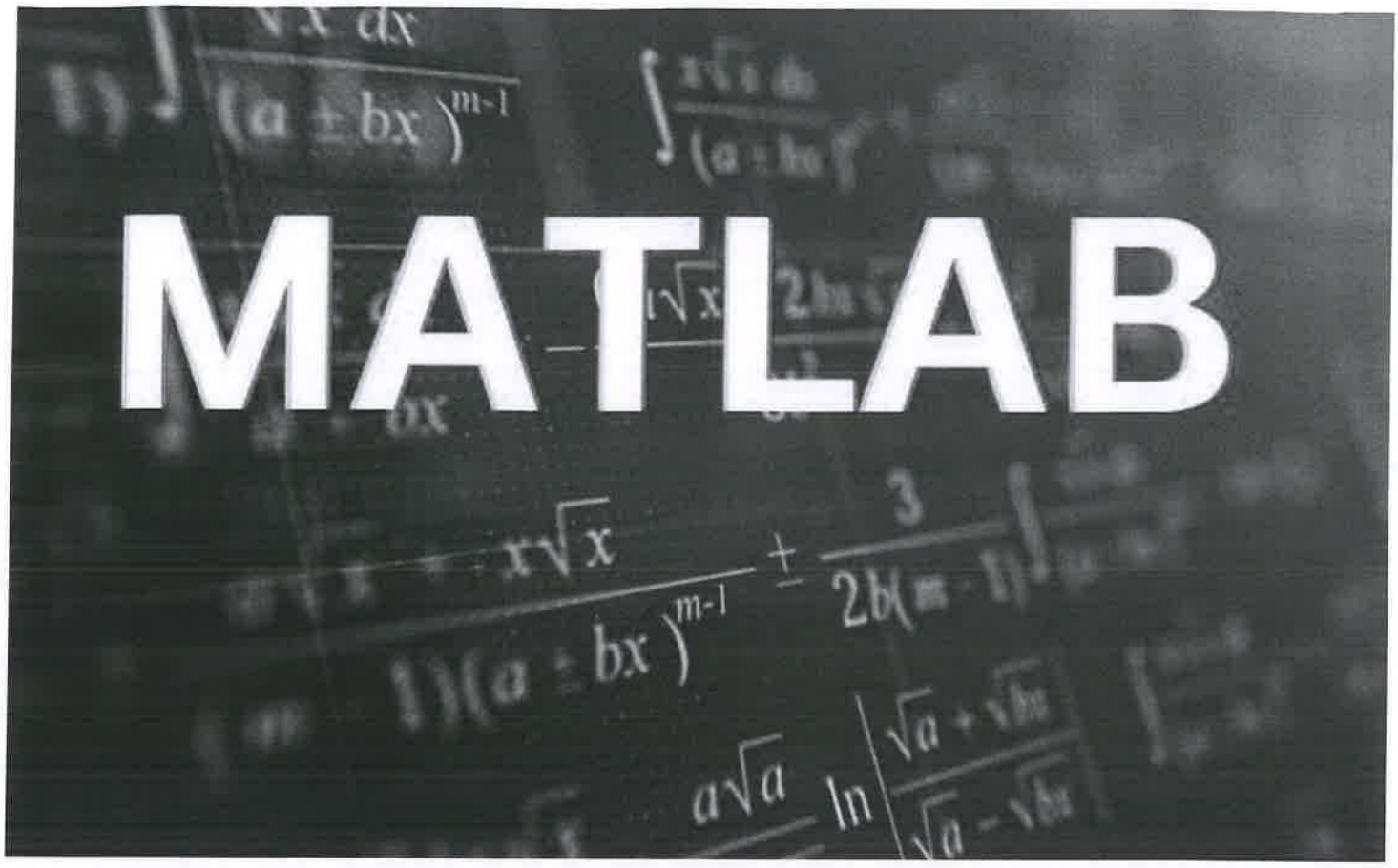
SESSION 2017-18

SYLLABUS



MATLAB

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar



ELECTRICAL AND ELECTRONICS ENGINEERING

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Matlab For Engineers

Total Duration : 30 hrs

Course Objectives:

- MATLAB introduces students to basic MATLAB programming concepts.
- MATLAB is a software package for carrying out numerical computations and analyses.
- It uses blocks of data called matrices (MATLAB stands for matrix laboratory).
- MATLAB is probably the most commonly used scientific and engineering numerical software

About Matlab:

MATLAB or (Matrix Laboratory) is a high performance fourth generation programming language which is used for technical computing. It provides multi paradigm numerical computing environment and was developed by Math Works. It is used for integrating computation, visualization, and programming so that the programming environment becomes easy to use. The applications of MATLAB are immense. It is a powerful linear algebra tool with a very good collection of toolboxes; therefore it finds applications in research and teaching on domains of robotics and automation.

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO1	Understand fundamental operations in Matlab.	K3
CO2	Perform statistical data analysis, data interpolation by Matlab.	K4
CO3	Solve differentiation equation with Matlab.	K4
CO4	Acquire a reasonable level of competence in designing optimization algorithms, solve linearprogramming, constrained and unconstrained optimization problems by Matlab.	K4
CO5	Apply Matlab to solve practical engineering problems.	K3

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Detailed syllabus:

Topic 1: Introduction to MATLAB, Creating Variables, Some Useful MATLAB Functions, Data Types.

Topic 2: Script Files.

Topic 3: Introduction to Arrays, Graphing.

Topic 4: Good Programming Practices.

Topic 5: Input and Output Statements.

Topic 6: Conditional Statements.

Topic 7: Loops.

Topic 8: Nested Loops.

Topic 9: Arrays.

Topic 10: Array Functions.

Textbooks

- MATLAB: A Practical Introduction to Programming and Problem Solving, 3rd edition, Stormy Attaway,Elsevier

Reference Books:

- Bansal/Goel/Sharma-MATLAB and its Applications in Engineering-Pearson Education India; Second edition (1 March 2016) Peter I. Kattan
- MATLAB For Beginners: A Gentle Approach
- Gander, Walter-Learning MATLAB A Problem Solving Approach
- Lipsman, R.L. (et al.) -Multivariable Calculus with MATLAB®
- Quarteroni, Alfio, Saleri, Fausto, Gervasio, Paola-Scientific Computing with MATLAB and Octave- Springer

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

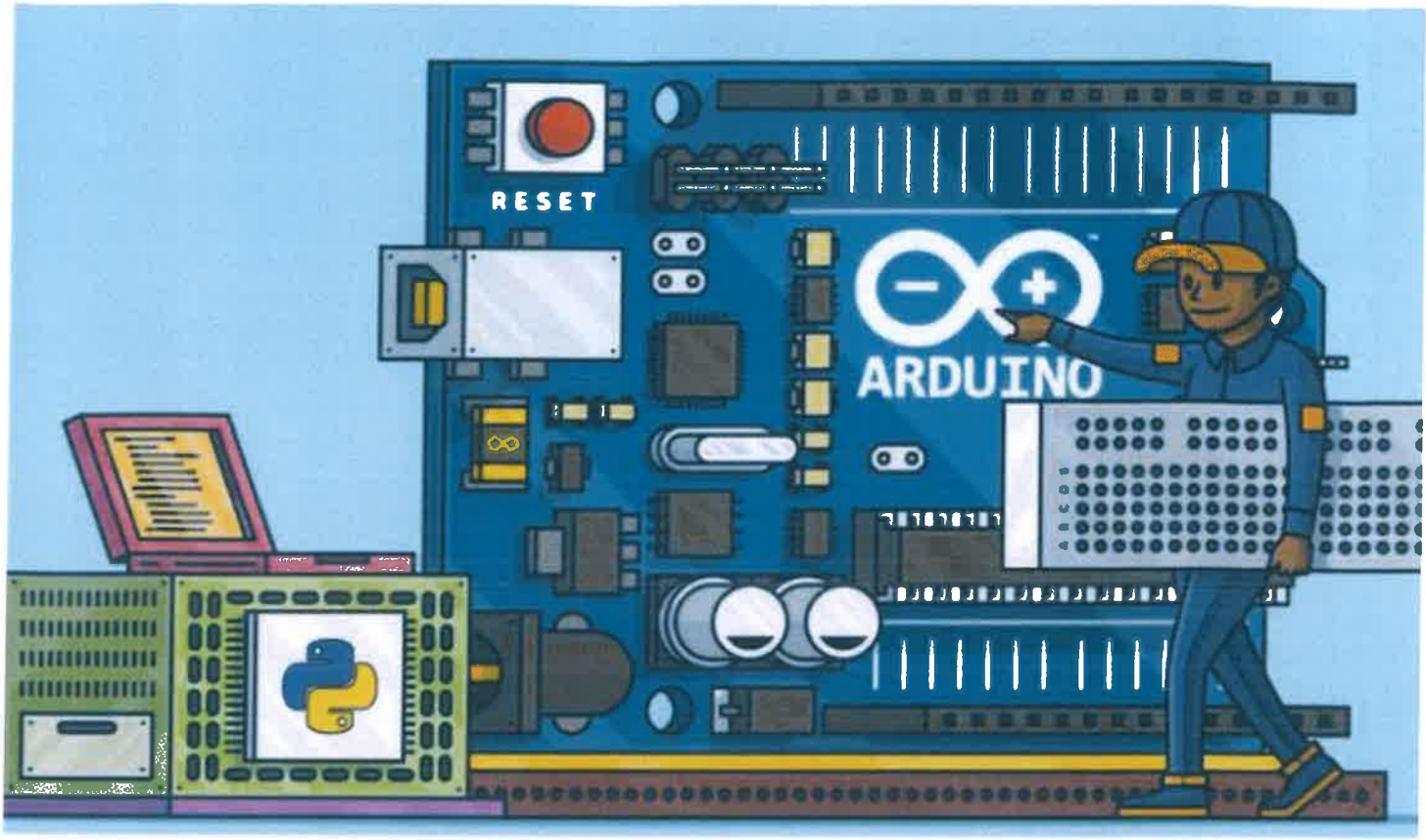
ADD-ON COURSES

SESSION 2017-2018

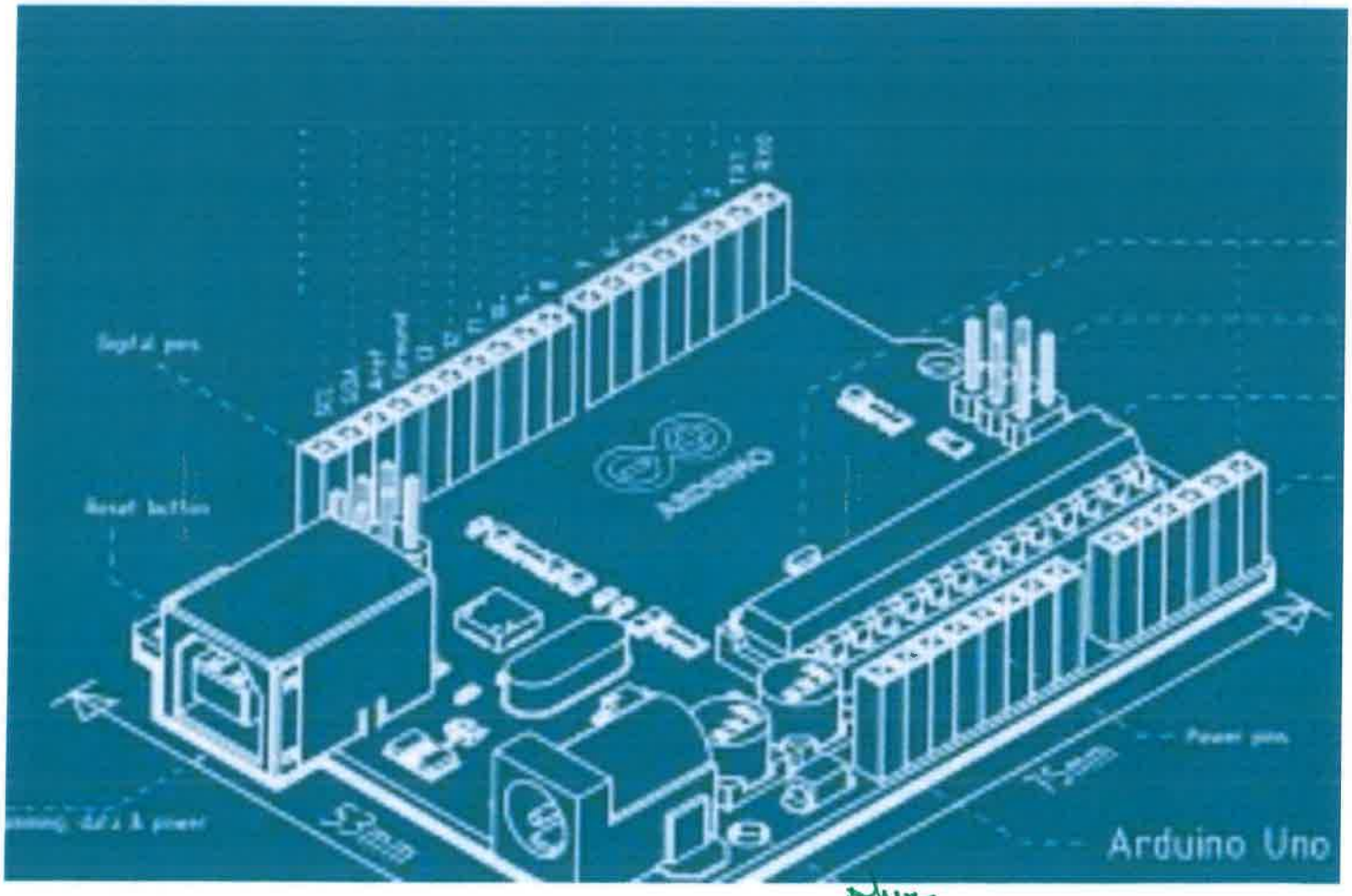
SYLLABUS

ARDUINO

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar



ELECTRICAL AND ELECTRONICS ENGINEERING



PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

ARDUINO Programming

Total Duration: 30 hrs

Course Objectives:

To impart knowledge on

- Relation between python and ARDUINO programming for developing applications.
- The working of python ARDUINO prototyping and networking.

About ARDUINO:

Arduino is an open-source platform that is a combination of hardware and software. Arduino is easily accessible - even for those who don't know much about electronics. Arduino boards are simple a type of microcontroller. They are able to read inputs from the sensors and turn those inputs into output.

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO1	Understand the basics of Ardunio.	K3
CO2	Develop simple programs using ARDUINO IDE.	K4
CO3	Create programs and interfacing ARDUINO with FIRMATA protocol.	K4
CO4	Design GUI for different applications.	K4
CO5	Develop web application using python.	K4

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Detailed syllabus:

UNIT I GETTING STARTED WITH PYTHON AND ARDUINO

Introduction to Python-Installing Python and Setup tools -The fundamentals of Python programming-Introduction to Arduino-Getting Started with the Arduino IDE-Introduction to Arduino programming

UNIT II WORKING WITH FIRMATA PROTOCOL AND THE PYSERIAL LIBRARY

Connecting the Arduino board- Introducing the Firmata protocol- Getting started with pySerial-Bridging pySerial and Firmata- Motion-triggered LEDs- Using a standalone Arduino sketch- Using Python and Firmata

UNIT III PYTHON-ARDUINO PROTOTYPING

Prototyping- Working with pyFirmata methods- Prototyping templates using Firmata-Prototyping with the I2C protocol

UNIT IV WORKING WITH THE PYTHON GUI

Learning Tinker for GUI design- Your first Python GUI program- Widgets- Storing and plotting Arduino data - Working with files in Python- Getting started with matplotlib-Plotting real-time Arduino data

UNIT V INTRODUCTION TO ARDUINO NETWORKING

Arduino and the computer networking- Developing web applications using Python- RESTful web applications with Arduino and Python- MQTT – A lightweight messaging protocol

WEB REFERENCES:

- http://www-01.ibm.com/software/data/infosphere/hadoop/what-is-big-data-analytics.html
- https://education.emc.com/guest/campaign/data_science.aspx
- https://www.thoughtworks.com/big-data-analytics 4. http://birtanalytics.actuate.com/what-is-big-
- data-analytics

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

ADD-ON COURSES

SESSION 2017-2018

SYLLABUS

Java

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

ELECTRICAL AND ELECTRONICS ENGINEERING

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

JAVA Programming

Total Duration : 30 hrs

Course Objectives:

To impart knowledge on

- The principles and practice of object oriented analysis and design in the construction of robust, maintainable programs which satisfy the requirements given
- Competence to design, write, compile, test and execute straightforward programs using a high level language;
- Have an awareness of the need for a professional approach to design and the importance of good documentation to the finished programs.
- To be able to implement, compile, test and run Java programs comprising more than one class, to address a particular software problem.

About JAVA:

Java is a general-purpose, class-based, object-oriented programming language designed for having lesser implementation dependencies. Java is a programming language and a platform. Java is a high level, robust, object-oriented and secure programming language.Java was developed by Sun Microsystems. Java is fast, secure, and reliable. Therefore. It is widely used for developing Java applications in laptops, data centers, game consoles, scientific supercomputers, cell phones, etc.

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO1	Understand various types of selection constructs in a Java program.	K3
CO2	Use built-in classes found in the Java API	K4
CO3	Create Java programs that leverage the object-oriented features of the Java language.	K4
CO4	Apply error-handling techniques using exception handling.	K4
CO5	Provide solution to a given set of requirements using threads, multithreading and synchronization.	K3

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Detailed syllabus:

MODULE 1: Java Fundamentals

Introduction to Java – Features of java – JVM – API document – Naming conventions and Data types - Data types in java – Operators

MODULE 2: Declarations, Initializations and Scoping

Accepting Input from the keyboard – Reading Input with Scanner class- Arrays – Single Dimensional Array – Two dimensional Array – Jagged arrays – Strings- String Buffer and String Builder class- Access specifier

MODULE 3: Flow Control

If else statement- do while loop – for loop – Nested for loops – for each loops – switch statement – break statement- continue statement – return statement

MODULE 4: Object Oriented Concepts

Classes and objects – Methods in java – Relationship between objects – Inheritance – Polymorphism- Type casting – Abstract Classes – Interfaces – Packages

MODULE 5: API Contents

Java 3D- Java Advanced Imaging – Java Mail – Java Message Service – Java Media Framework –Java Naming and Directory Interface – Java OpenGL

MODULE 6: Exceptions, Generics and Collections

Errors in java Program – Exception handling mechanism – throw clause- Types of Exceptions -Generic classes – Collection objects – Sets – Lists – Queues – Maps – Stack class- HashSet class –ArrayList class – Vector class – StringTokenzier class – Calendar class- Date class

MODULE 7: Threads

Single tasking – Multi tasking – Uses of threads – Thread class methods – Deadlock of threads –thread Communication – Thread priorities – Thread group – Daemon threads – Application ofthreads.

WEB REFERENCES:

- http://www3.ntu.edu.sg/home/ehchua/programming/java/j2_basics.html
- http://beginnersbook.com/java-tutorial-for-beginners-with-examples/

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

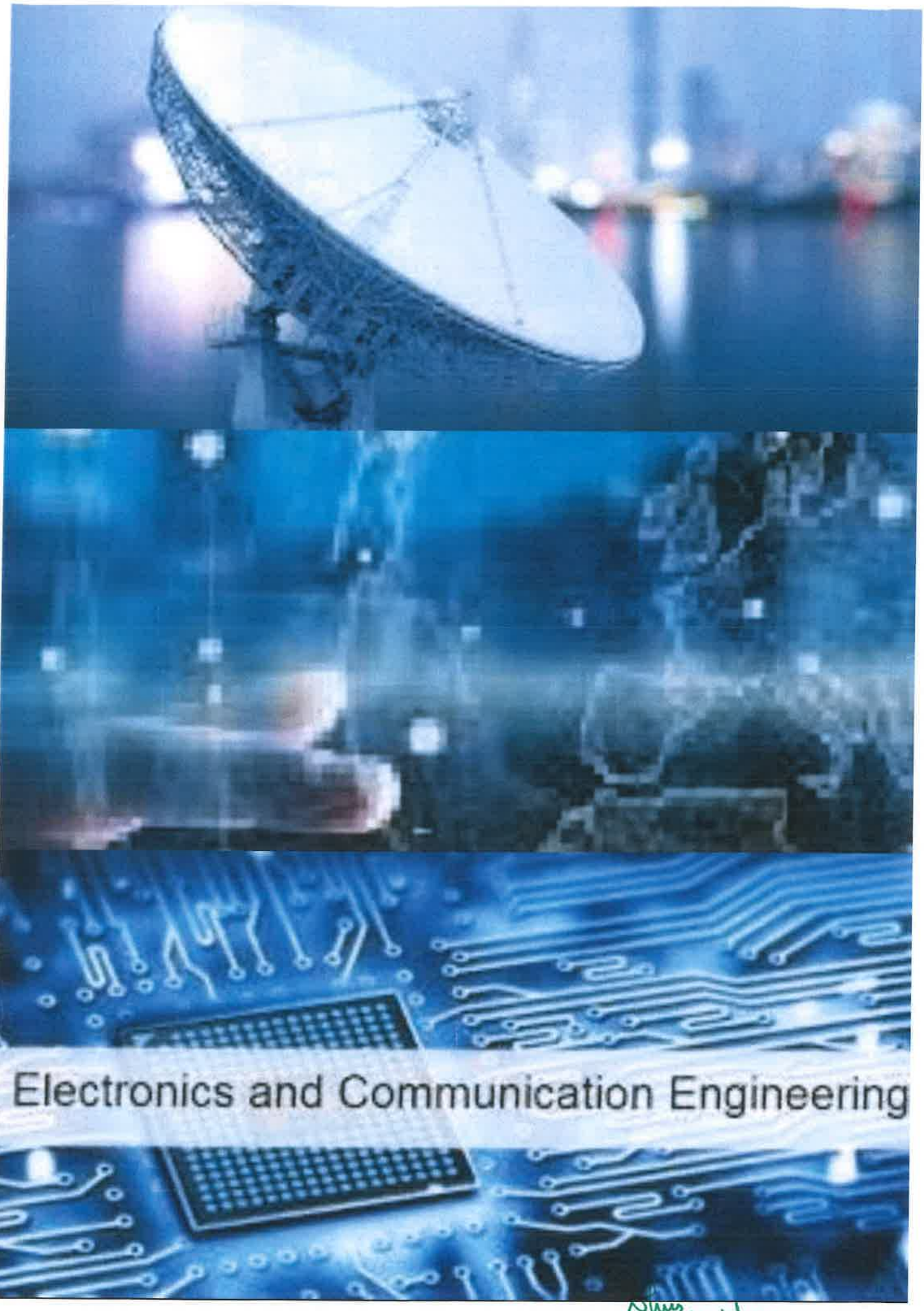
GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

VALUE ADDED COURSES

SYLLABUS

Session 2017-18

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar


Electronics and Communication Engineering

Network Simulator

Total Duration: 31 Hrs.

COURSE OBJECTIVES:

- Basic concepts in Computer Networks
- NS3 Simulator to simulate Network topologies and protocols
- Python scripting and apply it to develop network topologies and protocols
- Modify and Optimize the internal modules in NS3

COURSE OUTCOMES:

Upon completion of the course students will be able to

- Explore the basic knowledge in networking concepts.
- Simulate various network topologies and protocols using NS3.
- Develop network topologies and protocols using Python Scripting in NS3.
- Develop/Modify the internal modules in NS3 to enhance various performance metrics.

PREREQUISITE:

1. Good programming knowledge in C++
2. Sound knowledge on the OOP Principles
3. Basic knowledge in Computer Networks

UNIT I OVERVIEW OF COMPUTER NETWORKS

Introduction to Networks, Networking Components: Bridge, Switch, Router, Layered Approach: Physical Layer, Data Link Layer, Network Layer, Transport Layer and Application Layer, PerformanceMetrics.

UNIT II OVERVIEW OF NS3

Introduction to NS3, Architecture, Installation of NS3 in Linux (Ubuntu), Simulation Objects in NS3: Node, NetDevice, Channel, Packet, Sockets, Applications, EventScheduling, Callbacks, Internet Node and its members; Introduction to NS3 Program, Existing Classes and Objects in NS3.

UNIT III SIMULATIONS USING NS3

Point-to-Point Communication, Bus Network Topology, Wireless Network Topology, WiMAX, AODV Routing, TCP Congestion Control, Trace output using ASCII and PCAP tracing, Plot Graph.

UNIT IV PYTHON SCRIPTING AND INTERNALS IN NS3

Python: Introduction to Python Scripting, Client Server Application Using Python, Working with Internals and Protocol modification in NS3: Ethernet, WiMAX, TCP, UDP, ICMP, AODV.

UNIT V PROJECT IMPLEMENTATION IN NS3

Project Demo, Modifying/Developing a module of existing network to enhance the

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Performance: Energy Efficient Wireless Sensor Network / Adhoc Network, Routing protocol optimization for Mobilenetwork.

REFERENCE BOOKS:

1. Behrouz A. Foruzan, "Data communication and Networking", Tata McGraw-Hill, Fifth Edition, 2013.
2. Larry L. Peterson, Bruce S. Davie, "Computer Networks: A Systems Approach", Morgan Kauffmann Publishers Inc., Third Edition, 2003.
3. Jack L. Burbank, "An Introduction to Network Simulator 3", Wiley-Blackwell, First Edition, 2016

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

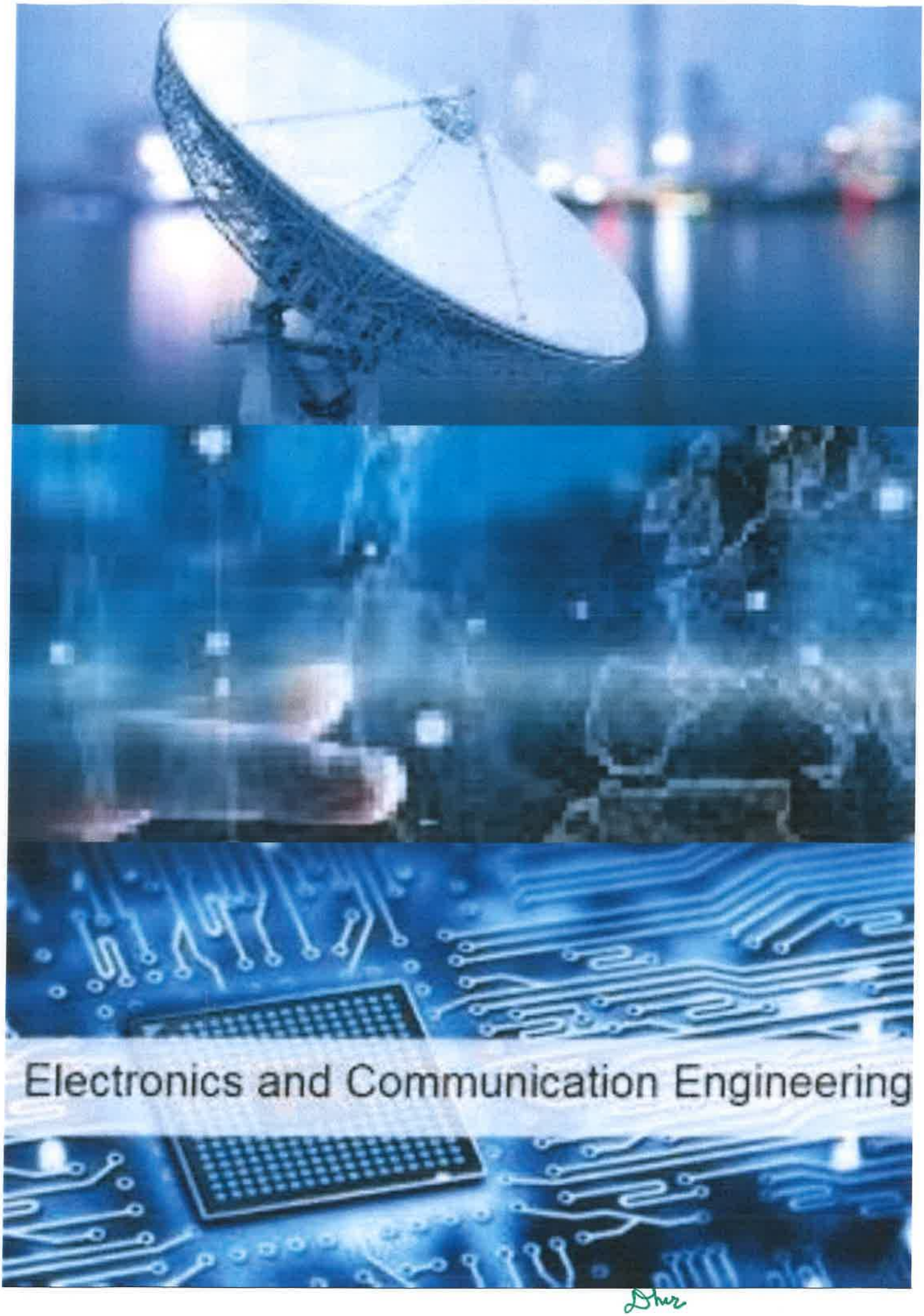
GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

VALUE ADDED COURSES

SYLLABUS

Session 2017-18

Guru Nanak Dev Engg. College, Bidar


Electronics and Communication Engineering

CYBER SECURITY

Total Duration: 30 Hrs.

Course Objectives:

1 .To secure the information stored and conveyed which is an invaluable resource of any organization

2. To update the knowledge of students in network security issues

Course Outcome:

The students gain the most comprehensive knowledge and skills in the Network Security providing an opportunity to equip the Network System Administrators & Information Security Officers to understand the security concerns, vulnerabilities, attacks and to plan and implement the desired e-Security solutions.

Module 1

Networking Concepts Overview: Basics of Communication Systems, transmission Media, ISO/OSI and TCP/IP Protocol Stacks, Local Area Networks, Wide Area Networks, Internetworking, Packet Formats, Wireless Networks, the Internet.

Module 2

Information Security Concepts: Information Security Overview, Information Security Services, Types of Attacks, Goals for Security, E-commerce Security, Computer Forensics, Steganography, Security Engineering.

Module 3

Security Threats and vulnerabilities: Overview of Security threats, Hacking Techniques, Password Cracking, Insecure Network connections,

Malicious Code, Programming Bugs, Cyber crime and Cyber terrorism, Information Warfare and Surveillance,

Module 4

Cryptography: Introduction to Cryptography, Symmetric key Cryptography, Asymmetric key Cryptography, Message Authentication and Hash functions, Digital Signatures, Public Key infrœtructure, Diffe- Hellman key exchange protocol, Applications of Cryptography

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

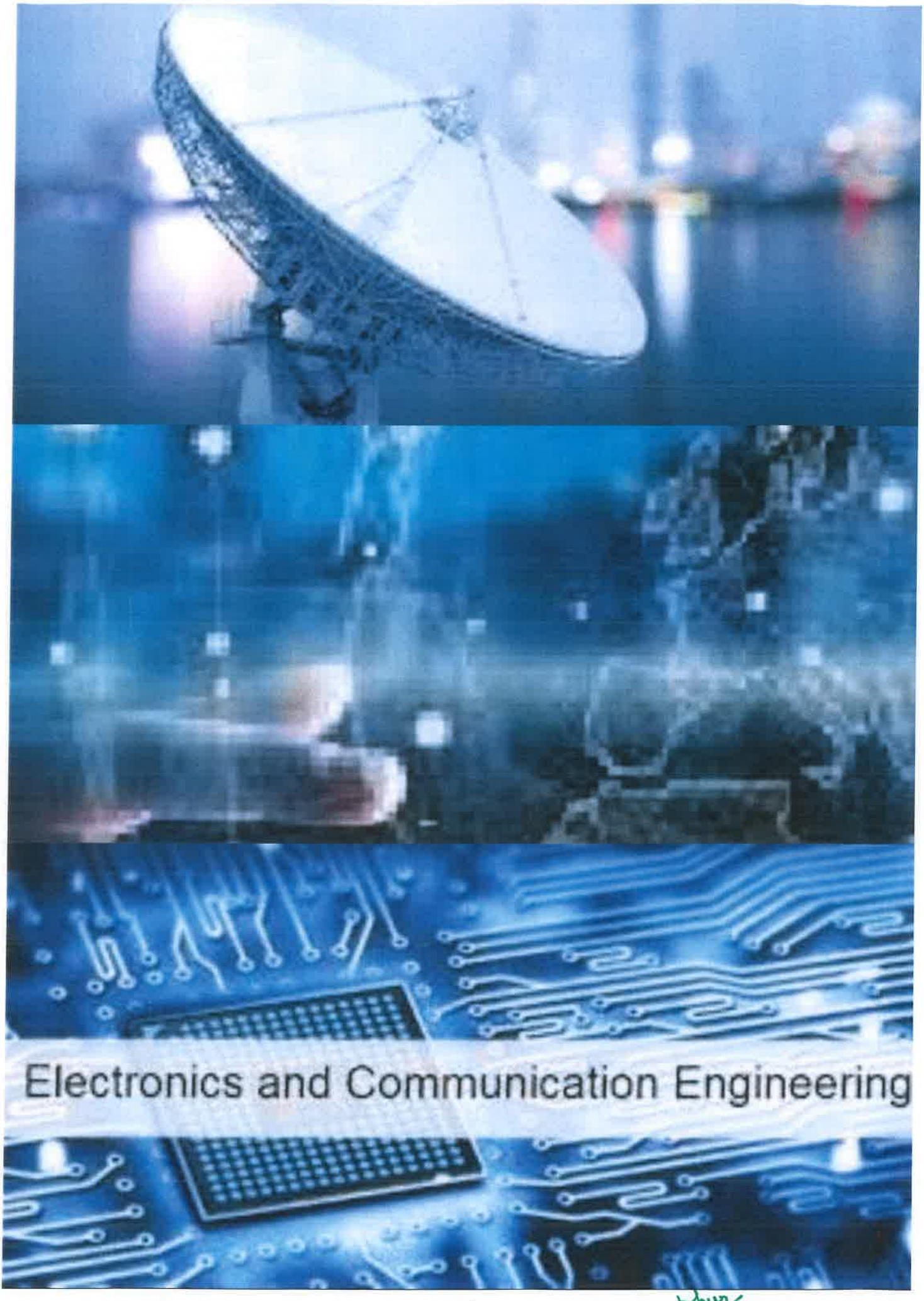
Module 5

Security Management Practices:

Overview of Security Management, Information Classification Process Security Policy, Risk Management, Security Procedures and Guidelines, Business Contnuity and Disaster Recovery

Reference Books:

- Future Crimes: Inside the Digital Underground and the Battle for our Connected World by Marc Goodman.
- Spam Nation: The Inside Story of Organized Cybercrime- from Globd Epidemic to Your Front Door by Brian Krebs.
- Data and Goliath: The Hidden Battles to Collect Your Data and Con-rol Your World by Bruce Schneier.



PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

INTERNET OF THINGS USING ARDUINO

Total Duration: 40hrs

Course Objectives:

The Internet is evolving to connect people to physical things and also physical things to other physical things all in real time. It's becoming the Internet of Things (IOT). The course enables student to understand the basics of Internet of things and protocols. It introduces some of the application areas where Internet of Things can be applied. Students will learn about the middleware for Internet of Things. To understand the concepts of Web of Things.

Learning Outcomes:
After doing this course, students should be able to design and deploy multiple IOT devices that could connect to the gateway.

Course Contents:
Module 1
IOT - What is the IOT and why is it important? Elements of an IOT ecosystem, Technology drivers, Business drivers, Trends and implications, Overview of Governance, Privacy and Security Issues.

Module 2
IOT PROTOCOLS - Protocol Standardization for IOT — Efforts — M2M and WSN Protocols --- SCADA and RFI
Protocols — ISsues with IOT Standardization — Unified Data Standards — Protocols — IEEE802.15.4—BACNet Protocol— Modbus — KNX — Zigbee- Network layer — APS layer — Security

Module 3
IOT ARCHITECTURE - IOT Open source architecture (OIC)- OIC Architecture & Design principles- IOT Devices and deployment models- loTivity : An Open source IOT stack - Cverview- loTivity stack architectureResource model and Abstraction

Module 4
IOT ARCHITECTURE - IOT Open source architecture (OIC)- OIC Architecture & Design principles- IOT Devices and deployment models- loTivity : An Open source IOT stack - Overview- loTivity stack architectureResource model and Abstraction

Module 5
The Arduino Environment: Introduction to the Arduino environment, the Arduino board, the Arduino IDE, and the Arduino compatible shields together with their libraries. Arduino board main components, inputs, and outputs. Arduino Integrated Development Environment (IDE), Compiling Code, Arduino Shields Libraries.

Module 6
Basics of C programming, composition of an Arduino programs, Arcuino tool chain, Arduino IDE, basic structure of a sketch, including the use of the setup() and loop() functions. Accessing the pins from a sketch for input and output, introduction on debugging embedded software on an Arduino, UART communication protocol, Synchronization, parity and stop, the use of the Serial library to communicate with the Arduino through the serial monitor.

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Text Books:

I . Jan Holler, VlasiosTsiatsis, Catherine Mulligan, Stefan Avesand, Stamatis Karnouskos, David Boyle, "From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence", 1st Edition, Academic Press, 2014.

2. Massimo Banzi, "Getting Started with Arduino", First Edition, February 2009, O'Reilly Media, Inc

Reference Books:

1. Vijay Madisetti and ArshdeepBahga, "Internet of Things (A Hands-onApproac '0, VPT, 2014

2. Alex Bradbury and Ben Everard, "Learning Python with Raspberry Pi", Feb 2 John Wiley Sons

3. Michael Margolis, "Arduino Cookbook", First Edition, March 201 1 , O'Reilly Me

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

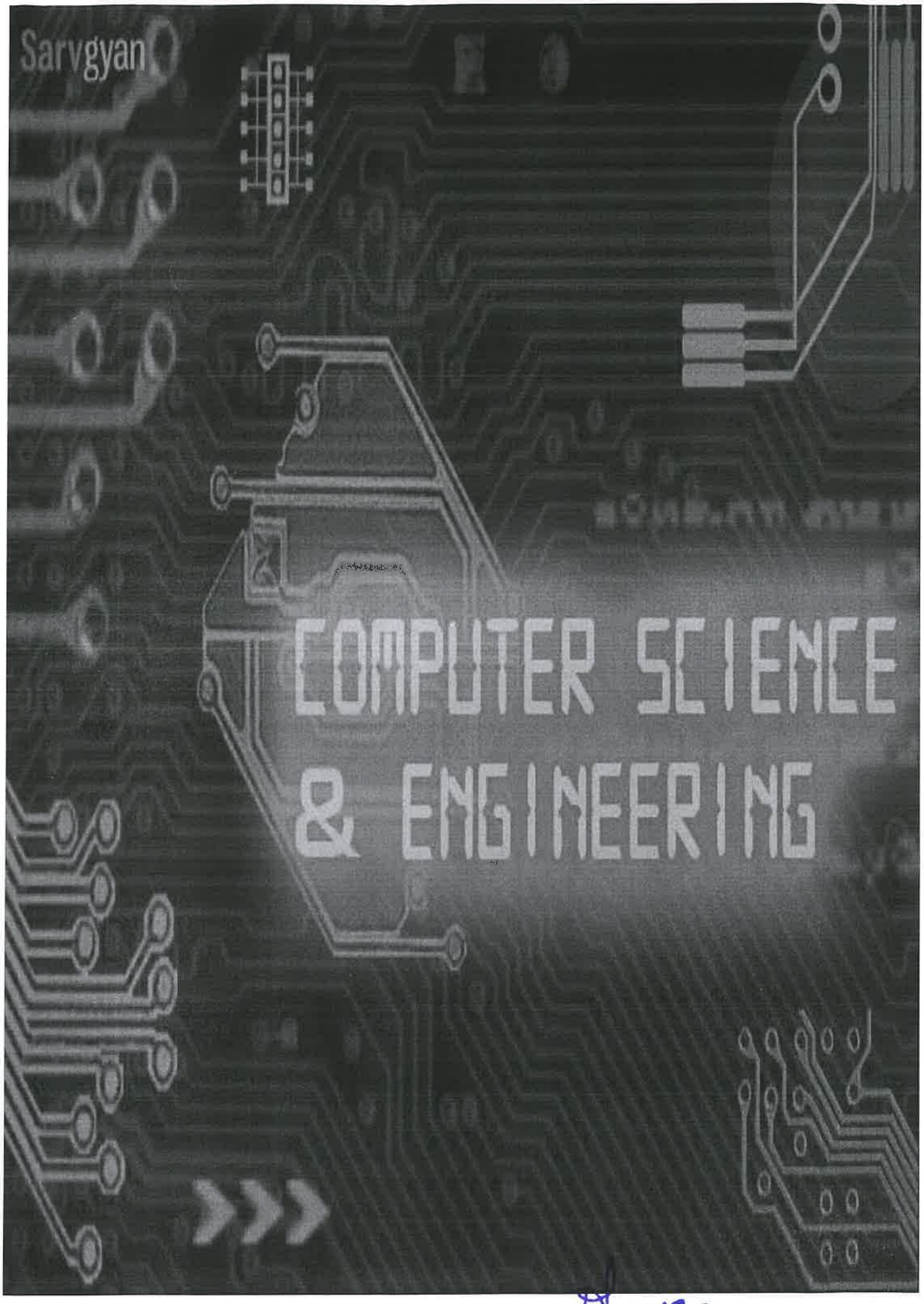
GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

ADD-ON COURSES

SYLLABUS

Session2017-2018

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar



PRINCIPAL

Guru Nanak Dev Engg. College, Bidar

Network Simulator

SubCode:GNCSNSP317 **Total Duration: 30Hrs.**

Pre-requisites of course: C Programming, Data communication ,computer network

Course Objectives:

- To understand how to write Tcl scripts
- To Simulate simple network topologies and traffic patterns
- To learn about trace file and nam
- To learn how to analyze the trace files,.
- To learn how to evaluate the performance of networking protocols

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO1	Understand the basics of NS2	K2
CO2	To learn how to write TCL Script	K3
CO3	Analyze the trace files	K3
CO4	Evaluate the performance of networking protocols	K4

KL-Bloom's Knowledge Level (K1, K2, K3, K4, K5.K6)
K_1-Remember K_2- Understand K_3-Apply K_4.- Analyze K_5.- Evaluate K_6.- Create

Outline of the Course:

Sr. No	Title of the Unit	Minimum Hours
1	What is network simulator	5
2	Features of NS2 Basic Architecture	5
3	Why two language?(TCL and C++)	5
4	Installing NS2 on windows 7	5
5	Example on NS2:	5
6	Types of network simulator	5

Total hours : 30

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Detailed Syllabus:

UNIT-I

What is Network Simulator: , popular simulator among networking researchers, Discrete event, Packet level simulator, Network protocol stack written in C++, Tcl (Tool Command Language) used for specifying scenarios and events. , Simulates both wired and wireless networks.

UNIT-II

Features of NS2 and Basic Architecture: Ns the simulator itself ,Nam, the network animator, Pre-processing: Traffic and topology generators Post-processing: Simple trace analysis, often in Awk, Perl, or Tcl, data" / control separation variables functions and expressions control flow procedures:,, Arrays:

UNIT –III

Why two language?(TCL and C++) The C++ and the OTcl are linked together using TclCL, C++: Detailed protocol simulations require systems programming language NS2 uses OTcl to create and configure a network, C++ to run simulation, write a Tcl simulation script and feed it as an input argument to NS2

UNIT-IV

Installing NS2 on windows 7 System Requirements, Install NS2 in Windows 7,Download Cyygwin package and installation steps, Root directory ,Cygwin setup with NS2 installation ,Cygwin Command window ,Execute the command Ns allinone – 2.35 ,Execute the NAM Console,

UNIT V

Example on NS2: Simple two node wired network, Adding traffic to the linkRecord Simulation Trace,, Simulate a simple topology – UDP Traffic, Trace Analysis Basic usage of Grep ,Complex topology and link failure ,Inserting Errors

UNIT VI

Types of Network Simulator: Network Simulator Version 2,NS3,NetKit,Marionment.JSIM,OPNET,INET

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Assessment:

After completion of one-week session comprising 30 hours, an MCQ based certification test of 2 hours will be conducted, students satisfying in the test will be provided a certificate signed by Head of the department and course in charge

Text Books:

1.Introduction to Network Simulator NS2
By Teerawat Issariyakul • Ekram Hossain, (Chapters 1 to 12)

2.Networking Essential by Jeffrey S B (chapters 6 to 18)

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

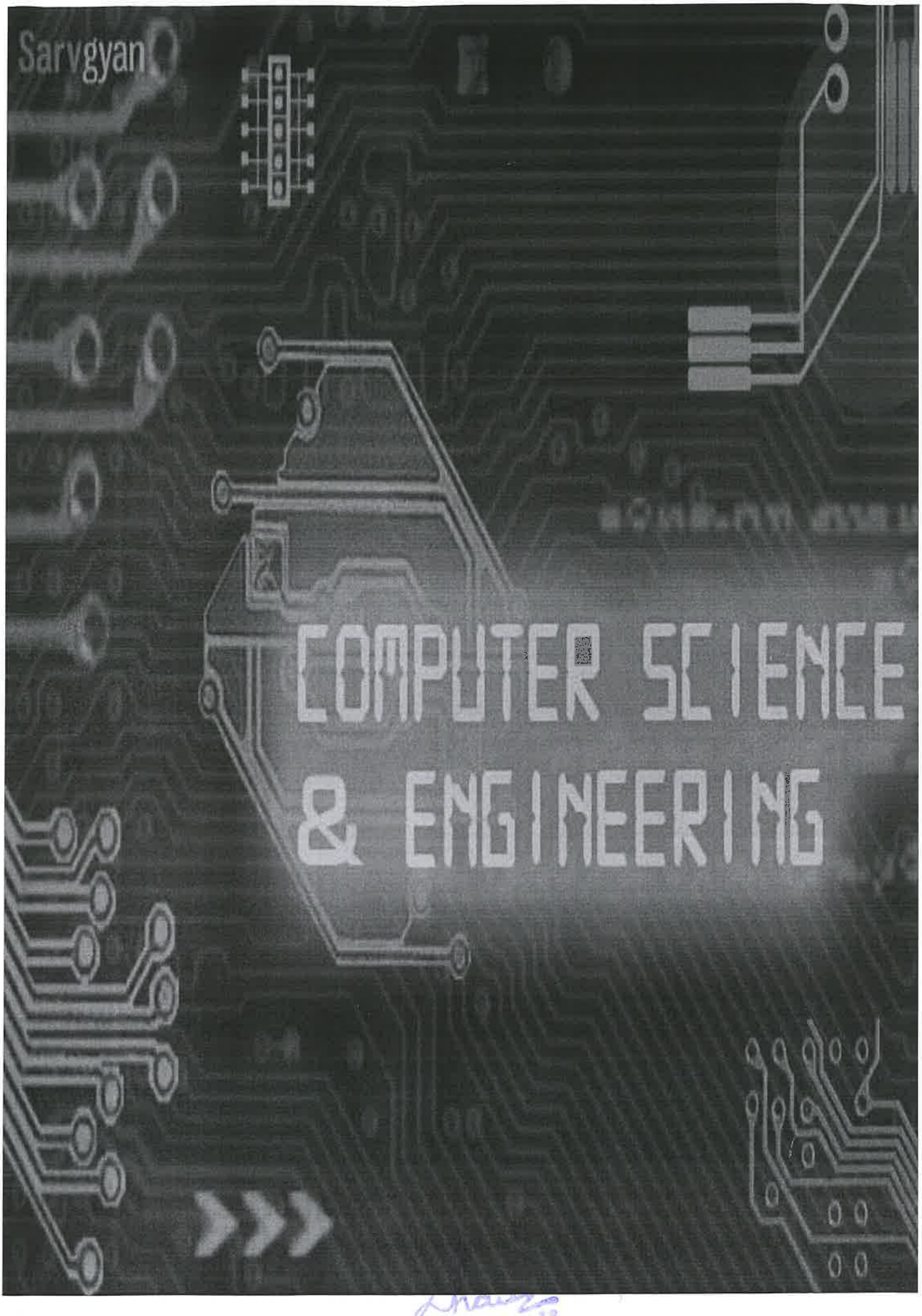
GURU NANAK DEV ENGINEERING COLLEGE,BIDAR,KARNATAKA

VALUE ADDED COURSES

SYLLABUS

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Session 2017-18



Unix Operating system

Sub Code:GNCSUX517 **Total Duration: 30Hrs.**

Pre-requisites of course: C Programming, Basics of Engineering Mathematics, Prior knowledge of Operating system is required. Basic computer literacy is expected.

Course Objectives:

- To provide introduction to UNIX Operating System and its File System
- To gain an understanding of important aspects related to the SHELL and the process
- To develop the ability to formulate regular expressions and use them for pattern matching.
- To provide a comprehensive introduction to SHELL programming, services and utilities

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO1	Describe the architecture and features of UNIX Operating System and distinguish it from other Operating System	K2
CO2	Demonstrate UNIX commands for file handling and process control	K3
CO3	Write Regular expressions for pattern matching and apply them to various filters for a specific task	K3
CO4	Analyze a given problem and apply requisite facets of SHELL programming in order to devise a SHELL script to solve the problem	K4

KL-Bloom's Knowledge Level (K1, K2, K3, K4, K5.K6)
K_1-Remember K_2- Understand K_3-Apply K_4.- Analyze K_5.- Evaluate K_6.- Create

Outline of the Course:

Sr. No	Title of the Unit	Minimum Hours
1	Introduction to unix	5
2	The File system	5
3	Using the Shell-Command	5
4	Filters	5
5	Shell Programming	5
6	Programming examples on shell script	5

Total hours : 30

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Detailed Syllabus:

MODULE-I

Introduction to unix-Brief History-What is Unix-Unix Components-Using Unix-Commands in Unix-Some Basic Commands-Command Substitution-Giving Multiple Commands

MODULE-II

The File system –The Basics of Files-What's in a File-Directories and File Names-Permissions-INodes-The Directory Hierarchy, File Attributes and Permissions-The File Command knowing the File Type-The Chmod Command Changing File Permissions-The Chown Command Changing the Owner of a File-The Chgrp Command Changing the Group of a File.

MODULE-III

Using the Shell-Command Line Structure-Met characters-Creating New Commands-Command Arguments and Parameters-Program Output as Arguments-Shell Variables- -More on I/O Redirection-Looping in Shell Programs

MODULE-IV

Filters-The Grep Family-Other Filters-The Stream Editor Sed-The AWK Pattern Scanning and processing Language-Good Files and Good Filters

MODULE-IV

Shell Programming-Shell Variables-The Export Command-The Profile File a Script Run During Starting-The First Shell Script-The read Command-Positional parameters-The $? Variable knowing the exit Status-More about the Set Command-The Exit Command-Branching Control Structures-Loop Control Structures-The Continue and Break Statement-The Expr Command: Performing Integer Arithmetic-Real Arithmetic in Shell Programs-The here Document(<<)-The Sleep Command-Debugging Scripts-The Script Command-The Eval Command-The Exec Command.

TEXT BOOKS:

1. The Unix Operating System by Sumitabha Das.
2. Introduction to Unix Shell Programming by M.G.Venkateshmurthy, Pearson.

REFERENCE BOOKS:

1.Unix and shell programming by B.M. Harwani, OXFORD university press.

Assessment:

1. Every student need to demonstrate the unix commands and has to write shell script .

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

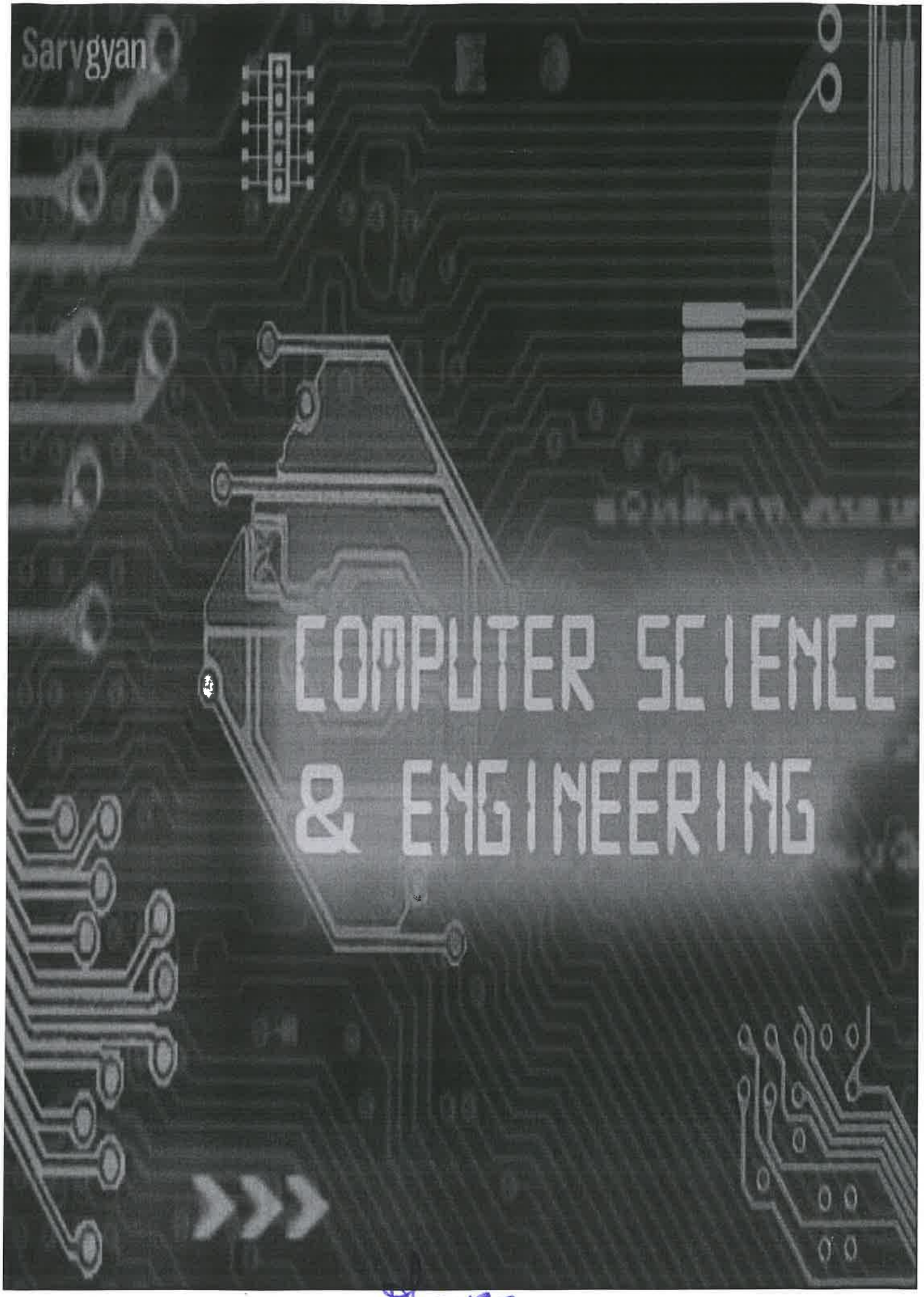
GURU NANAK DEV ENGINEERING COLLEGE,BIDAR,KARNATAKA

VALUE ADDED COURSES

SYLLABUS

Session2017-2018

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar



PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

DOTNET

SubCode:GNCSDNT717 **Total Duration: 30Hrs.**

Pre-requisites of course: C Programming, Basics of Engineering Mathematics. CSS,HTML Basic computer literacy is expected.

Course Objectives:

- Build applications on Visual Studio .NET platform by understanding the syntax and semantics of C#
- Demonstrate Object Oriented Programming concepts in C# programming language
- Design custom interfaces for applications and leverage the available built-in interfaces in building complex applications.
- Illustrate the use of generics and collections in C# • Compose queries to query in-memory data and define own operator behaviour

About DotNet:.

- .NET is an open-source platform for building desktop, web, and mobile applications that can run natively on any operating system. The .NET system includes tools, libraries, and languages that support modern, scalable, and high-performance software development. An active developer community maintains and supports the .NET platform.

In simple terms, the .NET platform is a software that can do these tasks:

- Translate .NET programming language code into instructions that a computing device can process.
- Provide utilities for efficient software development. For example, it can find the current time or print text on the screen.
- Define a set of data types to store information like text, numbers, and dates on the computer

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO1	Demonstrate OOPS Concepts in C#	K2
CO2	Build Simple Applications on VS.NET Platform by understanding the syntax and semantics of C#.	K3
CO3	Design Custom interfaces for applications.	K3
CO4	Illustrate the use of generics and collections in C#.	K4

KL-Bloom's Knowledge Level (K1, K2, K3, K4, K5.K6)
K_1-Remember K_2- Understand K_3-Apply K_4.- Analyze K_5.- Evaluate K_6.- Create

Outline of the Course:

Sr. No	Title of the Unit	Minimum Hours
1	**Introducing Microsoft Visual C#**	6
2	**Understanding the C# object model:**	6
3	**Understanding parameter arrays**	6
4	**Defining Extensible Types with C#**	6
5	**Enumerating Collections**	6

Total hours : 30

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Detailed Syllabus:

UNIT-I
Welcome to C#, Working with variables, operators and expressions, Writing methods and applying scope, Using decision statements, Using compound assignment and iteration statements, Managing errors and exceptions

UNIT-II
Creating and Managing classes and objects, Understanding values and references, Creating value types with enumerations and structures, Using arrays

UNIT –III
Understanding parameter arrays, Working with inheritance, Creating interfacesand defining abstract classes, Using garbage collection and resource management

UNIT-IV
Implementing properties to access fields, Using indexers, Introducing generics, Using collections

UNIT V
Enumerating Collections, Decoupling application logic and handling events, Querying in-memory data by using query expressions, Operator overloading

Assessment:
1. Every student has to give 'test consisting of Programming tasks and Objective Questions.

Companies Using DOTNET

Companies ranging from automotive, banking, and software implement the DOTNET software. The lists ofcompanies in automotive sector using the DOTNET Software are:

- Industrial Light and Magic
- Google
- Facebook
- Instagram
- Spotify
- Quora
- Netflix
- Dropbox
- Reddit

Text Books:

1. John Sharp, Microsoft Visual C# Step by Step, 8th Edition, PHI Learning Pvt. Ltd. 2016

Reference Books:

1. . Andrew Troelsen, "Prof C# 5.0 and the .NET 4.5 Framework", 6th Edition, Apress and Dreamtech Press, 2012.

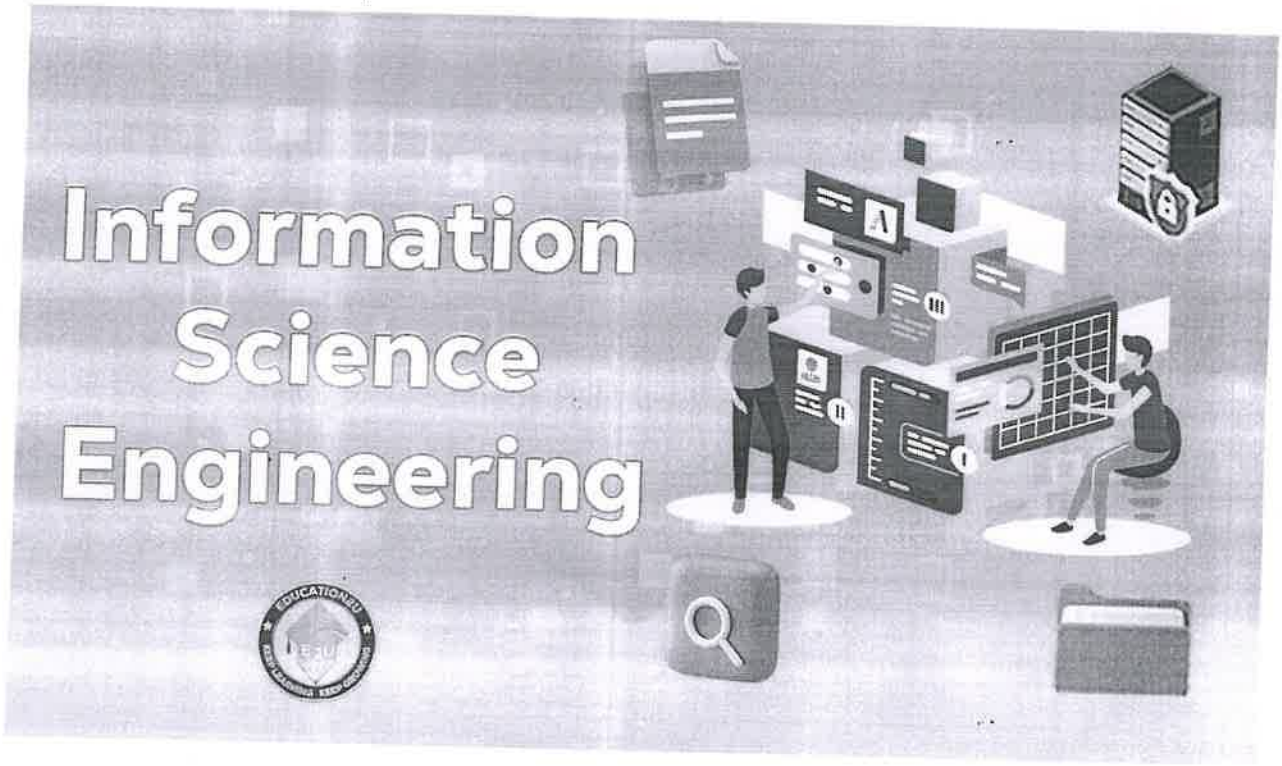
PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

GURU NANAK DEV ENGINEERING COLLEGE
BIDAR, KARNATAKA

ADD-ON COURSES

SYLLABUS

Session 2017-18



VISUAL BASIC 6.0 (GNECVB21)

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

VISUAL BASIC

Module 1:

Introduction: Need of visual languages, integrated development environment (IDE), advantage of Visual Basic, characteristics and features of Visual Basic – IDE, Projects, user interface, objects oriented, visual development and event-driven programming, forms/graphic controls, data processing, sharing with windows and internet applications. 6 Hrs

Module 2:

Visual Basic programming and tools: An introduction to Visual Basic programming, simple program construction, statements, input/outputs, comments, editor, subroutines, controls flow statements, objects and variants. 6Hrs

Module 3:

Designing user interface – elements of user interface, understanding forms, menus and toolbars, designing menus and toolbars, building dynamic forms, drag and drop operations, working with menus, customizing the toolbars. 6 Hrs

Module 4:

Controls – textbox, combo box, scroll bar and slider control operations, generating timed events, drawing with Visual Basic using graphics controls, coordinate systems and graphic methods, manipulating colors and pixels with Visual Basic, working with ActiveX controls. 6 Hrs

Module 5:

Menus: Creating a menu system, Creating and accessing pop-up menu, Modifying menus at runtime, adding menu items at run-time, data access methods, creating, reading and writing text files, data controls, creating queries. Report generation. 6 Hrs

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Reference Books:

1. David Schneider, Introduction to Programming using Visual Basic, PHI.
2. Mohammed Azam, Programming with Visual Basic 6.0, Vikas Publications.
3. Dietel & Dietel, Visual Basic Programming, Pearson Education.
4. David I. Schneider, An Introduction To Programming Using Visual Basic .Net®, PHI.
5. C Muthu , Visual Basic.Net, Tata Mc Graw Hill Year of Publication.

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

COURSE OBJECTIVES:

- Understand the basics of Programming.
- Understand functional hierarchical code generation.
- Understand the usage of characters, string, integers and special symbols in programming.
- Understand loops and decision-making statements in order to solve problems.
- Understand arrays and implementation of various operations on arrays.
- Understand the use of functions and pointer in programming.
- Understand the use of structure & union.
- Understand file operations and implement file operation in C programming for a set of problems.

COURSE OUTCOMES (CO):

After completion of the course, a student will be able to

COURSE OUTCOME (CO)	DESCRIPTION
CO1	Identify the need and use of programming in real world environment.
CO2	Improve the understanding of using data types, variables and arithmetic operations in programming.
GO3	Understand the concept of functions and pointer. In addition, resolve real world problems using functions and pointers.
CO4	Understand Array and String concepts and implement array and string using functions and pointers.
CO5	Exercise user defined data types including structure and union.

CO-PO MAPPING:

PO	PO											
CO	POI	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1				1		1				
CO2		2	1	1	1							
CO3	1	3	2	2		2	1	2				
CO4	1	2	2	1	1		1					
CO5		2	2	1	1	3	1	1				

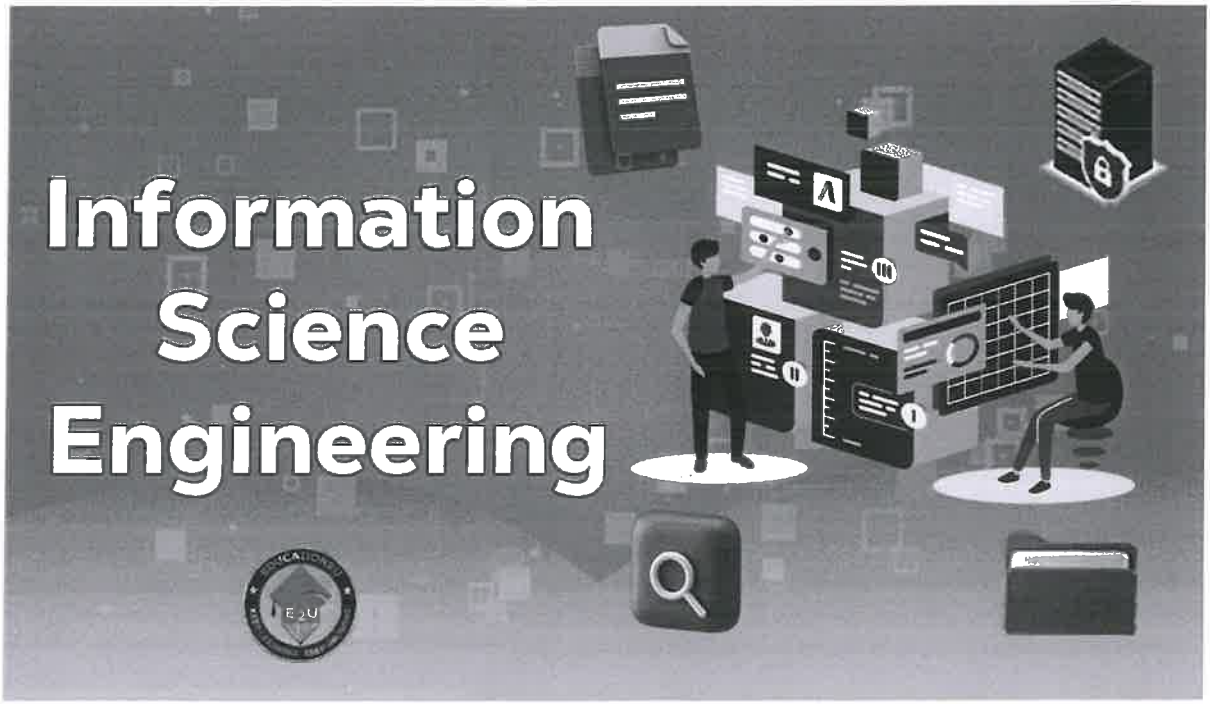
PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

GURU NANAK DEV ENGINEERING COLLEGE
BIDAR, KARNATAKA

ADD-ON COURSES

SYLLABUS

Session 2017-18



INTRODUCTION TO DOT NET FRAMEWORK FOR APPLICATION DEVELOPMENT (GNEC521)

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

INTRODUCTION TO DOT NET FRAMEWORK FOR APPLICATION DEVELOPMENT **Total Duration: 30hrs**
Module-1
Introducing Microsoft Visual C# and Microsoft Visual Studio 2015: Welcome to C#, Working with variables, operators and expressions, Writing methods and applying scope, Using decision statements, Using compound assignment and iteration statements, Managing errors and exceptions
Module-2
Understanding the C# object model: Creating and Managing classes and objects, Understanding values and references, Creating value types with enumerations and structures, Using arrays.
Module-3 Understanding parameter arrays, Working with inheritance, Creating interfaces and defining abstract classes, Using garbage collection and resource management
Module-4
Defining Extensible Types with C#: Implementing properties to access fields, Using indexers, Introducing generics, Using collections
Module-5
Enumerating Collections, Decoupling application logic and handling events, Querying inmemory data by using query expressions, Operator overloading
Text Books: 1. John Sharp, Microsoft Visual C# Step by Step, 8th Edition, PHI Learning Pvt. Ltd. 2016
Reference books: 1. Christian Nagel, "C# 6 and .NET Core 1.0", 1st Edition, Wiley India Pvt Ltd, 2016. Andrew Stellman and Jennifer Greene, "Head First C#", 3rd Edition, O"Reilly Publications, 2013. 2. Mark Michaelis, "Essential C# 6.0", 5th Edition, Pearson Education India, 2016. 3. Andrew Troelsen, "Prof C# 5.0 and the .NET 4.5 Framework", 6th Edition, Apress and Dreamtech Press, 2012

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Course Objectives:

- Inspect Visual Studio programming environment and toolset designed to build applications for
- Microsoft Windows Understand Object Oriented Programming concepts in C# programming
  language.
- Interpret Interfaces and define custom interfaces for application.
- Build custom collections and generics in C#
- Construct events and query data using query expressions

Course Outcomes:

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

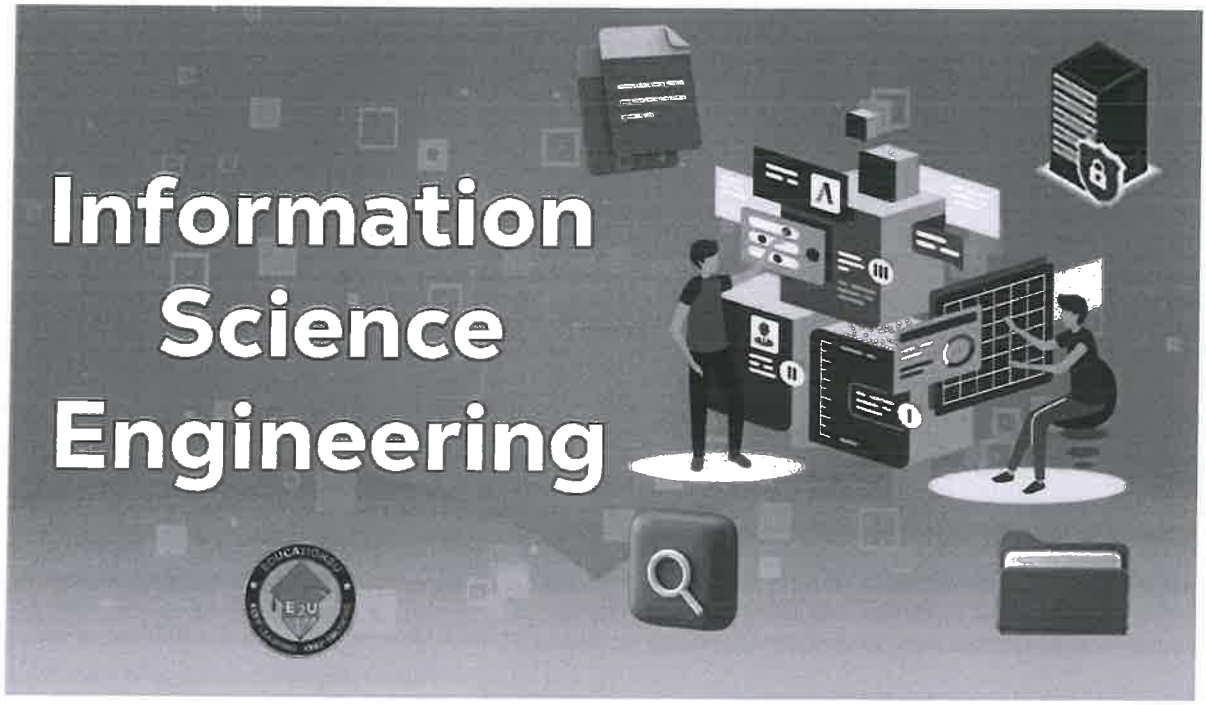
PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

GURU NANAK DEV ENGINEERING COLLEGE
BIDAR, KARNATAKA

ADD-ON COURSES

SYLLABUS

Session 2017-2018



SYSTEMS APPLICATIONS & PRODUCTS (SAP)

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

SYSTEMS APPLICATIONS & PRODUCTS (SAP) Total Duration: 30hrs
Module-1
SAP Overview: Introduction to ERP And SAP, History of SAP, Organization, Technology, Implementation Tools (Asap and Solution Manager),System Landscape, Roles And Responsibilities of a Consultant, Types of Projects, Change Transport System
Module-2
FINANCIAL ACCOUNTING: Overview of Organizational Elements in Accounting, Organizational Units,Define and Assign Organizational Units for Finance: Ex: – Country, Regions,,Company, Company Codes, Business Areas, Functional Areas, etc., Variant Principle,Fiscal Year and Posting Periods,Field Status Variants,Document types and NumberRanges,Posting Keys,Define Tolerance for GL Accounts and Employees,Global Parameters
Module-3
General Ledger: Master Data Overview, Chart of Accounts, Types of Chart of Accounts, Define and Assign Chart of Accounts, Define Account Groups and Screen Layout for GL Accounts, Define Retained Earnings Account, Creations of GL Accounts Master Records, Postings, Display GL Account Balances and Document.
Module-4
Currencies: Maintain Exchange Rates Maintain Table, Define Translation Ratios for Currency, Define Accounts for Exchange Rate Differences, Posting with Foreign Currency Define Methods for Foreign Currency Valuation, Prepare Automatic Posting for foreign currency valuation, Revaluation of foreign currency balances **Taxes:** Tax on Sales & Purchases, With Holding Tax (TDS), Country India Version (CIN)
Module-5
Currencies: Parking Document, Holding Document, Reference Document, Recurring Document, Sample Document, Account Assignment Model, Fast Data Entry **Bank Accounting:** Define House Banks with Bank Accounts, Creation of check number ranges for check lot Define void reason codes, Issue of a check, Manual payment, Cancellation of issue check with reason codes, Check register
Reference books: 1.SAP ERP Financial Accounting And Controlling Configuration and Use Management 1st Edition, Kindle Edition by Andrew Okungbowa 2. Materials Management with SAP ERP: Functionality and Technical Configuration, SAP Press; Fourth edition by Martin Murray & Jawad Akhtar,

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Course Objectives:

- The aim of the course is to strengthen the capabilities of individuals and institutions involved in the SAP process.
- The SAP course will provide the necessary skills, information and approaches required to develop a SAP.
- Creates a centralized system for businesses that enables every department to access and share common data to create a better work environment for every employee in the company.
- SAPs are created with the stated goal of reducing the borrowing country's fiscal imbalances in the short and medium term or in order to adjust the economy to long-term growth.

Course Outcomes:

- The program enables individuals to stay up-to-date and relevant by becoming skilled in the latest SAP technologies and solutions.
- Certification provides personal and company recognition, and supports career progression from proficiency to mastery.
- Provides one to handle software presented by SAP towards better work process and data management in organizations.

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

GURUNANAKDEVENGINEERINGCOLLEGE

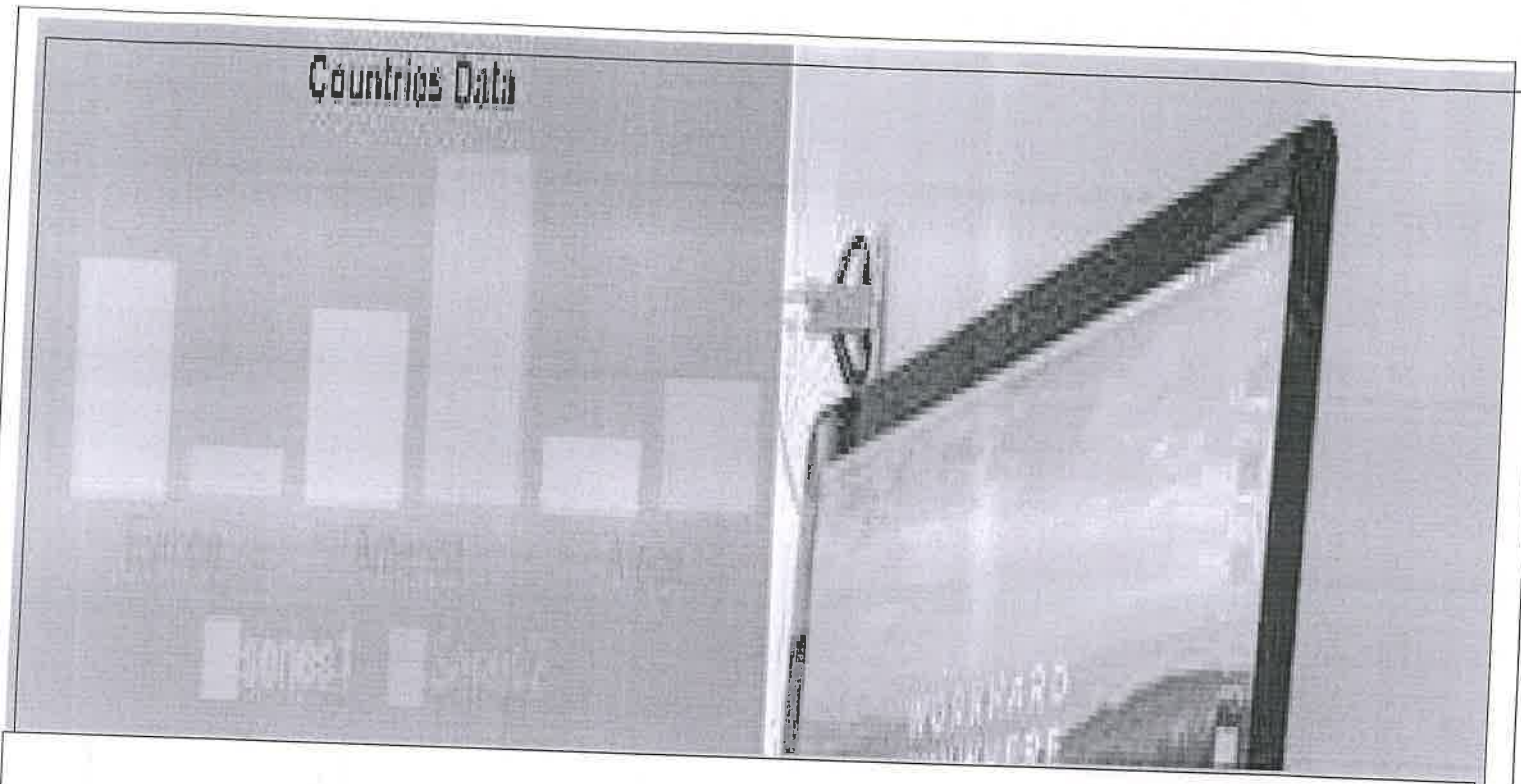
,BIDAR,KARNATAKA

ADD-ON COURSES

SYLLABUS

Session2017-2018

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR



Department of Applied Sciences & Humanities

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

BASIC CALCULUS

TotalDuration:36Hrs.

Course Objectives:

1. To Impart the Knowledge of Calculusand its application.
2. Todevelop the application skills in various Engg.fields.

About **BASIC CALCULUS**

It's very essential course to those who are seeking engineering course in any field.
It gives the ability of grasping and applying skills in various engineering subjects
A student knowing the basic calculus may understand the engineering mathematics easily in the applications level and learn the research level topics such as rate of change, motion of a particle, velocity and acceleration of moving objects, area and volume of plane and space etc.

Course Outcomes:		Knowledge Level, KL
Upon the completion of the course, the student will be able to:		
CO1	Understand the the functions of real number system and its graphical representation	K1
CO2	To know the formulas of differentiation of all standarad fuctions.	K2
CO3	To impliment the knowledge of differentiation in mean value theorems	K3
CO4	To evauate integration by different methods.	K1
CO5	To apply the knowledge if integrals in finding the area and volume bounded by the curves.	K3 , K4 and K5

Knowledge Level (K1, K2, K3, K4, K5.K6)

K_1-Remember K_2- Understand K_3-Apply K_4.- Analyze K_5.- Evaluate K_6.- Create

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR

Detailed Syllabus:

UNIT-I: Real numbers, Functions and their graphs. Limits of functions, properties of limits,standard limits and continuity of functions.Example problems

UNIT-II: Differentiation, First principle of derivative. Derivatives of standard functions, rules of differentiation, Implicit differentiation.Logarithmic differentiation and example problems.

UNIT –III: Extreme values, Rolle's theorem, Mean value theorems.

UNIT-IV: Indefinite integrals, Methods of integration, Integration by parts, Bernoulli's rule of integration, Example problems.

UNIT V: Definite integrals, properties of definite integrals. Area bounded between the curves and Numerical integration; Trapezoidal rule and Simpson's rule. Example problems.

Assessment:

1. Every student has to give periodic 'tests consisting of Descriptive and Objective Questions.
2. At the end of the Course each student will give a presentation

References Book:

Title of the Book	Author	Edition	Publications
1.Differential Calculus	N.P.Bali	2018(13thedition)	Laxmi publications New Delhi
2.Integral calculus	N.P Bali	2015	Golden Series New Delhi
3.Engg.Mathematics par-II	Dr.D.S.C	2017	PrismBooksPvt.Ltd.

PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR

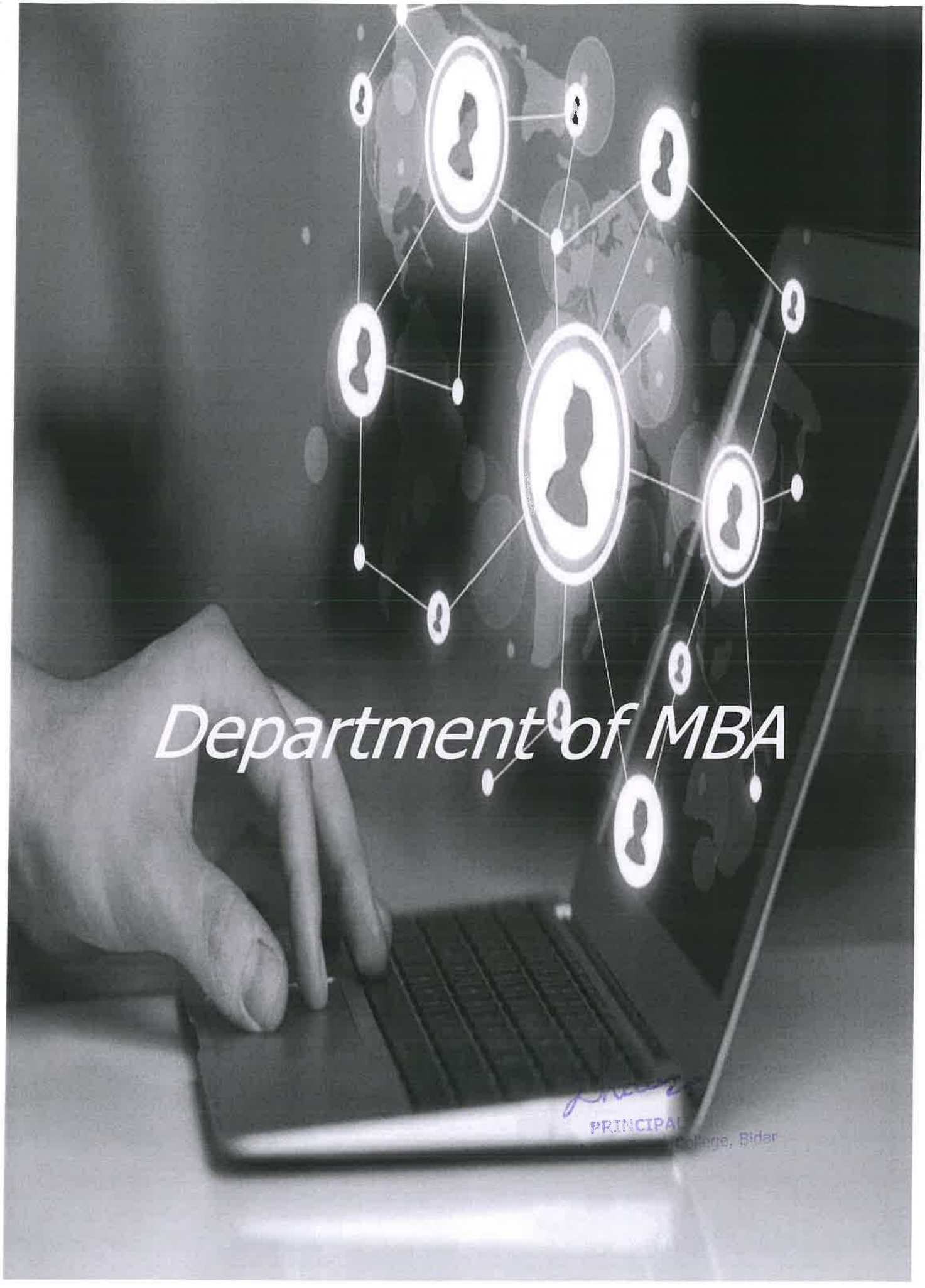
GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

VALUE ADDED COURSES

SYLLABUS

Session 2017-2018

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar



COMPUTER PROFICIENCY
(GNMBA117)

Total Duration: 30 Hrs

Objective of the Course:

1. **The course is designed to aim at imparting a basic level appreciation programme for the common man. After completing the course the incumbent is able to use the computer for basic purposes of preparing his personnel/business letters, viewing information on internet (the web), sending mails etc.**
2. **This allows a common man or housewife to be also a part of computer users list.**
3. **This would also aid the PC penetration program.**
4. **This helps the small business communities, housewives to maintain their small account using the computers and enjoy in the world of Information Technology.**

Course Outcomes:		**Knowledge Level, KL**
Upon the completion of the course, the student will be able to:		
CO1	understanding of computer hardware and software	K3
CO2	Demonstrate problem-solving skills	K4
CO3	Apply logical skills to programming in a variety of languages	K4
CO4	Utilize web technologies	K4
CO5	Demonstrate basic understanding of network principles	K4
Course Outcomes:		**Knowledge Level, KL**
Upon the completion of the course, the student will be able to:		
CO1	Understand the basics of Matlab	K3
CO2	Break a complex task up into smaller, simpler tasks	K4
CO3	Case Study (Any two Modules)	K4
CO4	Tabulate results and Analyse	K4
CO5	Bridge the skill gaps and will be ready for industry.	K4

KL-Bloom's Knowledge Level (K1, K2, K3, K4, K5.K6)

K_1-Remember K_2 - Understand K_3-Apply K_4.- Analyze K_5.- Evaluate K_6.- Create

Assessment:

1. Every student has to give periodic 'tests consisting of computer proficiency tasks and Objective Questions.
2. At the end of the Course each student will give a presentation on a topic covered in the course.

PRINCIPAL
Guru Nanak Dev Engg. College

Detailed Syllabus:

Detail syllabus

UNIT-I

Knowing computer: Introduction, Concept of hardware and software, Components of computer system, Bringing computer to life, Concept of computing, data and information.

UNIT-II

MS-Office: MS-Word (Word Processing Software), MS-Excel (Spreadsheet Software), MS-PowerPoint (PresentationSoftware), MS-Access (Database Management Software), MS-Outlook (E-mail Client)

UNIT –III

Understanding word processing: Introduction, Word processing basics, Opening and closing documents, Table manipulation, Formatting the text, Text creation and manipulation.
Using spread sheet: Introduction, Elements of electronic spared sheet, Formulas and function, Manipulation of cells.

UNIT-IV

Communication using the internet: Introduction, Internet, Basics of computer networks
WWW and Web browser: Introduction, Understanding URL, World Wide Web (WWW), Surfing the web, Web browsing soft wares, Search engines,

UNIT V

Communication and collaboration: Basic of e-mail, Document collaboration, Using e-mails
Antivirus technique: Introduction, Virus, Program/File infector virus or parasitic virus, Antivirus software, Data Backup and Recovery Tools Recovery tools, Hacker and Cracker.

References Book

1. **Computer Fundamentals 1St Edition 2017 by RS Salaria, Khanna Publishing House**

2. Computer Awareness Kindle Edition by Arihant Experts, arihant publication

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

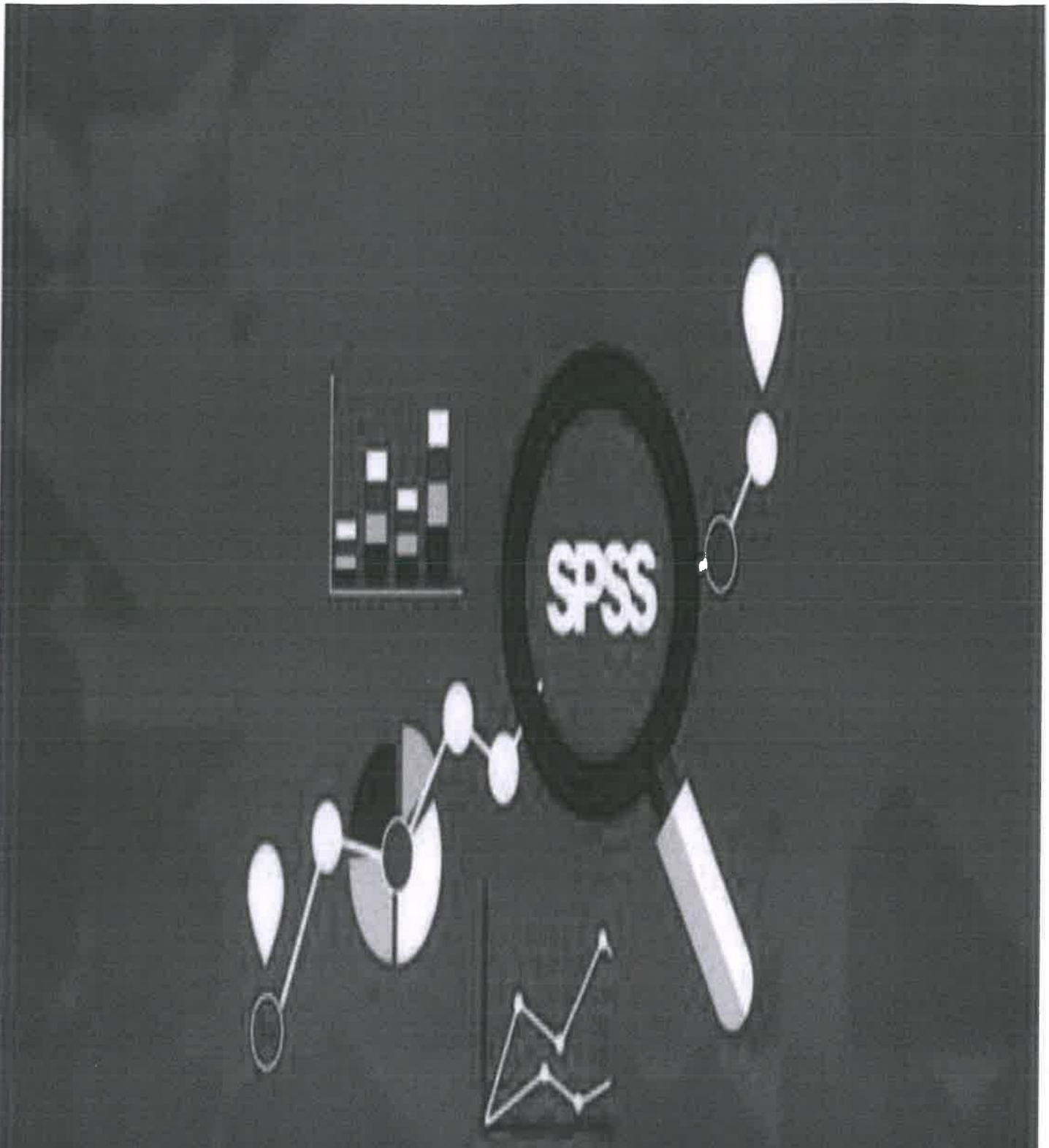
GURU NANAK DEV ENGINEERING COLLEGE, BIDAR, KARNATAKA

ADD-ON COURSES

SYLLABUS

Session 2017-2018

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar



DEPARTMENT OF MBA

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

INTRODUCTION OF SPSS FOR DATA ANALYSIS

Total Duration: 30 Hrs.

Pre requisites of course : Basic computer literacy is expected, MS word and Excel and prior knowledge of basic statistics is required

Course objectives

1)To impart the knowledge to the students with SPSS version 25 software

2)To provide a working introduction to the SPSS Software

3)To introduce students to the use of various statistical tools like graphs,charts, descriptive statistics, ANOVA, Chi square test, Correlation, regression etc.(applying statistical tools for analyzing data from management point of view).

About SPSS

SPSS is a Windows based program that can be used to perform data entry and analysis and to create tables and graphs. SPSS is capable of handling large amounts of data and can perform all of the analyses covered in the text and much more. SPSS is commonly used in the Social Sciences and in the business world .IBM SPSS Statistics is a fast and powerful solution that propose research analysis in numerous industries. SPSS Statistics is used in education, market, research, healthcare, government and retail throughout the entire analytics process from planning and data collection to analysis, and deployment.

In market research ,there is growing pressure to deliver actionable insights to client who want to make informed business decision quickly and expect detailed strategic report within aggressive timelines .SPSS software helps in exploring relationships in data to predict outcomes.

Course outcomes

After the completion of the course the students will be able to

1) Understand the basics of IBM SPSS Software

2) Understand data files and reading excel data and text file

3) To demonstrate the data by applying descriptive statistics, chart, graphs

4) Demonstrate the data by applying, correlation, regression, chi-square test & Anova

5) To demonstrate the ability to evaluate and interpret the data analysis results.

Detailed Syllabus:

About SPSS software : SPSS is a Windows based program that can be used to perform data entry and analysis and to create tables and graphs. SPSS is capable of handling large amounts of data and can perform all of the analyses covered in the text and much more. SPSS is commonly used in the Social Sciences and in the business world

Module 1: Introduction **05 hrs**

Learn about SPSS install and open SPSS, review layout of SPSS become familiar with Menus and Icons , exit SPSS

Module 2: Reading Data **05 hrs**

Basic structure of IBM SPSS statistics data files , reading data file, reading excel data, reading data from database and text file..

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Module 3: Descriptive statistics **10 hrs**

Descriptive statistics: Mean, sum, standard deviation, variance, range, Anova(Analysis of Variance) correlation, tables and charts, Regression, Running Analysis.

Module 4: Creating and editing charts. **06 hrs**

Creating and editing charts, charts builder gallery, defining variables and statistics and adding text .

Module 5: Working with output **04hrs**

Pasting results in word,excel and PowerPoint, exporting result to PDF.

References Book

1) *Darren George and Paul Mallery's* SPSS for Windows Step by Step – A Simple Guide and Reference 18.0 UPDATE – Eleventh Edition, *published by Pearson Education,*
2) arthur griffith-SPSS For Dummies –A Refernce for the Rest of Us

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar