//**fifth sem core-electives**

db.core5.insert({

"Course Title": "Unix Systems Programming",
"Course Code": "17ISE551",
"Credits": 04,
"COURSE CONTENT":["UNIT – I 10Hours INTRODUCTION: UNIX and ANSI Standards: The ANSI C Standard, Difference between ANSI C and C++, The POSIX Standards, UNIX and POSIX APIs: The POSIX APIs, The UNIX and POSIX Development Environment, API Common Characteristics.UNIX FILES: File Types, The UNIX and POSIX File System, The UNIX and POSIX File Attributes, Inodes in UNIX System V, Application Program Interface to Files, UNIX Kernel Support for Files, Relationship of C Stream Pointers and File Descriptors, Directory Files, Hard and Symbolic Links.","UNIT – II 11Hours UNIX File APIs: General File APIs, File and Record Locking, Directory File APIs, FIFO File APIs.UNIX PROCESSES: The Environment of a UNIX Process: Introduction, main function, Process Termination, Command Line Arguments, Environment List, Memory Layout of a C Program, Shared Libraries, Memory Allocation, Environment Variables, setjmp and longjmp Functions, getrlimit, setrlimit Functions.","UNIT – III 10Hours PROCESS CONTROL: Introduction, Process Identifiers, fork, vfork, exit, wait, waitpid, waited, Race Conditions, exec Functions, Changing User IDs and Group IDs, Interpreter Files, system Function, Process Accounting, User Identification,Process Times.PROCESS RELATIONSHIPS: Introduction, Terminal Logins, Network Logins, Process Groups, Sessions, Controlling Terminal, tcgetpgrp, tcsetpgrp, and tcgetsid Functions, Job Control, Shell Execution of Programs, Orphaned Process Groups.","UNIT – IV 11Hours SIGNALS: Signals: The UNIX Kernel Support for Signals, signal, Signal Mask, sigaction, The SIGCHLD Signal and the waitpid Function, The sigsetjmp and siglongjmp Functions, Kill, Alarm, Interval Timers.INTERPROCESS COMMUNICATION: Introduction; Pipes, popen, pclose Functions; Coprocesses, FIFOs; Message Queues; Semaphores; Shared Memory.","UNIT – V 10Hours DAEMON PROCESSES: Introduction, Daemon Characteristics, Coding Rules.NETWORK IPC: SOCKETS: Introduction, Socket Descriptors, Addressing, Connection establishment, Data transfer."],
"Text books":["1. Terrence Chan UNIX System Programming Using C++, Prentice Hall India, 1999.","2. W.Richard Stevens Advanced Programming in the UNIX Environment, 2nd Edition, Addison-Wesley / PHI, 1992."],
"Reference books":["1. Marc J. Rochkind Advanced Unix Programming, 2nd Edition, Pearson Education, 2005.","2. Maurice.J.BachThe Design of the UNIX Operating System, Pearson Education / PHI, 1987.","3. UreshVahalia UNIX Internals, Pearson Education, 2001"],

"Subject-Teacher":"Deepika",
"No. Of Students (opted)":35,
"No. Of Students (Passed)":25
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db.core5.insert({

"Course Title": "Digital Image Processing",
" Course Code": "17ISE552",
" Credits": 04,
"COURSE CONTENT":["UNIT – I 9Hours Introduction : What Is Digital Image Processing?, Fundamental Steps in Digital Image Processing,Components of an Image Processing System,Digital

Image fundamentals,Brightness Adaptation and Discrimination, A Simple Image Formation Model,Image Sampling and Quantization, Basic Concepts in Sampling and Quantization , Representing Digital Images,Spatial and Gray-Level Resolution,Aliasing and Moiré Patterns, Zooming and Shrinking Digital Images. Some Basic Relationships between Pixels: Neighbors of a Pixel, Adjacency, Connectivity, Regions, and Boundaries, Distance Measures, Image Operations on a Pixel Basis.","UNIT – II 9Hours Linear and Nonlinear Operations: Image Enhancement in the Spatial Domain, Some Basic Gray Level Transformations: Image Negatives, Log Transformations, Power-Law Transformations, Piecewise-Linear Transformation Functions, Histogram Processing: Histogram Equalization, Histogram Matching (Specification),Local Enhancement, Use of Histogram Statistics for Image Enhancement, Enhancement Using Arithmetic/Logic Operations, Image Subtraction,Image Averaging,Basics of Spatial Filtering, Smoothing Spatial Filters: Smoothing Linear Filters, Order-Statistics Filters, Sharpening Spatial Filters: Foundation, Use of Second Derivatives for Enhancement–The Laplacian, Use of First Derivatives for Enhancement—The Gradient, Combining Spatial Enhancement Methods, Image Enhancement in the Frequency Domain","UNIT – III 10Hours Image Segmentation: Detection of Discontinuities, Point Detection, Line Detection, Edge Detection, Edge Linking and Boundary Detection: Local Processing, Global Processing via the Hough Transform, Global Processing via Graph-Theoretic Techniques, Thresholding: Foundation, The Role of Illumination, Basic Global Thresholding, Basic Adaptive Thresholding,Optimal Global and Adaptive Thresholding, Use of Boundary Characteristics for Histogram Improvement and Local Thresholding.Region-Based Segmentation: Basic Formulation, Region Growing, Region Splitting and Merging.","UNIT – IV 10Hours Image Restoration: A Model of the Image Degradation/Restoration Process - Noise Models, Spatial and Frequency Properties of Noise, Some Important Noise Probability Density Functions, Periodic Noise, Estimation of Noise Parameters,Restoration in the Presence of Noise Only–Spatial Filtering: Mean Filters, Order-Statistics Filters, Adaptive Filters.Color Image Processing: Color Fundamentals, Color Models: The RGB Color Model, the CMY and CMYK Color Models,The HSI Color Model,Pseudocolor Image Processing: Intensity Slicing, Gray Level to Color Transformations.","UNIT – V 10Hours Image Compression: fundamentals, Coding Redundancy, Inter pixel Redundancy, Psychovisual Redundancy, Fidelity Criteria, Error-Free Compression: Variable-Length Coding, LZW Coding, Bit-Plane Coding, Lossless Predictive Coding."],
"Text books":"1. Digital Image Processing by Rafael C Gonzalez &Richard E Woods, 3rd Edition",
"Reference books":"1. Digital Image Processing & Analysis, B. Chnada & D. DattaMajumder, 2/E 2nd Edition",

"Subject-Teacher":"Dr. Vidyadevi Biradar",
"No. Of Students (opted)":25,
"No. Of Students (Passed)":20
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db.core5.insert({
"Course Title":"Computer Graphics with open gl and cuda",
"Course code":"17ISE553",
"Credits":04,
"Course content":["UNIT – I 12Hours(duration) Overview: Computer Graphics & Open GL Graphs and Charts, Computer-Aided Design, Virtual-Reality Environments, Data Visualizations, Education and Training,Computer Art. Entertainment, Image Processing, Graphics User Interfaces. Video Display Devices, Raster Scan Systems,Input Devices, Hard copy devices, Graphics software, Introduction of Open GL; Coordinate Reference Frames, Specifying a tow-Dimensional World-Coordinate Reference Frame in Open GL, OpenGL Point functions, OpenGL line function, Line–drawing Algorithm Circle generating algorithms","UNIT – II 10Hours(duration)Open GL Primitives & Attributes Fill-Area Primitives, Polygon Fill Areas, OpenGL Polygon Fill, Area functions, OpenGL Vertex arrays, Pixel –Array Primitives, OpenGL Pixel array functions, Character

Primitives, OpenGL Character Functions, Open GL Display-Window Reshape Functions; Color and gray scale, OpenGL color functions, Point Attributes, Line Attributes, Curve Attributes, OpenGL Point Attribute Functions, Open GL Line Attribute Functions, Fill-Area Attributes","UNIT – III 12Hours(duration)Geometric Transformations Basic Two-dimensional Geometric Transformations, Inverse Transformations, Two Dimensional Composite Transformations, Other Two Dimensional transformations, Geometric transformations in Three dimensional Space, Three dimensional Translation, Three dimensional Rotation, Three dimensional Translation, Other Three dimensional Translation,Open GL Geometric-Transformation Functions","UNIT – IV 10Hours(duration)Viewing and Interaction The Two-Dimensional Viewing Pipeline, The clipping window, Normalization and view port transformation., OpenGL Two-Dimensional Viewing functions, Clipping algorithms, Two-Dimensional point clipping., Two-Dimensional line clipping; The Three-dimensional Viewing pipeline, Graphical input data, Logical classifications of input Devices, Open GL menu functions","UNIT – V 8hrs(duration) GPU Programming Overview of GPU Architecture, GPU Hardware: Streaming Multiprocessors, Kernel, Thread Blocks. Comparison of GPU and CPU architectures, GPU Programming Model (CUDA). Implementation of basic geometrical objects using GPU programming"],
"Text books":["1. Computer Graphics with OpenGL, 3/E Donald D Hearn & M. Pauline Baker, Publisher: Prentice Hall","2.http://www.nvidia.com"],
"Reference books":["1. OpenGL Programming Guide, VI edition, Jackie Neider, Tom Davis, Mason Woo. Shreiner, Addison-WesleyCompany","2. Interactive Computer Graphics A Top-Down Approach with OpenGL -Edward Angel, 5th Edition, Addison-Wesley, 2008."],
"Subject_teacher":"Chandrashekhar",
"No of students(opted)":60,
"No of students (passed)":55
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db.core5.insert({
"Course title":"Internet of things",
"Course Code": "17ISE554",
"Course credits":04,
"Course contents":["UNIT – I 09 hours(duration) INTRODUCTION& CONCEPTS: Introduction to Internet of Things, Definitions and Characteristics of IoT, Physical Design of IoT, Things in IoT, IoT Protocols, Logical Design of IoT, IoT Functional Blocks, IoT Communication Models, IoT Communication APIs, IoT Enabling Technologies, Wireless Sensor Networks, Cloud Computing, Big Data Analytics,Communication Protocols, Embedded Systems, IoT levels and Development Templates, IoT Level-1, IoT Level-2, IoT Level-3, IoT Level-4, IoT Level-5, IoT Level-6.","UNIT – II 12hrs(duration)IoT and M2M, Introduction, M2M, Difference between IoT and M2M, SDN and NFV for IoT, Software Defined Networking, Network Function Virtualization, IoT Platform Design Methodology, Introduction, IoT Design Methodology,Step1: Purpose and requirement specification, Step2: Process Specification, Step 3: Domain Model Specification, Step 4:Information Model Specification, Step 5: Service Specification, Step 6: IoT Level Specification, Step 7: Function View Specification, Step 8: Operational View Specification, Step 9: Device and Component Integration, Step 10: Application Development, IoT System Logical Design Using Python, Introduction, Installing Python, Python Data Types and Data Structures, Control Flow, Functions, Modules, Packages, File Handling, Date Time applications, Classes, Python Packages of Interest for IoT.","UNIT – III 12hrs(duration) IoT Physical Devices and End Points: What is and IoT Device, Exemplary Device Raspberry Pi, About the Board, Linux on Raspberry Pi, Raspberry pi interfaces, programming raspberry pi with python, other IoT devices. IoT physical servers and cloud offerings: introduction to cloud storage models and communication Networks, wamp-

autobahn for IoT, ThingSpeak for IoT, python web application frame work-django, designing a RESTful web API, amazon web services for IoT, SkyNetIoT messaging platforms.","UNIT – IV 9hrs(duration) Data Analytics for IoT; Introduction Appache Hadoop, using Hadoop MapReduce for Batch Data Analysis, Apache oozie,Apache Spark, Apache Storm, using Apache Storm for Real-time Data Analysis.","UNIT – V 7hrs(duration)Ethics: Characterizing the IoT, Privacy, Control, Distributing Control and Crowd Sourcing, Environment, Physical Thing,Electronics, Internet Service, Solutions, Internet of Things as Part of Solution, Cautious Optimizing, The Open IoT definition."],

"Text books":["1. Internet Of Things-A Hands on Approach, by ArshdeepBahga, Vijay Madisetti University of Penn, http://www.internet-of-things-book.com/",
"2. Designing the Internet of Things, by Adrian McEwen & Hakim Cassimally ISBN 978-81-265-5686-1 Wiley Publication."],
"Reference books":"1. OvidiuVermesan,Peter Friess Internet of Things:Converging Technologies for Smart Environments and Integrated Ecosystems.River Publishers Series in Communication.NIT – IV Data Analytics for IoT; Introduction Appache Hadoop, using Hadoop MapReduce for Batch Data Analysis, Apache oozie,Apache Spark, Apache Storm, using Apache Storm for Real-time Data Analysis.",
"Subject_teacher":"Rangavittalla",
"NO of students(opted)":40,
"NO of students (passed)":32});

//**sixth sem core electives**

db.core6.insert({

"Course Title": "Compiler Construction",
"Course Code":"17ISE641",
"Credits": 04,
"Course Content":["UNIT – I 10 hours Introduction to compilers: Language Processor, the structure of a compiler, Evolution of Programming language, Science of Building Compiler, Applications of Complier Technology ,Programming Language Basics .Lexical Analysis: - The role of lexical analyzer, Input Buffering, Specification of Tokens, Recognition of Tokens, Syntax Analysis: Introduction,Context-Free Grammar, Writing a Grammar","UNIT – II 11hours Syntax Analysis: Top–Down parsing: Recursive Descent parsing, Computation of FIRST and FOLLOW, LL(1) Grammar, Non- Recursive Descent parsing, Error Recovery in Predictive Parsing.Bottom-Up Parsing: Reductions, Handle Pruning, Shift-Reduce Parsing, Shift-Reduce Parsing Conflicts, Simple LR.","UNIT – III 11 hours More Powerful LR Parser: Canonical LR(1) items, Canonical LR(1) Parsing Table, Constructing LALR parsing Tables, Parser Generator Syntax – Directed Translation: Syntax-Directed Definitions, Evaluation Order of SDD's, Application of SDT's","UNIT – IV 10 hours Intermediate-Code Generation: Variants of Syntax Tree , Three-Address code Run-Time Environments: Storage Organization, Stack Allocation of Space, Access to non-local data on stack, Heap management, Introduction to Garbage Collection","UNIT – V 10 hours Code Generation: Issues in the design of code generator, The Target language, Basic blocks & flow graphs, Dag representation of basic blocks, A Simple Code Generator, Peephole optimization. Transformation of basic blocks,Machine-Independent Optimizations: The principle sources of optimization: Global common Sub-Expressions, Copy Propagation,, Dead-Code Elimination."],

"Text books":"1. ‘Compilers Principles, Techniques and Tools’, 2006, Second Edition, Alfred V.Aho, Monica S. Lam, Ravi Sethi, Jeffrey D.Ullman,,Pearson Education/Prentice Hall of India.",
"Reference books":["1. AllenI.Holub, ‘Compiler Design in C’, PHI.","2. ‘The Theory and Practical of Compiler Writing’, Jean-Paul Trembly, Paul G. Sorenson, BSPublications","3. ‘Compiler Construction : Principle and Practice ‘ by Louden ,Cengage Publications"],

"Subject-Teacher":"KIRAN R",
"No. Of Students (opted)":45,
"No. Of Students (Passed)":35

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db.core6.insert(
{
"Course Title": "Blockchain Essentials&DApps",
" Course Code": "17ISE643",
" Credits": 04,
"Course Content":["UNIT-1 10Hours Distributed systems,CAP theorem, Byzantine Generals problem, Consensus.The history of blockchain,Introduction to blockchain,Various technical definitions of blockchains, Generic elements of a blockchain, Features of a blockchain, Applications of blockchain Technology,Tiers of blockchain technology,Consensus in blockchain, CAP theorem and blockchain, Benefits and limitations of blockchain ","UNIT-II 11 Hours Decentralization using blockchain, Methods of decentralization, Blockchain and full ecosystem decentralization,Smart contract, Decentralized organizations, Decentralized autonomous organizations,Decentralized autonomous corporations, Decentralized autonomous societiesDecentralized applications,Platforms for decentralization,Hash functions:Compression of arbitrary messages into fixed length digest,Easy to compute, Pre-image resistance, Second pre-image resistance,Collisionresistance,Message Digest (MD),Secure Hash Algorithms (SHAs), Merkle trees, Patricia trees, Distributed hash tables (DHTs),Digitalsignatures","UNIT-III 10Hours Bitcoin, Bitcoin definition, Transactions, The transaction life cycle, The transaction structure, Types of transaction, The structure of a block ,The structure of a block header, The genesis block, The bitcoin network,Wallets, Smart Contracts-History, Definition, Ricardian contracts, Smart contract templates, Oracles, Smart Oracles, Deploying smart contracts on a blockchain, The DAO","UNIT-IV 11Hours Ethereum 101, Introduction,Ethereum clients and releases, The Ethereum stack, Ethereumblockchain, Currency(ETH and ETC), Forks, Gas, The consensus mechanism, The world state, Transactions, Contract creation transaction, Message call transaction, Elements of the Ethereumblockchain ,Ethereum virtual machine (EVM), Accounts, Block, Ether, Messages, Mining,The Ethereum network Hands-on: Clients and wallets -Geth","UNIT-V 10HoursHyperledger, Hyperledger as a protocol, Fabric, Hyperledger Fabric, Sawtooth lake,Corda"],
"TEXTBOOKS":"1. Imran Bashir. “MastringBlockChain”,Packt",
"REFERENCEBOOKS":"1.Mastering Bitcoin: Programming the Open Blockchain Paperback – 2017 by Andreas M. O’rielly",
"Subject-Teacher":"Dr .Sanjay H.A.",
"No. Of Students (opted)":45,
"No. Of Students (Passed)":30

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db.core6.insert({
"Course Title":" Cloud Computing",
" Course Code":" 17ISE642",

"Credits":04,
"Course content": ["UNIT – I 10hrs(duration) Virtual Machines and Virtualization of clusters and Data centers:Implementation Levels of Virtualization, Virtualization Structures/Tools and mechanisms, virtualization of cpu, Memoryand I/O devices, Virtual clusters and resource Management, Virtualization for data center automation","UNIT – II 12hrs(duration) Cloud Platform architecture over virtual data centers:Cloud Computing and service models, Data center design and interconnection networks, Architectural design of compute and storage clouds, Public cloud platforms: GAE, AWS and Azure, Inter cloud Resource Management, Cloud security and Trust Management","UNIT – III 10hrs(duration) Service Oriented Architecture for Distributed Computing:Services and Service Oriented Architecture, Message Oriented middleware, Discovery, Registries, Metadata and Databases","UNIT – IV 12hrs(duration) Cloud Programming and Software Environments: Features of cloud and grid platforms, Parallel and distributed programming paradigms, programming Support for Google App Engine, Programming on Amazon AWS and Microsoft Azure, Emerging Cloud software Environments, IBM Bluemix Cloud app development platform (Reference 1: Chapter-1 , pg no. 1-20)","UNIT – V 8hrs(duration) Ubiquitous Clouds and the Internet of Things: Cloud Trends in supporting Ubiquitous Computing, Enabling Technologies for the Internet of Things, Innovative Applications of the Internet of Things"],
"Text books":"1.'Distributed and cloud computing' by Kai Hwang, Geoffrey C Fox and Jack J Dongarra",
"Reference books":["1. IBM Bluemix: The Cloud Platform for Creating and Delivering Applications, August 2015, International Technical Support Organization.","2. Sultan Ullah, Zheng Xuefeng, “Cloud Computing: a Prologue”, School of Computer and Communication Engineering,University of Science and Technology, Beijing China."],
"Subject-Teacher":"D B Srinivas",
"NO of students(opted)":71,
"No of students (passed)":60});

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"Course Title":"Object oriented modelling and design",
"Course Code": "17ISE644",
"Credits": 04,
"Course Content":["UNIT -I 10 Hrs(duration) Complexity: The Structure of Complex Systems, the Inherent Complexity of Software, The Five Attributes of a Complex System, Organized and disorganized Complexity, Bringing Order to Chaos, On Designing Complex Systems.The Object model:Foundations of the object model, elements of the object model, applying the object model","UNIT –II 10hrs(duration)Classes and Objects: The Nature of an Object, Relationships among Objects, The Nature of a Class, Relationships among Classes, The Interplay of Classes and Objects, On building Quality classes and objects.Classification: The Importance of Proper Classification, Identifying Classes and Objects. Key abstractions and mechanism","UNIT –III 10hrs(duration)Notation: The Unified Modeling Language, Package diagrams, Component Diagrams, Deployment Diagrams, Use Case Diagrams,Activity Diagrams, Class Diagrams, Sequence Diagrams, Interaction Overview Diagrams, Composite Structure Diagrams, State Machine Diagrams, Timing Diagrams, Object Diagrams, Communication Diagrams","UNIT –IV 11hrs(duration)Process:First Principles-Traits of successful projects, Towards a Rational Development Process, the Macro Process: The Software Development Lifecycle, The Macro Process Content Dimension-Disciplines, the Micro Process: The Analysis and Design Process","UNIT-V 11 hrs(duration)Pragmatics: Management and Planning, Staffing, Release Management, Reuse. Quality assurance and metrics,documentation, tools, special topics, benefits and risks of object oriented development"],
"Reference Books":["1. Grady Booch, Robert A Maksimchuk, Michael W Engle, Bobbi J Young, Jim Conallen, KelliaHoustan, Object Oriented Analysis and Design with Applications, Addison

Wesley, 3rd Edition, 2013, ISBN 978-81-317-2287-93","2. Grady Booch, James Rumbaugh, IvarJacobson , The Unified Modeling Language User Guide, Addison Wesley Professional, 2nd Edition, 2005, ISBN: 0-321-26797-4",
"3. Ali Bahrami, Object Oriented Systems Development using the Unified Modelling Language, McGraw Hill,Second Reprint 2008, ISBN:978-0-07-026512-7",
"4. Simon Benett, Object Oriented Analysis and Design Using UML, 3rd Edition, 2013,ISBN-10:0077110005"],
"Subject-Teacher": "Dr.Swarnalatha",
"No of students(opted)":42,
"No of students (passed)":42
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//**seventh sem core electives**

db.core7.insert({
"Course title":"Big data",
"Course code":"14ISE741",
"Course credits":04,
"Course contents":["UNIT1 10 HOURS(duration)Types of Digital data: Classification of Digital data: Structured Data, Semi Structured Data,Unstructured Data; Introduction to Big Data : Characteristics of Data, Evolution of Big Data,Definition of Big Data, Challenges of Big Data, What is Big Data?, Why Big Data? Traditional Business Intelligence versus Big Data, A Typical Data Warehouse Environment, A Typical Hadoop Environment, Coexistence of Big Data and Data Warehouse Big Data Analytics: Big Data Analytics.Classification of Analytics, Greatest challenges on Big Data, Big Data Analytics importance, Data Science, Terminologies in Big Data.","UNIT-II 10hrs(duration)The Big Data Technology Landscape: NoSQL:Types of NoSQL, Advantages of NoSQL, Use of NoSQL in industry, NewSQL, Comparison of SQL, NoSQL and NewSQL. Hadoop: Features, Advantages of Hadoop, Versions of Hadoop, Hadoop ecosystem, Hadoop distributions, Hadoop Vs SQL. Introduction to Hadoop: Why Hadoop? RDBMS Vs Hadoop, Distributed computing challenges, History of Hadoop, Hadoop overview, Usecase of Hadoop, HDFS, Processing data with Hadoop, Managing resources and applications with Hadoop YARN.","UNIT-III 10hrs(duration)Introduction to MongoDB: Introduction, Terminologies used in RDBMS and MongoDB, Data types in MongoDB, MongoDB query language: insert, save, update, remove, find, count, limit, sort, skip,arrays, aggregate functions, mapreduce functions, java script programming, cursors in MongoDB,indexes, MongoImport and MongoExport. Introduction to Cassandra: Features of Cassandra, CQL data types, CRUD operations, Collections, Counter, TTL, Alter commands, Import and Export,Querying system table.","UNIT-IV 10hrs(duration)Introduction to Map Reduce Programming: Introduction, Mapper, Reducer, Combiner, Partitioner,Searching, sorting, compression Introduction to HIVE: Introduction, HIVE architecture, HIVE datatypes, HIVE file formats, HIVE query language, RCFile implementation, SerDe, User Defined Functions (UDF)","UNIT-V 10hrs(duration)Introduction to PIG: Anatomy of PIG, PIG on Hadoop, PIG philosophy, overview of PIG, Data types in PIG, Running and execution modes of PIG, HDFS commands, Relational operators, Eval function,Complex Data types JasperReport using Jaspersoft: Introduction, Connecting to MongoDB NoSQL database, Connecting to Cassandra NoSQL database."],
"Text books":" Seema Acharya, SubhasiniChellappan, Big Data and Analytics, Wiley Publications, 2015.",

"Reference Books":["1. Chris Eaton,Dirkderooset al., Understanding Big data, McGraw Hill, 2012.","2. Boris lublinsky, Kevin T. Smith, Alexey Yakubovich,Professional Hadoop Solutions, Wiley,ISBN: 9788126551071, 2015.","3. Tom White, HADOOP: The definitive Guide, O Reilly 2012.","4. Norman Matloff, The Art of R Programming: A Tour of Statistical Software Design, No Starch Press, USA, 2011.","5. http://www.bigdatauniversity.com/"],
"Subject_teacher":"Pradeep",
"NO of students(opted)":40,
"No of studnets (passed)":35
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db.core7.insert({
"Course title":"Machine learning",
"Course Code":"14ISE742",
"Course credits":04,
"Course contents": ["UNIT1 10hrs(duration)Introduction-Learning problems, Designing a learning system, perspectives and issues in Machine Learning. Data Mining Concept Learning Task, Concept Learning as search, Find S, Version space and Candidate Elimination Algorithm.","UNIT-II 12hrs(duration)Introduction with logistic regression; Logistic regression. Cost function. Artificial Neural Networks representations, appropriate problems for neural network learning, perceptrons, multilayer networks and the backpropagation algorithm, K-means clustering.","UNIT-III 12hrs(duration)Bayesian Learning-Bayes theorem, concept learning, maximum likelihood, Bayes optimal classifier,Gibbs algorithm, nave Bayes classifier, Bayesian belief networks, the EM algorithm, PCA.","UNIT-IV 10hrs(duration)Support Vector machine: Margins-Intuition, Notation, functional and geometric margins, optimal margin classifier, Lagrange duality, kernels, regularization and non-separable case, the SMO algorithm.","UNIT-V 8hrs(duration)Genetic Algorithm, hypothesis space search, genetic programming, models of evolution and learning,Analytical Learning- learning with perfect domain theories: PROLOG-EBG"],
"Text books":["1. Tom M. Mitchell, ”Machine Learning”, by McGraw Hill, 2013.",
"2. Christopher M. Bishop, ”Pattern Recognition and Machine Learning”, by Springer, 2007."],
"Reference Books":["1. Gareth James, Daniela Witten, Trevor Hastie and Robert Tibshirani, ”An Introduction to Statistical Learning: with Applications in R”, Springer, 2016.","2. Trevor Hastie, Robert Tibshirani and Jerome Friedman, 'The Elements of Statistical Learning:Data Mining, Inference, and Prediction',Springer, 2016","3. Andreas Muller, 'Introduction to Machine Learning with Python: A Guide for Data Scientists',Shroff/O’Reilly; First edition (2016)","4. https://nptel.ac.in/courses/106106139/","5. Andrew NG’s online Course"],
"Subject_teacher":"Dr.Sanjay",
"No of students(opted)":44,
"No of students (passed)":38
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db.core7.insert({
"Course title":"Android Application Development and Version Control Repository",
"Course code":"14ISE743",
"Course credits":04,
"Course contents":["UNIT1 10hrs(duration)Mobility and Android: Introduction: Mobility Panorama, Mobile Platforms, App Development Approaches, Android Overview, Getting Started with Android, setting up Development Environment,Saying Hello to Android, Traversing an Android App Project Structure, Logical Components of an Android App, Android Tool Repository, Installing and Running App Devices Learning with an Application, Mobile App Development Challenges, Tenets of a Winning App.","UNIT-II 10hrs(duration)Building Blocks, App User Interface, Activity, UI Resources, UI Elements and Events, Interaction among Activities, Fragments, Action Bar, App Functionality - Beyond UI: Threads, Async Task,Service, Notifications,

Intents and Intent Resolution, Broadcast Receivers, Telephony and SMS","UNIT-III 10hrs(duration)App Data - Persistence and Access: Flat Files, Shared Preferences, Relational Data, Data Sharing Across Apps, Enterprise Data, Location Services and Maps, Google Play Services, Location Services,Maps, Sensors: Sensors in Android, Android Sensor Framework, Motion Sensors, Position Sensors,Environment Sensors.","UNIT-IV 10hrs(duration)Moving To Market: Testing Android Apps, Testing Android App Components, App Testing Landscape Overview, Publishing Apps, Groundwork, Configuring, Packaging, Distributing","UNIT-V 10hrs(duration)Introducing Git, Installing Git, Ignoring Files, Adding Files, Forking and Cloning, Exploring Git Log,Branching, Developing on Branch, Git Commits and Branches, Git Remotes, Pull vs Push Model."],
"Text Books":["1. Composing Mobile Apps: Learn, Explore, Apply using Android, 1st Edition, AnubhavPradhan,Anil V Deshpande, Wiley Publication 2017.","2. Learn Android Studio - Adam Gerber, 1st Edition, Clifton Craig, Apress Publications, 2015"],
"Reference books":["1. Google Developer Training, ”Android Developer Fundamentals Course Concept Reference,Google Developer Training Team, 2017.https://www.gitbook.com/book/google-developer-training/android-developerfundamentals-course-concepts/details","2. Android Developer Tools Essentials, 1st edition, Mike Wolfson - O’Reilly Media Publications,2013.","3. https://in.udacity.com/course/new-android-fundamentals–ud851","4. https://in.udacity.com/course/advanced-android-app-development–ud855"],
"Subject_teacher":"Dr Srinivasan",
"No of students(opted)":45,
"No of students passed":40
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db.core7.insert({
"Course name":"Cloud computing",
"Course Code":"14ISE744",
"Course credits":04,
"Course contents":["UNIT1 08 HOURS(duration)Virtual Machines and Virtualization of clusters and Data centers: Implementation Levels of Virtualization, Virtualization Structures/Tools and mechanisms, virtualization of cpu, Memory and I/O devices, Virtual clusters and resource Management, Virtualization for data center automation.","UNIT-II 08 HOURS(duration)Cloud Platform architecture over virtual data centers: Cloud Computing and service models, Data center design and interconnection networks, Architectural design of compute and storage clouds,Public cloud platforms: GAE, AWS and Azure, Inter cloud Resource Management, Cloud security and Trust Management.","UNIT-III 08 HOURS(duration)Service Oriented Architecture for Distributed Computing: Services and Service Oriented Architecture,Message Oriented middleware, Discovery, Registries, Metadata and Databases","UNIT-IV 08 HOURS(duration)Cloud Programming and Software Environments: Features of cloud and grid platforms, Parallel and distributed programming paradigms, programming Support for Google App Engine, Programming on Amazon AWS and Microsoft Azure, Emerging Cloud software Environments","UNIT-V 08 HOURS(duration)Ubiquitous Clouds and the Internet of Things: Cloud Trends in supporting Ubiquitous Computing,Enabling Technologies for the Internet of Things, Innovative Applications of the Internet of Things"],
"Text Books":"1. Distributed and cloud computing by Kai Hwang, Geoffrey C Fox and Jack J Dongarra ,Elsevier,2000",
"Reference books":["1. Mastering Cloud Computing RajkumarBuyya, Christian Vecchiola, and Thamarai, Selvi McGraw Hill Education.","2. https://onlinecourses.nptel.ac.in/noc17 cs23/preview"],
"Subject_teacher":"Dr siridevi",
"No of students(opted)":38,
"No of students(passed)":34}

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db.core7.insert({
"Course Title":"Basics of java",
"Course code":"14ISO752",
"Course credits":04,
"Course contents":["UNIT1 The History and Evolution of Java: The Birth of Modern Programming: C . C++: The Creation ofJava . How Java Changed the Internet . Java Applets. Security . Portability .. Javas Magic: The Bytecode . Servlets: Java on the Server Side . . . The Java Buzzwords Object-Oriented Programming.Two Paradigms Abstraction The Three OOP Principles . A First Simple Program Entering the Program . . First Sample Program . Second Short Program Java Is a Strongly Typed Language . The Primitive Types Integers. Floating-Point Types Characters . . Booleans . A Closer Look at Literals .Variables Declaring a Variable . Type Conversion and Casting .. Automatic Type Promotion in Expressions Arrays . One-Dimensional Arrays .. . Multidimensional Arrays Alternative Array Declaration Syntax",
"UNIT-II Operators Arithmetic Operators The Bitwise Operators Relational Operators Boolean Logical Operators The Assignment Operator . The ? Operator Operator Precedence . Using Parentheses Control Statements . Javas Selection Statements . .Javas Selection Statements .Iteration Statements .Jump Statements","UNIT-III Introducing Classes. Class Fundamentals Declaring Objects Assigning Object Reference Variables .Introducing Methods . Constructors . The this Keyword . Garbage Collection . The finalize( )Method .A Closer Look at Methods and Classes Overloading Methods Overloading Constructors Using Objects as Parameters . A Closer Look at Argument Passing Returning Objects .RecursionIntroducing Access Control . Understanding static . Introducing final","UNIT-IV Inheritance Inheritance Basics . Member Access and Inheritance . Using super .Creating a Multilevel Hierarchy When Constructors Are Called Method Overriding Dynamic Method Dispatch . Why Overridden Methods? . Applying Method Overriding Using Abstract Classes Using final with Inheritance Using final to Prevent Overriding Using final to Prevent Inheritance The Object Class.Packages and Interfaces . Packages . Access Protection . . Importing Packages .Interfaces","UNIT-V Exception Handling Exception-Handling Fundamentals Exception Types Uncaught Exceptions Using try and catch Displaying a Description of an Exception . . Multiple catch Clauses . Nested try Statements . throw throws. finally . Javas Built-in Exceptions Creating Your Own Exception Subclasses . Chained Exceptions Using Exceptions Multithreaded Programming The Java Thread Model Thread Priorities Synchronization Messaging The Thread Class and the Runnable Interface The Main Thread Creating a Thread . Implementing Runnable Extending Thread Choosing an Approach Creating Multiple Threads Using isAlive( ) and join( ) Thread Priorities"],
"Text books":"1. Herbert Schildt: JavaTM: The Complete Reference Java, Eighth edition, Tata McGraw Hill Publications, 2011",
"Reference books":["1. Introduction to JAVA Programming Y.Daniel Liang, 6th Edition, Pearson Education, 2007","2. http://www.nptelvideos.com/java/java video lectures tutorials.php"],
"Subject_teacher":"Dr david",
"No of students(opted)": 44,
"No of students(passed)": 44
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//**8th sem core electives**

db.core8.insert
({
"Course Title": "Adhoc Network",
"Course code":"14ISE831",
"Course content":["UNIT – I Ad Hoc wireless networks: 8 hrs Fundamentals of Wireless Communication Technology, The Electromagnetic Spectrum, Radio Propagation Mechanisms, Characteristics of the Wireless Channel, Modulation Techniques, Multiple Access Techniques, Voice Coding, Error Control, IEEE 802 Network Standards, Introduction to Ad hoc Wireless Networks, Issues in Ad Hoc Wireless Networks, Ad Hoc Wireless Internet.","UNIT –II MAC Protocols for Ad Hoc wireless networks: 10 hrs Introduction, Issues in Designing a MAC Protocol for Ad Hoc Wireless Networks, Design goals of a MAC Protocol for Ad Hoc Wireless Networks, Classifications of MAC protocols, Contention-Based Protocols, Contention-Based protocols with reservation mechanisms, Contention-Based MAC protocols with scheduling mechanisms, MAC protocols that use directional antennas, Other MAC protocols.","UNIT –III Routing protocols for Ad Hoc wireless networks: 10 hrs Introduction, Issues in designing a routing protocol for Ad Hoc wireless networks, classifications of routing protocols, Table-Driven routing protocols, On-Demand routing protocols, Hybrid routing protocols, Weight-based preferred link algorithm, Optimised link state routing, Fisheye state routing protocol, Power-Aware routing Metrics.","UNIT –IV Transport layer and security protocols for Ad Hoc wireless networks: 10 hrs Issues in designing a transport layer protocol for Ad Hoc wireless networks, Design goals of a transport layer Protocol for Ad Hoc wireless networks, Classification of transport layer solutions, TCP over Ad Hoc wireless networks, Other transport layer protocols for Ad Hoc wireless networks, Security in Ad Hoc wireless networks, Network security requirements, Issues and challenges in security provisioning, Network security attacks, Key management, Secure routing in ad hoc wireless networks.","UNIT –V Quality of service In Ad Hoc wireless networks: 10 hrs Introduction, Issues and challenges in Providing QoS, Classifications of QoS solutions, MAC Layer solutions-QoS support mechanism of IEEE 802.11e, Network layer solutions-QoS routing protocols, Ticket-based QoS routing protocol, Predictive location based QoS routing protocol, QoS enabled ad hoc on demand distance vector routing protocol, On-demand QoS routing protocol, on-demand link-state multipath QoS routing protocol, QoS framework for Ad Hoc wireless networks."],
"Text books":"1. Ad Hoc Wireless Networks Architecture and Protocols: C. Siva Ram Murthy, B. S Manoj, 2ndedition, Pearson education (Chapters of the book: 1, 5, 6, 7, 9, and 10).",
"Reference Books":["1. Guide to Wireless Adhoc networks, Misra,sudip, Woungang, Isaac, Springer publisher.","2. Adhoc Networking, C E Perkins, Addison Wesley,2001.","3. Wireless Communications, Principles and Practice, second edition, Theodore S Rappaport, Pearson Education Asia, 2002."],

"Subject-Teacher":"Prashanth B.S.",
"No. Of Students(opted)":60,
"No. Of Students(Passed)":54
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db.core8.insert({
"Course Title": "Machine Learning",
" Course Code": "14ISE832",
" Credits":05,
"Course Contents":["Unit-I 10 hrs Introduction-Learning problems, Designing a learning system, perspectives and issues in Machine Learning. Decision Tree Learning- decision tree representation, appropriate problems for decision tree learning, the basic decision tree learning algorithm, hypothesis space search, issues in decision tree learning.","Unit-II 10 hrs Supervised Machine Learning: Introduction with logistic regression; Logistic regression. Cost function. Artificial Neural

Networks representations, appropriate problems for neural network learning, perceptrons, multilayer networks and the backpropagation algorithm.","Unit-III 10 hrs Unsupervised machine learning: Basics, K-means clustering. Bayesian Learning-Bayes theorem, concept learning,maximum likelihood, Bayes optimal classifier, Gibbs algorithm, naïve Bayes classifier, Bayesian belief networks, the EM algorithm, PCA.","Unit-IV 09 hrs Support Vector machine: Margins-Intuition, Notation, functional and geometric margins, optimal margin classifier,Lagrange duality, optimal margin classifiers, kernels, regularization and non-separable case, the SMO algorithm.","Unit-V 09 hrs Genetic Algorithm,hypothesis space search, genetic programming, models of evolution and learning, Analytical Learning- learning with perfect domain theories:PROLOG-EBG, remarks on explanation-based learning, Inductive-Analytical approaches to Learning."],
"Text Books":["1. Tom Mitchell, 'Machine Learning', McGraw Hill, 1997.","2. Online course materials:Andrew NG's online Course on Machine Learning."],
"Reference Books":["1. Christopher M. Bishop, 'Pattern Recognition and Machine Learning', Springer, 2007.Gareth James, Daniela Witten,Trevor Hastie and Robert Tibshirani, 'An Introduction to Statistical Learning: with Applications in R', Springer, 2016.","2. Trevor Hastie, Robert Tibshirani and Jerome Friedman, 'The Elements of Statistical Learning: Data Mining,Inference, and Prediction', Springer, 2016","3. Andreas Muller, 'Introduction to Machine Learning with Python: A Guide for Data Scientists', Shroff/O'Reilly; First edition (2016)"],
"Subject-Teacher":"Chandrashekar",
"No. Of Students(opted)":65,
"No. Of Students(Passed)":55
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db.core8.insert({

"Course Title": "Advanced Java",
" Course code": "14ISE833",
"Credits": 04,
"Course Content":["Unit 1: 10 Hours Working with Servlets 3.1 ·Exploring the Features of Java Servlet ·Exploring New Features in Servlet 3.1 ·Exploring the Servlet API ·Explaining the Servlet Life Cycle ·Creating a Sample Servlet ·Creating a Servlet by using Annotation·Working with Servlet Config and Servlet Context Objects ·Working with the Http Servlet Request and Http Servlet Response Interfaces ·Exploring Request Delegation and Request Scope ·Implementing Servlet Collaboration, Handling Sessions in Servlets 3.1 ·Describing a Session ·Introducing Session Tracking ·Exploring the Session Tracking Mechanisms ·Using the Java Servlet API for Session Tracking ·Creating Login Application using Session Tracking,Implementing Event Handling and Wrappers in Servlets 3.1 ·Introducing Events ·Introducing Event Handling ·Working with the Types of Servlet Events ·Developing the online shop Web Application ·Introducing Wrappers ·Working with Wrappers ·Summary Chapter 14, 15, 16","Unit 2: 10 Hours Java Server Pages 2.3 and Expression Language 3.0 ·Introducing JSP Technology ·Listing Advantages of JSP over Java Servlet ·Exploring the Architecture of a JSP Page ·Describing the Life Cycle of a JSP Page ·Working with JSP Basic Tags and Implicit Objects ·Working with Action Tags in JSP ·Exploring EL ·Using Custom Tag Library with EL Functions, Implementing JSP Tag Extensions ·Exploring the Elements of Tag Extensions ·Exploring the Tag Extension API ·Working with Classic Tag Handlers ·Working with Simple Tag Handlers ·Working with JSP Fragments ·Working with Tag Files ·Summary.Chapter 17, 18.","Unit 3: 8 Hours Understanding JavaMail 1.5 ·Introducing JavaMail ·Exploring the JavaMail API ·Exploring New Features in JavaMail 1.5 ·Working with JavaMail · Java EE Design Patterns ·Describing the Java EE Application Architecture ·Introducing a Design Pattern ·Discussing the Role of Design Patterns ·Exploring Types of Patterns · Implementing SOA using Java Web Services ·Section A: Exploring SOA and Java Web Services ·Overview of SOA ·Describing the SOA Environment·Overview of JWS ·Role of WSDL, SOAP

and Java/XML Mapping in SOA ·Chapter 22, 23, 24","Unit 4: 10 Hours Working with Hibernate ·Introducing Hibernate ·Exploring the Architecture of Hibernate ·Downloading Hibernate·Exploring HQL ·Understanding Hibernate O/R Mapping ·Working with Hibernate ·Implementing O/R Mapping with Hibernate, Working with Struts 2 ·Introducing Struts 2 ·Understanding Actions in Struts 2 ·Dependency Injection and Inversion of Control ·Pre-processing with Interceptors ·OGNL Support in Struts 2 ·Implementing Struts 2 Tags ·Controlling Results in Struts 2 ·Performing Validation in Struts 2 ·Internationalizing Struts 2 Applications·Implementing Plugins in Struts 2 ·Integrating Struts 2 with Hibernate ·Summary Chapter 25,26.","Unit 5: 10 Hours Introduction to Spring 3.0 ·Overview of Spring 3.0 ·Dependency Injection ·Spring Library ·The Spring Source Tool Suite ·Developing a Spring 3.0 Application ·Summary Spring Configuration ·Spring Containers ·Configuring Beans ·Spring Web MVC ·Spring MVC Architecture ·Components of Spring MVC ·Request mapping ·Developing a Simple Spring MVC Application ·Custom binding ·Using Session Attributes ·Other MVC Annotations ·Connecting an MVC Application to the Business Layer ·Exception handling ·REST full Applications ·Summary Chapter 27, 28, 29."],
"Text Book": "Core and Advanced Java, Black Book, Recommended by CDAC, by Dreamtech Press",

"Subject-Teacher":"Rohit H.P.",
"No. Of Students(opted)":55,
"No. Of Students(Passed)":54

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db.core8.insert({

"Course Title":"Analysis of computer Networks",
" Course Code":"14ISE744",
"Credits": 04,
"Course contents":["UNIT –I 10 hrs Markov Chains:Introduction to Markov Chains, Discrete-Time Markov Chains-Memory less property of Markov Chains, Markov Chain transition matrix,Markov matrices, the diagonals of P, Eigenvalues and Eigenvectors of P, constructing the state transition matrix P, Finding S(n) by expanding S(0), finding S(n) by diagonalsing P, comparing diagonalization with expansion of S(0), expanding Pn in terms of its Eigenvalues, test for matrix diagonalizability, finding S(n) Using the Jordan canonic form, properties of Jordan canonic form.","UNIT –II 10 hrs Reducible Markov Chains Definition of reducible Markov Chain, closed and transient states, transition matrix of reducible Markov Chains,composite reducible Markov Chains, transient analysis, reducible Markov Chains at steady-state, reducible composite Markov Chains at steady-state, identifying reducible Markov Chains","UNIT –III 08 hrs Queuing Analysis Kendall’s notation, traffic conservation, M/M/1 queue performance, M/M/1/B queue performance, performance bounds on M/M/1/B queue, Mm/M/1/B queue Performance, performance bounds on Mm/M/1/B queue, systems of communicating Markov Chains, a general solution for communicating Markov Chains.","UNIT –IV 10 hrs Modeling Traffic Flow Control Protocols The Leaky bucket algorithm- modeling the leaky bucket algorithm, single arrival/single departure model (M/M/1/B),leaky bucket performance(M/M/1/B Case), multiple arrival/single departure model (Mm/M/1/B), leaky bucket performance (Mm/M/1/B Case),the token bucket algorithm-modeling the token bucket algorithm, single arrival/single departure model (M/M/1/B), token bucket performance (M/M/1/B Case), multiple arrivals/single departure model(Mm/M/1/B), token bucket performance (multiple arrival/departure Case),virtual scheduling algorithm, modeling the VS algorithm, VS protocol performance.","UNIT –V 10 hrs Modeling Network Traffic Flow Traffic Models- Modulated Poisson Processes, On–Off Model, Markov Modulated Poisson Process,Autoregressive Models, Continuous-Time Modeling: Poisson Traffic Description,

Memoryless Property of Poisson Traffic, Realistic Models for Poisson Traffic, Flow Description, Interarrival Time Description, Extracting Poisson Traffic Parameters, Poisson Traffic and Queuing Analysis, Case When T < a, Case WhenT>a, Heavy-Tailed Distributions, Pareto Traffic Distribution, Flow Description, Interarrival Time Description, Extracting Pareto Interarrival Time Statistics, Pareto Distribution and Queuing Analysis,"],
"Text books":"1. Analysis of Computer Networks: Fayez Gebali, 2ndedition, Springer (Chapters-3,5,7,8 and 15).",
"Reference Books":["1) Communication Networking an analytic approach, Anurag Kumar, D. Manjunath, Joy Kuri, Morgan Kaufmann Publishers is an imprint of Elsevier.","2) Mathematical Foundations of Computer Networking, S. Keshav,(e-Book)."],
"Subject-Teacher":"Sushma R",
"No. Of Students(opted)":56,
"No. Of Students(Passed)":54
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db.core8.insert({

"Course Title":" Client Server Communication",
" Course Code": "14ISE832",
"Credits": 04,
"Course contents":["UNIT I 10 Hours The Clientserver Model and SoftwareDesign: Introduction, Motivation, Technology and Concepts,Concurrent Processing in Client-Server software: Introduction, Concurrency in Networks, Concurrency in servers, Terminology and Concepts, An example of Concurrent Process Creation, Executing NewCode,ContextSwitching and Protocol Software Design, Concurrency and Asynchronous I/O,Program Interface to Protocols: Introduction, Loosely Specified Protocol Software Interface, Interface Functionality, Conceptual Interface Specification, System Calls, Two Basic Approaches toNetwork Communication <theBasic I/O Functions available in UNIXI/O with TCP/IP.","UNIT II 10 Hours The Socket Interface: Introduction, Berkley Sockets, Specifying a Protocol Interface, The socket Abstraction, Specifying an End Point Address, A Generic Address structure, Major System calls used with Sockets, Utility Routines for Integer Conversion ,Using Socket Calls in a Program, Symbolic Constants for Socket call Parameters, Algorithms and Issues in Client Software Design: Introduction, Learning Algorithms instead of Details, Client Architecture, Identifying the Location of a Server, Passing an Address Argument ,Looking up a Domain Name ,Looking up a well-known Port by Name, Port Numbers and Network Byte Order, Looking up a Protocol by a name, The TCP Client Algorithm, Allocating a Socket, Choosing a Local Protocol Port number,","UNIT III 10 Hours A fundamentals Problem in choosing a Local IPAddress, Connecting a TCP Socket to a server, Communicating with the Server using TCP <Reading a response from a TCP Connection. Closing a TCP Connection, Programming AUDP Client <Connected And Unconnected UDP Socket, Using Connect with UDP,Communicating with a Server using UDP, Closing a Socket that uses UDP, Partial Close for UDP, A Warning about UDP Unreliability, Example Client Software: Introduction, The Importance of Small Examples, Hiding Details, An Example Procedure Library for Client Programs, Implementation of Connect TCP, Implementation of Connect UDP, A Procedure That Forms, Connections, Using the Example Library, The DAY TIME Service, Implementation of TCP Client for DAY TIME, Reading from a TCP Connection, The Time Service, Accessing the TIME Service, The ECHO Service, A TCP Client for the ECHO Service, A UDP Client for the ECHO Service.","UNIT IV 12 Hours Algorithms and Issues in Server Software Design: Introduction, The Conceptual Server Algorithm, Concurrent Vs Iterative Servers, Connection Oriented Vs Connectionless, Access, Connection_Oriented Servers, Connection Oriented Vs Connectionless Access, Connection oriented Servers, Connectionless Servers,Failure, Reliability and Statelessness, Optimizing Stateless Servers, Four Basic Types of Servers, Request Processing Time, Interactive

Server Algorithms, An/ interactive Connection-Oriented Server Algorithm,Binding to a Well Known Address using INADDR_ANY , Placing the socket in Passive Mode, Accepting Connections and using them. An Interactive Connectionless Server Algorithms, Master and Slave Processes, A Concurrent Connectionless Server Algorithm, A Concurrent Connection-Oriented Server Algorithm, Using separate Programs as Slaves, Apparent Concurrency using a single Process, When to use each Server Types, The Important Problem of Server Deadlock, Alternative Implementations, Iterative, Connectionless Servers(UDP): Introduction, Creating a Passive Socket, Process Structure, An example TIME Server.Iterative, Connection-Oriented Servers(TCP): Introduction, Allocating a Passive TCP Socket for the DAY TIME Service, Process Structure, An Example DAY TIME Server, Closing Connections, Connection Termination and Server Vulnerability.","UNIT V 10 Hours Concurrent, Connection–Oriented Servers(TCP): Introduction, Concurrent ECHO, Iterative Vs Concurrent Implementations, Process Structure . An example Concurrent ECHO Server, Cleaning up Errant Processes. Distributed Program Generation (Rpcgen Example): Introduction, An example to illustrate Rpcgen,Dictionary lookup, Eight steps to a distributed application, Step 1, Step 2, Step 3, Step 4, The .h file produced by Rpcgen, The XDR conversion file produced by Rpcgen, The client code produced by Rpcgen, The server code produced by Rpcgen, Step 5, Step 6, Step 7, Step 8."],
"Text Books":" 1. Douglas E. Comer, DavidL. Stevens Internetworking with TCp /Ip–vol3. Client Server programming and Applications , BSd Socket Version with ANSI c, 2nd Edition ,Pearson 2001.",

"Subject-Teacher":"Ramya B.S.",
"No. Of Students(opted)":58,
"No. Of Students(Passed)":54
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//**<u>open elective 6th sem</u>**

//**aero branch**

db.oe6aero.insert
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"Course title":"Aircraft materials",
"course code":"14AEO664",
"Course credits":03,
"Course contents":["Unit I Introduction to Aircraft Materials:General properties of materials, Definition of terms, Requirements of aircraft materials, Testing of aircraft materials, Inspection methods, Application and trends in usage in aircraft structures and engines,Introduction to smart materials and nanomaterials; Selection of materials for use in aircraft.","Unit II Aircraft Metal Alloys and Superalloys:Aluminum alloys, Magnesium alloys, Titanium alloys, Plain carbon and Low carbon Steels, Corrosion and Heat resistant steels, Maraging steels, Copper alloys, Producibility and Surface treatments aspects for each of the above; Superalloys, Nickel based superalloys, Cobalt based superalloys, and Iron based superalloys, manufacturing processes associated with superalloys, Heat treatment and surface treatment of superalloys.","Unit III Polymers, Polymeric Materials & Plastics and Ceramics & Glass:Knowledge and identification of physical characteristics of commonly used polymeric material: plastics and its categories, properties and applications; commonly used ceramic, glass and transparent plastics,properties and applications, adhesives and sealants and their applications in aircraft.Introduction to Composite Materials","Unit IV Ablative and Super Conducting Materials:Ablation process, ablative materials

and applications in aerospace; Phenomenon of super conduction,super conducting materials and applications in aerospace.Aircraft Wood, Rubber, Fabrics & Dope And Paint:Classification and properties of wood, Seasoning of wood, Aircraft woods, their properties and applications, Joining processes for wood, Plywood; Characteristics and definition of terminologies pertaining to aircraft fabrics and their applications, Purpose of doping and commonly used dopes;Purpose of painting, Types of aircraft paints, Aircraft painting process.","Unit V High Energy Materials: Materials for rockets and missiles. Types of propellants and its general and desirable properties, insulating materials for cryogenic engines. Types of solid propellants: Mechanical"],

"Text books":["Handbook of Aircraft materials Interline publishers, C G Krishnadas Nair, Bangalore, 1993.","Aicraft Material and Processes, Titterton G F, English Book Store New Delhi, 1998"],
"Reference Books":"Advanced Aerospace Material, H Buhl, Spring Berlin 1992",
"Subject_teacher":"Dr moorthy",
"No of students(opted)":34,
"No of students (passed)":32
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db.oe6aero.insert
({
"Course title":"ELEMENTS OF ROCKET PROPULSION",
"Course code":"14AEO665",
"Course credits":03,
"Course contents":["UNIT I HYPERSONIC AIRBREATHING PROPULSION: Introduction to hypersonic air breathing propulsion, hypersonic vehicles and supersonic combustion need for supersonic combustion for hypersonic propulsion – salient features of scramjet engine and its applications for hypersonic vehicles –problems associated with supersonic combustion – engine/airframe integration aspects of hypersonic vehicles – various types scramjet combustors – fuel injection schemes in scramjet combustors – one dimensional models for supersonic combustion using method of influence coefficients.","UNIT II FUNDAMENTALS OF CHEMICAL ROCKET PROPULSION: Operating principle – specific impulse of a rocket – internal ballistics – performance considerations of rockets – types of igniters-preliminary concepts in nozzle-less propulsion – air augmented rockets pulse rocket motors – static testing of rockets & instrumentation –safety considerations.","UNIT III SOLID ROCKET PROPULSION: Salient features of solid propellant rockets – selection criteria of solid propellants – estimation of solid propellant adiabatic flame temperature - propellant grain design considerations – erosive burning in solid propellant rockets – combustion instability – strand burner and T-burner – applications and advantages of solid propellant rockets.","UNIT IV LIQUID AND HYBRID ROCKET PROPULSION: Salient features of liquid propellant rockets –selection of liquid propellants – various feed systems and injectors for liquid propellant rockets -thrust control and cooling in liquid propellant rockets and the associated heat transfer problems – combustion instability in liquid propellant rockets – peculiar problems associated with operation of cryogenic engines - Introduction to hybrid rocket propulsion – standard and reverse hybrid systems- combustion mechanism in hybrid propellant rockets – applications and limitations.","UNIT V ADVANCED PROPULSION TECHNIQUES: Electric rocket propulsion– types of electric propulsion techniques - Ion propulsion – Nuclear rocket – comparison of performance of these propulsion systems with chemical rocket propulsion systems – future applications of electric propulsion systems - Solar sail."],
"Text books":["1. Sutton, G.P., “Rocket Propulsion Elements”, John Wiley & Sons Inc., New York, 5th Edition,1993.","2. Mathur, M.L., and Sharma, R.P., “Gas Turbine, Jet and Rocket Propulsion”, Standard Publishers and Distributors, Delhi, 1988."],
"Reference books":["1.James Award","2.Aerospace Propulsion System","3.Hieter and Pratt","4.Hypersonic Air Breathing Propulsion"],

"Subject_teacher":"Dr prabhu",
"No of students(opted)":40,
"No of students (passed)":36});

//**civil branch**

db.oe6civ.insert
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"Course":"ENVIRONMENTAL ENGINEERING AND POLLUTION CONTROL",
"Course Code":"14CVO661",
"Credits":03,
"COURSE CONTENTS":["UNIT-1 Introduction:Definition of pollution,Need for protection of Environment.Classification,Characterization and sources of Air Pollutants,Water Pollutants and Solid Wastes Effects of pollutants:On Human Health,Animals,Plants and Materials.","UNIT-2 Sampling,analysis and control:Sampling and Measurement of Gaseous and Particulate matter.Analysis of Air Pollutants along with instrumental analysis.AirPollution Control Methods–Particulate Emission Control,Gravitational Settling Chambers,Cyclone Separators,Fabric Filters,Electrostatic Precipitators,Wet Scrubbers.Control of Gaseous Emissions,Adsorption by Liquids,Adsorption by Solids.Air pollution due to Automobiles.","UNIT-3Sources of Water,Water quality parameters-Physical,Chemical and microbial.Sampling of water for examination,Analysis of Water quality.Treatment of Water-Flowchart,Aeration,Sedimentation,Filtration, Disinfection and Softening.","UNIT-4 Scope and importance of Solid Waste management,Functional Elements of Solid waste management.Treatment and Processing techniques-Components separation,Volume reduction,Size reduction, Chemical reduction-Incineration,Biological Processing-Composting.Different disposal methods-Ocean,Feeding to hogs,Sanitary Landfill-Trench Method,Ramp Method and Pit Method.Sanitary landfill-Prevention of site pollution,leachate and gas connection and control.E-Waste and its management.","UNIT-5 Standards and legislation for air and water.Case studies on important environmental issues.Global Warming,Ozone Depletion in Stratosphere,Bhopal gas tragedy, London and los angeles smog,Present situation of Solid waste problem in Indian Cities,Water pollution from industries."],
"TEXT BOOKS":"",
"REFERENCE BOOKS":["Henry C. Perkins, AirPollution, McGraw Hill Ltd.","Air Pollution–Sampling and Analysis –APHA.","Harper and Row, Air Pollution–Its origin and control,Wark.K.and Warner. F. publishers, NY.","Integrated Solid Waste Management:George.Tchobanoglous:M/c Graw Hill Publisher,1993.","Environmental Engineering:Howard.S.Peavy:M/c Graw Hill Company.","Metcalf and Eddy,Wastewater Engineering,Treatment and Reuse,Tata McGraw Hill Edition,Tata McGraw Hill Publishing Co.Ltd.New York.","S.K.Garg ,Water supply Engineering, Khanna Publishers, New Delhi"],

"Subject_teacher":"Dr Vidyvathi",
"no of students(opted)":60,
"No of students(passed)":55
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db.oeciv.insert({
"Course":"DISASTER MANAGEMENT AND MITIGATION ENGINEERING",
"Course Code":"14CVO662",
"Credits":03,

"COURSE CONTENT":["UNIT -1 INTRODUCTION TO DISASTER:Meaning, Nature, Importance of Hazard Risk, Vulnerability and Disaster-Dimensions & Scope of Disaster Management –India's Key Hazards-Vulnerability-National disaster management framework-Disaster Management Cycle.","UNIT -2NATURAL DISASTER:Natural Disaster-Meaning and nature of natural disaster: their types and effects. Floods, drought, cyclone, earthquakes, landslides, avalaunches, volcanic eruptions, Heat and cold waves, Climatic change: global warming, sea level rise, ozone depletion.","UNIT -3 ANTHROPOGENIC DISASTER: Man Made Disaster-Nuclear disasters, chemical disasters, biological disasters, building fire, coal fire, coal fire, forest fire, oil fire, air pollution, water pollution, deforestation and industrial waste waterpollution.","UNIT -4 APPROCHES IN DISASTER MANAGEMENT: Pre-disaster stage (preparedness)-Preparing hazard zonation maps, Predictability/forecasting & warning-Preparing disaster preparedness plan-Land use zoning-Preparedness through Information, education. Emergency stage-Rescue training for search & operation-Immediate Relief-Assessment surveys. Post Disaster Stage-Rehabilitation-Social Aspect-Economic Aspect and Environmental Aspect.","UNIT -5 DISASTER MITIGATION:Meteorological Observatory-Seismological Observatory-Hydrology Laboratory and Industrial Safety inspectorate. Technology in Disaster Management-Emergency Management Systems (EMS) in the Disaster Management Cycle-Remote Sensing and Geographic Information Systems(GIS) in Disaster Management."],
"TEXT BOOKS":"Sharma S R,"Disaster management", A P H Publishers,2011",
"REFERENCE BOOKS":["Venu GopalRao K, "Geoformatics for Disaster Management", ManglamPublishers and Distributors,2010.","Singh R B, "Natural Hzards and Disaster Management:Vulnerability and Mitigation", Rawat Publications,2006","Gupta H K,"Disaster Management",University Press,India,2003.","Gupta M C, "Manuals on Natural Disaster management in India",National Centre for Disaster Management,IIPA,New Delhi,2001."],

"Subject_teacher":"Prasanna Kumar",
"no of students(opted)":45,
"No of students(passed)":41
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//**electronics oe**

db.oe6ece.insert({
"Course ":" SENSORS AND ACTUATORS",
" Course Code":"17EC0661",
"Credits":04,
"COURSE CONTENT":["UNIT-1 (11 Hrs)Introduction:Motivation ,Definition Of Sensor And Actuator, Domain Of Physical Phenomena, Classification Of Sensors And Actuators , Micro And Nano-Technologies : Introduction , Manufacture Text Book 1: Chapter 1&2 ","UNIT-2 (11 Hrs)Instrumentation of an Engineering System:Role of Sensors and Actuators, Application Scenarios, Human Sensory System, Mechatronic Engineering, Control System Architectures, Instrumentation ProcessComponent Interconnection and Signal Conditioning: Introduction; Component Interconnection Signal Modification and Conditioning.Text2: Chapter 1 , Chapter 2(2.11, 2.12)","UNIT-3 (10 Hrs)Analog Sensors and transducers:Sensors and Transducers, Sensors for Electromechanical Applications, Potentiometer, Variable-Inductance Transducers, Permanent-Magnet and Eddy Current Transducers, Variable-Capacitance Transducers, Piezoelectric

Sensors, Strain Gauges, Torque Sensors, GyroscopicSensors, Thermo-Fluid SensorsText 2: Chapter 5","UNIT-4 (10 Hrs)Digital and Innovative Sensing:Innovative Sensor Technologies, Shaft Encoders, Incremental Optical Encoder, Motion Sensing by Encoder, Miscellaneous Digital Transducers, Optical Sensors, Lasers, and Cameras, Miscellaneous Sensor Technologies (except problems on the same), Tactile Sensing, MEMS Sensors, Wireless Sensor NetworksText 2: Chapter 6 (6.1, 6.2, 6.3, 6.4,6.8,6.9,6.10,6.11,6.12,6.14)","UNIT-5 (10 Hrs)Continuous –Drive Actuators:Introduction, DC Motors, Control of DC Motors, Motor Driver and Feedback Control, DC Motor Selection, Induction Motors, Synchronous Motors, Linear Actuators, Hydraulic Actuators, Pneumatic Control Systems, FluidicsText 2: Chapter 9 (9.1, 9.2,9.4.9.5,9.6,9.7,9.9, 9.10, 9.11,9.13,9.14)"],
"TEXT BOOKS":"1.SMART SENSORS AND ACTUATORS, Francisco Andre Correa Alegria, 20142.Sensors and Actuators Engineering System Instrumentation, Clarence W. de Silva, 2ndEdition, CRC Press",
"REFERENCE BOOKS":"1.Sensors and Actuators Engineering System Instrumentation Control system Instrumentation, Clarence W. de Silva, CRC Press",
"Subject_teacher":"Rohit H",
"no of students(opted)":45,
"No of students(passed)":43
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db.oe6ece.insert({
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"Course Code":"17ECO662",
"Credits":04,
"COURSE CONTENTS":["UNIT-1 (8 Hrs)NCC Organization, Armed Forces and National Integration & AwarenessIntroduction to NCC organisation, important basic aspects of drill, Organisation of Army, Modes of Entry to Defence forces, The concepts of National Interests, Objectives. National Integration : Importance and necessity, Factors affecting National Integration, Unity in Diversity, Role of NCC in Nation BuildingText1:ch1,2&3 Text2:ch1&5","UNIT-2 (8 Hrs)Personality Development & Leadership -IIntroduction to Personality Development, Leadership with emphasis on self-awareness, life/ soft skills, time management and character building. Factors Influencing / shaping Personality, Self-Awareness, Interpersonal relationship and communication, Communication Skills. Leadership Traits, Types of Leadership. Text1","UNIT-3 (8 Hrs)Personality Development & Leadership –IIAttitude and Time Management. Effects of Leadership with historical examples.Stress Management Skills, Interview Skills, Importance of Group / Team Work, Influencing Skills, Body Language, Social Skills, Etiquettes, manners, Values / Code of Ethics.Introduction to various Adventure activities such as Para Sailing, Slithering, Rock Climbing, Cycling/ trekking.Text1","UNIT-4 (7 Hrs)Environment Awareness & Conservation, Social Awareness & Community development and Disaster Management Basic understanding of environmentconservation and waste management. Understanding of social service and its needs, knowledge about the weaker sections of our society and their requirements, about NGOs and contribution of youth towards social welfare. Civic Responsibilities. Role of youth in Counter Terrorism, Corruption and Social Evils . RTI & RTE, Provisions of Protection of Children from Sexual Harassment Act 2012Civil Defence Organisation and its duties, Assistance during Natural/ Other Calamities Text1:ch6,7,8 &10","UNIT-5 (8 Hrs)Weapons, Map Reading, Field Craft & Battle Craft and Latest trends in the field ofcommunications Understanding of maps and map reading instruments. Basics of Field Craft and Battle Craft.Introduction to trends in the field of communications in Indian army. Introduction to characteristics and capabilities of Infantry weapons, Infantry Company Support Weapons and Infantry Battalion support weapons.Text1,Text2"],
"TEXT BOOKS":["1.NCC Cadets Handbook –Common, Directorate General of NCC, New Delhi.","2.NCC Cadets Handbook –Special, Directorate General of NCC, New Delhi."],

"REFERENCE BOOKS":"1.Chandra B. Khanduri, “Field Marshal KM Cariappa: a biographical sketch”, Dev Publications, 20002.Gautam Sharma, “Valour and Sacrifice: Famous Regiments of the Indian Army”, Allied Publishers, 19903.Warren G. Bennis, “On Becoming a Leader”, Perseus Books, 1989",
"Subject_teacher":"Dr Swathi H.S.",
"no of students(opted)":40,
"No of students(passed)":38
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//**electricals oe**

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"Course Title" : "RENEWABLE ENERGY SOURCES",
"Course Code": "17EEO661",
"Credits":04,
"Course contents":["UNIT I(10 Hours)ENERGY SOURCES: Introduction, Importance of Energy Consumption as Measure of Prosperity, Per Capita Energy Consumption, Classification of Energy Resources; Conventional Energy Resources - Availability and their limitations; Non-Conventional Energy Resources – Classification, Advantages, Limitations; Comparison of Conventional and Non-Conventional Energy Resources; World Energy Scenario; Indian Energy Scenario.SOLAR ENERGY BASICS: Introduction, Solar Constant, Basic Sun-Earth Angles – definitions and their representation,Solar Radiation Geometry, Estimation of Solar Radiation of Horizontal and Tilted Surfaces, Measurement of Solar Radiation Data.","UNIT II(10 Hours)SOLAR THERMAL SYSTEMS: Principle of Conversion of Solar Radiation into Heat, Solar Water Heaters (Flat Plate Collectors), Solar Cookers – Box type, concentrating dish type, Solar driers, Solar Still, Solar Furnaces, Solar Green Houses.Solar Thermal Electric Power Generation – Solar Pond and Concentrating Solar Collector (parabolic trough, parabolic dish, Central Tower Collector). Solar Photovoltaic – Solar Cell fundamentals, characteristics, classification, construction of cell, array and module. Solar PV Systems – stand-alone and grid connected.","UNIT III(10 Hours)WIND ENERGY: Introduction, Wind and its Properties, History of Wind Energy, Wind Energy Scenario – World and India.Basic principles of Wind Energy Conversion Systems (WECS), Classification of WECS, Parts of WECS, Derivation for Power in the wind, Electrical Power Output and Capacity Factor of WECS, Wind site selection consideration, Advantages and Disadvantages of WECS.ENERGY FROM OCEAN:Tidal Energy – Principle of Tidal Power, Components of Tidal Power Plant (TPP), Classification of Tidal Power Plants.Ocean Thermal Energy Conversion (OTEC): Principle of OTEC system, Methods of OTEC power generation – Open Cycle (Claude cycle), Closed Cycle (Anderson cycle) and Hybrid cycle (block diagram description of OTEC); Site-selection criteria, Biofouling, Advantages & Limitations of OTEC.","UNIT IV(10 Hours)BIOMASS ENERGY: Introduction, Photosynthesis process, Biomass fuels, Biomass conversion technologies, urban waste to Energy Conversion, Biomass Gasification, Biomass to Ethanol Production, and Biogas production from waste biomass,factors affecting biogas generation, types of biogas plantsENERGY STORAGE: Introduction, Necessity of Energy Storage, and Methods of Energy Storage (classification and brief description using block diagram representation only).EMERGING TECHNOLOGIES: Fuel Cell, Small Hydro Resources, Hydrogen Energy, and Wave Energy. (Principle of Energy generation using block diagrams, advantages and limitations).","UNIT V(12 Hours)Rural electrification: Overview, current status and future perspectives. Linkages with rural livelihoods, rural industries and social development. Issues of

subsidization, last mile access and paying capacity.Review and critique of various programs of government Use of efficient/appropriate/renewable energy technologies for rural areas. Technologies/products for cooking, water heating, drying, irrigation pumping, small/micro enterprises, lighting, motive power etc."],

"Text books":["1. Rai, G. D., “Non-Conventional Sources of Energy”, 4th Edition, Khanna Publishers, New Delhi, 2007","2. Khan, B. H., “Non-Conventional Energy Resources”, TMH, New Delhi, 2006.","3. Devadas, “Planning for Rural Energy System: Part I & II, V Renewable and Sustainable Energy Reviews”, 5(2001), 203-226, 227-270.","4. T.C. Kandpal, H. P. Garg, “Financial Evaluation of Renewable Energy Technology”, Macmilan, New Delhi,2003"],
"reference books":"1. Mukherjee, D., and Chakrabarti, S., “Fundamentals of Renewable Energy Systems”, New Age International",
"Subject_teacher":"Siridevi S",
"no of students(opted)":48,
"No of students(passed)":45
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"Course Title" : "DISASTER MANAGEMENT",
"Course Code": "17EEO664",
"Credits":04,
"Course contents":["UNIT I(11 Hours)Understanding Disaster: Concept of Disaster – Different approaches- Concept of Risk – Levels of Disasters – Disaster Phenomena and Events (Global, national and regional) Hazards and Vulnerabilities: Natural and man-made hazards; response time, frequency and forewarning levels of different hazards – Characteristics and damage potential or natural hazards; hazard assessment – Dimensions of vulnerability factors; vulnerability assessment – Vulnerability and disaster risk – Vulnerabilities to flood and earthquake hazards","UNIT II(11 Hours)Disaster Management Mechanism:Concepts of risk management and crisis managements – Disaster Management Cycle –Response and Recovery – Development, Prevention, Mitigation and Preparedness – Planning for Relief","UNIT III(11 Hours)Capacity Building:Capacity Building: Concept – Structural and Nonstructural Measures Capacity Assessment;Strengthening Capacity for Reducing Risk – Counter-Disaster Resources and their utility in Disaster Management –Legislative Support at the state and national levels.","UNIT IV(09 Hours)Coping with Disaster:Coping Strategies; alternative adjustment processes – Changing Concepts of disaster management– Industrial Safety Plan; Safety norms and survival kits Mass media and disaster management","UNIT V(11 Hours)Planning for disaster management:Strategies for disaster management planning – Steps for formulating a disaster risk reduction plan – Disaster management Act and Policy in India – Organizational structure for disaster management in India – Preparation of state and district disaster management plans."],
"Text books":["1. Manual on Disaster Management, National Disaster Management, Agency Govt of India.","2. Disaster Management by Mrinalini Pandey Wiley 2014.",
"3. Disaster Science and Management by T. Bhattacharya, McGraw Hill Education (India) Pvt Ltd Wiley 2015"],

"Reference books":["Earth and Atmospheric Disasters Management, N. Pandharinath, CK Rajan,BS Publications 2009.National Disaster Management Plan, Ministry of Home affairs, Government of India(http://www.ndma.gov.in/images/policyplan/dmplan/draftndmp.pdf)Government of India, Ministry of Home Affairs, National Disaster Management Division, 2004, Disaster"],
"Subject_teacher":"Dr Sandeep Jadhav",
"No of students(opted)":44,
"No of students(passed)":42

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//**mechanical oe**

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"Course title":"INNOVATIVE PRODUCT DESIGN AND DEVELOPMENT",
"Course code":"17MEO661",
"Course credit":03,
"Course contents":["UNIT -1- (10 Hrs)Introduction to product design:Definition of product design, Product Definition, Scope, Terminology, Challenges in product development.design by evolution, design by innovation, Essential Factors Of Product Design, Production–Consumption Cycle, Flow And Value Addition In The Production–Consumption Cycle","UNIT -2- (10 Hrs)Product design practice and Industry:Introduction, The Morphology of design (the seven phases), primary design phases and flowcharting (3 Phases). Product strategies, time to market, QFD, analysis of the product, standardization, basic design considerations, procedure adopted by industrial designers, types of models designed by industrial designers, Aesthetics, Ergonomics ,Role of aesthetics in product design, functional design practice.","UNIT -3- (10HrsOptimization in Design and Economic factors influencing design:Introduction to optimization in design, product value, Brainstorming, Synectics, Prototyping, Design for safety, reliability and environmental considerations, manufacturing operations in relation to design,economic analysis, profit and competitiveness, break-even analysis (BEA). Basic Numerical on BEA","UNIT -4- (12 Hrs)Human Engineering Considerations in Product Design :Introduction, human being as applicator of forces, anthropometry: man as occupant of space, the design of controls, the design of displays, man/machine information exchange,Value Engineering and product design:Introduction, value definition, nature and measurement of value, maximum value, normal degree of value,importance of value, the value analysis job plan, creativity, steps to problem-solving and value analysis,Case study: Cost reduction through value engineering (The objectives: To bring down cost, simplifydesign and find an alternative to high cost material, without detriment to quality and reliability.","UNIT -5- (10 Hrs)Product Appraisal:Existing techniques such as work-study, SQC, Kaizen to improve method and quality of product.Innovation versus Invention"],
"Text books":"Product Design and Manufacturing A. K. Chitab and R.C. Gupta oxford 6th edition",
"Reference books":"CAD/CAM Chris McMahon and Jimmie Brownie Pearson",
"Subject_teacher":"M S praveen",
"No of students(opted)":55,
"no of students (passed)":52
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"Course title":"TOTAL QUALITY MANAGEMENT",
"Course code":" 17MEO662",
"Course credits": 04,
"Course contents":["UNIT -1- (10Hrs.)Overview of TQM:Introduction-Definition, Basic Approach, Contribution of Gurus – TQM framework, Historical Review, Benefits of TQM, TQM organization.Leadership, Customer Satisfaction and Employee Involvement:Characteristics of

quality leaders, Customers satisfaction, Customer perception of quality,Feedback, Using customer’s complaints, Employee involvement -Introduction, Teams, Cross functional teams, Quality circles, Suggestion system, Benefits of employee involvement.","UNIT -2- (11Hrs.)Human Resource Practices:Scope of Human Resources Management, leading practices, designing high performance work systems-work and job design, Recruitment and career development, Training and education,Compensation and recognition, Health, safety and employee well-being, performance appraisal.","UNIT -3- (10Hrs)Tools and Techniques in TQM:7 basic tools of quality control, Kaizen, Re-engineering, 6 sigma, Benchmarking, Definition,Process of benchmarking, 5S, Poke yoke, 3M, Pareto diagram, Process flow.","UNIT -4- (10 Hrs)Quality Management Tools:Why Why, forced filed analysis, nominal group technique, affinity diagram, interrelationship digraph, tree diagram, matrix diagram, prioritization matrices, process decision program chart,activity network diagram.","UNIT -5- (11Hrs.)Building and Sustaining Total Quality Organizations:Making the commitment to TQ, Organizational culture and Total Quality, Change management,sustaining the quality organization, quality assurance, concepts and objectives of quality assurance.Quality Management Systems:Quality management systems through ISO standards."],
"Text books":"Total Quality Management G. Nagalingappa,Manjunath.V.S,Excel books,First edition,2015",

"Reference books":" Total Quality Management for Engineers:M. ZairiWoodheadPublishing ISBN:1855730243 ",
"Subject_teacher":"Dr Tarun desai",
"No of students(opted)":58,
"No of students (passed)":55
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