Guru Nanak Educational Society's
GURU NANAK INSTITUTE
OF ENGINEERING & TECHNOLOGY
APPROVED BY AICTE, DTE & AFFILIATED TO RTM NAGPUR UNIVERSITY, NAGPUR
Dahegaon, Opp IOC Petrol pump, Kalmeshwar Road, Nagpur- 441501 Ph. 07118-661400
Website: www.gniet.ac.in E-mail: gnietnagpur@gmail.com

Report

on

Add-on Course

Advanced Python Programming

Organized By:

Department of Computer Science and Engineering

(2020-2021)

From Date 24-08-2020 to 29-08-2020

(06 Days, 05 Hrs per day, total 30 Hrs.)

(Timing: 10:15 am to 1:15 pm & 2:00 pm to 4:00 pm)

Sr.No	Course Coordinator	Resource person
1	Prof. Kalpana Malpe Assistant Professor Department of CSE, GNIET, Nagpur	Mr. Abhinav Surya Data Analyst, FSF Nagpur 9179980839

Report Prepared by: Prof. Kalpana Malpe

Submitted to: IQAC, GNIET, NAGPUR

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Guru Nanak Institute of Engineering & Technology Nagpur- 441501

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GNIET GURU NANAK INSTITUTE OF ENGINEERING & TECHNOLOGY

Dahegaon , Kalmeshwar Road ,Nagpur

Online Add on course on
ADVANCED PYTHON PROGRAMMING

Date : 24-08-2020 to 29-08-2020

(06 Hours, 5 days, 30 Hours)
Timing :10;15am to 01;15pm & 02.00pm to 05.00pm

Resource person : Mr. Abhinav Surya
Data Analyst (FSF)Nagpur

Prof. Kalpana Malpe	Prof .Rajendra Bhombe	Dr. Sanjeev Shrivastava
Course Co-ordinator	Vice-Principal	Principal

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Department of Computer Science & Engineering

GNIET/CSE/20-21/ **Date: 17/08/2020**

-:Notice:-

As per the guidelines of higher authorities and IQAC cell, Department of Computer Science and Engineering is organizing 30 hrs. (One week) add-on course " Advanced Python Programming" from date 24-08-2020 to 29-08-2020. Timing for the classes will be from 10:15 am to 1:15 pm & 2:00 pm to 4:00 pm. (05 hours per day, total hours 30 Hrs). All the students of 5th and 7th semesters having a good attendance record in current as well as previous semester are eligible to participate. All the interested students are requested to register names to their respective class in chagres before date of commencement of course. The Add-on course is fully free of cost.

HOD (CSE)
Head of Department
Computer Science & Engineering
GNIET, Dahegaon, Nagpur

Copy to:

1. Hon. Chairman (For Information)
2. Principal GNIET
3. Vice-Principal GNIET
4. Notice board & Office copy.

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Report On

Add-on Course: Advanced Python Programming

An Add-on course on **Advanced Python Programming,** was conducted from date **24-08-2020(Monday) to 29-08-2020(Saturday)** organized by **Department of Computer Science and Engineering** for Students of B. Tech. 5th and B.E.7th CSE. The Add-on course was organized for the period of 30 hours starting **24-08-2020.** Timing for the classes and Hands on was 10:15 am to 01:15 pm & 2:00 pm to 4:00 pm. 05 hours per day (Total Course hours = 30 Hrs). The Add-on course was fully free of cost. Total 81 students have participated and completed Add-on course successfully. The resource person for the course was Mr. Abhinav Surya , Data Analyst, FSF(Free Software Solutions) Nagpur 9179980839.

Introduction to Advanced Python Programming

- Python programming language has gained immense popularity in recent years due to its simplicity, versatility, and wide range of applications in various domains such as web development, data science, artificial intelligence, and more.
- As Python continues to evolve, there is a growing demand for advanced skills and expertise in the language. This report explores the significance and impact of add-on courses focused on advanced Python programming.

Course Objectives

The primary objective of the add-on course on Advanced Python Programming is to provide participants with an in-depth understanding of advanced concepts, techniques, and best practices in Python programming. The course aims to equip learners with the skills and expertise necessary to tackle complex programming challenges, develop high-performance applications, and explore specialized areas of Python development.

Key Objectives:

1. **Deepening Understanding**: The course aims to deepen participants' understanding of advanced Python concepts, including object-oriented programming (OOP), functional programming, asynchronous programming, metaprogramming, and more. Participants will gain insights into the underlying principles and mechanisms that govern Python's behavior and learn how to leverage advanced features to write efficient and maintainable code.

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2. **Exploring Specialized Domains**: The course will explore specialized domains of Python programming, such as web development, data analysis, machine learning, artificial intelligence, cybersecurity, and more. Participants will learn how to apply advanced Python techniques and libraries to solve domain-specific problems, develop robust applications, and harness the power of Python in diverse application areas.
3. **Practical Application**: The course emphasizes hands-on learning through practical exercises, projects, and case studies. Participants will have the opportunity to apply theoretical concepts to real-world scenarios, work on challenging assignments, and develop practical skills in problem-solving, code optimization, debugging, and troubleshooting.
4. **Optimizing Performance**: Participants will learn techniques for optimizing the performance of Python applications, including profiling, benchmarking, and identifying bottlenecks. The course will cover strategies for improving code efficiency, reducing memory consumption, and enhancing overall performance to meet the demands of modern software development.
5. **Best Practices and Design Patterns**: The course will introduce participants to best practices and design patterns in Python programming. Participants will learn how to write clean, modular, and maintainable code using industry-standard practices and design patterns. They will also explore advanced topics such as unit testing, code documentation, version control, and collaborative development workflows.
6. **Community Engagement and Collaboration**: The course encourages community engagement and collaboration among participants, instructors, and industry experts. Participants will have the opportunity to interact with peers, share insights and experiences, seek guidance from experienced professionals, and build valuable connections within the Python community.
7. **Preparation for Career Advancement**: The course aims to prepare participants for career advancement in fields such as software development, data science, machine learning, artificial intelligence, cybersecurity, and more. Participants will emerge with the skills, knowledge, and confidence to pursue rewarding career opportunities and make meaningful contributions to the Python ecosystem.

Course Outcomes:

Upon completion of the add-on course on Advanced Python Programming, participants can expect to achieve the following outcomes:

1. **Advanced Understanding of Python Concepts**: Participants will have a thorough understanding of advanced Python concepts including object-oriented programming (OOP), functional programming, asynchronous programming, metaprogramming, decorators, generators, context managers, and more.
2. **Proficiency in Specialized Python Libraries and Frameworks**: Participants will be proficient in using specialized Python libraries and frameworks relevant to their areas of interest or specialization, such as Django and Flask for web development, Pandas and NumPy for data analysis, scikit-learn and TensorFlow for machine learning, and more.
3. **Ability to Develop Complex Applications**: Participants will be able to develop complex Python applications, leveraging advanced features and techniques to tackle challenging problems, implement scalable solutions, and optimize performance for real-world scenarios.
4. **Effective Problem-solving Skills**: Participants will develop effective problem-solving skills, enabling them to analyze, design, and implement solutions to complex problems using Python programming constructs, algorithms, and data structures.
5. **Optimization and Performance Tuning**: Participants will learn techniques for optimizing the performance of Python applications, including profiling, benchmarking, code optimization, memory management, and resource utilization, to ensure efficient execution and responsiveness.
6. **Adherence to Best Practices and Design Patterns**: Participants will adhere to best practices and design patterns in Python programming, writing clean, modular, and maintainable code that follows industry standards and promotes code reusability, readability, and extensibility.

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Course content:

1: Advanced Python Concepts

1.1. Object-Oriented Programming (OOP) in Python

- Classes and Objects
- Inheritance and Polymorphism
- Encapsulation and Abstraction

1.2. Functional Programming Techniques

- Lambda Functions
- Higher-Order Functions
- List Comprehensions and Generators

1.3. Asynchronous Programming

- Asyncio and Coroutines
- Concurrent Execution
- Event Loops and Futures

1.4. Metaprogramming and Reflection

- Dynamic Attributes and Methods
- Introspection and Reflection
- Metaclasses and Class Decorators

2: Specialized Python Libraries and Frameworks

2.1. Web Development with Django

- Model-View-Controller (MVC) Architecture
- URL Routing and Views
- Template Engine and Forms

2.2. Microservices with Flask

- Routing and Request Handling
- RESTful APIs
- Middleware and Extensions

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2.3. Data Analysis with NumPy and Pandas

- Arrays and Matrices
- DataFrames and Series
- Data Manipulation and Aggregation

2.4. Machine Learning with scikit-learn and TensorFlow

- Classification and Regression Models
- Neural Networks and Deep Learning
- Model Evaluation and Optimization

3: Advanced Topics in Python Programming

3.1. Concurrency and Parallelism

- Multithreading and Multiprocessing
- Synchronization and Locks
- Parallel Computing with Concurrent.futures

3.2. Performance Optimization Techniques

- Algorithm Analysis and Complexity
- Profiling and Benchmarking
- Memory Management and Garbage Collection

3.3. Design Patterns and Best Practices

- Creational, Structural, and Behavioral Patterns
- SOLID Principles
- Code Refactoring and Code Smells

3.4. Testing and Debugging Strategies

- Unit Testing and Test-Driven Development (TDD)
- Debugging Techniques and Tools
- Error Handling and Exception Management

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4: Real-World Applications and Case Studies

4.1. Building Scalable Web Applications

- Load Balancing and Scalability
- Caching and Session Management
- Security Best Practices

4.2. Data Analytics and Visualization

- Exploratory Data Analysis (EDA)
- Data Visualization with Matplotlib and Seaborn
- Interactive Dashboards with Plotly

4.3. Machine Learning and AI Applications

- Natural Language Processing (NLP)
- Computer Vision and Image Processing
- Reinforcement Learning and Game Development

4.4. Deployment and Continuous Integration (CI/CD)

- Containerization with Docker
- Orchestration with Kubernetes
- Automated Testing and Deployment Pipelines

5: Project Work and Capstone

Participants will work on individual or group projects to apply the concepts learned throughout the course. 5.2. Projects will be mentored by instructors, allowing participants to receive feedback and guidance on their implementations. 5.3. The capstone project will showcase participants' proficiency in advanced Python programming and their ability to solve real-world problems using Python.

Daily Schedule:

From Date: 24-08-2020 to 29-08-2020

Day 1: Foundations of Advanced Python Programming

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- **Morning Session:**
  - Introduction to Advanced Python Concepts

- Object-Oriented Programming (OOP) in Python
- Hands-on: Implementing Classes and Inheritance

- **Afternoon Session:**
  - Functional Programming Techniques
  - Asynchronous Programming with Asyncio
  - Hands-on: Writing Asynchronous Code in Python

Day 2: Specialized Python Libraries and Frameworks

- **Morning Session:**
  - Web Development with Django: MVC Architecture
  - Hands-on: Building a Simple Django Application
- **Afternoon Session:**
  - Microservices with Flask: Routing and Request Handling
  - Hands-on: Creating RESTful APIs with Flask

Day 3: Data Analysis and Machine Learning

- **Morning Session:**
  - Data Analysis with NumPy and Pandas: Arrays and DataFrames
  - Hands-on: Exploring and Manipulating Data with Pandas
- **Afternoon Session:**
  - Machine Learning with scikit-learn: Classification and Regression Models
  - Hands-on: Building and Evaluating Machine Learning Models

Day 4: Advanced Topics in Python Programming

- **Morning Session:**
  - Concurrency and Parallelism: Multithreading and Multiprocessing
  - Hands-on: Implementing Concurrent Execution in Python
- **Afternoon Session:**
  - Performance Optimization Techniques: Profiling and Benchmarking
  - Hands-on: Optimizing Code Performance in Python

Day 5: Design Patterns and Testing Strategies

- **Morning Session:**
  - Design Patterns and Best Practices
  - Hands-on: Applying Design Patterns in Python
- **Afternoon Session:**
  - Testing and Debugging Strategies
  - Hands-on: Writing Unit Tests and Debugging Python Code

Day 6: Real-World Applications and Capstone Project

- **Morning Session:**
  - Building Scalable Web Applications
  - Data Analytics and Visualization Techniques

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- **Afternoon Session:**
  - Machine Learning and AI Applications
  - Deployment and Continuous Integration (CI/CD)
  - Capstone Project Presentation and Discussion

Glimpses:

Advanced Python Programming- DATE-24/08/2020

Feedback on:
Add-on Course: Advanced Python Programming

Google Feedback form:

Feedback on Certificate course

Dear Participants,

We shall very much appreciate you if you fill up this feedback form. It will help us to improve the Institute further and give better engineers in future for the growth of the nation. Tick the number that best describes your level of satisfaction at each question: 1-Poor, 2-average. 3-Good, 4-Very Good. 5-Excellent

Course Coordinator: Prof. Kalpana Malpe

Assistant Professor of CSE GNIET Nagpur

*Required

1. What is your Branch? *
Mark only one oval
- CSE
- Other

2. Name of Certificate Course*

3. Has the teacher covered full Syllabus prescribed in Certificate Course?*
Mark only one oval
- YES
- NO

4. Are you satisfied with the content?*
Mark only one oval
- YES
- NO

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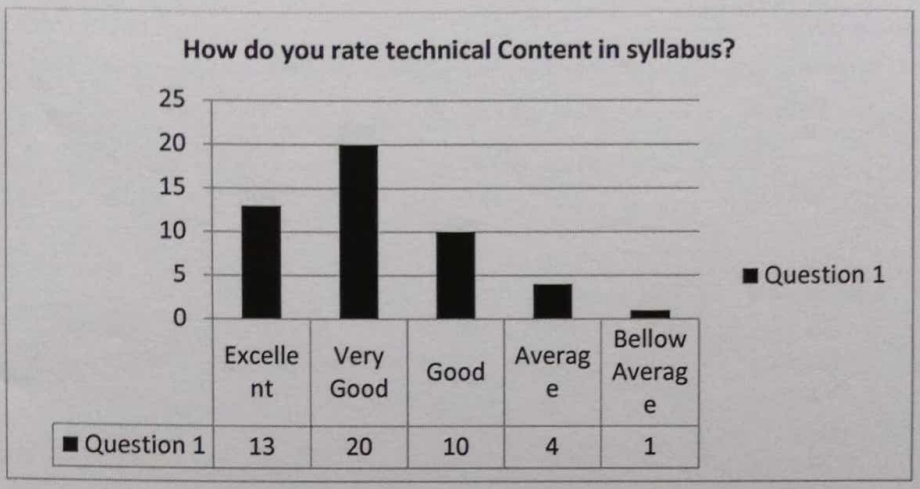

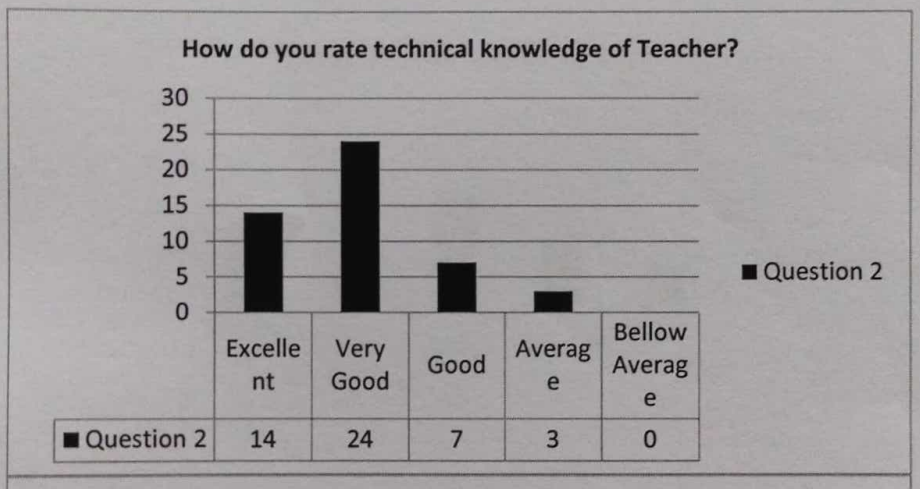

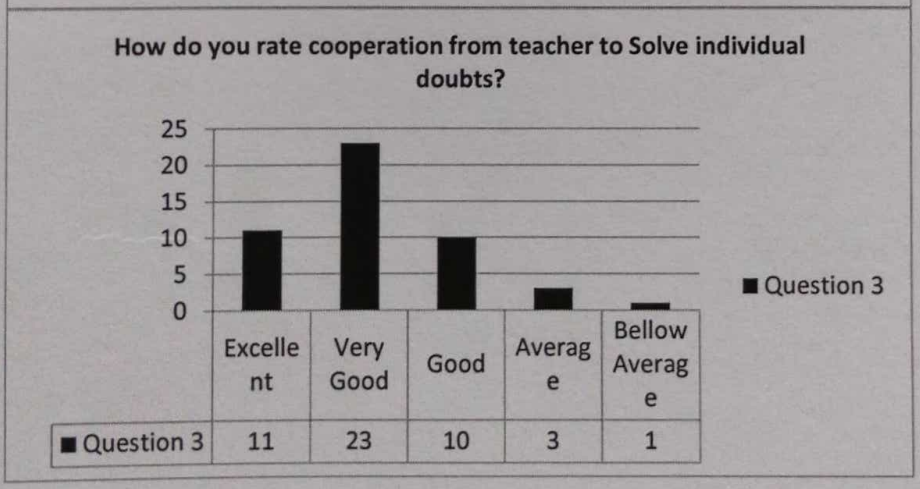

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MCQ TEST ON
Advanced Python Programming
Question Paper

Note: Attempt all 30 Questions. Each Question carry 01 Mark (MAX 30 Marks). Max Time – 01 Hr. Tick the correct answer. No negative marking.

Choose the correct option for each question from the provided choices.

1. What is the purpose of using metaprogramming in Python?
   - A) To create dynamic classes and objects
   - B) To optimize code performance
   - C) To handle exceptions and errors
   - D) To implement concurrency and parallelism
2. Which Python library is commonly used for asynchronous programming?
   - A) NumPy
   - B) Pandas
   - C) Asyncio
   - D) TensorFlow
3. Which of the following is a feature of functional programming in Python?
   - A) Inheritance
   - B) Lambda functions
   - C) Encapsulation
   - D) Polymorphism
4. What is the purpose of the Flask framework in Python?
   - A) Web development
   - B) Data analysis
   - C) Machine learning
   - D) Asynchronous programming
5. Which Python library is used for numerical computing and data analysis?
   - A) TensorFlow
   - B) scikit-learn
   - C) Pandas
   - D) Flask
6. What is the main advantage of using multithreading in Python?
   - A) Improved code readability
   - B) Enhanced code performance
   - C) Simplified error handling
   - D) Better memory management
7. What design pattern is commonly used to manage object creation in Python?
   - A) Singleton

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- B) Observer
- C) Factory
- D) Decorator

8. Which Python library is used for creating and training machine learning models?
   - A) NumPy
   - B) TensorFlow
   - C) Pandas
   - D) Flask
9. What is the purpose of using context managers in Python?
   - A) To handle exceptions
   - B) To manage resources
   - C) To define classes and objects
   - D) To implement concurrency
10. Which of the following is a benefit of using NumPy arrays over Python lists?
    - A) NumPy arrays support heterogeneous data types
    - B) NumPy arrays have fixed sizes
    - C) NumPy arrays are slower for numerical computations
    - D) NumPy arrays consume more memory
11. What is the primary purpose of the scikit-learn library in Python?
    - A) Web development
    - B) Data analysis
    - C) Machine learning
    - D) Asynchronous programming
12. Which Python library is commonly used for data visualization?
    - A) Matplotlib
    - B) NumPy
    - C) TensorFlow
    - D) Asyncio
13. What is the role of decorators in Python?
    - A) To add functionality to functions or methods
    - B) To create new classes and objects
    - C) To handle errors and exceptions
    - D) To define asynchronous tasks
14. What is the purpose of using generators in Python?
    - A) To create iterable sequences
    - B) To define concurrent tasks
    - C) To handle asynchronous operations
    - D) To manage resources
15. Which design pattern promotes the separation of concerns in Python applications?
    - A) Singleton
    - B) Observer
    - C) MVC (Model-View-Controller)
    - D) Decorator
16. What is the primary role of the Flask framework in Python?

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- A) Web development
- B) Data analysis
- C) Machine learning
- D) Asynchronous programming

17. What is the purpose of using lambda functions in Python?
    - A) To create anonymous functions
    - B) To handle exceptions
    - C) To define classes and objects
    - D) To implement multithreading
18. Which Python library is commonly used for handling large datasets?
    - A) Pandas
    - B) Flask
    - C) TensorFlow
    - D) Asyncio
19. What is the primary purpose of using context managers in Python?
    - A) To manage resources
    - B) To define decorators
    - C) To implement machine learning models
    - D) To handle exceptions
20. Which Python library is used for creating and training neural networks?
    - A) NumPy
    - B) Pandas
    - C) TensorFlow
    - D) scikit-learn
21. What is the purpose of using metaclasses in Python?
    - A) To create classes dynamically
    - B) To handle exceptions
    - C) To define decorators
    - D) To implement asynchronous programming
22. What is the primary role of the Django framework in Python?
    - A) Web development
    - B) Data analysis
    - C) Machine learning
    - D) Asynchronous programming
23. Which Python library is used for creating RESTful APIs?
    - A) Django
    - B) Flask
    - C) TensorFlow
    - D) NumPy
24. What is the primary purpose of using NumPy in Python?
    - A) Data analysis and numerical computing
    - B) Web development
    - C) Asynchronous programming
    - D) Machine learning

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CSE
20-21

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Academic Year-2020-2021

A
One week Workshop/ Add-on Course
On

"Deep JAVA Programming"

Organized

By

Department of Computer Science and Engineering, GNIET, Nagpur.

In Off-line Mode

Dates: From 01/02/2020 to 06/02/2020

Time: 11:00 AM to 05:00 PM

Venue: Auditorium

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Kalmeshwar Road, Nagpur – 441501. Phone No. 07118-661400

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A

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On

"Deep JAVA Programming"

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Venue: Auditorium

Participants

Sr.No	Semester / Branch	Name of Institute	Number of Participants
1	4th,6tht,8thSemester / CSE	GNIET, Nagpur	

Expert

Mr. Raj Arora
REVAT Networks, Nagpur M.S.

Workshop Coordinator
Prof. Vijaya Kamble, Assistant Professor Dept of CSE

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Nagpur - 441 501

Course Objectives:

The primary objectives of the Core Java course were as follows:

- **To Enrich Knowledge in Object-Oriented Programming**: The program aimed to provide students with a comprehensive understanding of Object-Oriented Programming principles, emphasizing the application of these concepts in Java
- **To Provide Proficiency in Java SDK**: Students were taught how to utilize the Java SDK environment to develop, debug, and execute Java programs, equipping them with essential skills for software development.

Course Outcomes:

- Participants gained a deeper understanding of Object-Oriented Programming and Java SDK, improving their programming skills.
- Students acquired hands-on experience with JavaScript, Node.js, and NPM, enabling them to develop practical applications.
- Active participation and enthusiasm of students demonstrated their interest in learning and applying new concepts.
- Participants appreciated the course content and its interactive nature, indicating its educational value.
- The course motivated students to pursue more advanced programs in the field.
- The event was deemed successful, thanks to the efforts of speakers and volunteers.

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Course brief:

The course commenced with a training session led by Mr. Raj Arora, setting the tone for an engaging learning experience. While the program was open to all students with an innate desire to learn and enhance their computer skills, a basic knowledge of Java was recommended.

The sessions were coordinated by Ms. Vijaya Kamble, who guided the students through a wide range of Java-related topics. The workshop started daily at 11:00 A.M. and ended at 5:00PM with 01 hr lunch break.

TARGET AUDIENCE:

Students in Computer Science and Engineering: The primary target audience for this program comprised students currently pursuing degrees or courses in Computer Science and Engineering. These individuals aimed to deepen their knowledge and practical skills in programming, particularly in the context of Java.

ABOUT THE EVENT:

The Core Java course program, held from **01/02/2020 to 06/02/2020** was a one week educational initiative Workshop / add-on Course organized by the Computer Science and Engineering Department. This event was designed to provide students and programming enthusiasts with a comprehensive introduction to Java programming and related technologies. Below are key details about the event:

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Event Duration: The course spanned a period of one week, commencing on **01/02/2020** and concluding on **to 06/02/2020**. Daily 05 Hrs for 06 days. Total course hours equals to 30 Hrs.

Course Content: The program covered a wide range of topics, including:

- An introduction to Java Script, with a focus on basic functional programming, JavaScript objects, higher-order functions, and coercion.
- A deeper exploration of Java Script using Node.js, highlighting its relevance in server-side application development.
- Introduction to the Node Package Manager (NPM) for managing project dependencies.
- A hands-on exercise where students applied their acquired knowledge to create a Note API project, gaining valuable insights into real-world coding practices.

Success of the Event: The event was deemed highly successful, owing to the dedicated efforts of the speakers, volunteers, and the active engagement of the participants. The positive feedback received from the students underscored the program's effectiveness in enhancing their learning experience and practical skills.

Future Initiatives: The Computer Science and Engineering Department expressed its commitment to organizing similar educational events in the future, with a focus on more advanced programming topics and technology-related courses.

In summary, the Core Java course program was a well-organized and successful event that provided valuable knowledge and practical skills to the participants. It served as a stepping stone for their future endeavors in computer science,

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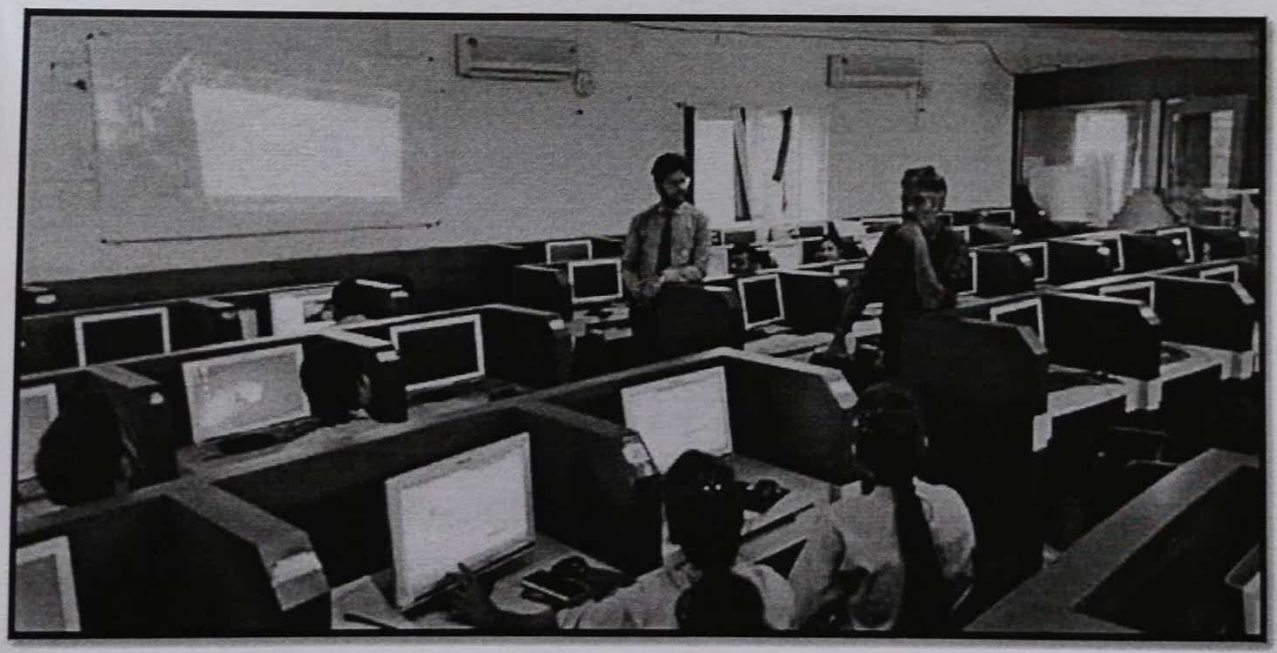
engineering, and software development. The event highlighted the department's dedication to nurturing talent and fostering the aspirations of students in the field of technology and programming.

PROGRAM OUTCOME (POs) ATTAINMENT:

PO Mapping and Attainment of the Course (Rubrics: High=3; Medium=2;Low=1)

Name of Event	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12
Add-on course on "Deep JAVA Programming"	√	√	√	√	√	√	√	√	√	√	√	√
	3	3	3	2	3	2	1	1	2	2	0	2
% Attainment	100%	100%	100%	67%	100%	67%	33%	33%	67%	67%	0%	67%

Glimpses:



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Sample Certificate:

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CERTIFICATE

OF PARTICIPATION

This is to certify that, Mr/Ms. ---------- have successfully completed the Add-on course "Deep JAVA Programming". Course duration was 06 Days (05 Hrs per day). The Add-on course was organized by Department of computer Science and Engineering, GNIET, Nagpur from 01 Feb 2020 to 06 Feb 2020.

Course Co-ordinator	H.O.D. (CSE) GNIET, Nagpur	Vice Principal GNIET, Nagpur	Principal GNIET, Nagpur

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Nagpur - 441501

20

GURU NANAK INSTITUTE OF ENGINEERING & TECHNOLOGY

Dahegaon, Kalmeshwar Road, Nagpur

Department of Electronics & Telecommunication Engineering

SESSION 2020-21 (ETC-EVEN SEM)

Date:01/04/2020

To,
The Principal,
GNIET, Nagpur.

Subject:- Regarding the permission to arrange the five days training under Add-on program on "Digital VLSI Chip Design".

Respected sir,

Electronics and Telecommunication Engineering Department is planning to organize a five days training session under Add-on program on "Digital VLSI Chip Design" from 5th April 2020 to 9th April 2020 for the students. The objective of program is to train the students in the field of Very Large Scale Integration chip design. Subset electronics engineering, encompassing the particular logic and circuit design techniques required to design digital integrated circuits, or digital ICs.

Kindly allow us to conduct the program on the dates mentioned above.

Thanking You.

Prof. Sucheta Raut
HOD, ETC, GNIET

Head of Department
Electronics & Telecommunication Eng
Gniet Dahegaon Nagpur

Principal
Guru Nanak Institute of
Engineering & Technology
Nagpur - 441501

ABOUT INSTITUTION

Established in 2017 by the Guru Nanak Education Society, GURU NANAK INSTITUTE OF ENGINEERING AND TECHNOLOGY is one of the premier technical institutions in the region and is recognised for its culture of discipline and academic excellence. The college is approved by AICTE, New Delhi and DTE, Government of Maharashtra and affiliated to Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur. The institute offer four year degree cources in Electronics and Telecommunication Engineering, Electrical Engineering and Computer Science & Engineering.

The college is sucessfully surging ahead with its mission of producing excellent technocrats which is evident from the fact that GURU NANAKS are the preferred workforce in several bluechip companies while many others are pursuing post graduate studies in abroad and other institute of repute overseas.

VISION

"To develop a knowledgebased society with clarity of thoughts and charity at hearts to serve huminity with integrity"

MISSION

"To impower youth to be technocrats of tomarrow with absolute discipline, quest for knowledge and strong ethos to uphold the spirit of professionnalism"

Patrons:

S. Navneet Singh Tuli
CMD, GNI, Nagpur

Mrs. Tanpreet Kaur Tuli
MD, GNI, Nagpur

Prof. R. Bhombe
Officiating Principal,
GNI, Nagpur

Convener:

Prof. Sucheta Raut
HOD, ETC, GNIET

CoOrdinator:

Prof. Amar Banmare

Resource Person:

The Session will be conducted by Eminent speakers from GNI Institution, Reputed Industries and Research Organization who have significant expertise and experience in relavent field.

GNI
Guru Nanak Institutions
EDUCATION FIRST

GURU NANAK INSTITUTE OF ENGINEERING & TCHNOLOGY

Dahegaon, Kalmeshwar Road, Nagpur

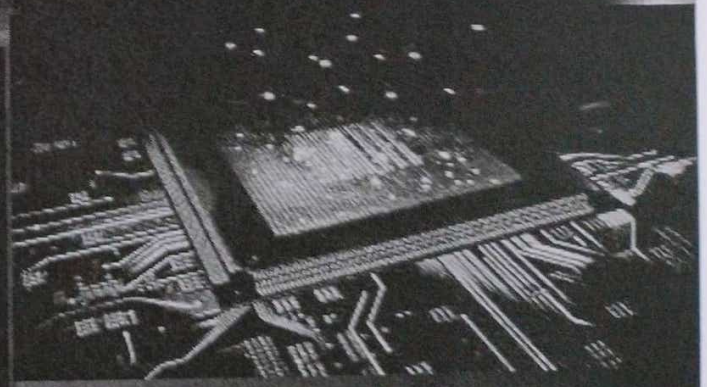
Department of Electronics & Telecommunication Engineering

Organizing

Five Days Training Program on

"DIGITAL VLSI CHIP DESIGN"

5 th April 2020 to 9th April 2020



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Nagpur - 441501

Five Days Training Program
On
"DIGITAL VLSI CHIP DESIGN"

About Training Program

Today, IC design flow is a very solid and mature process. The overall IC design flow and the various steps within the IC design flow have proven to be both practical and robust in multi-millions IC designs until now.

The objective of vocational education and training is to train the students in the field of design of IC. Subset electronics engineering, encompassing the particular logic and circuit design techniques required to design integrated circuits, or ICs. ICs consist of miniaturized electronics components built into an electrical network on a monolithic semiconductor substrate by photolithiography.

Students can get the knowledge about the basic safety measures while working for small scale, medium scale or large scale industries. Some standard guidelines are provided. Electrical, mechanical, electromagnetic radiations in the form of hazards are discussed precisely and the proper safety precautions are elaborated. That will be the guiding light for human being to minimize the accidents and possible health care.

To develop professionally competent and socially conscious Electronics Engineers ready to face challenges in global environment.

Organized By
Department of Electronics and Telecommunication Engineering, GNIET, Nagpur

Topic to be Covered

- √ RTL conversion into netlist
- √ Design partitioning into physical blocks
- √ Timing margin and timing constrains
- √ RTL and gate level netlist verification
- √ Static timing analysis
- √ System-on-a-Chip (SoC) Trend
- √ SoC Integration & Challenge
- √ System-in-a-Package (SIP)
- √ IC Industry and Chip Production Flow
- √ System IC Design Flow
- √ Chip Debugging Tools and Reliability Issue.

Registration Details:
Payment Details:
Registration Fee:
Industry Person: Rs. 1000/-
Academician/Research Scholar: Rs.800/-
PG/UG Student: Rs. 500/-

Demand Draft: Payment should be done by DD drawn in favor of "Principal GNIET", payable at Nagpur.

Cash: At the registration desk of the department registration form can also be downloaded from college website. The scanned copy of registration form can be mailed to

GURU NANAK INSTITUTE OF ENGINEERING & TCHNOLOGY

Dahegaon, Kalmeshwar Road, Nagpur441501

Department of Electronics & Telecommunication Engineering

Registration Form:

Name.....

Designation.....

Name of Institution .....

Address for Communication.....
.....

Branch.....

Roll no.....

Contact.....

Email ID.....

Payment Details.....

Signature.....

Date.....

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GURU NANAK INSTITUTE OF ENGINEERING & TECHNOLOGY

Dahegaon, Kalmeshwar Road, Nagpur

Department of Electronics & Telecommunication Engineering

SESSION 2020-21 (ETC-EVEN SEM)

SCHEDULE

Name of Training Session under Add-on Program: Digital IC Chip Design

5th April 2020

SR. NO.	TIME	EVENTS	TRAINER	HEAD OF EVENTS
1.	10:00 AM 10:30 AM	Introduction	Dr. Sudhir Shelke	Prof. Sucheta Raut
2.	10:30 AM -12:00 PM	VLSI System Design	Dr. Sudhir Shelke	
3.	12:00 PM-01:00 PM	Register Transfer Level (RTL)	Dr. Sudhir Shelke	
4.	01:00 PM-02:00 PM	**Lunch (Break)**		
5.	02:00 PM- 04:00 PM	Synthesis, Layout and Block Level Layout	Dr. Sudhir Shelke	

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6th April 2020

SR. NO.	TIME	EVENTS	TRAINER
1.	10:00 AM 11:00 AM	Complete placement and routing of blocks.	Dr. Sudhir Shelke
2.	11:00 AM -12:00 PM	VLSI integration of all blocks	Dr. Sudhir Shelke
3.	12:00 PM-01:00 PM	Place and route	Dr. Sudhir Shelke
4.	01:00 PM-02:00 PM	**Lunch (Break)**	
5.	02:00 PM- 04:00 PM	GDSII creation	Dr. Sudhir Shelke

7th April 2020

SR. NO.	TIME	EVENTS	TRAINER
1.	10:00 AM 11:00 AM	System IC Design Flow.Chip Debugging Tools and Reliability Issues	Dr. Sudhir Shelke
2.	11:00 AM -12:00 PM	SoC Integration & Challenge including System-in-a Package (SIP)	Dr. Sudhir Shelke
3.	12:00 PM-01:00 PM	Industry and Chip Production Flow	Dr. Sudhir Shelke
4.	01:00 PM-02:00 PM	**Lunch (Break)**	
5.	02:00 PM- 04:00 PM	Cadence DFII framework	Dr. Sudhir Shelke

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8th April 2020

SR. NO.	TIME	EVENTS	TRAINER
1.	10:00 AM 11:00 AM	Composer Schematic Capture Verilog Simulation	Dr. Sudhir Shelke
2.	11:00 AM -12:00 PM	Virtuaso Layout Editor Setup and Execution Script	Dr. Sudhir Shelke
3.	12:00 PM-01:00 PM	Standard Cell Template	Dr. Sudhir Shelke
4.	01:00 PM-02:00 PM	**Lunch (Break)**	
5.	02:00 PM- 04:00 PM	Spectre Analog Simulation	Dr. Sudhir Shelke

9th April 2020

SR. NO.	TIME	EVENTS	TRAINER
1.	10:00 AM 11:00 AM	Standard Cell Characterization and abstract generation	Dr. Sudhir Shelke
2.	11:00 AM -12:00 PM	Verilog Synthesis and SOC encounter Place and Routs	Dr. Sudhir Shelke
3.	12:00 PM-01:00 PM	Chip Assembly and MIPS Processor Examples	Dr. Sudhir Shelke
4.	01:00 PM-02:00 PM	**Lunch (Break)**	
5.	02:00 PM- 04:00 PM	Question and answering session and Valedictory Function & Vote of Thanks	Dr. Sudhir Shelke

Prof. Sucheta Raut
H.O.D.

Head of Department
Electronics & Telecommunication Engg.
Gniet Dahegaon Nagpur

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Add on program on Digital VLSI Chip Design

Syllabus

Objective:

1. To introduce the latest VLSI Design Technologies and software used in the Electronics/Semiconductor industry. The software and hardware packages which will be introduced in this course.
2. To enables graduates to be "industry-ready" Leverage best-in-class Cadence technologies and access to ecosystem partners.
3. To provides an incremental training approach leading up from VLSI basics to industry-relevant skills.
4. To introduce the latest Embedded Technologies and software. The students will be introduced to ARM based applications, real time operating system, VxWorks, Android Programming etc.

Outcome:

After completing this course students shall be able to:

1. Describe the Overview of VLSI/ASIC design and methodology. Course on VHDL/Verilog.
2. Describe the Architectural overview of FPGA and CPLDs.
3. Design IC and fabrication process (Full Custom and Semi-Custom) Cell Library Design.
4. Design Analog/Mixed signal design methodology. Testing/Mixed signal design methodology. Testing and Verification issues of VLSI Design.

I. FPGA digital design (Duration-10 Hrs)

- Xilinix ISE 14.1 for FPGA digital design, DSP design and implementation, Electrical and Instrumentation applications using Spartan/Virtex.
- Embedded system application using Xilinx EDK, VIVADO and Spartan/Virtex, Z-board
- Active HDL for VHDL/Verilog digital design and simulation.
- Tanner tool for IC design.
- Spice for Circuit Simulation.
- Introduction to Cadence tool for IC Design.
- Process Tool for silicon using Silvaco.
- Course Contents

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II. IOverview of VLSI / ASIC (Duration-10 Hrs)

- Overview of VLSI/ASIC design and methodology.
- Course on VHDL/Verilog, Spice.
- MOS and CMOS device physics.
- IC design and fabrication process (Full Custom and Semi-Custom)
- Cell Library Design.
- Analog/Mixed signal design methodology.
- Testing/Mixed signal design methodology.
- Testing and Verification issues of VLSI Design.
- Architectural overview of FPGA and CPLDs.

III. Implementation, Verification & Simulation (Duration-10 Hrs)

- Implement, practical digital functional blocks using the Verilog language
- RTL and gate level verification/simulation
- Coding HDL, Modeling HDL,
- Creating timing
- Constraints and running RTL synthesis
- Testing and Design for Testability (DFT), and top-
- Down design methodology

Study Materials:

Course material includes readings from textbooks and research papers and articles, Soft copies of notes etc.

Books:

Text Books:

1. VLSI Design and Simulation by John A. Chandy
2. CMOS Circuit Design, Layout, and Simulation, 4th Edition.
3. Custom VLSI Design by Chintan Patel 2nd Edition

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Reference Books:

1. Introduction to VLSI circuit Design by Dr. Andrew Mason National Chiao Tung University
2. Electronic Design Automation For Integrated Circuits Handbook, by Lavagno, Martin

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Dahegaon, Kalmeshwar Road, Nagpur

Department of Electronics & Telecommunication Engineering

SESSION 2020-21 (ETC-EVEN SEM)

REPORT **Date:12/04/2020**

ADD-ON PROGRAM ON DIGITAL VLSI CHIP DESIGN

Department of Electronic & Telecommunication Engineering, GNIET, Nagpur organized five days training under add-on program on **Digital VLSI Chip Design** from 5th April 2020 to 9th April 2020 for III, V & VII-Semester students. The objective of this training program was to train the students in the field of design of IC. Subset electronics engineering, encompassing the particular logic and circuit design techniques required to design integrated circuits, or ICs. ICs consist of miniaturized electronics components built into an electrical network on a monolithic semiconductor substrate by photolithiography.

Day 1: 5th April 2020 (10.30pm to 4.00pm)

The session was started on 5th April 2020 by Dr. Sudhir Shelke as the speaker, trainer. He updated students regarding

- VLSI System Design
- Register Transfer Level (RTL)
- Synthesis, Layout and Block Level Layout
- RTL and gate level netlist verification
- Static timing analysis

Day 2: 6th April 2020 (1.00pm to 4.00pm)

It is a practical Session was stated by Dr. Sudhir Shelke In this session he guided the students for

- System-on-a-Chip (SoC) Trend
- SoC Integration & Challenge
- System-in-a-Package (SIP)
- IC Industry and Chip Production Flow
- System IC Design Flow
- Chip Debugging Tools and Reliability Issues

Day 3: 7th April 2020 (1.00pm to 4.00pm)

- System IC Design Flow.

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- Chip Debugging Tools and Reliability Issues
- SoC Integration & Challenge including System-in-a Package (SIP)
- Industry and Chip Production Flow
- Cadence DFII framework

Day 4: 8th April 2020 (1.00pm to 4.00pm)

- Composer Schematic Capture Verilog Simulation
- Virtuaso Layout Editor Setup and Execution Script
- Standard Cell Template
- Spectre Analog Simulation
- Standard cell characterization and abstract generation

Day 5: 9th April 2020 (1.00pm to 4.00pm)

- Verilog Synthesis and SOC encounter Place and Routs
- Chip Assembly and MIPS Processor Examples
- Question and answering session and Valedictory Function & Vote of Thanks

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ATTENDANCE:

GURU NANAK INSTITUTE OF ENGINEERING & TECHNOLOGY
Dahegaon, Kalmeshwar Road, Nagpur
Department of Electronics & Telecommunication Engineering
SESSION 2020-21 (Even Sem)

LIST OF STUDENTS

Training Program on Digital VLSI Chip Design

Sr. No.	Name of the Student
1	Ms. Divya Tahalramani
2	Ms. Gayatri Mahalle
3	Ms. Neha Somkuwar
4	Ms. Papiha Ajmire
5	Ms. Prajakta Band
6	Ms. Shradha Khobragade
7	Ms. Sneha Walde
8	Ms. Vrushali Meshram
9	Mr. Ajay Chaudhari
10	Mr. Akshay Deshmukh
11	Mr. Anshu Sharma
12	Mr. Nitin Bute
13	Mr. Rahul Yadav
14	Mr. Rohit Bobade
15	Mr. Rushikesh Lande
16	Mr. Sanket Bhajgoware
17	Mr. Saurabh Shambharkar

Prof. Sucheta Raut
HOD

Head of Department
Electronics & Telecommunication Engg
Gniet Dahegaon Nagpur

Principal
Guru Nanak Institute of
Engineering & Technology
Nagpur - 441501

GURU NANAK INSTITUTE OF ENGINEERING & TECHNOLOGY

Dahegaon, Kalmeshwar Road, Nagpur

Department of Electronics & Telecommunication Engineering

SESSION 2020-21 (Even Sem)

ATTENDANCE OF STUDENTS

Training Program on Digital VLSI Chip Design

Sr. No.	Name of the Student	05/04/20	06/04/20	07/04/20	08/04/20	09/04/20
1	Ms. Divya Tahalramani	P	A	P	A	P
2	Ms. Gayatri Mahalle	P	P	P	P	A
3	Ms. Neha Somkuwar	P	P	P	P	P
4	Ms. Papiha Ajmire	P	P	P	P	A
5	Ms. Prajakta Band	P	A	P	P	P
6	Ms. Shradha Khobragade	P	P	P	P	P
7	Ms. Sneha Walde	P	P	P	P	P
8	Ms. Vrushali Meshram	P	P	P	P	P
9	Mr. Ajay Chaudhari	A	P	P	P	P
10	Mr. Akshay Deshmukh	P	P	P	P	P
11	Mr. Anshu Sharma	P	A	P	P	P
12	Mr. Nitin Bute	P	P	P	P	P
13	Mr. Rahul Yadav	P	P	P	P	P
14	Mr. Rohit Bobade	P	P	P	P	P
15	Mr. Rushikesh Lande	P	P	P	P	P
16	Mr. Sanket Bhajgoware	P	A	P	P	P
17	Mr. Saurabh Shambharkar	A	A	P	P	P

Prof. Sucheta Raut
HOD

Head of Department
Electronics & Telecommunication Engg
Gniet Dahegaon Nagpur

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FEEDBACK FORM

Add On Course Digital VLSI Chip Design Evaluation Form

Please submit feedback regarding the Add on course you have just completed, including feedback on course structure, content, and instructor.

* Indicates required question

Student Name*

Your answer

Contact Number *

Your answer

Email Id

Your answer

1. **Level of effort you put into the course***
   - Poor
   - Fair
   - Satisfactory
   - Very Good
2. **Contribution of the course to your skill and knowledge***
   - Poor
   - Fair
   - Satisfactory
   - Very Good
3. **Skill and responsiveness of the instructor***
   - Poor
   - Fair

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- Satisfactory
- Very Good

4. Course content was organized and well planned*

- Poor
- Fair
- Satisfactory
- Very Good

5. What aspects of this course were most useful or valuable?*

Your answer

6. Any other comments or suggestions? Please share them below

Your answer

Submit

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MCQ ON DIGITAL VLSI CHIP DESIGN

Name of Student: _____

1) The utilization of CAD tools for drawing timing waveform diagram and transforming it into a network of logic gates is known as _____.
a. Waveform Editor
b. Waveform Estimator
c. Waveform Simulator
d. Waveform Evaluator
Ans: Waveform Editor

2) Which among the following is a process of transforming design entry information of the circuit into a set of logic equations?
a. Simulation
b. Optimization
c. Synthesis
d. Verification
Ans: Synthesis

3) _____ is the fundamental architecture block or element of a target PLD.
a. System partitioning
b. Pre-layout Simulation
c. Logic cell
d. Post-layout Simulation
ANSWER: Logic cell

4) In VLSI design, which process deals with the determination of resistance & capacitance of interconnections?
a. Floor planning
b. Placement & Routing
c. Testing
d. Extraction
Ans Extraction

5) In Net-list language, the net-list is generated _____synthesizing VHDL code.
a. Before
b. At the time of (during)
c. After
d. None of the above
ANSWER: After

6) Which data type in VHDL is non synthesizable & allows the designer to model the objects of dynamic nature?
a. Scalar
b. Access
c. Composite
d. File
ANSWER: Access

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7) Which type of simulation mode is used to check the timing performance of a design?
a. Behavioral
b. Switch-level
c. Transistor-level
d. Gate-level
ANSWER: Gate-level

8) Which among the following is not a characteristic of 'Event-driven Simulator'?
a. Identification of timing violations
b. Storage of state values & time information
c. Time delay calculation
d. No event scheduling
ANSWER: No event scheduling

9) Which among the following is an output generated by synthesis process?
a. Attributes & Library
b. RTL VHDL description
c. Circuit constraints
d. Gate-level net list
ANSWER: Gate-level net list

10) Register transfer level description specifies all of the registers in a design & _____ logic between them.
a. Sequential
b. Combinational
c. Both a and b
d. None of the above
ANSWER: Combinational

Answers: 1:a, 2:c, 3:c, 4:d, 5:c, 6:b, 7:d, 8:d, 9:d, 10:b

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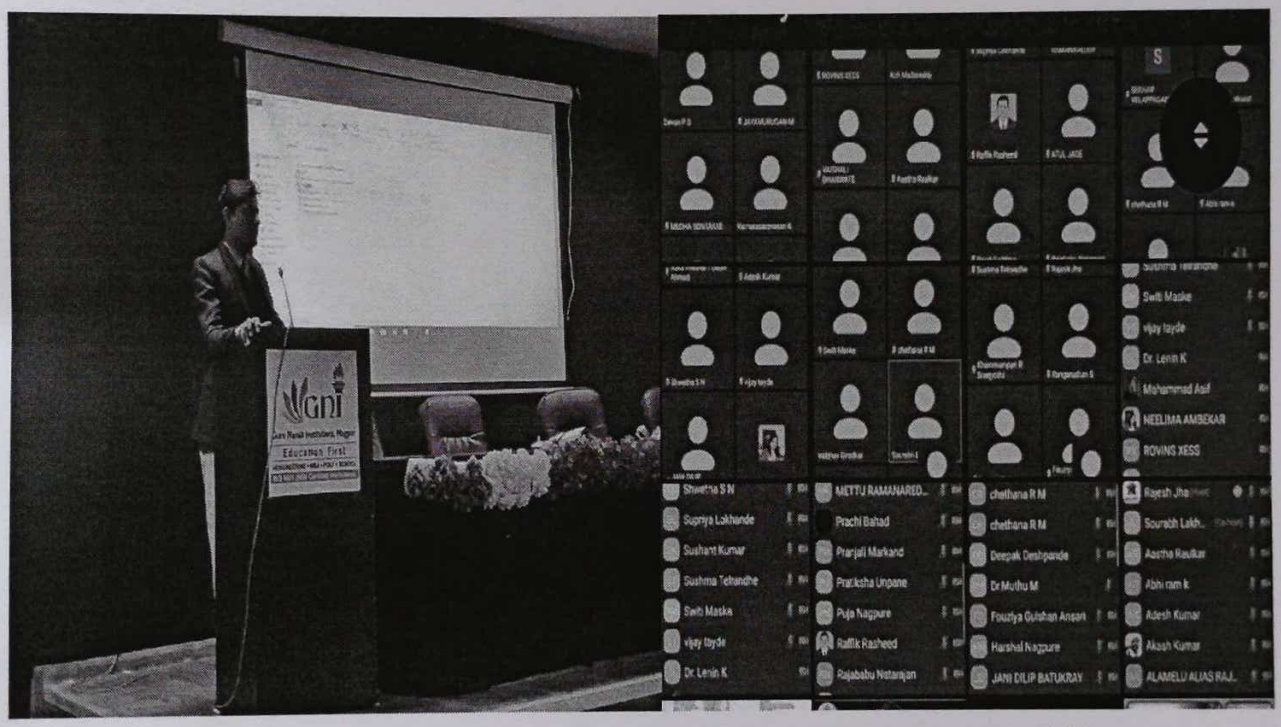
Dahegaon, Kalmeshwar Road, Nagpur

Department of Electronics & Telecommunication Engineering

SESSION 2020-21 (ETC-EVEN SEM)

Students were grateful to the department and Institution for giving them opportunity to study and view practical aspects by using software of Digital VLSI Chip Design.



Students and trainer were present for the Add on course on Digital VLSI chip Design from 5/4/20 to 9/4/20

Prof. Sucheta Raut

H.O.D.

Head of Department
Electronics & Telecommunication En
Gniet Dahegaon Nagpur

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Guru Nanak Educational Society's
GURU NANAK INSTITUTE
OF ENGINEERING & TECHNOLOGY
APPROVED BY AICTE, DTE & AFFILIATED TO RTM NAGPUR UNIVERSITY, NAGPUR
Dahegaon, Opp IOC Petrol pump, Kalmeshwar Road, Nagpur- 441501 Ph. 07118-661400
Website: www.gniet.ac.in E-mail: gnietnagpur@gmail.com

Department of Electrical Engineering

Session 2020-2021

Date:15/08/2020

NOTICE

All the Students of II semester B.E. of Electrical Engineering are hereby informed that department is organizing a short term course on **"ELECTRIC VEHICLE"** from 20/08/2020 to 26/08/2020. The schedule along with all other details of this course is given in the brochure. All the interested students must register for the same from 15th to 20th Aug , 2020. For registration of the course contact the co-ordinator in Electrical Department.

Prof. Rajendra Bhombe
HOD EE

Copy to:

1) Display on Notice Board
2) Circulation among the Students on Whatsaap group
3) Head T&P
4) Principal for Information

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Nagpur - 441501

Six Day Workshop on

"ADD ON COURSE ON ELECTRIC VEHICLE"

REGISTRATION FORM

Name:

Branch:

Roll No. :

Contact No. : _____

Email Id:

Signature of Applicant:

Date & Place:

Signature of Co-ordinator

Signature& Seal of HoD EE

PATRONS

Sardar Navneet SinghTuli,CMD, GNI, Nagpur

Mrs.Tanpreet Kaur Tuli, MD, GNI, Nagpur

ADVISORY COMMITTEE

Dr.Shrivastava , Principal, GNIET, Nagpur

Mr. R .M. Bhombe, Vice Principal GNIET, Nagpur

CO-ORDINATOR

Mr. Akshay Pillewan, Asst. Prof. EE Email Id:-akshu1712@gmail.com

ORGANIZING COMMITTEE

Mr. Akshay Pillewan, Asst. Prof. EE Email Id: akshu1712@gmail.com

Ms.Diksha Khare Asst. Prof. EE Email Id:gnietee@gmail.com

Prof. Rajendra Bhombe HOD, EE

ADDRESS FOR CORRESPONDENCE:

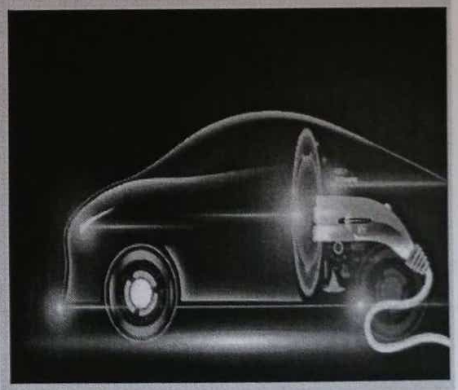
Department of Electrical Engineering Guru Nanak Institute of Engg. & Tech. Kalmeshwar Road,Near Radha Swami Satsang,Dahegaon, Nagpur, Maharashtra 441501

GURU NANAK INSTITUE OF ENGINEERING & TECHNOLOGY, NAGPUR

Course on

"ADD ON COURSE ON ELECTRIC VEHICLE"

20/08/2020 TO 26/08/2020



Organized by

DEPARTMENT OF ELECTRICAL ENGINEERING, GNIET, NAGPUR

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Nagpur - 441501

REGISTRATION:

Registration can be made in advance by remitting the registration fee as indicated below along with the registration form. For registration contact to Mr. Akshay Pillewan, Asst. Prof. EE .

REGISTRATION FEE:

Registration fees for students of GNIET are FREE.

IMPORTANT DATES:

Registration starts : 15/08/2020

Last Date of Registration : 20/08/2020

SCHEDULE:

Duration of course is 30 hrs, which will be covered in one week from 20/08/2020 to 26/08/2020. The schedule during the course is divided into Three sessions per day as follow:

Session 1 : 9:00 am To 1:30 am

Lunch Break :1:30 pm To 2:00 pm

Session 2 :2:00 pm To 4:00 pm

Mode :

Seminar HALL

ELIGIBILITY

Students of **EE** are eligible to attend the training.

ABOUT THE COURSE

It is an add on course which helps the students to understand the concepts through hands-on lab sessions, examples on **ELECTRIC VEHICLE.**

OBJECTIVE

The objectives of course are:

1. To familiarize with the basic electric components configuration for the electric propulsion unit
2. To expose utilization of different energy storage system and hybridization
3. The course will also teach the students about the Applications of electric vehicle

OUR TRAINER

SHRUTI KHOTHADIA

Email Id: shruti.023@gmail.com

IMPORTANT NOTE

✔All interested students should register before the last date of registration .

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GURU NANAK INSTITUTE OF ENGINEERING & TECHNOLOGY

Dahegaon, Kalmeshwar Road, Nagpur-441 501.

Department of Electrical Engineering

SESSION 20-21

ADD ON COURSE ON ELECTRIC VEHICLE

COURSE OBJECTIVES

The objectives of workshop are:

1. To familiarize with the basic electric components configuration for the electric propulsion unit.
2. To expose utilization of different energy storage system and hybridization.
3. The course will also teach the students about the applications of electric vehicle.

COURSE OUTCOME

After completing this Electric vehicle course

1. Get introduced to electric vehicles, understand how are EVs different from ICE vehicles and identify various parts of an electric vehicle.
2. Learn the fundamentals of lithium-ion cells.
3. Analyse EVs based on power sources and calculate range of an EV.

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Dahegaon, Kalmeshwar Road, Nagpur-441 501.

Department of Electrical Engineering

SESSION 20-21

SYLLABUS

DURATION: 32 HOURS

Sr. No	Syllabus	No. of Hours
1	Basics of electromobility and steering dynamics	5 hours
2	EV powertrain architecture .	3 hours
3	Wire Harnessing (EMI, EMC)	2 hours
4	Understanding of SOC, cell balancing	3 hours
5	Designing of R-C model in MATLAB	3 hours
6	Speed Control Methods	2 hours
7	Power Converters and Inverters	2 hours
8	Battery Modelling	2 hours
9	Design and simulation of AC and DC charge controller	3 hours
10	Battery deterioration analysis	3 hours
11	SoH estimation	2 hours
12	SoP and SoF estimation	2 hours
	Total	32 Hours

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Dahegaon, Kalmeshwar Road, Nagpur-441 501.

Department of Electrical Engineering

SESSION 20-21

REPORT ON "ADD ON COURSE ON ELECTRIC VEHICLE"

1	**Course Title**	**"ELECTRIC VEHICLE"**
2	**Course Schedule**	20/08/2020 to 26/08/2020
3	**Course Venue**	**Seminar room and Department of EE**
4	**Name of Coordinator**	**Prof. Akshay Pillewan**
5	**No. Of students Participated**	**26**
6	**Course Objective**	To familiarize with the basic electric components configuration for the electric propulsion unit. To expose utilization of different energy storage system and hybridization. The course will also teach the students about the applications of electric vehicle. .
7	**Course Outcome**	Get introduced to electric vehicles, understand how are EVs different from ICE vehicles and identify various parts of an electric vehicle. Learn the fundamentals of lithium-ion cells.Analyse EVs based on power sources and calculate range of an EV

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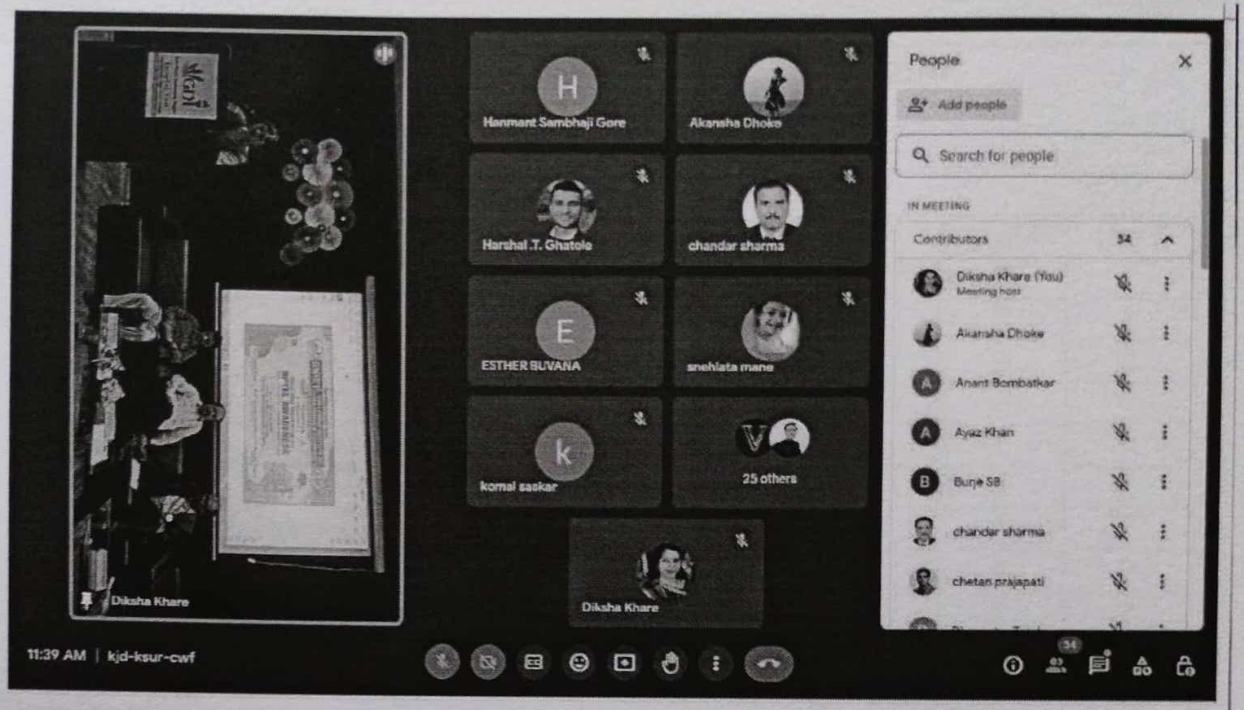
Department of Electrical Engineering

SESSION 20-21



Add on course on Electric Vehicle on 26/08/20

Prof. Akshay Pillewan
Program Coordinaor

Prof. Rajendra Bhombe
HOD, EE

Dr. Sanjay Shriastav
Principal GNIET

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EDUCATION FIRST

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Dahegaon, Kalmeshwar Road, Nagpur-441 501

DEPARTMENT ELECTRICAL ENGINEERING

Session 2020-2021

Date:27/08/2020

ELECTRIC VEHICLE

MCQ

Name of Student:-.....

1. From where tractive effort is generated in EV

   Option A: Battery

   Option B: Converter

   Option C: Driving Shaft

   Option D: Motor

2. It is difficult to use ultracapacitors alone as an energy storage for EVs and HEVs because of their

   Option A: high specific energy density and the dependence of voltage on the SOC

   Option B: low specific energy density and the dependence of voltage on the SOC

   Option C: low specific energy density and the independence of voltage on the SOC

   Option D: high specific energy density and the independence of voltage on the SOC

3. In which year battery powered carriage was developed

   Option A: 1874

   Option B: 1889

   Option C: 1857

   Option D: 1850

4. The Fuel Cell provides _____ energy but _____ power

   Option A: High, Low

   Option B: modest, modest

   Option C: modest, low

   Option D: low, low

5. Gradeability is defined as the maximum _____ angle that the vehicle can overcome in the whole speed range

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Option A: grade

Option B: raise

Option C: slope

Option D: plane

6. When a vehicle goes up or down a slope, its weight produces a component of force that is always directed _____

Option A: upwards

Option B: downwards

Option C: left ways

Option D: right ways

7. Permanent magnet motors with sinusoidal air gap flux distribution are called

Option A: Permanent Magnet Synchronous Motors

Option B: Brushless DC motors

Option C: Brushless AC motors

Option D: Permanent Magnet induction Motors

8. The series parallel hybrid systems are classified into two categories _____& the_____

Option A: Fuel Cell dominated; petrol engine dominated

Option B: ICE dominated; Electrical Motor dominated

Option C: Hydrogen cell dominated; petrol engine dominated

Option D: Hydrogen cell dominated; gas engine dominated

9. Which strategy is not used in Energy management strategy system

Option A: Optimization based

Option B: Rule based

Option C: Global optimization strategy

Option D: Regression method

10. Which Battery are preferred for EV

Option A: Lead-acid (Pb-acid)

Option B: Lithium-ion (Li-ion)

Option C: Sodium-sulphur (NaS)

Option D: Nickel-cadmium (NiCd)

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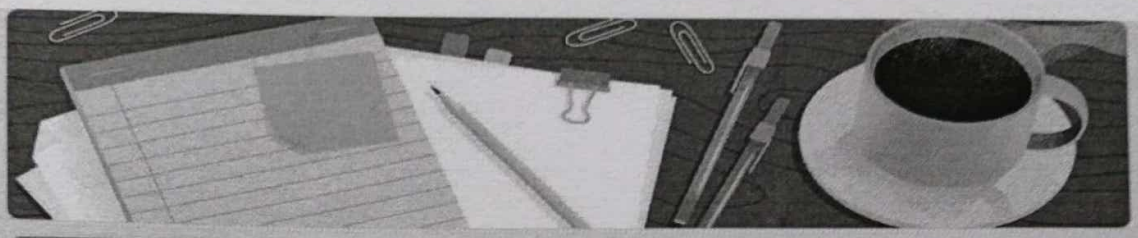

Add on Course evaluation Form

Please submit feedback regarding the Add on course you have just completed, including feedback on course structure, content, and instructor.

Sign in to Google to save your progress. Learn more

* Indicates required question

Student Name *

Your answer

Contact Number *

Contact Number *

Your answer

Email Id

Your answer

Level of effort you put into the course *

- ○ Poor
- ○ Fair
- ○ Satisfactory
- ○ Very Good

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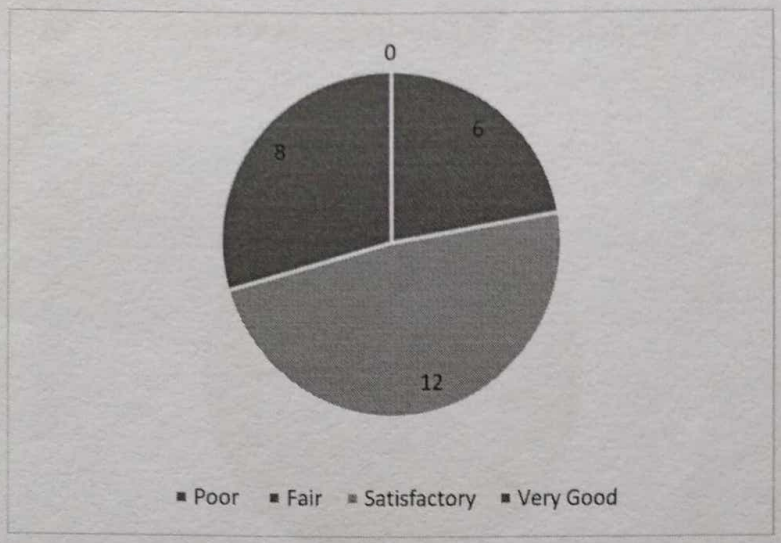
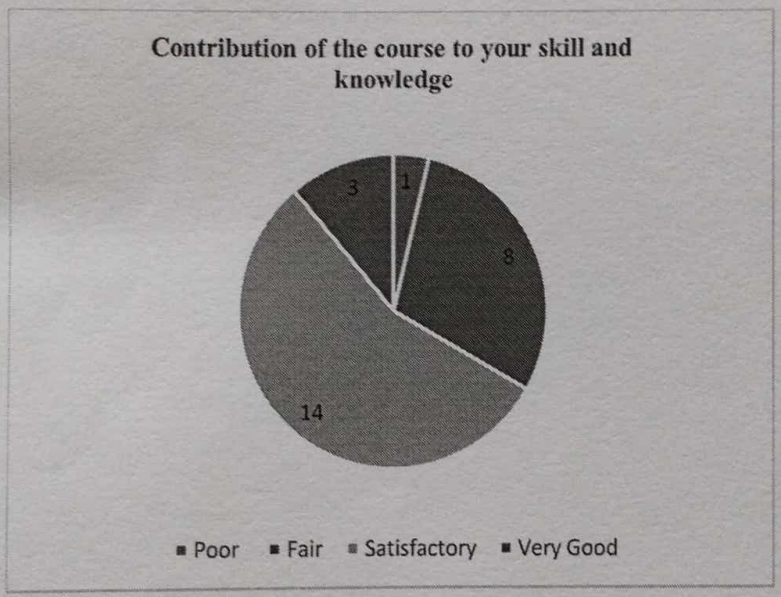


2. Contribution of the course to your skill and knowledge



3. Skill and responsiveness of the instructor

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Department of Management Studies

Session 2020-21

MBA 20-21

NOTICE

Date: 20/06/2020

Certificate course in Accounting

The Management Department is organising Ten days online programme on Certificate course in Accounting_from 01/07/2020 to 10/07/2020 for the benefit of all MBA Students in accounting via Google Meet. Link will be shared on groups.

The objectives of the course are :

- Providing on-job experience of practical aspects of Accounting
- Developing disciplined attitude required to become an Accountant.

J. gidwani

Mr.Jaspal Gidwani
HOD,MBA

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Department of Management Studies

Session 2020-21

Date: 30/06/2020

To,
The Principal,
GNIET,
Nagpur

Subject:-Regarding the permission of 10 days online programme on "Certificate Course in accounting".

Respected Sir,

Department of Management, GNIET, is planning to organize a ten days online program on "**Certificate Course in accounting**" on from 01/07/2020 to 10/07/2020 ,10:00 A.M to 4:00 P.M via Google meet for Management students.

Kindly allow us to conduct the course program on above mention dates.

J. Gidwani

Dr. Jaspal Gidwani
HOD, DMS

Principal
Guru Nanak Institute of
Engineering & Technology
Nagpur - 441501

10 Days Online Programme on
"Certificate course in Accounting"
(01 st July to
10h July 2020)

Registration Form

lame:_____

)esignation:_____

)rganization:_____

ddress: _____
_____
_____

hone:_____

Mob: _____

mail:_____

mount (Cash) :_____

lace _____

)ate_____

ignature of Participant _____

ORGANIZING COMMITTEE

PATRONS

- *S. Navneet Singh Tuli, C.M.D, GNI*
- *Mrs. Tanpreet Kaur Tuli, M.D, GNI*

ADVISORS

- **Dr. Sanjeev Shrivastava, Principal ,GNIET**
- **Dr. Jaspal Gidwani HOD,GNIET**

CONVENER

- **Dr. Roshni Halmare**
  Dean (Research & Development)

CO-ORDINATION COMMITTEE

- **Dr. Jaspal Gidwani**
- **Dr. Pravin Bhise**
- **Mr. Rajendra Katole**

Guru Nanak Institutions
EDUCATION FIRST

Guru Nanak Institute of Engineering and Management, Nagpur

10 Days Online Programme on
"Certificate course in Accounting"

(01 st July to
10 th July 2020)
Organized by

DEPARTMENT OF MANAGEMENT STUDIES

Principal
Guru Nanak Institute of
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Nagpur - 441501

Developing disciplined attitude required to become an Accountant.

[redacted]

About college:

Guru Nanak Institute of Engineering & Technology (GNIET), Nagpur was stablished in the year 2007 and is ffiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, pproved by All India Council for Technical Education, New Delhi and Directorate of Technical Education, Maharashtra. Experienced and edicated staff is an asset of the nstitute. GNIET focuses on the core ngineering field which makes it an deal place for the growth of technical ducation. GNIET has the state of the rt laboratories, digital library, Wi-Fi nd other facilities to enhance quality of eaching learning process.

About Certificate Program:

The Objectives of the course are:
Exposure to environments under which ifferent organizations work;

Providing on-job experience of practical spects of Accounting;

Highlights:

- To learn Basic Accounting Formulas and Accounting Terminologies
- To learn Measurement, Valuation and Accounting estimates

Resource Persons:

Dr. Jaspal GidwaniHOD,GNIET

For Whom:

- Management Students

Schedule::

(01st July to
10th July 2020)

[redacted]

Registration Fees: Rs. 1,500 per participant

Venue
Online Mode (Google Meet)

GNI Campus
Dahegaon, Kalmeshwar Road, Nagpur.
441501 Maharashtra India
Ph: 07118-661450

For any query please cont:

- Dr. Jaspal Gidwani
- Dr. Pravin Bhise
- Mr. Rajendra Katole

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Department of Management Studies

Session 2020-21

NOTICE

Date:16/02/2022

Certificate Course in Financial Accounting

For the benefit of all MBA Students in accounting, the Department Management Studies is organising ten days programme on Certificate course in Financial Accounting_from 19/02/2022to28/02/2022 at 2pm in T & P Auditorium .

The objectivesofthe course areto:

- Know&understandAccountingsystem,FinalizationofAccountsandassortedtechniquesof analysis of financial statements
- Provideon-jobexperienceofpracticalaspectsofAccounting
- Developdisciplinedattituderequiredtobecomean Accountant.
- ToaccessAccounting,Auditing,RealEstateFinancing,Budget Analysis,etc.

HOD,DMS, GNIET

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Guru Nanak Institute of Engineering & Technology Nagpur- 441501

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Guru Nanak Institute of
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CERTIFICATE COURSE ON FINANCIAL ACCOUNTING

COURSE OBJECTIVES

The objectives of this course are:

1. To provide an opportunity for students to enrich their knowledge in the area of Financial accounting.
2. This course will provide a vibrant opportunity for students in the recruitment phase and to enhance their accounting skills.
3. This course is based on hands-on exercises and is focused on added advantage for students who can select their niche areas in financial sectors, taxation etc.
4. Know the principles and practices of international and national accounting, Indian economy so that that this knowledge can be applied in practical economic development.

SYLLABUS

Duration : 60 hours

Module I –Introduction to Accounting: Introduction of financial accounting, Importance, Objectives and Principles of Accounting, Concepts and conventions, and The Generally Accepted Accounting Principles (GAAP). (8 Hours)

Module II – Introduction of Accounting Process- Journal and ledger, Trial Balance, Classification of capital and revenue expenses, preparation of subsidiary books and cash book. Reconciliation between bank pass book and cash book. (12 Hours)

Module III –Final Accounts of Joint Stock Companies –Preparation of Trading and Manufacturing, Profit and Loss Account, Profit and Loss Appropriation Account and Balance sheet with adjustments as per Schedule III of the Companies Act, 2013, Provisions for Statutory Audit. (15 Hours)

Module IV – Analysis of financial Statement – I: Techniques of Financial statement Analysis - Common size statement, Trend Analysis, Inter Firm Comparison, Intra Firm Comparison, Du-Pont Analysis. (10 Hours)

Module V – Analysis of financial Statement – II: Introduction, Assessment of Business Performance through Ratio Analysis: Concept of Ratio, significance of ratio analysis, Interpretation of financial Performance using ratio. Profitability Ratio, Liquidity Ratio, Solvency Ratio, Activity Ratio & Efficiency Ratio. (15 Hours)

COURSE OUTCOME

After attending this course program, students will be able to

1. Understand fundamentals of Financial Accounting.
2. Have the ability to write basic accounting formulas and accounting terminologies.
3. Use the measurement, valuation and accounting estimates.
4. Have awareness about the important environments under which the organizations work.
5. Develop disciplined attitude required to become an accountant.

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Text Books

1. Dr.S.N. Maheshwari and Dr.S.K. Maheshwari, "Financial Accounting", Vikas, 10 th Edition.
2. Ambrish Gupta: "Financial Accounting Management an Analytical Perspective", Pearson Education-2009.
3. Sehgal, "Accounts for Management",", Taxmann Publication Pvt. Ltd.
4. Rustagi, "Management Accounting", ", Taxmann Publication Pvt. Ltd

Reference Books:

1. Cost Accounting: Texts and Problems, M C Shukla, T S Grewal, Dr. M P Gupta, Revised Edition, S Chand & Company, ISBN-1 978-8121919630.
2. Cost Accounting, RSN Pillai, V. Bagawathi, , Revised Edition, S Chand & Company, ISBN-1 978-8121904933

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Department of Management Studies
Session 2020-21

Date: 18/07/2020

Report on Certificate course in Accounting

The Management Department organized Ten days online programme on Certificate course in Accounting from 01/07/2020 to 10/07/2020 via Google Meet.

The objectives of the course were successfully met :

- Providing on-job experience of practical aspects of Accounting
- Developing disciplined attitude required to become an Accountant.

This included Process of Accounting, Basic Accounting Formulas, Accounting Terminologies, Capital and Revenue transactions- capital and revenue expenditures, capital Measurement and Bank Reconciliation Statement.

Course outcome after attending this course program, students were be able to :

1. Understand fundamentals of Financial Accounting.
2. Have the ability to write basic accounting formulas and accounting terminologies.
3. Use the measurement, valuation and accounting estimates.
4. Have awareness about the important environments under which the organizations work.
5. Develop disciplined attitude required to become an accountant.

Total 19 students have participated in this programme.

All the students really appreciated the contents that were discussed, they realized that interactions like these can help them improve their learning.

Students have expressed their keen interest in attending more such online courses like this in future.

J. gidwani

Mr.Jaspal Gidwani
HOD,DMS

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