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GURU NANAK INSTITUTE OF TECHNOLOGY

APPROVED BY AICTE, DTE & AFFILIATED TO RTM NAGPUR UNIVERSITY, NAGPUR

Dahegaon, Opp. IOC Petrol pump, Kalmeshwar Road, Nagpur-441501 Ph.: 07118-661450
Website : www.gninagpur.info E-mail : gni.principalgnit@gmail.com

NAAC ACCREDITED

Date: 11/03/2020

TO WHOMESOEVER IT MAY CONCERN

This is to certify that the number of Add on / Certificate courses offered during the Academic Year 2019-20.

Academic Year	Number of Courses
2019-20	08

These add on / Certificate courses conducted by various department of our institute are not the part of curriculum prescribed by Rashtrasant Tukadoji Maharaj Nagpur University.

Guru Nanak Institute of Technology GNIT 4196 Nagpur

Dr. Sudhir N. Shelke
PRINCIPAL

Principal
Guru Nanak Institute of Technology

1.2.1 Number of Add on /Certificate/Value added programs offered in the year 2019-20

Name of Certificate/ Value added course offered and online courses of MOOCs, SWAYAM, NPTEL etc. where the students of the institution have enrolled and successfully completed	Course Code	Year of offering/ study	Period (from date - to date)	Duration of course	Number of students enrolled in the year	Number of Students completing the course in the year
Web Development (CSE)	CSE03	2019-2020	26.07.19-12.09.19	30hrs	29	29
Android Application Development(CSE)	CSE04	2019-2020	16.09.19-30.10.19	30hrs	29	29
Enhancement of communication skills via Activity (FY)	ASH03	2019-2020	16.09.19-30.10.19	30hrs	27	27
Approach of Vedic Mathematics (FY)	ASH06	2019-2020	14.10.19 - 30.11.19	30hrs	28	28
Workshop on basics of C (FY)	ASH07	2019-2020	03.02.20 - 31.03.20	30hrs	26	26
Advanced Technology used in Surveying (CE)	CE04	2019-2020	09.03.20-30.04.20	30hrs	124	124
Automobile and IC Engine Working (ME)	ME05	2019-2020	26.08.19-04.11.19	30hrs	40	40
Advance in welding Technology (ME)	ME06	2019-2020	10.02.20-15.04.20	30hrs	60	60

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Website : www.gninagpur.info E-mail : gni.principalgnit@gmail.com

NAAC ACCREDITED

Date: - 17/07/2019

To

The Head of the Department,
Department of Computer Science and Engineering,
Guru Nanak Institute of Technology,
Nagpur- 441501.

Sir,

Sub:- Assigning of the faculty for ADD-ON Course curriculum designing for the academic year 2019-20 –Reg.

Ref:- Letter of Requisition for the permission for ADD-ON Course **"Web Development"** and appointment of faculty for course curriculum design for the academic year 2019-20 dated 26/07/2019.

The under sign appreciates the department proposing to conduct such kind of course. As per your recommendation and referring to the above subject, I am please to nominate the following faculty member for ADD-ON Course - **Web Development .**

1. Ms. Vandana Prajapati, Computer Science and Engineering.

The above-mentioned faculty is hereby instructed to design the curriculum taking in to consideration the thrust areas of the respective fields and ensure it should enhance the employability opportunities for the students.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Session 2019-20

Syllabus for Add-On Course "Web Development"

COURSE OBJECTIVES:

By being a **Web Developer** - Associate, should be able to evaluate the requirements of the organization or the businesses and make architectural recommendations for implementation and deployment of the application on Web.

Syllabus:

Section 1: HTML and Graphics

HTML Tag Reference, Global Attributes, Event Handlers, Document Structure Tags, Formatting Tags, Text Level formatting, Block Level formatting, List Tags, Hyperlink tags, Image and Image maps, Table tags, Form Tags, Frame Tags, Executable content tags.

Section 2: Tables

Introduction to HTML tables and their structure, The table tags, Alignment, Aligning Entire Table, Alignment within a row, Alignment within a cell, Attributes, Content Summary, Background color, Adding a Caption, Setting the width, Adding a border, Spacing within a cell, Spacing between the cells, spanning multiple rows or columns, Elements that can be placed in a table, Table Sections and column properties, Tables as a design tool.

Section 3: Forms

Creating Forms, The <FORM> tag ,Named Input fields, the input <INPUT> tag, Multiple lines text windows, Drop down and list boxes, Hidden, Text, Text Area, Password, File Upload, Button, Submit, Reset, Radio, Checkbox, Select, Option, Forms and Scripting, Action Buttons, Labelling input files, Grouping related fields, Disabled and read-only fields, Form field event handlers, Passing form data.

Section 4: PHP

Why PHP and MySQL ?, Server-side web scripting, Installing PHP, Adding PHP to HTML, Syntax and Variables, Passing information between pages, Strings, Arrays and Array Functions, Numbers, Basic PHP errors / problems.

Section 5: Advanced PHP and MySQL

PHP/MySQL Functions, Displaying queries in tables, Building Forms from queries, String and Regular Expressions, Sessions, Cookies and HTTP, Type and Type Conversions,E-Mail.

COURSE OUTCOMES: The students shall be able to

- Launch different servers like Linux, Windows, Mac and Manage Storages for Servers and Backups.
- Design the overall networking environment for servers.
- Scaling Servers based on needs using Auto Scaling.
- Deploy, Manage and Scale applications using container orchestration service.
- Distributing traffic using Load Balancer.
- Monitor Server Resources and Account activities.
- Setup Database Engines and Secure Servers and Services.
- Storing files securely using Object Storage method and Share Storage Disks among Servers via Network.
- Data Migrations and Data Transfer.
- Understand different encryption methods and Application level integration services.
- Speed up hosted websites using Content Delivery Network.

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ADD-ON COURSE "WEB DEVELOPMENT"

Topic Plan:

DAY	TOPICS	HOURS
1.	HTML Tag Reference, Global Attributes, Event Handlers	1
2.	Document Structure Tags, Formatting Tags, Text Level formatting	1
3.	Block Level formatting, List Tags, Hyperlink tags	1
4.	Image and Image maps, Table tags	1
5.	Form Tags, Frame Tags, Executable content tags	1
6.	Introduction to HTML tables and their structure, The table tags	1
7.	Alignment, Aligning Entire Table, Alignment within a row, Alignment within a cell	1
8.	Attributes, Content Summary, Background colour.	1
9.	Adding a Caption, Setting the width, Adding a border, Spacing within a cell	1
10.	Spacing between the cells, spanning multiple rows or columns	1
11.	Elements that can be placed in a table, Table Sections and column properties	1
12.	Tables as a design tool	1
13.	Creating Forms, The <FORM> tag ,Named Input fields	1
14.	the input <INPUT> tag, Multiple lines text windows	1
15.	Drop down and list boxes, Hidden, Text, Text Area	1
16.	Password, File Upload, Button,Submit, Reset, Radio, Checkbox	1
17.	Select, Option, Forms and Scripting, Action Buttons	1
18.	Labelling inputfiles, Grouping related fields	1
19.	Disabled and read-only fields, Form field event handlers	1
20.	Passing form data	1
21.	Why PHP and MySQL?, Server-side web scripting.	1
22.	Installing PHP, Adding PHP to HTML	1
23.	Syntax and Variables, Passing information between pages, Strings	1
24.	Arrays and Array Functions, Numbers, Basic PHP errors	2
25.	PHP/MySQL Functions, Displaying queries in tables, Building Forms from queries, String	2
26.	Regular Expressions, Sessions, Cookies and HTTP	2
27.	Type and Type Conversions, E-Mail.	1

Coordinator

HOD

Head of the Department
Computer Sci & Engg
GNIT Nagpur

Principal

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Guru Nanak Institute of

GURU NANAK INSTITUTE OF TECHNOLOGY

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Dahegaon, Kalmeshwar Road, Nagpur 441501

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERRING

Session 2019-2020

Date: 19-07-2019

ADD-ON COURSE SCHEDULE

"Web Development"

Sr. No.	Roll No.	Course Duration			No. of Students	Day	Time
1	01-30	26-07-19	to	12-09-19	30	Monday to Friday	11:00 AM -12.00 PM

Course Incharge: Ms. Vandana Prajapati

Coordinator

HOD

Head of the Department
Computer Sci & Engg
GNIT Nagpur

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Website : www.gninagpur.info E-mail : gni.principalgnit@gmail.com

NAAC ACCREDITED

Date:- 10/09/2019

To

The Head of the Department,
Department of Computer Science Engineering,
Guru Nanak Institute of Technology,
Nagpur- 441501.

Sir,

Sub:- Assigning of the faculty for ADD-ON Course curriculum designing for the academic year 2019-20 –Reg.

Ref:- Letter of Requisition for the permission for ADD-ON Course **"Android Application Development"** and appointment of faculty for courses curriculum design for the academic year 2019-20 dated 16/09/2019.

The under sign appreciates the department proposing to conduct such kind of course. As per your recommendation and referring to the above subject, I am please to nominate the following faculty member for ADD-ON Course - Android Application Development.

1. Ms. Firdous Sadaf, Computer Science and Engineering.

The above-mentioned faculty is hereby instructed to design the curriculum taking in to consideration the thrust areas of the respective fields and ensure it should enhance the employability opportunities for the students.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Session 2019-20

Syllabus for Add-on Coarse "Android Application Development"

COURSE OBJECTIVES:

This course facilitates classroom and laboratory learning, letting students develop competence and confidence in android programming and understand the entire Android Apps Development Cycle, as well as it would also enable the students to independently create Android Applications

Syllabus:

Section 1: Basic of Android Programming:

Introduction to Android OS, Setting up the Android Application Development Environment, Creating, Testing and Debugging Applications, Android Stack, Android applications structure, Activity life cycle, Understanding implicit and explicit intents.

Section 2: User Interface in Android:

Adaptive and responsive user interfaces, User Input Controls, Menus, Screen Navigation, Recycler View, Draw Tables, Themes and Styles, Fragments Fragment Life Cycle, Introduction to Material Design, Testing the user interface.

Section 3: Background tasks:

Async Task, Async Task Loader, Connecting App to Internet, Broadcast receivers, Services, Notifications, Alarm managers.

Section 4: Sensor, Location and Maps:

Sensor Basic, Motion and Position Sensors, Location services, Google maps API, Google Places API

Section 5: Working with data in Android:

Shared Preferences, App Setting, SQLite primer, Store data using SQLite database, Content Providers, Content Resolver, Loader

COURSE OUTCOMES: The students shall be able to

After completion of this course, student will be able to

- Demonstrate the Understanding of fundamental of Android Programming. (Understand)
- Build their ability to develop software with reasonable complexity on mobile platform. (Apply)
- Discover the life cycles of Activities, Applications, intents and fragments. (Evaluate)
- Design the Android apps by using Java Concepts. (Create)

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ADD-ON COARSE "ANDROID APPLICATION DEVELOPMENT"

Topic Plan:

DAY	TOPICS	HOURS
1.	Introduction to Android OS	1
2.	Setting up the Android Application Development Environment	1
3.	Creating, Testing and Debugging Applications	1
4.	Android Stack	1
5.	Android applications structure	1
6.	Activity life cycle, Understanding implicit and explicit intents	1
7.	Adaptive and responsive user interfaces	1
8.	User Input Controls, Menus, Screen Navigation	1
9.	Recycler View, Drawables, Themes and Styles	1
10	Fragments Fragment Life Cycle, Introduction to Material Design	2
11	Testing the user interface	1
12	Tables as a design tool	1
13	Async Task, Async TaskLoader	1
14	Async Task, Async TaskLoader	1
15	Connecting App to Internet, Broadcast receivers	2
16	Services, Notifications, Alarm managers	1
17	Broadcast receivers, Services	1
18	Notifications, Alarm managers	1
19	Sensor Basic	1
20	Motion and Position Sensors	1
21	Google maps API, Google Places API	1
22	Shared Preferences	1
23	App Setting	1
24	SQLite primer	1
25	Store data using SQLite database	1
26	Content Providers	1
27	Content Resolver	1
28	Loader	1

Coordinator

HOD

Head of the Department
Computer Sci & Engg
GNIT Nagpur

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Dahegaon, Kalmeshwar Road, Nagpur 441501

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERRING

Session 2019-2020

Date: 10-09-2019

ADD-ON COURSE SCHEDULE

"Android Application Development"

Sr. No.	Roll No.	Course Duration			No. of Students	Day	Time
1	01-30	16-09-19	to	30-10-19	30	Monday to Friday	11:00 AM -12.00 PM

Course In-charge: Ms. Firdous Sadaf, Computer Science & Engineering

Coordinator

HOD

Head of the Department
Computer Sci & Engg
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NAAC ACCREDITED

Date: -09/09/2019

To

The Head of the Department,
Department of Applied Science & Humanities,
Guru Nanak Institute of Technology,
Nagpur- 441501.

Sir,

Sub:- Assigning of the faculty for ADD-ON Course curriculum designing for the academic year 2019-20 –Reg.

Ref:- Letter of Requisition for the permission for ADD-ON Courses **"Enhancement of Communication skill via Activity" (FY) "** and appointment of faculty for course curriculum design for the academic year 2019-20 dated 16/09/2019.

The under sign appreciates the department proposing to conduct such kind of course. As per your recommendation and referring to the above subject, I am pleased to nominate the following faculty member for ADD-ON Course -**"Enhancement of Communication skill via Activity" (FY).**

1. Mr. R.S. Dudhkawale.

The above mentioned faculty is hereby instructed to design the curriculum taking in to consideration the thrust areas of the respective fields and ensure it should enhance the employability opportunities for the students.

Guru Nanak Institute of Technology GNIT 4196 Nagpur

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DEPARTMENT OF APPLIED SCIENCE AND HUMANITIES

Session 2019-2020

Syllabus for "Enhancement of Communication skill via activity"

COURSE OBJECTIVES:

By being an "**Enhancement of Communication skill via activity**" Certified - Associate, should be able to evaluate the requirements of the organization or the businesses and make architectural recommendations for implementation and deployment of the application on Aptitude test.

Syllabus:

Section 1: Fundamentals of "Enhancement of Communication skill via activity"

Introduction to **Enhancement of Communication skill via activity**

- Necessity of communication skill via activity
- Types of communication skill used in effective learning
- Different ways to increase Strong listening skills

Section 2: Content of Enhancement of Communication skill via activity

- Group Discussions
- Active listening exercises
- Verbal communication
- Role-playing Exercises
- Mock Presentation
- Conflict Resolution Exercises
- Leadership communication
- Guess the emotion game

Section 3: Key point of Enhancement of Communication skill via activity

- Empathy
- Conversation skills
- Established listening and speaking procedures;
- Respectful vocabulary
- The power of the pause
- Practice speaking and listening in natural settings
- Introspection
- Turn-taking

Section 4: Steps to Enhance Communication skill via activity

- Active listening
- Positive feedback
- Communication through body language
- Read aloud
- Via playing different games like blindfold game…..etc

COURSE OUTCOMES: The students shall be able to

- Develop learning skill and ability, and critical thinking
- Improve basic Communication skill
- Understand basic concept of verbal and nonverbal techniques
- Understand different methods and Application level of aptitude test.
- Understand time savings strategies
- Communicate quantitative information, symbolically, visually, numerically, or verbally.
- Enrich knowledge and develop logical reasoning and thinking ability
- Statements of the knowledge, skills and abilities individual students should possess and can demonstrate upon completion of a learning experience or sequence of learning experiences.
- Effectively justify and communicate their conclusions in ways appropriate to the audience.

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"ENHANCEMENT OF COMMUNICATION SKILL VIA ACTIVITY"

Topic Plan:

DAY	TOPICS	HOURS
1.	Introduction to Enhancement of Communication skill via activity	1
2.	What are communication activity ?	1
3.	The role of communication in relation ship	1
4.	Card Pieces activity	1
5.	Blindfold activity	1
6.	Communication through body language	1
7.	Square Talk Activity	1
8.	Follow All Instructions Activity	1
9.	Guess the Object.	1
10.	Telephone.	1
11.	Show and Tell.	2
12.	Picture Story telling.	2
13.	Chain-link Story.	2
14.	written communication	2
15.	oral communication	2
16.	Non-verbal and visual communication. ... Relations	2
17.	Identify Your Objectives. What do you hope to accomplish	2
18.	The power of the pause;	2
19.	Practice speaking and listening in natural settings;	2
20.	On Introspection	2

RS
Coordinator

V. Gaikwad
HOD
HOD
Department First Year
of Engineering
GNIT, Nagpur

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DEPARTMENT OF APPLIED SCIENCE ANDHUMANITIES

Session 2019-2020

Date: 09-09-2019

ADD-ON COURSE SCHEDULE

"Enhancement of Communication skill via activity (FY)"

Sr. No.	Roll No.	Course Duration			No. of Students	Day	Time
1	01-30	16-09-19	to	30-10-19	30	Monday to Friday	11:00 AM -12.00 PM

1. Course Incharge: Mr. R.S. Dudhkawale

Coordinator

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NAAC ACCREDITED

Date: - 07/10/2019

To,

The Head of the Department,
Department of Applied Science & Humanities,
Guru Nanak Institute of Technology,
Nagpur- 441501.

Sir,

Sub:- Assigning of the faculty for ADD-ON Course curriculum designing for the academic year 2019-20 –Reg.

Ref:- Letter of Requisition for the permission for ADD-ON Courses **"Approach of Vedic Mathematics (FY)"** and appointment of faculty for course curriculum design for the academic year 2019-20 dated 14/10/2019.

The under sign appreciates the department proposing to conduct such kind of course. As per your recommendation and referring to the above subject, I am pleased to nominate the following faculty member for ADD-ON Course **-"Approach of Vedic Mathematics (FY)".**

1. Dr. Varsha Gaikwad (Applied Science & Humanities).

The above mentioned faculty is hereby instructed to design the curriculum taking in to consideration the thrust areas of the respective fields and ensure it should enhance the employability opportunities for the students.

Guru Nanak Institute of Technology GNIT 4196 Nagpur

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Guru Nanak Institute of Technology

DEPARTMENT OF APPLIED SCIENCE ANDHUMANITIES

Session 2019-2020

Syllabus for "Approach of Vedic mathematics"

COURSE OBJECTIVES:

By being an "**Approach of Vedic mathematics"** Certified - Associate, should be able to evaluate the requirements of the organization or the businesses and make architectural recommendations for implementation and deployment of the application on Aptitude test.

Syllabus:

Section1: Fundamentals of "Approach of Vedic mathematics"

Introduction to **Vedic mathematics**

- Necessity of Vedic mathematics
- Application of Vedic mathematic
- Brief history of Vedic mathematics
- Deep study of all formulae's.

Section2: Content of Vedic mathematics

- Algebra
- Geometry,
- Calculus
- Conics
- Finding square root of a number
- Multiplication tricks,
- Division tricks, cube root tricks etc.

Section3: Sutras and subsutras of Vedic mathematics

Sutras	Meanings
➢ Ekadhikina Purvena	- By one more than the previous one
➢ Nikhilam Navatashcaramam Dashatah	- All from 9 and the last from 10
➢ Urdhva-Tiryagbyham	- Vertically and crosswise
➢ Paraavartya Yojayet	- Transpose and adjust
➢ Shunyam Saamyasamuccaye	- When the sum is the same, that sum is zero
➢ (Anurupye) Shunyamanyat	- If one is in ratio, the other is zero
➢ Sankalana-vyavakalanabhyam	- By addition and by subtraction

➢ Puranapuranabyham	- By the completion or non-completion
➢ Chalana-Kalanabyham	- Differences and Similarities
➢ Yaavadunam	- Whatever the extent of its deficiency
➢ Vyashtisamanstih	- B Part and Whole
➢ Shesanyankena Charamena	- The remainders by the last digit
➢ Sopaantyadvayamantyam	- The ultimate and twice the penultimate
➢ Ekanyunena Purvena	- By one less than the previous one
➢ Gunitasamuchyah	- product of the sum is equal to the sum of the product
➢ Gunakasamuchyah	- factors of the sum is equal to the sum of the factors

COURSE OUTCOMES: The students shall be able to

- Develop learning skill and ability, and critical thinking
- Improve basic assuming and thinking skill
- Develop students for a higher level of learning in Vedic maths.
- Understand different methods and Application level of all sutras.
- Understand time savings strategies
- Communicate quantitative information, symbolically, visually, numerically, or verbally.
- Enrich knowledge and develop logical reasoning and thinking ability
- Enhance Statements of the knowledge, skills and abilities
- Individual students should possess and can demonstrate upon completion of a learning experience or sequence of learning experiences.
- Overcome the fear of maths
- Improved critical thinking
- Familiarity with the mathematical underpinnings and techniques
- Ability to do basic maths faster and with ease.
- The students are able to reduce their rough work and save time in calculations, they are able to solve questions quickly.

Topic Plan:

DAY	TOPICS	HOURS
1.	Introduction to Vedic mathematics	1
2.	Content of Vedic math	1
3.	How vedic math is faster than other	1
4.	Introduction to algebra	1
5.	What is geometry?	1
6.	Difference between abacus and Vedic mathematics	1
7.	Abacus problem and Vedic math problems	1
8.	Number Activity	1
9.	Vedic mathematics rules with example.	1
10.	Methods to teach Vedic math	1
11.	Vedic math tricks	2
12.	Methods of solving diff problems in few time	2
13.	Vedic math model	2
14.	Vedic math rules with examples.	2
15.	How to make Vedic maths models and project	2
16.	Solve diff examples by Vedic math by tricks	2
17.	Vedic math project	2
18.	Introduction to diff sutras	2
19.	Problems based on 16 sutras and sub sutras	2
20.	Different activity involve in Vedic mathematics	2

V. Gaikwad
Coordinator

V. Gaikwad
HOD
HOD
Department First Year
of Engineering
GNIT, Nagpur

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Dahegaon, Kalmeshwar Road, Nagpur 441501

DEPARTMENT OF APPLIED SCIENCE ANDHUMANITIES

Session 2019-2020

Date: 07-10-2019

ADD-ON COURSE SCHEDULE

"Approach of Vedic mathematics"

Sr. No.	Roll No.	Course Duration			No. of Students	Day	Time
1	01-30	14-10-19	to	30-11-19	30	Monday to Friday	11:00 AM -12.00 PM

Course Incharge: Dr. Varsha Gaikwad

V. Gaikwad
Coordinator

V. Gaikwad
HOD

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GNIT, Nagpur

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GURU NANAK INSTITUTE OF TECHNOLOGY

APPROVED BY AICTE, DTE & AFFILIATED TO RTM NAGPUR UNIVERSITY, NAGPUR

Dahegaon, Opp. IOC Petrol pump, Kalmeshwar Road, Nagpur-441501 Ph.: 07118-661450
Website : www.gninagpur.info E-mail : gni.principalgnit@gmail.com

NAAC ACCREDITED

Date: -24/01/2020

To

The Head of the Department,
Department of Applied Science & Humanities,
Guru Nanak Institute of Technology,
Nagpur- 441501.

Sir,

Sub:- Assigning of the faculty for ADD-ON Course curriculum designing for the academic year 2019-20 –Reg.

Ref:- Letter of Requisition for the permission for ADD-ON Courses **"Workshop on basic on 'C' (FY)"** and appointment of faculty for course curriculum design for the academic year 2019-20 dated 03/02/2020.

The under sign appreciates the department proposing to conduct such kind of course. As per your recommendation and referring to the above subject, I am pleased to nominate the following faculty member for ADD-ON Course -**"Workshop on basic on 'C' (FY)"**

1. Ms. Firdous Sadaf (Computer Science & Engineering)

The above mentioned faculty is hereby instructed to design the curriculum taking in to consideration the thrust areas of the respective fields and ensure it should enhance the employability opportunities for the students.

Guru Nanak Institute of Technology GNIT 4196 Nagpur

Principal
Principal
Guru Nanak Institute of Technology

DEPARTMENT OF APPLIED SCIENCE AND HUMANITIES

Session 2019-2020

Syllabus for "Workshop on basic on 'C' "

COURSE OBJECTIVES:

By being a "**Workshop on basic on C"** Certified - Associate, should be able to evaluate the requirements of the organization or the businesses and make architectural recommendations for implementation and deployment of the application on Aptitude test.

Syllabus:

Section 1: Fundamentals of "C": Introduction to **basic on "C"**

- Necessity of basic on "C"
- Application of Basic on "C "
- Brief history of "C"
- Deep study of "C".

Section 2: Content of basic on "C"

- Basic C programming Syntax.
- Data Types.
- Variables.
- Loops.
- Operators.
- Decision Making Statement.
- Arrays.
- File Input/Output.

Section 3: Advantage of basic on "C"

- Building block for many other programming languages
- Powerful and efficient language
- Portable language
- Built-in functions
- Quality to extend itself
- Structured programming language
- Implementation of algorithms and data structures

COURSE OUTCOMES: The students shall be able to

- Develop learning skill and ability, and critical thinking
- Improve basic assuming and thinking skill
- Develop students for a higher level of learning in "C"
- Understand different methods and Application level Programmed.
- Understand time savings strategies
- The students are able to reduce their rough work and save time in calculations,
- Communicate quantitative information, symbolically, visually, numerically, or verbally.
- Enrich knowledge and develop logical reasoning and thinking ability
- Enhance Statements of the knowledge, skills and abilities
- Students are able to Remembering and understanding: recall, identify, label, illustrate, summarize
- Individual students should possess and can demonstrate upon completion of a learning experience or sequence of learning experiences.
- Applying and analyzing: use, differentiate, organize, integrate, apply, solve, analyze.
- Improved critical thinking
- Evaluating and creating: Monitor, test, judge, produce, revise, compose.
- Run programmes quickly.

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Add-On Coarse on "Workshop on basic on 'C' "

Topic Plan:

DAY	TOPICS	HOURS
1.	Introduction to Basic of "C"	1
2.	Content of "C"	1
3.	Importance of "C"	1
4.	Types of diff languages	1
5.	What is pointer?	1
6.	What are arrays and function?	1
7.	Data type, array,string	1
8.	Function, looping	1
9.	Reallocating function ,memory	1
10.	variables structure ,c union	1
11.	Character string and string function	2
12.	Storage classes ,linkage and memory management	2
13.	File input /outputs	2
14.	Structures and other data formats	2
15.	Bit feedling	2
16.	The "C "pre-processor and the library	2
17.	Algorithm analysis and ADT	2
18.	Introduction to diff Formats	2
19.	Diff step involves to run programme in "C"	2
20.	Implementation of algorithms and data structures	2

Coordinator

HOD
HOD
Department First Year
of Engineering
GNIT, Nagpur

Principal
Principal
Guru Nanak Institute of
Technology

GURU NANAK INSTITUTE OF TECHNOLOGY

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Dahegaon, Kalmeshwar Road, Nagpur 441501

DEPARTMENT OF APPLIED SCIENCE ANDHUMANITIES

Session 2019-2020

Date: 24-01-2020

ADD-ON COURSE SCHEDULE

"Workshop on basic on C"

Sr. No.	Roll No.	Course Duration			No. of Students	Day	Time
1	01-30	03-02-20	to	31-03-20	30	Monday to Friday	11:00 AM -12.00 PM

1. Course Incharge: Ms. Firdous Sadaf (Computer Science & Engineering)

Coordinator

HOD

HOD
Department First Year
of Engineering
GNIT, Nagpur

Principal

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NAAC ACCREDITED

Date:- 05-03-2020

To

The Head of the Department,
Department of Civil Engineering,
Guru Nanak Institute of Technology,
Nagpur- 441501.

Sir,

Sub:- Assigning of the faculty for ADD-ON Course curriculum designing for the academic year 2019-20 –Reg.

Ref:- Letter of Requisition for the permission for ADD-ON Course **"Advanced Technology used in Surveying"** and appointment of faculty for courses curriculum design for the academic year 2019-20 dated 09-03-2020.

The under sign appreciates the department proposing to conduct such kind of course. As per your recommendation and referring to the above subject, I am please to nominate the following faculty member for ADD-ON Course - **Advanced Technology used in Surveying**

1. Mr. Pawan Barhate, Civil Engineering.

The above mentioned faculty is hereby instructed to design the curriculum taking in to consideration the thrust areas of the respective fields and ensure it should enhance the employability opportunities for the students.

Guru Nanak Institute of Technology GNIT 4196

Principal
Principal
Guru Nanak Institute of Technology

DEPARTMENT OF CIVIL ENGINEERING

Session 2019-20

Add-On Course Name: Advanced Technology used in Surveying

Syllabus:

Module 1: Advanced Geodetic Concepts

Objective: Understand the significance of geodetic datums and their application in surveying.

Objective: Master transformations between different geodetic coordinate systems.

Objective: Develop proficiency in using satellite-based positioning systems for accurate surveys.

Module 2: Advanced Instruments and Technologies

Objective: Gain hands-on experience with high-precision total stations and learn calibration techniques.

Objective: Acquire skills in 3D laser scanning and effectively process point cloud data.

Objective: Explore remote sensing applications in surveying using aerial and satellite imagery.

Module 3: Advanced Surveying Software

Objective: Utilize Geographic Information Systems (GIS) for spatial analysis and mapping.

Objective: Apply CAD applications for advanced drafting, design, and seamless data exchange.

Objective: Master survey data management techniques and database design for efficient information handling.

Module 4: Advanced Surveying Techniques

Objective: Develop expertise in digital terrain modeling for various land development and engineering applications.

Objective: Understand principles of hydrographic surveying, including bathymetric surveys and underwater mapping.

Objective: Acquire skills in real-time monitoring and analysis of structural deformation.

Module 5: Legal and Ethical Aspects

Objective: Understand the implications of land surveying laws and regulations for professional practice.

Objective: Navigate ethical considerations in surveying through real-world scenarios and case studies.

Objective: Apply legal and ethical principles to address challenges in the field.

Module 6: Research Methodology

Objective: Develop skills in designing survey research projects, formulating research questions, and selecting appropriate methodologies.

Objective: Learn to write effective research proposals and reports specific to surveying.

Objective: Participate in practical sessions and workshops for hands-on experience with advanced surveying tools.

Lesson Plan:

DAY	TOPICS	HOURS
1	**Module 1: Advanced Geodetic Concepts**	1
2	Objective: Understand the significance of geodetic datums and their application in surveying.	1
3	Objective: Master transformations between different geodetic coordinate systems.	1
4	Objective: Develop proficiency in using satellite-based positioning systems for accurate surveys.	1
5	**Module 2: Advanced Instruments and Technologies**	1
6	Objective: Gain hands-on experience with high-precision total stations and learn calibration techniques.	1
7	Objective: Acquire skills in 3D laser scanning and effectively process point cloud data.	1
8	Objective: Explore remote sensing applications in surveying using aerial and satellite imagery.	1
9	**Module 3: Advanced Surveying Software**	2
10	Objective: Utilize Geographic Information Systems (GIS) for spatial analysis and mapping.	2
11	Objective: Apply CAD applications for advanced drafting, design, and seamless data exchange.	2
12	Objective: Master survey data management techniques and database design for efficient information handling.	2
13	**Module 4: Advanced Surveying Techniques**	2
14	Objective: Develop expertise in digital terrain modeling for various land development and engineering applications.	2
15	Objective: Understand principles of hydrographic surveying, including bathymetric surveys and underwater mapping.	2
16	Objective: Acquire skills in real-time monitoring and analysis of structural deformation.	2
17	**Module 5: Legal and Ethical Aspects**	2
18	Objective: Understand the implications of land surveying laws and regulations for professional practice.	2
19	Objective: Navigate ethical considerations in surveying through real-world scenarios and case studies.	2
20	Objective: Apply legal and ethical principles to address challenges in the field.	2

21	**Module 6: Research Methodology**	2
22	Objective: Develop skills in designing survey research projects, formulating research questions, and selecting appropriate methodologies.	2
23	Objective: Learn to write effective research proposals and reports specific to surveying	2
24	Objective: Participate in practical sessions and workshops for hands-on experience with advanced surveying tools.	2

Coordinator

HOD

GURU NANAK INSTITUTE OF TECHNOLOGY

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Dahegaon, Kalmeshwar Road, Nagpur 441501

DEPARTMENT OF CIVIL ENGINEERRING

Session 2019-20

Date: 05-03-2020

ADD-ON COURSE SCHEDULE

"Advanced Technology Used in Surveying"

Sr. No.	Sem.	Roll No.	Batches	Course Duration			No. of Students	Day	Time
1	VII	01- 60	B-1	09-03-20	To	30-04-20	60	Mon To Fri	11:00 am -12.00pm
2		61- 120	B-2				60		01:00 am - 02.00pm

Course Coordinator: Prof. Pawan Barhate

Coordinator

HOD

Head
Dept. of Civil Engineering
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NAAC ACCREDITED

Date: - 19-08-2019

To

The Head of the Department,
Department of Mechanical Engineering,
Guru Nanak Institute of Technology,
Nagpur- 441501.

Sir,

Sub:- Assigning of the faculty for ADD-ON Course curriculum designing for the academic year 2019-20 –Reg.

Ref:- Letter of Requisition for the permission for ADD-ON Course **"Automobile and IC Engine Working (ME)"** and appointment of faculty for course curriculum design for the academic year 2019-20 dated 26/08/2019

The under sign appreciates the department proposing to conduct such kind of course. As per your recommendation and referring to the above subject, I am please to nominate the following faculty member for ADD-ON Course - "Automobile and IC Engine Working (ME)".

1. Prof. Ishan Lade, Mechanical Engineering.

The above mentioned faculty is hereby instructed to design the curriculum taking in to consideration the thrust areas of the respective fields and ensure it should enhance the employability opportunities for the students.

Guru Nanak Institute of Technology GNIT 4196 Nagpur

Principal

Principal
Guru Nanak Institute of Technology

DEPARTMENT OF MECHANICAL ENGINEERING

Session 2019-2020

Syllabus for Add-on Course "Automobile and IC Engine Working"

COURSE OBJECTIVES:

This Add –On Course an **Automobile and IC Engine Working** Certified Solution Architect - Associate, should be able to evaluate the requirements of the organization or the businesses and to groom the students to become intellectually creative, professionally competitive and Applicable.

Syllabus:

Section 1: Introduction, Automobile history and development.

- Chassis and Frame: Layout of chassis & its main components
- Types of frames
- Conventional frames and unitized chassis,
- hybrid car

Section 2: Clutch

- Introduction to curve representation
- Necessity, requirements of a clutch system
- Types of Clutches

Section 3: Gear Box

- Necessity of transmission
- types of transmission,

Section 4: Steering systems

- principle of steering Translation
- center point steering Scaling
- steering linkages
- steering geometry

Section 5 Body and Safety Considerations

- Materials for body work
- Safety considerations
- Recent advances in automobiles such as ABS
- Electronic power steering,

Topic Plan:

DAY	TOPICS	HOURS
1.	Introduction, Automobile history and development.	1
2.	Chassis and Frame: Layout of chassis & its main components.	1
3.	Types of frames, conventional frames and unitized chassis,	1
4.	Power Plant: Constructional features of different types of engines	1
5.	Fuel supply systems, cooling systems, lubrication systems.	1
6.	Clutch: Necessity, requirements of a clutch system.	1
7.	Types of Clutches, centrifugal, single & multi plate clutch, fluid clutch.	1
8.	Gear Box: Necessity of transmission, principle, types of transmission	1
9.	Sliding mesh, constant mesh, synchromesh, transfer gear box, gear selector mechanism, lubrication and control.	1
10.	Torque converter, semiautomatic & automatic transmission.	1
11.	Transmission system	1
12.	Differential – Need and types. Rear axles and Front axles.	1
13.	Brakes: Need & types, mechanical, hydraulic & pneumatic brakes, electrical brakes,	1
14.	Engine exhaust brakes, drum and disc brakes, comparison and details of components. Brake adjustment.	1
15.	Steering systems: principle of steering, center point steering, steering linkages	1
16.	Steering geometry and wheel alignment, power steering	1
17.	Suspension systems: Function of spring and shock absorber, conventional and Independent suspension system	1
18.	Telescopic shock absorber, linked suspension systems, rubber, plastic, hydro & pneumatic suspension system.	1
19.	Electrical systems: Battery construction, testing and charging.	1
20.	Cutout, lighting circuit, horn, side indicator, wiper and panel board instruments	1
21.	Battery, magneto and electronic ignition systems. Automobile air-conditioning.	1
22.	Wheels and Tyres: Types of wheels, wheel dimensions, tyre, desirable tyre properties, types of tyre	1
23.	Comparison of radial and bias-ply tyres	1
24.	Precautions regarding the tyres and.	1
25.	Wheel balancing	1
26.	Body and Safety Considerations and Modern Developments	1
27.	Recent advances in automobiles such as ABS	2
28.	Intelligent lighting, navigational aids and electronic brake distribution system.	2

Coordinator

HOD
Head
Dept. of Mechanical Engineering
Guru Nakak Institute of Technology
Nagpur

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GURU NANAK INSTITUTE OF TECHNOLOGY

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Dahegaon, Kalmeshwar Road, Nagpur 441501

DEPARTMENT OF MECHANICAL ENGINEERRING

Session 2019-2020

Date: 19-08-2019

ADD-ON COURSE SCHEDULE

"Automobile and IC Engine Working"

Sr. No.	Roll No.	Course Duration			No. of Students	Day	Time
1	01-20	26-08-19	to	04-11-19	20	Monday to Friday	11:00 AM -12.00 PM
2	21-40	26-08-19	to	04-11-19	20		01.00 PM - 02.00 PM

Course Incharge: Prof. Ishan Lade, Mechanical Engineering.

Coordinator

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NAAC ACCREDITED

Date: - 02-02-2020

To

The Head of the Department,
Department of Mechanical Engineering,
Guru Nanak Institute of Technology,
Nagpur- 441501.

Sir,

Sub:- Assigning of the faculty for ADD-ON Course curriculum designing for the academic year 2019-20 –Reg.

Ref:- Letter of Requisition for the permission for ADD-ON Course **"Advance in Welding Technology (ME)"** and appointment of faculty for course curriculum design for the academic year 2019-20 dated 10/02/2020

The under sign appreciates the department proposing to conduct such kind of course. As per your recommendation and referring to the above subject, I am please to nominate the following faculty member for ADD-ON Course - "Advance in Welding Technology".

1. Mr. Satish S. Markad, Mechanical Engineering.

The above mentioned faculty is hereby instructed to design the curriculum taking in to consideration the thrust areas of the respective fields and ensure it should enhance the employability opportunities for the students.

Guru Nanak Institute of Technology GNIT 4196 Nagpur

Principal
Principal
Guru Nanak Institute of Technology

DEPARTMENT OF MECHANICAL ENGINEERING

Session 2019-2020

Syllabus for Add-on Course Advance in Welding Technology (ME)

COURSE OBJECTIVES:

This Add –On Course an **Advance in Welding Technology** Certified Solution Architect - Associate, should be able to evaluate the requirements of the organization or the businesses and To groom the students to become intellectually creative, professionally competitive and Applicable.

Syllabus:

Section 1: Introduction of Welding

Introduction to consolidation processes

- Classification of welding processes
- Types of frames
- Types of fusion welds and types of joints
- Conventional frames and unitized chassis,
- hybrid car

Section 2: Arc Welding Processes Consumable electrode arc welding

- flux cored arc welding
- gas metal arc welding
- Gas tungsten arc welding,
- Gas tungsten arc spot welding

Section 3: Non-consumable electrode welding processes

- Plasma arc welding
- Gas tungsten arc welding
- Gas tungsten arc spot welding

Section 4: Resistance welding processes

- Resistance spot welding
- Resistance seam welding steering linkages
- Projection welding
- Advantages and limitations of resistance welding

Section 5 : Welding Metallurgy Solidification of weld metal

- Principle of solidification of weld metal
- Effect of welding parameters on weld structure

Topic Plan:

DAY	TOPICS	HOURS
1.	Introduction of Welding.	1
2.	Classification of welding processes	1
3.	some common concerns	1
4.	types of fusionwelds	1
5.	types of joints,	1
6.	Design considerations, Heat effects, Weldability and join ability.	1
7.	Welding terms anddefinitions, welding positions, elements of and construction of welding symbols	1
8.	Shielded metal arc welding,	1
9.	flux cored arc welding	1
10.	gas metal arc welding	1
11.	Gas tungsten arc welding,	1
12.	gas tungsten arc spot welding and plasma arc welding.	1
13.	Heating, pressure, current and current control, power supply	1
14.	Resistance spot welding, resistance seam welding.	1
15.	Projection welding	1
16.	Advantages and limitations of resistance welding	1
17.	grain refinement principle of weld metal	1
18.	Metallurgical issue in weld joint Mechanisms, causes and remedy of cold cracking,.	1
19.	Solidification cracking, non metallic inclusions, lamellar tearing, hydrogen damage, banding, segregation	1
20.	Weldment Inspection	1
21.	spot examination of welded joints, , ASTM standards, API standards	1
22.	TestingCodes governing welding inspection	1
23.	duties of the inspector	1
24.	Magnetic particle inspection	1
25.	types of magnetizing currents	1
26.	Comparison of destructive and non-destructive tests	1
27.	chemical tests, forms of corrosion,	1
28.	testingfor corrosion resistance, metallographic tests.	1

Head
Dept. of Mechanical Engineering
Guru Nakak Institute of Technology
Nagpur

GURU NANAK INSTITUTE OF TECHNOLOGY

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Dahegaon, Kalmeshwar Road, Nagpur 441501

DEPARTMENT OF MECHANICAL ENGINEERRING

Session 2019-2020

Date: 02-02-2020

ADD-ON COURSE SCHEDULE

"Advance in Welding Technology"

Sr. No.	Roll No.	Course Duration			No. of Students	Day	Time
1	01-30	10-02-20	to	15-04-20	30	Monday to Friday	11:00 AM -12.00 PM
2	31-60	10-02-20	to	15-04-20	30		01.00 PM - 02.00 PM

Course Incharge: Mr. Satish S. Markad

Coordinator

HOD

Head
Dept. of Mechanical Engineering
Guru Nakak Institute of Technology
Nagpur

Principal

Principal
Guru Nanak Institute of
Technology