# **Skill Enhancement Program (SEP)-2022**

| Name of Department        | Department of IT   |  |  |
|---------------------------|--|--|--|
| Module Name               | Google Services  |  |  |
| Module Coordinators       | 1)Prof. Vikas Sejwar<br>2)Prof.Abhilash Sonkar<br>3)Prof. Neha Bhardwaj  |  |  |
| Module Objective          | Google offers various services that makes daily tasks friendly. It is just<br>like an assistant. Most of the things depend on data, Google help to<br>manage and share data with their various applications. |  |  |
| Module Content            | Google drive, calendar, Google classroom and Google cloud services   |  |  |
| Module Methodology        | The workshop will start with theoretical concept of Google services.<br>Then various hands on session will be conducted on various Google services   |  |  |
| Module Outcome/<br>Impact | <ul> <li>Understand the need of Google services.</li> <li>Understand how to use these services to make life easy.</li> </ul>   |  |  |
| Duration                  | 4 Weeks  |  |  |

|        | Day              | Module Contents to be covered/Interactive<br>Session/Assignment/Quiz/Exercises/Daily<br>practice sheets (DPP)/Tutorial/Project etc<br>(3:00 PM onward, 2-3 Hrs/ Day)  | Faculty  |
|--------|------------------|---|--|
| Week 1 | Mon<br>to<br>Fri | Introduction to Google Drive, Data uploading,<br>downloading, Sharing & Synchronization.<br>Website development & management using Google<br>sites. Google Class Room & Assessment using<br>Google class room services<br>Discussion, Hands-on session, Weekly Quiz &<br>Assignment | Prof. Vikas Sejwar<br>Prof. Abhilash Sonkar<br>Prof. Neha Bhardwaj |
| Week 2 | Mon<br>to<br>Fri | Basics of Google forms, Google forms<br>Creating, Sharing, collaborating online forms.<br>Video management using YouTube, Creating  | Prof. Vikas Sejwar<br>Prof. Abhilash Sonkar<br>Prof. Neha Bhardwaj |

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|   |                  | and managing YouTube channels. Work<br>Smarter using docs.   |  |  |
|---|------------------|--|--|--|
| Week 3  | Mon<br>to<br>Fri | Work Smarter using Spread Sheets, Work<br>Smarter using slides, Organize stuff using<br>Photos, Contacts, Calendar & Keep, Stay in<br>touch using Gmail, Google Allo. Google Duo.<br>Discussion, Hands-on session, Weekly Quiz &<br>Assignment   | Prof. Abhilash Sonkar<br>Prof. Neha Bhardwaj |  |
| Week 4  | Mon<br>to<br>Fri | Google plus Grow your business using<br>AdWords, AdSense, Analytics & Google My<br>Business, Google Search, Google Map, Google<br>Translate, chrome, Google cloud print, Google<br>Group,Google Blogger & Google Survey,<br>Google Trends, Google Earth. GFS.<br>Discussion, Hands-on session, Weekly Quiz &<br>Assignment | Prof. Abhilash Sonkar                        |  |
| )Prof. Vikas Sejwar: vikassejwar@mitsgwalior.in<br>2)Prof. Abhilash Sonkar: abhilashsonkerit@mitsgwalior.in<br>3)Prof. Neha Bhardwaj: nehabhardwaj@mitsgwalior.in |                  |  |  |  |

# **Finishing School Program (Internship)-2022**

| Name of Department  | Department of Information Technology   |  |  |
|---------------------|--|--|--|
| Module Name         | Deep Learning – Basics to Advance  |  |  |
| Module Coordinators | Prof.Punit Kumar Johari  |  |  |
| Module Objective    | Deep Learning is a subfield of machine learning concerned with<br>algorithms inspired by the structure and function of the brain called<br>artificial neural networks. A function imitates the workings of the<br>human brain in processing data and creating patterns for use in<br>decision-making. Learn Deep Learning, Transfer Learning and Neural<br>Networks using the latest frameworks.   |  |  |
| Module Content      | <ul> <li>An Introduction to Deep Learning,Perceptron:Perceptron<br/>implementation using python, Python scripting &amp; modular<br/>coding for Perceptron, Python logging basics and docstrings,<br/>Python packaging, Github actions, and PyPI. Multilayer<br/>Perceptron</li> <li>Forward propagation</li> <li>Why we need Activation function?</li> <li>ANN implementation using tf.keras, ANN with Callbacks <br/>Tensorboard   Early Stopping   Model Checkpointing</li> <li>Vector</li> <li>Differentiation</li> <li>Partial differentiation</li> <li>Maxima and minima concept</li> <li>Gradient descent basics</li> <li>In-depth understanding of Gradient descent</li> <li>Chain rule</li> <li>Back propagation</li> <li>General problems in training Neural Networks</li> <li>Vanishing and Exploding gradients</li> <li>Activation functions</li> <li>Transfer learning</li> <li>Batch normalization</li> <li>Deep Learning Advance topics</li> </ul> |  |  |
| Module Methodology  | The module will start with theoretical concept of Neural Network,  |  |  |

### **Finishing School Program (Internship)-2022**

|                  |          | Perceptron, Deep Learning concepts, Further, Various hands-on<br>session is scheduled on various freeware software used in Deep<br>Learning such as: Python, keras, anaconda, Numpy, Tensorboardetc.  |  |
|------------------|----------|---|--|
| Module<br>Impact | Outcome/ | <ul> <li>Understand the basic concepts of ANN, Deep Learning.</li> <li>Identify the deep learning algorithms which are more appropriate for various types of learning tasks in various domains.</li> <li>Implement deep learning algorithms and solve real-world problems.</li> </ul> |  |
| Duration         |          | 4 Weeks   |  |

#### **Eligibility and Important Instructions:-**

- **1.** The Finishing School Program (Training/Internship) is designed only for Pre-final & Final Year students of all Departments.
- **2.** The students may apply online.
- **3.** The Finishing School Program/ Summer Internship Program is free for the participants of Pre-final & Final year students of MITS, Gwalior.
- 4. The participants outside the Institute may also join the Program on payment basis.
- **5.** This module will be conducted under the Finishing School Program, which will be considered equivalent to Internship of Pre-final year students who could not get any Internship during this situation.
- **6.** Duration of this program will be of four weeks which is equivalent to summer Internship period as per AICTE and our Institute policy. Daily no. of hours of online training may be flexible.
- **7.** Certificates will be issued to candidates who have attendance 75% or more and also score more than 60% in the test.