**Tech-Saksham Program 2021**

1. **Aim, Objective, Outcome**

This program is the initiative led by Microsoft, SAP and Edunet Foundation to up skill women students and elevates their participation in the workplace. This program jointly funded by SAP and Microsoft CSR, it aims at strengthening the social infrastructure, capacity building and develop sustainable approach to the future skills training. The Tech Saksham program is focused at skilling pre-final and final year female students from Govt./Govt.-aided engineering, science, computer applications colleges and creating pathways to industry careers through support for job/internship opportunities. The trainings have conducted in areas of Artificial Intelligence, Cloud Computing and Web Design & Digital Marketing.

1. **Target Students(Departmental Students/Entire College)**

Third year students from department of computer science

1. **Speakers**

Different trainers are taking classes (4 classes in a week) such as:

Ms. Bharti Verma – Artificial Intelligence

Mr. Avinash Seth – Cloud computing

Ms. Arpita – Web Development and Digital Marketing

1. **Platform**

Online

1. **Finances Required if any**

None

1. **Any other significant information**

Edunet Foundation, with sponsorship from Microsoft Corporation India Pvt. Ltd. And SAP India Pvt. Ltd. has launched the Tech Saksham Program, for enabling, empowering, and accelerating women learners, in the tertiary education system, from underserved communities and backgrounds towards technology careers. The program will enhance female learners in key high demand areas - Artificial Intelligence, Cloud Computing and Web Design & Digital Marketing and will create industry pathways by supporting them with jobs, internships and entrepreneurship opportunities. Some key highlights of this program are mentioned below:

* Thought leadership of Microsoft and SAP in technology domain
* Students have opportunity to learn and collaborate with experts from Microsoft and SAP
* All the students in program will be provided with support for jobs/internship opportunities
* Students will receive joint certification from Microsoft and SAP upon successful completion of course
* Students will receive mentorship from experts to work on real-world projects aimed at leveraging technology to solve local problems
* Students will have an opportunity to demonstrate their project innovation through regional hackathons or innovation forums to varied industry and academic experts

**Table 1: List of Students registered for this Course**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.No** | **Name** | **Email** | **College** | **Year** | **Course** | **Placed/  Unplaced/  Internship** | **If Placed,  Company Name** | **CTC/ Stipend** |
| 1 | Isha Sharma | ishhiisharma3@gmail.com | SPMCWDelhi | Final | BSc CS | Placed | Etelligens  Technologies | 10 K Stipend |
| 2 | ISHITA GUPTA | ishita20040809@gmail.com | SPMCWDelhi | Final | BSc CS | Will pursue higher studies | | |
| 3 | Smriti | smritiazm123@gmail.com | SPMCWDelhi | Final | BSc CS |
| 4 | Ritika Mohanty | ritikamohanty38@gmail.com | SPMCWDelhi | Final | BSc CS |
| 5 | Yuganshi Vats | yuganshivats@gmail.com | SPMCWDelhi | Final | BSc CS |
| 6 | Vidyotma | vidyotmadhankhar888@gmail.com | SPMCWDelhi | Final | BSc CS |
| 7 | Harstuti | harstutikharka@gmail.com | SPMCWDelhi | Final | BSc CS |
| 8 | himani bargali | himanibargali08@gmail.com | SPMCWDelhi | Final | BSc CS |
| 9 | Erica Attal | ericaattal208@gmail.com | SPMCWDelhi | Final | BSc CS | Internship | Globus Info  Technology | Unpaid |
| 10 | PRIYA KUMARI | shallu9111@gmail.com | SPMCWDelhi | Final | BSc CS | Will pursue higher studies | | |
| 11 | Akanksha | akanksha.ruchi2606@gmail.com | SPMCWDelhi | Final | BSc CS |
| 12 | Harshika Asiwal | harshikaasiwal711@gmail.com | SPMCWDelhi | Final | BSc CS |
| 13 | Lavanya Matlani | lavanyamatlani1@gmail.com | SPMCWDelhi | Final | BSc CS |
| 14 | Eshita Jain | eshitajain459@gmail.com | SPMCWDelhi | Final | BSc CS |
| 15 | Deepika sharma | deepika9999bh@gmail.com | SPMCWDelhi | Final | BSc CS |
| 16 | Charul | yadavcharul890@gmail.com | SPMCWDelhi | Final | BSc CS | Placed | Remotestate | 3-5 LPA |
| 17 | Vanshika Sharma | vanshikasharma0201@gmail.com | SPMCWDelhi | Final | BSc CS | Will pursue higher studies | | |
| 18 | Nitika Devgan (Dropout) | nitikadevganisnd@gmail.com | SPMCWDelhi | Final | BSc CS |
| 19 | Akansha | akanshachikari2001@gmail.com | SPMCWDelhi | Final | BSc CS |
| 20 | Tanisha saini (Dropout) | tanishasaini484@gmail.com | SPMCWDelhi | Final | BSc CS |
| 21 | Shweta | shweta.10.1999@gmail.com | SPMCWDelhi | Final | BSc CS |
| 22 | Kumari Surbhi | kumarisurbhi810@gmail.com | SPMCWDelhi | Final | BSc CS |
| 23 | Muskan Tyagi (Dropout) | muskantyagi138@gmail.com | SPMCWDelhi | Final | BSc CS |
| 24 | Monika Singh | monika15.student@gmail.com | SPMCWDelhi | Final | BSc CS |
| 25 | Neha Duhan | nehaduhan841@gmail.com | SPMCWDelhi | Final | BSc CS |
| 26 | Shrashti varshney | sonivarshney25@gmail.com | SPMCWDelhi | Final | BSc CS |
| 27 | Akanksha | akanksharuchi26@gmail.com | SPMCWDelhi | Final | BSc CS |

* Total Dropout -----( 6out of 27)
* Pink color-----dropout from AI Course
* Gray Color----dropout from Cloud Computing
* Completed the course----21
* Placed- 2
* Internship-1

Table 2: Distribution of students for Tech Saksham Program

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Total | Artificial Intelligence | Cloud Computing | Digital Marketing and Web Development |
| No of Students Registered | 27 | 20 | 5 | 2 |
| No of Students Completed | 21 | 16 | 3 | 2 |

Table 3: Attendance % for AI Program

|  |  |  |
| --- | --- | --- |
| **SPM Delhi(TS-Artificial Intelligence)** | | |
| **S.No** | **Student Name** | **Attendance (%)** |
| 1 | Isha Sharma | 88.89 |
| 2 | Ishita Gupta | 100.00 |
| 3 | Smriti | 100.00 |
| 4 | Ritika Mohanty | 77.78 |
| 5 | Yuganshi Vats | 88.89 |
| 6 | Vidyotma | 94.44 |
| 7 | Harstuti | 94.44 |
| 8 | Himani bargali | 83.33 |
| 9 | Erica Attal | 88.89 |
| 10 | Priya Kumari | 83.33 |
| 11 | Harshika Asiwal | 88.89 |
| 12 | Lavanya Matlani | 88.89 |
| 13 | Eshita Jain | 77.78 |
| 14 | Deepika sharma | 100.00 |
| 15 | Charul | 88.89 |
| 16 | Vanshika Sharma | 83.33 |

Table 3: Attendance % for Web Development & Digital Marketing

|  |  |  |
| --- | --- | --- |
| **SPM Delhi(TS- Web Development & Digital Marketing)** | | |
| **S.No** | **Student Name** | **Attendance (%)** |
| 1 | Shrasthi | 96.3 |
| 2 | Akanksha | 97.00 |

**1. Artificial Intelligence**

**Duration: 80 Hours**

1. The 4th industrial revolution: Key technologies and Skills in demand.
2. Developing Linux based applications using Linux Shell commands and shell scripting.
3. Performing Explorative Data Analytics with python to fuel modern AI applications.
4. Developing modern AI applications using statistical modeling and Machine Learning Algorithms.
5. Deep Learning for developing data hungry AI applications using Deep Neural Networks.

**Course Outline:**

**Students will be given e-handbook for the content given below.**

|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Description** | **Duration**  **Hours** |
|  | The 4th industrial revolution and the key technologies in demand   * Introduction to AI and understanding different AI terminologies. * Understanding the evolution of AI and the AI winter cycle * The AI applications transforming various industries. * Current AI market trends and opportunities * Scratch/Chatbot fundamentals * Building and hosting a chatbot | **7** |
|  | Fundamentals of open-source operating system – Linux   * Introduction to Linux Kernel and vital role of Linux in application development * Working with Linux shell commands and different Linux text editors for Shell scripting * Managing Linux files, users and permissions | **8** |
|  | Data analysis with python to fuel AI applications   * Data Science vs Data Analysis vs Data Analytics * Working with python for data science * Python packages for data analytics applications   + NumPy   + Matplotlib   + Pandas * Data analysis use cases | **15** |
|  | Exploring and implementation of popular Machine Learning Algorithms with Python & open-source libraries like Scikit-learn and PyTorch   * Introduction to machine learning and classification of Machine learning techniques * Understanding Supervised, Unsupervised, semi-supervised and reinforced machine learning algorithms * Implementing Machine Learning algorithms with Python packages and libraries * Machine learning use cases | **25** |
|  | Developing Artificial Neural Networks (ANN) with open-source deep learning frameworks like TensorFlow   * Introduction to Artificial Neural Networks (ANN), Deep Neural Networks (DNN) and Deep Learning (DL) * Understanding how DL helps solve classical Machine Learning limitations * Implementation of deep learning networks like CNN with TensorFlow * Deep learning use cases | **25** |

**Bootcamps/other engagement activities**

**Duration: 20 Hours**

* Developing computer vision application with OpenCV
* Neural Network optimization and Inference at the edge with OpenVINO toolkit
* Developing NLP application with Python
* Development and deployment of text based chatbot.

**Engagement Activities/bootcamps:**

1. Computer vision applications with OpenCV and OpenVINO toolkit

* Introduction to computer vision and its applications
* Developing computer vision applications with OpenCV
* Computer vision used cases.
* Deep learning model optimization and deployment for inference at the edge with OpenVINO toolkit

1. Natural Language processing with Python

* Introduction to NLP
* NLP applications, market trends and opportunities
* Classification of NLP
* Working with python packages to develop NLP applications.
* NLP use cases

1. Text based Chatbot development.

* Introduction to chatbots
* Chatbot applications, market trends and opportunities
* Understanding chatbot architecture
* Development and deployment of text based chatbots.

**2. Cloud Computing**

**Duration: 80 Hours**

1. Moving Ahead with Cloud
2. Insights into Azure Cloud Environment
3. Dive into Building Application with Microsoft Azure
4. Artificial Intelligence- the Azure Way of doing it!

**Course outline:**

**Students will be given e-handbook for the content given below:**

|  |  |  |
| --- | --- | --- |
| **Sl.No.** | **Description** | **Hours** |
| **1** | Moving Ahead with Cloud   * + What is Cloud Computing? Why Cloud Computing? Cloud Key Terminologies   + Characteristics of Cloud Computing   + Advantages of using cloud computing over on-premises infrastructure.   + Cloud Deployment Model   + Cloud Service Delivery Model   Cloud Global Infrastructures | **10** |
| **2** | Insights into Azure Cloud Environment   * + Core Services     - Computing     - Networking     - Storage     - Databases     - Security   + Microsoft Azure Cognitive Services     - Bot Services     - Cognitive Services     - ML & Auto ML Services | **20** |
| **3** | Dive into Building Application with Microsoft Azure   * + Customer Managed IaaS   + Fully Managed PaaS   + Serverless Applications (Code-Only)   + Introduction to Containers     - Container vs VM     - Docker Containers     - Container Images and Repositories   + Container Orchestration using Kubernetes | **30** |
| **4** | Artificial Intelligence- the Azure Way of doing it!   * + Challenges related to AI implementations.   + Solutions from Microsoft Azure for AI implementation     - Computation Made Easy     - Analytics is more fun     - Data Management is a game     - Automation at its best | **20** |

**Bootcamps/other engagement activities**

**Duration: 20 Hours**

* + My Web App- My Way (Creating Application in Azure Cloud)
  + Building Containerized Application using Azure Kubernetes Service
  + Performing Data Analytics using Azure
  + Artificial Intelligence- it’s all there in Azure Cloud.

**Bootcamps/other engagement activities**

* + My Web App- My Way
    - Learn to create & host application in customer managed IaaS using VM and Virtual networks
    - Jump Start with Microsoft Azure App Service
    - Develop Serverless APIs Using Function App
  + Building Containerized Application using Azure Kubernetes Service
    - Create Container App using Docker
    - Pushing Docker Images to Repositories
    - Deploying Container App to Azure VM & Azure Kubernetes Service Cluster
  + Performing Data Analytics using Azure
    - Manage & Integrate Data
    - Perform Effective Analytics over data in Azure Environment.
  + Artificial Intelligence- it’s all there in Azure Cloud.
    - Customize with Speech Studio
    - Experience Immersive Reader
    - Build Fast AI with pre-trained models.

**3. Web Development and Digital Marketing**

**Duration: 80 Hours**

1. Building Front Face for Web
2. Handling the web data at backend
3. Connecting End-to-End
4. Modern web development using ReactJS and JQuery
5. Digital Marketing through web

**Course outline:**

**Students will be given e-handbook for the content given below**

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Description** | **Hours** |
| **1** | Building Front Face for Web   * Understanding the WEB   + Internet, Web page, Website, Web applications * HTML for web Layout   + HTML Basic Components   + List, Tables, Graphics, Multi-Media, Forms,   + Text formatting, Block components * CSS for Page Design   + CSS design principles,   + property: values, dynamic CSS3, box model   + design layout controls * JS for Client-side scripting   + Handling HTML Events, Animations, Reading element state & data, form handling and validations. Handling Cookies and Session Data * Building Dynamic web pages using HTML 5, CSS3 and JS   + Understanding and using Bootstrap CSS & JS, using Bootstrap Components for quick design   + Create a dynamic website/application using html-5, css3 and JS with Bootstrap components | **25** |
| **2** | Handling the web data at backend   * Understanding Server-Side Scripting   + Why server side? How we do it? Server-side handling benefits * Introduction to PHP   + PHP Syntax, semantics, data types, variables, flow control and loop control * Handling Client-side data using PHP   + Reading HTML form data, handling data at backend, Projecting responses to front end * Managing Sessions at Server and Cookies at Client   + Creating sessions, session data, reading and writing cookies at client side | **20** |
| **3** | Connecting End-to-End   * Introduction to relational databases- MySQL   + Introducing relational databases, need for database, persistent storage benefits.   + MySQL basics, commands * Handling databases   + CRUD operations using SQL, DDL and DML * Managing data in databases using PHP   + Connecting to MySQL DB using PHP, performing CRUD operations using PHP, persistent storage of front-end data to MySQL DB | **15** |
| **4** | Modern web development using ReactJS and JQuery   * Introduction to ReactJS   + Basics of ReactJS framework, develop using React components and single page applications. * Introduction to JQuery   + Basics of JQuery, using component properties and dynamic handling of pages | **10** |
| **5** | Digital Marketing (DM) through web   * Go Digital all around us!   + What is DM? Why DM? Benefits and future trends, web elements involved, scope in web development. * Applying the DM concepts in web   + Search Engine Optimization (SEO) for websites/ webapps, connecting through social media, routing and landing to marketing strategic locations on web | **10** |

**Bootcamps/other engagement activities**

**Duration: 20 Hours**

* Creating Webpages, Websites, Web Applications
* Creating Dynamic Web Applications
* Creating End-to-End web application
* Creating Small Web Applications Quickly
* Digital Marketing for Business

**Bootcamps/other engagement activities**

1. Creating Webpages, Websites, Web Applications
   * Make My Own Business Site
   * Adding Beautiful Design and Media Components
2. Creating Dynamic Web Applications
   * Make My own Social Networking Application
3. Creating End-to-End web application
   * Managing Critical Business Data via Webapps using Backend persistent storage
4. Creating Small Web Applications Quickly
   * Single Page applications using ReactJS and JQuery
5. Digital Marketing for Business
   * SEO to My Business site and managing client traffic to land on social media connections.