VASAVI COLLEGE OF ENGINEERING(Autonomous)
IBRAHIMBAGH, HYDERABAD -500031

Department of Computer Science & Engineering

Academic Initiatives during COVID-19 Pandemic

Online classes:

- It is certainly a very good and challenging experience for all the faculty. Faculty had the opportunity to explore and use different online teaching tools like Zoom, Webex and Microsoft teams.
- The strength of the students attending online classes is good except 2 to 3 absentees (network issue).
- Some of the students were actively participating and answering the questions during the class. They were also interacting during the class if they had any doubts.
- Faculty made students to work on virtual lab experiments related to their courses.

➢ **Best practices followed**

- Faculty spent first few minutes on reviewing the concepts dealt in the previous class and asking questions to students (randomly) on those concepts
- Problem solving was included during some of the classes to ensure active participation of the students.
- More examples were solved on most of the concepts.
- Questions were asked randomly to students, in between during the class so as to ensure that they are understanding the concepts taught
- Lecture material was prepared in the form of PPT for every session and the content was properly sequenced in detail so that it is easy for the students to understand.

- In some courses short animation video (2 to 3 minutes) related to a concept is shown during the class. Students were asked to watch the video and express their observations from the video.
- In some courses a short visual based quiz activity was conducted to make the students understand the concept clearly. Students have actively participated by posting their answers through chat. Randomly Students were called to justify their answers.
- A debate activity was also conducted for 10 minutes by forming virtual teams in some courses.

Course material and Recorded Videos:
- Course material like notes, video links, NPTEL course materials shared through Google classroom, College moodle(LMS) and through e-mail which is useful for students even if they miss class due to some reasons.
- Faculty lectures were recorded and made available for students.
- Students were also provided web links to different ICT initiatives of MHRD and UGC like National Digital library, Education channels and SWAYAM online courses.

Online Laboratory Classes:
- Online access to college server is being provided.
- Students have submitted every lab, prelab and lab programs through Google classroom and shown the execution of the programs through online tool.
- Each Lab project demo was conducted through online tool and students have submitted their project report through Google classroom.
- **Virtual Labs:** Students are made to learn the concepts through simulation and practical demonstrations of virtual labs designed by premier institutes. This helped students to improve their self learning abilities and understand the concepts more clearly.

S. No	Lab Course	Environment used
1	Programming for Problem Solving	Virtual Labs by IIIT Hyderabad
2	Data Structures Lab	Virtual Labs by IIIT Hyderabad

3	DBMS Lab	Virtual Labs by IIT Bombay
4	Microprocessors, Microcontroller & Interfacing Lab	Edsim51 Simulator
5	Internet of Things Lab	TinkerCad by AutoDesk, NodeRed, Amazon IoT Core
6	Software Engineering Lab	StarUML, COCOMO II, Virtual Labs IIT Kanpur
7	AI&ML Lab	Google Colab, Virtual Labs by IIIT Hyderabad

Project Work:

- B.E Final year and M.TECH project progress was monitored by guides through online platforms regularly.
- B.E Final year and M.TECH project demo was conducted by the project evaluation committee and guide through online in WEBEX / Microsoft Teams platform for final project report submission.

Pedagogical Initiatives: In addition to the traditional teaching-learning methods, the following innovative student centric methods are used by faculty during online classes.

- ✓ Think Pair Share
- ✓ Process oriented guided inquiry learning (POGIL)
- ✓ Flipped classroom
- ✓ Mind Mapping
- ✓ Course-Based Projects
- ✓ Conduction of Seminars
- ✓ Debates
- ✓ Virtual Lab
- ✓ Google quiz, Kahoot
- ✓ Plickers
- ✓ External Videos
- ✓ Scenario based problems
- ✓ Smart board
- ✓ Google Classroom
- ✓ Prototyping

Online Assessment Platforms used:

Following online Platforms were used for the conduct of Quiz / Assignments / Internal Examinations.

- Google Forms
- Microsoft Forms
- College Moodle (LMS)

Online remedial and revision classes:

- Online Remedial classes were conducted for students securing marks below 50% and for students who have backlogs.
- Online Revision Classes were also conducted after the completion of syllabus and before the Semester End Examinations.

Placements:

- Mock Interviews were organized for B.E III Year Students. This helped them to know their strengths & weaknesses and prepare better for the actual interviews during placements.
- 121 students were placed during 2020-21(Till Date) in reputed companies like Amazon, ServiceNow, Accolite, Oracle, NCR Corporation, FactSet, TCS, Accenture, Cognizant, Zemoso.
- 86 students were offered paid internships during 2020-21(Till Date) in reputed companies like Amazon, CISCO, ServiceNow, Accolite, Oracle, NCR Corporation, FactSet.

Alumni Contributions:

- 10 laptops were sponsored by Alumni for the students in this pandemic, to attend online classes during 2020-21.
- A Placement Orientation was organized by Alumni: Hemanth, Revanth (2018), Shiva Sai, Uttej (2019) during 25/7/2020 and 26/7/2020 for B.E III Year students.
- A Placement Orientation was organized by Alumni: Subodh, Sriya, Gnyanee of 2019 batch on 5/9/2020 for B.E IV Year students.

Virtual International Conference:

- The department in association with Springer organized Two days International Conference on "Smart Computing and Informatics (SCI-2020)" on 9th – 10th October 2020, to confer latest trends and technologies in the fields of Artificial Intelligence, Cloud Computing, Internet of Things, Machine learning, Deep learning, Block chain, Cyber Security, Big Data Engineering, etc.

- The inaugural session (SCI-2020) was held virtually on 9th October, 2020 and 300 participants from various academic colleges and industry across the globe participated. More than 500 papers were received, out of which 182 papers were selected for presentation.

- Special Key note sessions were delivered by Dr. Roman Senkerik, Head of AI lab, Tomas Bata University in Zlin, Czech Republic, Dept. of Informatics and Artificial Intelligence and Shri. Aninda Bose, Senior Editor – Interdisciplinary Applied Sciences, Publishing Department, Springer Nature

Online FDP:

- 6 Day Faculty Development Program on "Cyber Security on Practical Aspects" was organized during 1/9/2020 to 6/9/2020. Mr.M.Sai Satish, CEO Indian Servers was the resource person. 321 participants across different states have participated in the FDP.

Online Coding Contest:

- The department has conducted "Bellman Crown 2K20" a National Level Online Coding Contest on 13th September 2020 under CSI Student Branch. 119 teams across different states have registered for the contest.

- The contest was for 3 hours with 7 coding questions on HackerRank platform. Each team had a maximum of two participants.

- The responses were recorded, checked for plagiarism and the results were analyzed based on the number of correct answers and the time in which the student completed. Three teams were announced as winners based on the above-mentioned criteria and prize amount and certificates were presented accordingly. All the other participants were given the participation certificate.

Technical Training:

- Technical training was conducted online for Students of B.E 1/4, 2/4 and 3/4 to improve their problem solving skills. Students were able to solve variety of scenario based problems posted in different placement interviews and online coding platforms.

Expert Lectures:

- Online Expert lectures were organized by Adjunct Faculty for B.E 2/4 and 3/4 students on Data structures, Computer Architecture, Design and Analysis of Algorithms and Machine Learning courses. This helped students to get exposure on the practical applications of the course.

Infosys Campus Connect Program:

- Kollipara Anisha, student of B.E 3/4 and Akash S Vora, student of B.E 2/4 were selected as Student Ambassadors for Campus Connect Program.
- Peer Enablement Program on "Python Programming" was organized for B.E II year students by five B.E III year students from 26th August 2020 to 30th August 2020.
- 25 students (B.E II Year and B.E III Year) along with 2 faculty members were nominated to attend "October Odyssey - Campus Connect Webinar series" from 1/10/2020 to 31/10/2020. This Webinar series included topics like Understanding career streams within IT Industry, Product Vs IT Services : Fresher Perspective, Getting started with programming, Failure and Stress Management, Soft Skills for Engineers and Calligraphy.
- 7 students of B.E III Year attended Soft Skills webinar series from 12/10/2020 to 15/10/2020. This webinar series included topics like Business English, Basics of Business Communication, Speak up and Email Writing Skills.

AWS Cloud Ambassador Program:

- Mr. M.Sashi Kumar, Assistant Professor in the department was awarded AWS Educate Cloud Faculty Ambassador for sharing the knowledge and experience in teaching cloud computing

- Around 600 Vasavi Students were enrolled under AWS Educate program, under which each student gets $100 credits to explore cloud services provided by Amazon.

Online Courses for Self learning:
- Students and faculty were encouraged to obtain certifications being offered by NPTEL/Coursera, to enrich and update their knowledge.
- 14 Udemy certifications, 49 Coursera certifications and 10 NPTEL certifications were completed by Faculty.
- 33 students of B.E II Year have completed NPTEL certification on "Programming Data Structures using Python". 38 students of B.E III Year have completed NPTEL certification on "Machine Learning" Course.
- 73 students of B.E III Year have completed Coursera certification on "Algorithmic Toolbox". 18 students of B.E II Year have completed Coursera certification on all courses in "Python for Everybody". 19 students of B.E II Year have completed Coursera certification on 4 courses in "Python for Everybody". 31 students of B.E II Year have completed Coursera certification on 3 courses in "Python for Everybody". 54 students of B.E II Year have completed Coursera certification on 2 courses in "Python for Everybody". 51 students of B.E II Year have completed Coursera certification on 1 course in "Python for Everybody".

Faculty as Resource Persons:
- Faculty Mr. M.Sashi Kumar and Mr. S.Vinay Kumar were resource persons in Online AICTE Training and Learning Faculty Development Program (ATAL-FDP) on "Robotic Process Automation" organized at national level by National Institute of Electronics & Information Technology ,Gorakhpur during 07th to 11th September 2020.
- Faculty Mr. M.Sashi Kumar delivered expert lecture on Introduction to Robotic Process Automation, Excel Automation and Word Automation
- Faculty Mr. S.Vinay Kumar delivered expert lecture on PDF Automation

Paper Publications:

Faculty have published 15 papers in International Journals and 17 papers in International Conferences during 2020-21(Till Date).

FDP/Webinar attended:

- All Faculty have attended in-house webinar on "Turnitin" on 19/08/2020.
- All Faculty have attended in-house webinar on "Effective Utilization of E-Resources using Knimbus Digital Library" on 7/8/2020.
- Faculty have also attended online FDPs organized by different Institutions across the country on emerging technologies like IoT and Machine Learning, Cyber Forensics and Cyber Security, Advanced Data Science and its Applications, Blockchain Technologies, Role of Machine Learning and Data Sciences in AI, Cloud Computing and DevOps, Neural Networks and Deep Learning using Python, Recent trends in Computing, Digital Transformation in Teaching Learning Process, Digital Marketing Session for teachers on Google Classroom and Microsoft Teams.