

## Participatory Learning

### Management Seminar Series (MANAS) by experts

At IIIM MANAS series was started on 11th Nov. 2006 in the remembrances of Peter Drucker – the foremost management thinker and a management Guru. Since August 2012 IIIM, rejuvenated a series of MANAS under two different heads, Internal Resources/ Development (Faculty/ Students) or Faculty Forum and External Resources/ Exposure like Guest Sessions/ Expert Talk.

With an objective of enriching current knowledge of stakeholders of the Institute and CHARUSAT University at large, we organize various events such as Career Guidance and Counselling Seminar (CGCS) and Endowment Chair - Distinguished Lecture Series (DLS), the institute invites renowned academicians, industrialists, Authors & Columnist etc. We were honored by the eminent presence of luminaries like **Shri Suresh Prabhu**, India's Sherpa to G20 & G7, Member of Parliament, Former Minister of Commerce & Industry and Civil Aviation, Government of India, **Ms. Rashmi Bansal**, Author & Columnist, **Ms. Kaajal Oza Vaidya**, Author & Columnist, **Padma Shri. Dr. V G Patel**, Entrepreneurial Guru and Founding Director, EDII, Gandhinagar, Gujarat, **Mr. Savjibhai Dholakia**, Diamond King of Gujarat, Surat, **Mr. Prahlad Kakar**, Advertising Film Director, Genesis Films, Mumbai, **Mr. Raghunath Medge**, President, The Nutan Mumbai Tiffin Supplier Trust, Mumbai (well known as Mumbai Dabbawalas) and **Prof. (Dr.) N. Ravichandran**, Director, IIM-Indore in a few of our events.



## **Massive Open Online Course (MOOC)**

### **NPTEL, SWAYAM Online courses:**

Using NPTEL, SWAYAM online courses, students can review and assess their own progress through assignments (weekly). Inculcate mode of self-learning and get access to lectures of IIT/IISc distinguished faculty. The certificates issued bear the stamp of CCE, IIT and hence are valuable additions when the student is applying for jobs. Hence, Mechanical Engineering Department always encourages the students to enroll for this kind of courses.

### **Functioning of NPTEL Local Chapter**

- NPTEL Local Chapter has been coordinating self-study courses across engineering, humanities and science streams across the University.
- NPTEL Local Chapter encourages students across University to participate in this initiative.
- NPTEL Local Chapter provides scholarship to the registered students for the certification exam.
- NPTEL Local Chapter provides mentor to all the students for their local guidelines.

### **Offer a Course wise Mentorship for students**

Any faculty member of a college can be the mentor for a maximum of 2 courses based on their expertise/Interest - one mentor for every 50 to 60 students. It is mandatory that the mentor be enrolled to the course which he is mentoring. Mentor will be recognized with certificates and recognition on the portal depending on the performance of the students he/she mentored.

Students will get guidelines and solve their doubts regarding online assignments with the help of assigned mentor from their Department/Institute for the particular course.

### **Scholarship to the Students**

Aricent Technologies is a company that has been giving NPTEL funding from CSR to facilitate fee waivers for the certification exams for students in economic need. The SPOCs can apply for the same and NPTEL will approve based on the amount available. More details will be shared soon. The Scholarship is approved for students of Local Chapters upon the request of the Principal of the college giving the list of students who require this assistance. Currently, the only criteria for a student of the Local Chapter to avail the scholarship are to enroll to the course.

### **Evidence of Success**

- NPTEL Local Chapter, CHARUSAT has Received “**AAA**” **Grade** by IIT-Madras based on the student’s performance and Local Chapter Activity for July-Dec 2017.
- NPTEL Local Chapter, CHARUSAT has Received “**AA**” **Grade** by IIT-Madras based on the student’s performance and Local Chapter Activity for July-Dec 2016 & Jan-June 2017.
- NPTEL Local Chapter, CHARUSAT has Received “**A**” **Grade** by IIT-Madras based on the student’s performance and Local Chapter Activity for July-Dec 2018 & Jan-June 2019.

- NPTEL Local Chapter, CHARUSAT is become one of the **Top-10 Local Chapter** among the 1200+ Local Chapter all over India.
- NPTEL Local Chapter, CHARUSAT has received **Grant of Rs. 1, 80,000** /- for Workshop on NPTEL. CHARUSAT had organized the awareness workshop on National Programme on Technology Enhanced Learning (NPTEL) in association with IIT-Madras. The workshop was sponsored by HRD Ministry. Around 85 professors from over 50 engineering and science colleges attended the workshop.

#### **Students Achievement:**

- o **Dhruvinkumar Kalavadia** from department of Information Technology, CSPIT got an offer for Master degree in engineering from IIT-Delhi based on his performance in online course.
- o **Harsh Shah, Dhruvinkumar Kalavadia and Bhargav Makwana** from department of Information Technology, CSPIT have been selected for the Hasura Product Development fellowship based on his performance in online course.
- o **Nirav Pansuriya** from department of computer engineering, CSPIT, got summer internship opportunity during June-July-2019, at IITM with stipend of Rs. 40,000/- followed by Job opportunity.
- o **Chirayu Akshaybhai Joshi** from department of Information Technology, CSPIT has received summer internship opportunity during June-July-2020 from IIT Kharagpur based on his performance in online course: “Programming In Java”
- o Many of the students have been benefited in campus placement due to their achievements in NPTEL certification course.

#### **Faculty Achievement:**

- o Prof. Nirav Bhatt, SPOC – NPTEL Local Chapter has been selected for proof –read the text transcript of NPTEL videos (Gujarati Language). He is also the invigilator for national level NPTEL proctored examination.

Statistics of CHARUSAT NPTEL Local Chapter: Course Run	Present	Gold	Elite	Silver	Successful	Participation	Topper
<b>Jan-Apr 2019</b>	475	14	155	87	194	25	41
<b>Jul-Oct 2018</b>	261	8	111	0	111	31	12
<b>Jan-Apr 2018</b>	229	7	139	0	70	13	19
<b>Jul-Dec 2017</b>	446	22	257	0	138	29	21
<b>Jan-June 2017</b>	225	4	115	0	67	39	11
<b>Jul-Dec 2016</b>	152	4	66	0	51	31	3
<b>Jan-June 2016</b>	100	1	19	0	22	58	3

**Problems Encountered and Resources Required**

Offering of online courses, Scholarship and Mentorship to all the Institute/departments across University is mammoth task, involving co-coordinators from every Institute/departments and documentation. Selection of students for scholarship and selection of Mentor for courses from whole University within a given deadline from NPTEL Office, IITM is difficult task.

## **Group Discussion**



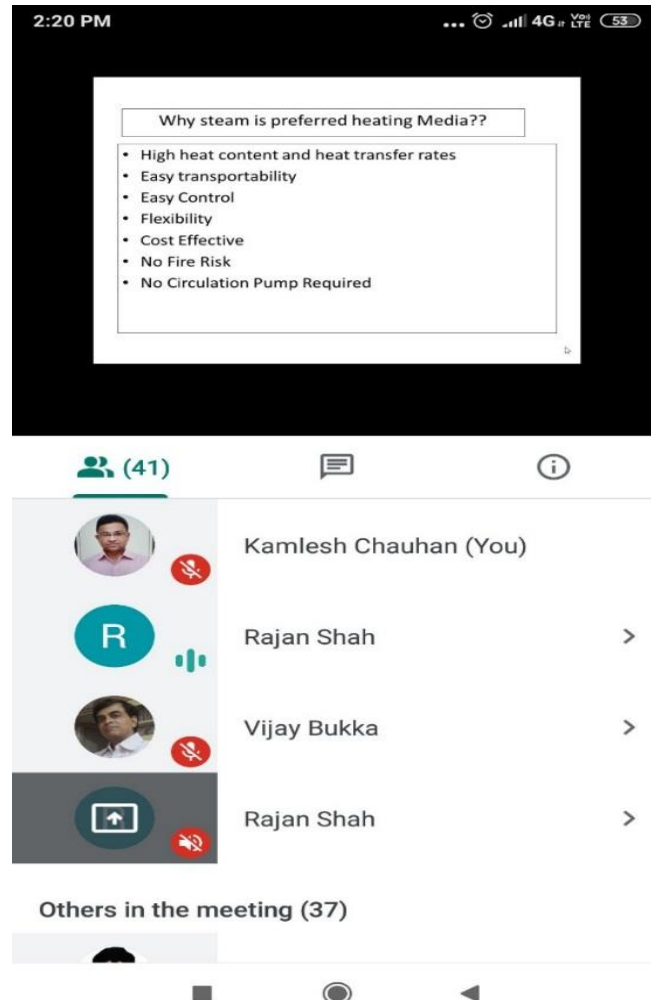
In Values & Ethics course, group discussion activity was performed to evaluate student's communication skill, vocabulary, intellectual level of thinking, leadership quality. Students were given topics related to social & environmental issues.



Workshop



BOTAT student participation in Pediatric BLS and Neonatal Resuscitation, ECG (Electrocardiogram) & Techniques For Suturing, Bandaging, Dressing And Orthopaedic Procedures.

**Webinar****Date of Organized: 30/05/2020****Course Name: Energy Economics & Management**

Expert talk on Energy efficiency in process industry was delivered by Mr. Rajan Shah, Product Manager, Forbes Marshall Pvt. Ltd. Ahmedabad. Experts talk was organized to explore the various aspects of Energy Efficiency Opportunities in India & Role of Mechanical Engineer. Various topics such as Energy Scenario in India, Role of Energy Efficiency for Present & Future, Energy Efficiency Segmentation (Transportation, Building & Industrial), Energy Efficiency possibilities in Industries (Thermal, Electrical etc.), Role of Thermal energy in industries were discussed during the talk.

### Hackathon

36 hour continuous event wherein 193 participating teams consisting of 1034 students, 120 mentors from various academic institutions across the state participated to solve 74 problems like waste water management system, smart agriculture, smart dustbin, development of curcumin dispersible tablet, improving stability of clavulanic Acid in finished solid oral dosage form etc given to them by various industries, government departments and government agencies.





### Game Based Learning – Treasure-Hunt

**Course Name:** IT247 Data Structures & Algorithms

The objective of the event is

- Students should be able to identify the type of tree and perform tree traversal.
- Students should be able to convert infix expression into postfix expression using stack data structure.
- Students should be able to learn the application of Queue data structure.
- Students should be able to analyze programs of linked list data structure.

Students were divided into groups of different levels as per CGPA. Each group will be given clues in the form of questions based on the algorithm course.

Round-1: Quiz round (10-15 minutes required)

- Online Quiz (on the platform called kahoot.com.)
- Each team with maximum 4 members. Teams were predefined by the student Coordinator according to their respective CGPA.
- Quiz contains 15 MCQs based questions.

Round-2: (20-25 minutes)

- The next clue was provided in the form of a PDF document via google classroom or via email. (PDF with algorithm related to linked list)

Round-3: (25-30 minutes)

- The next clue was provided in the form of password protected PDF, and the password is the result of the previous round. (based on Heap tree, flip of binary tree, AVL tree and traversal techniques)

Round -4: (20 minutes)

- This round contains solving the tower of Hanoi (for  $n=5$ ) physically.

There is no elimination in any round. All teams continued all rounds until a winner was found.

Expected Outcome:

Students can be able to apply different concepts of Data Structure & Algorithm course to solve clue.



### Strip Story Based Learning

**Course Name:** IT347 Software Engineering

The objective of this event is :

- Students should be able to learn different phases of the Software Development Life Cycle (SDLC).
- Students should be able to identify the importance of each step in the Software Development process.
- Students will be able to relate and interconnect different phases involved in SDLC.

The seven phases of SDLC is divided into seven strips and then it is distributed to seven different heterogeneous groups randomly. Each group will discuss the content of the strip and try to arrange in an appropriate order of SDLC within the stipulated time limit.

#### Strips: SDLC Steps

##### 1) Planning

Scope of project is defined and cost, schedules and feasibility is checked

##### 2) Requirement gathering and analysis

Business requirements are collected as per need of project from various stakeholders with SRS as document

##### 3) Design and Prototyping

Overall software architecture is defined from SRS that specify hardware and software requirements

##### 4) Implementation/Coding

Software design is translated to source code during this phase.

##### 5) Testing

Errors/Bug/Defects are identified during this phase and fixed.

##### 6) Deployment

Product is delivered to the customer as first user copy and beta testing is performed.

##### 7) Maintenance

Enhancement and continuous project care is carried out during the final phase of SDLC.

#### Expected Outcome:

- Students can be able to apply to different phases of SDLC during the Software Development process.
- Students can be able to define systematic ways to develop any software.

### Flipped Classroom

The main focus of the course PT451 Physiotherapy in Orthopedics in 7<sup>th</sup> semester BPT is application of clinical course knowledge into Physiotherapy practice among orthopedic conditions. The content of the upcoming classes were uploaded in Google classroom at least one week prior to the scheduled class.



**Grouping:** The class of 81 students were randomly divided into 10 groups (every flipped class) and allotted different portions of same chapter (for instance – back pain).

**Discussion:** In 2 hour class, 45 minutes were given to discuss and compile the important aspects of the given portions by using smart phones and web resources. In this activity, everyone in the group has to contribute in compiling and summarizing the portion. With the agreement of all the member, every group will come-up with final point on their perspective.

**Presentation:** At the end of 45 minutes, 5 minute presentation time was allotted to every group to present their point in front of the class followed by discussion.

**Summarization:** After presentation and discussion of all 10 groups, the teacher provided summery of the point and necessary inputs.

**Compilation:** One class representative compiled all the point and prepared a single document of the topics to circulate in the class for future uses.