## AICTE Margdarshan FDP on Outcome Based Education
02$^{nd}$ to 07$^{th}$ December 2019

### SUMMARY REPORT

GRIET conducted one week AICTE Margdarshan FDP on Outcome based Education from 02/12/2019 to 07/12/2019 (6 days). 51 faculty participated across all the mentee institutions and in total 22 sessions were conducted focusing on various key aspects of OBE & NBA including two hands sessions on CO - PO Attainment, Course File, ICT & Interactive Teaching Practices.

FDP sessions consists of Vision, Mission & Outcome Based Education, Skill India in OBE, Implementation of OBE, Achieving Academic Excellence, Mapping & Attainment of COs and POs, Course File Preparation & Rubrics, OBE based Teaching Learning, Occupational Stress Management, Role of Teacher in Value Based Education, Continuous Improvement based on PO/PSO Attainment, Active Learning Strategies , Continuous Quality Improvement, Systematic Pedagogy with Constructive Alignment, Interactive Learning Platform, ICT for Assessment and Evaluation and Teaching Practices.

**DAY-1(2/12/2019)**
**SESSION-1**
**TOPIC: Vision, Mission & Outcome Based Education**
**SPEAKER: Prof. Jandhyala. N. Murthy, Director, GRIET**

Speaker focused on higher education which includes World class research with high quality teaching with special focus on research. He spoke about Vision which tell you where you want to go and mission which tell you where you are right now and what is the direction of moving towards the vision and how you are going to achieve it. Also, vision defines the end game and mission is roadmap that will take you to there. PEOs (Programme educational outcomes) should be derived from mission.

**DAY-1 (2/12/2019)**
**SESSION-2**
**TOPIC: Skill India in OBE**
**SPEAKER: Prof. Dr. V V Rao, Former CEO, JB Group &NBA Expert**

Speaker focused on key terms in OBE which are Vision, Mission, Goal, Objective, Outcome, PEO's, Graduate Attributes(GA), POs, COs, and COBs. Objective is teacher centered and Outcome is student centered. PEOs describe what graduates are expected to gain in his graduation. Skill, knowledge and attitude together form OBE. Employers expect life skills, employability skills, management skills, technical skills and discipline skills from the students.

**DAY-1 (2/12/2019)**
**SESSION-3**
**TOPIC: Implementation of OBE**
**SPEAKER: Prof. Dr. V. V. Rao, Former CEO, JB Group & NBA Expert**

Speaker enlighten on implementation and using of OBE. OBE implementation table consists of 10 columns
Column 1: List of POs (12)
Column 2: POs description
Column 3: Blooms taxonomy Level
Column4: Course name and code from designed curriculum.
Column 5: course outcomes developed for the course using blooms active verbs.
Column 6: Teaching and learning method employed
Column 7: Assessment tools to measure knowledge, skill and attitude and link COs and POs
Column 8: Evaluations and grading at course and CO level
Column 9: Mapping of COs and POs
Column 10: Continuous improvement

**DAY2(3/12/2019)**
**SESSON-1**
**TOPIC: Achieving Academic Excellence.**
**SPEAKER: Sri P. Gopal Krishna, Professor in IT, Associate Dean Publicity, GRIET.**



Speaker expressed his view on on the following categories in which the technical institutes come under Institute of national Importance, Autonomous colleges, Universities and Deemed universities. Also, about student intake, faculty, number of colleges has been decreased from 2012 to 2019. Placements has been increased which indicates quality education is being increased yearly. Excellence can be achieved if the following things are maintained like visionary leadership, strategic planning (what we are, where we are, how do we reach destination), process management, focus on student, stake holders and staff, organizational performance and focus on future. Development in the system through academics rigour, academic discipline, placements, internships. These are the important ones to be focused to achieve excellence in the organization. Another important strategy to achieve excellence is to have faculty exchange programme with other universities throughout the world.

**DAY2(3/12/2019)**
**SESSON-2**
**TOPIC: Mapping & Attainment of COs and Pos.**
**SPEAKER: Dr. C. Lavanya, Professor in CE &Associate, Dean FDP, GRIET**



Speaker focused on Programme Educational Objectives, Programme Outcomes, Course Outcomes and Blooms Taxonomy. PEOs are the expected achievements of graduates in their career that are expected to achieve during after few years of their graduation. PEOs must be quantifiable, suitable, realistic and attainable. Graduate Attributes (GAs) are prescribed by NBA and programme outcomes should be defined from these GAs. Mapping of PEO & PO and PO & CO is enlightened. Also, about Course Outcomes for each course using action verbs from blooms taxonomy.

**DAY2(3/12/2019)**
**SESSION-3**
**TOPIC: Course File Preparation & Rubrics.**
**SPEAKER: Dr. Y. Vijaya Lata, Professor in CSE, GPAAC, GRIET.**



Speaker discussed about course and its content which help the faculty members to understand the course details clearly. It consists of time table, syllabus copy for the course, course schedule, course/session plan, unit plan, lesson plan, list of POs, Cos, Mappings, list of assessments, assignment sheets, tutorial sheets, rubrics, evaluation strategy, guidelines to study the course, marks list, Photocopy of the best, average and the worst answer sheets, model question papers, teaching/learning aids, course Completion Status, grading sheet for all students.

**DAY2(3/12/2019)**
**SESSION - 4**
**TOPIC: Workshop - Hands on CO - PO Attainment & Course File.**
**SPEAKER: Dr. C. Lavanya & Dr. Y. Vijaya Lata, GRIET**



Hands on writing course outcomes for a course with bloom taxonomy levels and accordingly mapping the COs with POs with levels L, M and H during planning level. After the assessments calculate the attainments using the formulae. Calculate the attainment for the entire COs of the course. Compare the COs calculated with the threshold value given by the department and assign levels L,M and H in execution stage. Now compare the pla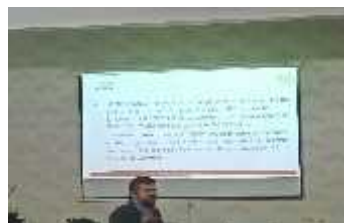nning mapping table with execution mapping table. If any CO has not met with the given threshold, back track and identify the grey areas and do the necessary action plan for future improvements.

**DAY-3(4/12/2019)**
**SESSION-1**
**TOPIC: OBE based Teaching Learning.**
**SPEAKER: Dr. A. Sai Hanuman, Professor in CSE &Associate Dean Academic Affairs, GRIET**



Speaker focused on teacher perspective and student perspective. These are best seen as specific intentions that include the steps to be taken to achieve our aims as teacher. Outcome describes what learners will be able to do when they have completed the course. For every course 5 to 7 course outcomes should be defined. Course Register should contain the following items; Syllabus, Session plan, attendance, Internal Assessment, Lecture Diary, Weekly Self Appraisal, Student performance and time table. One can use different Teaching Learning Methods depending upon the subject. Various Teaching Learning Methods are: Traditional method, lesson or session, Discussions, Seminars, Problem based, ICT, MOODLE, SWAYAM etc.

**DAY-3(4/12/2019)**
**SESSION-2**
**TOPIC: Occupational Stress Management.**
**SPEAKER: Prof. KVS Raju, Sr. Administrator Officer,GRIET,**



Speaker enlightens about the stress, excessive pressures and other types of demands placed upon the people. Stress occurs when pressure is greater than resources. There are two types of stress. Positive Stress and Negative stress. Positive stress can have positive effect, spurring motivation and awareness, provide stimulation to cope with challenging situations. Negative stress is a contributory factor in minor conditions. It causes headaches, digestive problems, skin problems insomnia and ulcers. People under go stress due to various reasons like physical environment (noise, heat, confined space, bright light), daily hassle (community, breakdowns, misplaced keys), life style choices (caffeine, lack of sleep, overload schedule), internal stress (Negative talk, mind traps). Stress can be avoided by building the nature of positive thinking, enough sleep and avoiding negative talk.

**DAY-3(4/12/2019)**
**SESSION - 3**
**TOPIC: Role of Teacher in Value Based Education.**
**SPEAKER: Prof. Jandhyala. N. Murthy, Director, GRIET**



Teaching is an art. Teaching is a noble profession. Profession is a paid occupation, especially one that involves prolonged training and a formal qualification. There are expectations from faculty for 100% pass, 100% marks, number of first classes, honors, awards, placements, certificates, social services, etc. The main objective of OBE is to build knowledge, skill and attitude of the student. Teacher should build the knowledge of mathematics, science, technology and engineering in students. Teacher should improve the problem analysis, design solutions, modern tools usage, communication, team work in students. Students should have a good attitude towards the society, environment and follow ethics. There are different roles a faculty must perform in an organization. Teacher should maintain punctuality, dress, know the objectives, follow teaching aids, give real time example which gives a positive influence. Threatening, Ridicule and discriminating good bad, sex, religion and cast gives a negative impact on teacher.

**DAY-3(4/12/2019)**
**SESSION - 4**
**TOPIC: GRIET Tour to Solar Plant/R&D Lab/IOT Lab/Radio Station/Library.**
**SPEAKER: Faculty of GRIET**



All the participants visited GRIET campus. Insight about Solar Plant, Research and Development Lab, Internet of Things (IOT) lab, Radio Station, Library at GRIET was given to all the participants by the faculty of GRIET.

**DAY-4(5/12/2019)**
**SESSION – 1**
**TOPIC: Continuous Improvement based on PO/PSO Attainment.**
**SPEAKER: Dr. S Viswanadha Raju, Professor &Vice,Principal, JNTUH CEJ,**



OBE starts with a clear statement of knowledge, skill and attitude the graduate engineer will be able to demonstrate after successful completion of the course. The course or subject CO describes "What the knowledge student has gained at the end of the course". Follow Blooms taxonomy while preparing question papers. Blooms taxonomy has 6 levels. Level-1: Understand, Level-2: RememberLevel-3: Apply, Level-4: Analyze,Level-5: Evaluate,Level-6: Create. The assessment tools are broadly classified in to two types.  Direct Assessment tools and Indirect Assessment tools. Direct assessment tools are mid examinations, assignments, laboratory examinations, semester examinations, seminars, min and major projects. Indirect Assessments are course end survey and graduate exit survey.

**DAY-4(5/12/2019)**
**SESSION – 2**
**TOPIC:  Accreditation Process in OBE**
**SPEAKER; Dr. J. Praveen, Principal, GRIET**



Accreditation is process where educational program or institutions are reviewed to determine if they meet certain standards of quality. Accreditation is not a ranking system but an assurance that a program or institution meets established quality standards. The National Board of Accreditation (NBA) has permanent membership in the Washington Accord, an international agreement for standardizing engineering education. Institute with Grade as Tier-I and Tier –II based on status of Autonomy and University status. Advantages of NBA are that students get quality education and better employment opportunity. Institution builds up a brand, continuous improvement towards excellence and many more. There are many active learning strategies to empower, engage, and stimulate a classroom by putting students at the center of the learning process. Some of them are group assignments, collaborative learning, jigsaw, think pair share, fish in bowl, etc.


**DAY-4(5/12/2019)**
**SESSION – 3**
**TOPIC: Continuous Quality Improvement.**
**SPEAKER: Dr. L Jayahari, Professor in ME, Associate Dean Student Affairs, GRIET**



Speaker focused on feedback format for collecting data from various stakeholders, review of direct &indirect achievements, action taken based on the results of evaluation of each of the POs & PSOs. Identifying the areas of weaknesses in the program based on the analysis of evaluation of POs & PSOs attainment levels. Some of the areas that are initiated are remedial classes, workshop, assignments, etc. Weak students in each area are identified and counseled separately by their mentors. Also requires iimprovement in quality of paper publication, career guidance, training and placement, co-curricular and extra-curricular activities, etc.


**DAY-4(5/12/2019)**
**SESSION - 4**
**TOPIC: Systematic Pedagogy with Constructive Alignment.**
**SPEAKER: Dr. V Naga Rama Devi, Associate Professor, BSH, GRIET**



Speaker focuses on pedagogy which refers to the "interactions between teachers, students, and the learning environment and the learning tasks." This broad term includes how teachers and students relate together as well as the instructional approaches implemented in the classroom. Designing appropriate outcome-based curriculum, what knowledge do I want my students to be able to apply when they have completed my course? Mode of Instruction that can be Teacher-Centred and Learner-Centred. To make class more interactive, use active learning strategies like flipped class room activity, TPS activity etc. Suitable assessment methods, verification by mapping, finishing school which is unique initiative training program with the motivation that all students will complete their course as per their respective academic calendar and be ready to take up the careers of their choice. Conduct remedial classes to provide intensive support to enable them to be on par with their peers in a regular manner and monitor and improve teaching –learning on a continuous basis.

**DAY-5(6/12/2019)**
**SESSION - 1**
**TOPIC: Interactive Learning Platform.**
**SPEAKER: Dr. K. Prasanna Lakshmi, Professor & HOD IT, GRIET**



Speaker focused on LMS, Learning management system. It's not what we teach it's what student learn is important in OBE. The Enabled, Engaged and empowered are 3Es of digital age education. New learning environments are learning from technology and learning with technology. Teaching and learning practices must be integrated to include different delivery methods to complement the traditional lecturing methods. Interactive learning platform provides a software system that allows the development and delivery of educational courses using internet as a delivery system.LMS provides functions such as online assignments, online quiz, discussion forum, chat box etc. MOODLE, OLAT, LRN, interact etc are some of the open source LMS platforms. MOODLE is an open source web application which runs on almost all platforms used to create interactive online learning sites.

**DAY-5(6/12/2019)**
**SESSION – 2**
**TOPIC: ICT for Assessment and Evaluation.**
**SPEAKER: Dr. K. Madhavi, Professor & HOD CSE, GRIET,**



Speaker focused on ICT, Information Communication and Technology. The aim of ICT is effective teaching/learning for all the stakeholders at anytime and anywhere. ICT can be used to support change and to support/extend existing teaching practices.ICT seen as tools to help teachers create more 'learner-centric' learning environments. Skills for ICT Teacher are Handling of Hardware, Operations of Software, Connectivity of Machines, Use of secondary storage, devices Demonstration, Convincing Power. Assessment and evaluation are different. Assessment is process oriented where as evaluation is product oriented. There are various assessment tools such as yes/no, thumbs up/down, colour cards, 1-2-3 fingers, plickers, KWL charts, etc. Plickers is an assessment tool made by a teacher who was looking for a quick and simple way to check student understanding.

**DAY-5(6/12/2019)**
**SESSION - 3**
**TOPIC: Teaching Practices**
**SPEAKER: Sri V Vijaya Rama Raju,Professor in EEE,IQAC, GRIET.**



Speaker enlighten about Raspberry Pi which is a series of small single-board computers developed in the United Kingdom by the Raspberry Pi Foundation to promote teaching of basic computer science in schools and in developing countries. The original model became far more popular than anticipated, selling outside its target market for uses such as robotics. It does not include peripherals (such as keyboards and mice) or cases. However, some accessories have been included in several official and unofficial bundles. The Model A raspberry pi features mainly includes256 MB SDRAM memory, Single 2.0 USB connector, Dual Core Video Core IV Multimedia coprocessor, HDMI (rev 1.3 & 1.4) Composite RCA (PAL and NTSC) Video Out, MM Jack, HDMI, Audio Out, SD, MMC, SDIO Card slot on board storage. WORD PRESS is used to build and run some of the largest and most powerful websites on the internet. The site's popularity is due, in part, to how simple and easy it is to use.

**DAY-5(6/12/2019)**
**SESSION - 4**
**TOPIC:  Workshop - Hands on ICT & Interactive Teaching Practices**
**SPEAKER: Sri V Vijaya Rama Raju, GRIET**



Plickers is an audience response system that allows an instructor to use their mobile device to scan a classroom to read student performance based on voting cards. Initiate plickers.com and register. Add a new class in plickers, fill the class information, fill the question and correct the answers. Distribute the plicker cards to students display the question and scan the plickers cards answers shown by the students. The percentage of students who have answered correct can be viewed on the plickers screen.

**DAY-6(7/12/2019)**
**SESSION – 1**
**TOPIC:  Preparation of SAR.**
**SPEAKER: Dr. J. Sridevi, Professor & HOD EEE, GRIET**



NBA accredits technical programs of institutions and not the institution or its departments/centers. Institutions are required to apply for accreditation through e-NBA portal. Programs to be accredited should be offered by an educational institution, which has been formally approved by the AICTE. Programs from which at least two batches of students have graduated are considered for accreditation.Tier I – University (Deemed-to-be, State, Central) and Autonomous affiliated colleges. Tier II affiliated colleges (Non-autonomous). The institution must submit Self-Assessment Report (SAR) online through e-NBA portal in the prescribed format.University/College web site is also a source of information about the college. The visit to the institution is for 2 days and Pre-visit meeting and Exit meeting. The report forms the input to NBA for further processing regarding accreditation.SAR file contains Two Parts Part A( Institutional information) and Part B( program specific information).

**DAY-6(7/12/2019)**
**SESSION - 2**
**TOPIC:  Active Learning Strategies.**
**SPEAKER:  Dr. J. Praveen, Principal, GRIET**



Speaker focused on Pioneers, integrators, drivers and guardians. Pioneers love exploring new possibilities. They particularly enjoy working with others and generating novel ideas. Pioneers allow everyone to dream big. Integrators are all about connection. They value meaning enjoy exploring different interpretations or perspectives and believes everything is a bit of give and take. Guardians value stability and strive for accuracy and certainty. They focus on details and are known and for bringing order of chaos. They expect others to be prepared. Drivers love a challenge. They value competence and particularly enjoy sharp mind or sharp wit. Drivers want others to be smart and quick.

**DAY-6(7/12/2019)**
**SESSION - 3**
**TOPIC: Department NBA Coordinators, GRIET, NBA Files.**



Participants visited respective departments of GRIET to see and understand the NBA files and discussed with NBA coordinators.