ST JOSEPH ENGINEERING COLLEGE

Affiliated to VTU-Belagavi & Recognized by AICTE

NBA-Accredited: BE (CSE, ECE, EEE, & ME)

Action Taken Report 2018-19

Internal Quality Assurance Cell (IQAC) Meeting 2019

"Service and Excellence"

Vision

"To be a global premier Institution of professional education and research"

Mission

- **Provide opportunities to deserving students of all communities, the Christian students in particular, for quality professional education.**
- **Design and deliver curricula to meet the national and global changing needs through student centric learning methodologies.**
- **Attract, nurture and retain the best faculty and technical manpower.**
- **Consolidate the state of art infrastructure and equipment for teaching and research activities.**
- **Promote all round personality development of the students through interaction with alumni, academia and industry.**
- **Strengthen the Educational Social Responsibilities of the institution.**

Table of Contents

Table of Contents ..... **i**
List of Figures ..... **ii**
List of Tables ..... **viii**
1. Agenda of the IQAC Meeting Scheduled on 23th November 2019 ..... **1**
2. Review of Minutes of the previous IAAB Meeting **1**
3. Action Taken Report (ATR) **2**
3.1 Action item 1 (Documentation of specific outcomes for each of the activities related to the POs & PSOs) **2**
3.2 Action item 2 (Certification courses for students and staff) **3**
3.3 Action item 3 (Establishing/offering online courses) **13**
3.4 Action item 4 (Rigorous alumni interaction and strengthening of the network) **13**
3.5 Action item 5, 6, 7 (Community based, and socially relevant Capstone and Mini Projects, Goal oriented entrepreneurship activities, More Design Development Patent related activities) **22**
4. Attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs), and Continual Improvement Action Items for each of the POs and PSOs. **58**
4.1 BE in Mechanical Engineering **58**
4.2 BE in Electrical and Electronics Engineering **62**
4.3 BE in Electronics and Communication Engineering **65**
4.4 BE in Civil Engineering **68**
4.5 BE in Computer Science and Engineering **71**
4.6 Master of Business Administration **74**
4.7 Master of Computer Application **76**

List of Figures

Fig. 1: Electrical Distribution Systems by Ms Prarthana Rao, Alumni Batch 2017, on 15 April 2019, by EEE Department 14
Fig. 2: Project Management and CommunicationbyMr Sanjay Khan, on 29 January 2019, Alumni Batch 2012, organizedby EEE Department 14
Fig. 3: Route to Higher Studies in Western Universities by Mr Cedric D'Souza, on 28 January 2019, Alumni Batch 2017, by EEE Department 15
Fig. 4: Motivational Talk by Ms Janashree Anchan, Alumni batch 2016, on 13 November 2018, organized by EEE Department 15
Fig. 5: Igniting Young Minds for Higher Studies on 10 August 2018 by Mr. B Jayaprakash, Alumni Batch 2016, organized by EEE Department 16
Fig. 6: Technical talk on "Opportunities abroad and Industry expectations" by Ms Raksha Janet Jathanna, Alumna of Electronics and Communication Engineering, for Sixth semester students, on 5 March 2019, organized by ECE Department 16
Fig. 7: Technical talk on "Roadmap to successful Project Deployment" by Mr David John Saldanha, Alumnus of Electronics and Communication Engineering for Sixth semester students, on 21 February 2019, organized by ECE Department. 17
Fig. 8: Interaction with Alumni Ms ZeebaNaaz, Lead-Talent Acquisition at Phoenix Global DMCC, Hyderabad, from the batch 2010-12, for Second year MBA Students, on 14 August 2019 18
Fig. 9: Interaction session with Alumni Ms Prajna Jyothi Dsouza, Manager-HR, Mangalore Internet City and Batch of 2010, for First year MBA students, on 17 December 2018 18
Fig. 10: Interaction session with alumni, Mr Johnson Stephen Mascarenhas, HR Coordinator at Starlink DMCC, Dubai, for I year MBA Students, on 30 November 2018 19
Fig. 11: Interaction with alumni, Ms Varsha Baliga, Sr. Tax Analyst, Pricewaterhouse Coopers for the First and Second year MBA Students, on 5 November 2018. 19
Fig. 12: Technova 2019 Project showcase cum competition for final year students on 20May 2019, Evaluated by Mr Mahesh J, organized by EEE Department 20
Fig. 13: Involved alumni Ms Archana Bhat during the Technova 2019, Project Evaluation on May 20, 2019, by the Department of Computer Science & Engineering 21
Fig. 14: Alumni involvement during the Technical event, by the Department of Computer Applications 21

Fig. 15: Entrepreneurial Talk on “Start a start-up: Become an Entrepreneur” on 26 October 2019, by CSE Department in association with Industry and Innovation Group (IIG) and NAIN. 22
Fig. 16: Industrial visit to New Mangalore Port Trust (NMPT), on 25 October 2019, by Department of Mechanical Engineering 22
Fig. 17: Entrepreneurial Talk by Hallimane Rotti Shilpa, on 24 October 2019, by MBA Department and IIG 23
Fig. 18: Industrial visit to GWASF-Quality Casting Pvt Ltd, Baikampady, on 23 October 2019, by Industry and Innovation Cell of Mechanical Engineering 23
Fig. 19: Industrial Visit to IRC Ready Mix Concrete Plant, Ganesh Cement Spun Poles & Pipes factory at Industrial Area, Baikampady and construction site visit to Westline Signature for the Final Year Civil Engineering Students, on 17 October 2019 24
Fig. 20: Campaign for students of St Jacobs Higher Primary School, Farla, to celebrate Innovation Day, on 11 October 2019, by The Industry and Innovation Group, SJEC 24
Fig. 21: Technical Talk on Avenues for Civil Engineers by Mr Maninarayan K T, Construction and Contract Management Expert, Eptisa-BETS JV, Kathmandu, Nepal., on 9 October 2019, by Department of Civil Engineering 25
Fig. 22: MOU with AIESEC in MAHE, on 30 September 2019, by Industry and Innovation Group (IIG) and Collaborations office 25
Fig. 23: Technical Talk on Rainwater Harvesting and Construction Equipment by 26
Fig. 24: Technical Talk on Innovative World of Civil Engineering and Construction Safety, by Dr K S Babunarayan, Professor and Eminent Structural Engineer, Dept of Civil Engineering-NITK Surathkal, Er. Ashok Kumar, Consulting Engineer, Mangaluru, ... 26
Fig. 25: Industrial Visit to Westline Signature and Marian Park for third-year students, on 25 September 2019, by the Department of Civil Engineering 27
Fig. 26: Industrial Visit to Skyline Signature and Marian Park for Fifth Semester Civil Engineering students, on 24 September 2019, by the Department of Civil Engineering 27
Fig. 27: Industrial Visit to Nirmithi Kendra, Surathkal for second year students, on 23 September 2019, by the Department of Civil Engineering 28
Fig. 28: MOU with SELCO Foundation, on 21 September 2019, to be anchored by the Department of E & E 28
Fig. 29: Technical Session on Ideation on Socially Relevant Projects, on 21 September 2019, by Mr Adithya, Mr Mohsim and Mr Ashwin, Program Managers at SELCO Foundation 29
Fig. 30: Industrial visit to Varahi hydropower plant, Hosangadi and Mani Dam, Yadur, on 17 September 2019 & 5 October 2019, by the Department of Mechanical Engineering 29

Fig. 31: Inauguration of Tessolve Semiconductor Laboratory and Bio-medical Electronics Research Laboratory, on 14 September 2019, by the Department of Electronics and Communication Engineering in association with Industry & Innovation Group (IIG) 30
Fig. 32: Display of recycling projects at 10th Edition of International Plastics Exposition 2019 (IPLEX 2019), from 23-25 August 2019, by Department of Mechanical Engineering and Civil Engineering..... 30
Fig. 33: E-STEP Start-up Bootcamp, on 22 August 2019, by The New Age Incubation Network (NAIN) Incubation Centre in association with Karnataka Innovation and Technology Society (KITS) 31
Fig. 34: Interaction with Doctors of FMMC by ECE Faculty, on 7 August 2019 31
Fig. 35: Demonstration of 'AReal Arc Welding Simulator' by Mr Sanjay Hubli, Regional Manager and Mr Manjunath – Engineer from Mogora Cosmic Pvt. Ltd Pune,on 13 June 2019, in the Mechanical Workshop..... 32
Fig. 36: MoU with Marian Projects Pvt. Ltd, on 29 May 2019, anchored by the Deparment of Civil Engineering..... 32
Fig. 37: Industrial Visit to Udupi Power Corporation Ltd (UPCL) for second year students, on 9 May 2019, by the Department of EEE..... 33
Fig. 38: Hands-on session on "Raspberry Pi programming" by Mr Gopala Krishna BhatKakunje, Director of Kakunje Software Pvt Ltd. for Fifth semester students, on 26 and 27 April 2019, by Department of CSE..... 33
Fig. 39: Talk on "Latest Designing Tools in Industry" by Mr Akshay B Gaikwad and Mr Sheik Mohammed, Faculty, CADD Centre Mangaluru, on 23 April 2019, by Mechanical Engineering Department 34
Fig. 40: Talk on "Electrical Distribution System" by Ms Prarthana Rao, Engineer at MESCOM, Kavoorfor second year students, on 15 April 2019, organized by EEE Department 34
Fig. 41: Talk on "Performance Analysis of Communication Systems through Simulink and SDR", by Dr Prashanth Kumar H, Assistant. Prof-ECE, NITK Surathkal for final year students, on 15 April 2019, by ECE Department..... 35
Fig. 42: Industrial Visit to Master PlanneryNirmithi Kendra for VI Semester students, on 15 April 2019, by the Department of Civil Engineering in association with IIEDC..... 35
Fig. 43: Talk on "Engineering and Innovation" for second year CSE students, by Dr Poornalatha G, Department of Information & Communication Technology, Manipal University on 13 April 2019, by CSE Department..... 36
Fig. 44: One-day Industrial visit to KPTCL Kavoor Substation Industrial Visit for the 4-semester students on 28 March 2019, by the Electrical and Electronics Department..... 36

Fig. 45: Ingenious-2k19, a half-day event on Business Plan, on 25 March 2019, by the Department of Business Administration 37
Fig. 46: Industrial Visit to Infosys, Mudipu, Mangaluru for sixth semester students, on 12 March 2019, by the Department of CSE 37
Fig. 47: Industrial Visit to Varahi Hydro-Electric Power Plant for final year students, on 11 March 2019, by the Department of EEE 38
Fig. 48: A talk on “Semiconductor Industry Opportunities and Challenges” by Mr Arun Mathias, Manager - Sandeepani School of Embedded System Design, Bengaluru, for Third and Fourth year ECE students, on 1 March 2019, by ECE Department 38
Fig. 49: Industrial visit to Varahi hydropower plant, Hosangadi and Mani dam, Yadur for final year students, on 25 February 2019, by the Industry Interaction Cell of Mechanical Engineering 39
Fig. 50: Memorandum of Understanding (MoU) with the Karnataka German Technical Training Institute (KGTTI), on 25 February 2019 39
Fig. 51: One day workshop on BlockChain by Mr. Marimuthu C, Research Scholar, Department of CSE, NITK, Surathkal for Sixth semester students, on 23 February 2019, by CSE Department 40
Fig. 52: Outreach Programme on Intellectual Property Awareness at ShubhodayaVidyalaya, Mudushedde, on 21 February 2019, by SJEC in association with Karnataka State Council for Science and Technology, (KSCST), IISC Campus, Bengaluru, Cell for IPR Promotion and Management (CIPAM) and Department of Industrial Policy & Promotion, Ministry of Commerce & Industry, Govt of India 40
Fig. 53: KarMic-St Joseph Academic Lab set up as a part of MOU signed on 5 February 2019, by ECE Department 41
Fig. 54: Talk on Project Management & Communication by Mr Sanjay Khan, on 29 January 2019, by EEE Department 41
Fig.55: Management Development Programme on “Leadership Skills for Women Entrepreneurs”, Ms Shipra Rai and Mr A. R. Nagesh, Senior Manager (Technical), KSFC, Mangaluru, on 18 January 2019, by the Department of Business Administration 42
Fig. 56: FDP on“Recent Trends in Medical Image Processing Using Wavelet Transforms”, during 1-5 January 2019, by ECE Department 42
Fig. 57: MoU with Master PlanneryNirmithi Kendra, Puttur, on 18 December 2018, anchored by the Department of Civil Engineering 43
Fig. 58: Technical Talk on “Industrial Scenario in DK & significance of factory act for an industrial set up” by Mr K.G. Nanjappa, Deputy Director of Factories, Bengaluru, for the third

year students, on 16 November 2018, by Electronics and Communication Engineering Department 43
Fig. 59: Colloquy-18, A Panel Discussion on the theme “Smart City Mangaluru and Business Opportunities”, on 15 November 2018, by the Department of Business Administration and Industry Interaction and Entrepreneurship Development Cell (IIEDC) 44
Fig. 60: Talk on “Skilling Engineers for Professional Success” by Konkan Railways for the Second and Third year students, on 14 and 15 November 2018, by ‘TORQUE’, Mechanical Engineering Students’ Association 44
Fig. 61: Industrial visit to “Udupi Power Corporation Ltd, Padubidri” for second year students, on 12 November 2018, by the Industry Interaction Cell of Mechanical Engineering Department 45
Fig. 62: Industrial visit to New Mangalore Port Trust, Panambur for V Semester students, on 2 November 2018, by the Department of Civil Engineering 45
Fig. 63: One Day Workshop on IP Security for pre-final year students, by Mr. Rahul Dutta, Associate Engineer in J P Morgan, Hyderabad, on 27 October 2018, by CIPHER- student association and IIEDC..... 46
Fig. 64: Industrial Visit to Water Treatment plant, Tumbe Dam and Sewage Treatment Plant, Kavoor, Mangaluru for VII Semester students, on 12 October 2018, by the Department of Civil Engineering..... 46
Fig. 65: Motivational Talk on Entrepreneurship Development by Dr G Srinikethan, In-charge Director, NITK STEP for Final year students of E&E and Civil and pre-final year students of MCA, on 10 October 2018, by the Department of Electrical and Electronics Engineering in association with IIEDC 47
Fig. 66: Industrial Visit to Bharath Electronics Limited (BEL), Centre for Nano Science and Engineering (CenSe) and Zreyah Semiconductors Systems Pvt Ltd., during 5-6 October 2018, by ECE Department 47
Fig. 67: Inauguration of Student Association – PRODIGI, with Mr Madan B, Director, KarMic Design Pvt. Ltd. and Mr KeerthanPrabhu, Founder, College Innovators, NMAMIT, Nitte, on 25 September 2018, by ECE Department 48
Fig. 68: Fig. 55: ‘Involve - The DNA of Leadership’-Talk by Mr KeerthanPrabhu, on 25 September 2018, by ECE Department 48
Fig. 69: MATLAB DAY with NainiDawar, an Educational Technical Evangelist at MathWorks India, on 7 Sept 2018, by ECE Department 49
Fig. 70: Talk on “Accessible and Multimodal Computing” by Dr Sreekanth N S, Scientist ‘D’/ Principal Technical Officer, C-DAC, Bengaluru, on 7 September 2018, by Department of CSE 49

Fig. 71: Interactive Session on Industry Practices on Software Project Delivery by Mr Hari S, Lead-Education Training and Assessment (ETA), Infosys Trivandrum Development Centre for the CSE students, on 10 August 2018, by the Department of Computer Science and Engineering in association with Industry Interaction and Entrepreneurship Development Cell (IIEDC) 50
Fig. 72: Interactive Session on Industry Practices on Software Project Delivery by Mr Hari S, Lead-Education Training and Assessment (ETA), Infosys Trivandrum Development Centre for the MCA students, on 8 August 2018, by the Department of Computer Applications 50
Fig. 73: Infosys Campus Connect Faculty Enablement Program on Foundation Program 5.0, from 06 to 10 August 2018, by the Departments of Computer Applications in collaboration with the Department of Computer Science and Engineering..... 51
Fig. 74: Motivational Talk on "Indian Railways & Competitive Exams" by Mr. P R Pinto Superintendent Material Control Lab, Indian Railways, Mumbai for the third semester EEE students, on 6 August 2018, by the Department of EEE..... 51
Fig. 75: Industrial Visit to Master Plannery Rural Development Centre, Puttur, by the Department of Civil Engineering..... 52
Fig. 76: "Importance of GATE Exam" by ACE Institute for the final year students, on 30th October 2018, by TORQU, Mechanical Engineering Students' Association. 53
Fig. 77: "ORIENTATION THROUGH GATE" by Mr Ananth Pai and Mr. Uday Shankar, Academy in Pursuit of Engineering Excellence (APEX) for final year engineering students, on August 25, 2018..... 53
Fig. 78: "Indian Railways & Competitive Exams" by Mr. P R Pinto, Superintendent Material Control Lab, Indian Railways, Mumbai on 6th August 2018, by EEE Department..... 54
Fig. 79: Outbound training at Madikeri, during 12-13October 2018, by MBA Department..... 56
Fig. 80: Outreach program at Govt High School, Hosabettu on 7th Sept 2109 by Physics Department 57
Fig. 81: Outreach program at Govt High School Navoor, Bantawala on 16thNov. 2109 by Physics Department 57

List of Tables

Table 1: Actions Items suggested during the previous IQAC meeting for Continual Improvement 1
Table 2: Attainment Gap Analysis of BE-Mechanical Engineering (I shift) 58
Table 4: Attainment Gap Analysis BE-Mechanical Engineering (First Year) 60
Table 6: Attainment Gap Analysis of BE-Electrical and Electronics Engineering 62
Table 7: Attainment Gap Analysis BE-Electrical and Electronics Engineering (First Year) 63
Table 8: Attainment Gap Analysis of BE-Electronics and Communication Engineering 65
Table 9: Attainment Gap Analysis BE-Electronics and Communication Engg (First Year) 67
Table 10: Attainment Gap Analysis of BE-Civil Engineering 68
Table 11: Attainment Gap Analysis BE-Civil Engineering (First Year) 70
Table 12: Attainment Gap Analysis of BE-Computer Science and Engineering 71
Table 13: Attainment Gap Analysis BE- Computer Science Engineering (First Year) 73
Table 14: Attainment Gap Analysis of Master of Business Administration 74
Table 15: Attainment Gap Analysis of Master of Computer Applications 76

1. Agenda of the IQAC Meeting Scheduled on 23thNovember 2019

1. Review of Minutes of previous IQAC Meeting date: 16th November 2018.
2. Updates related to Accreditation.
3. Attainment of POs and PSOs in the five UG programs, MBA & MCA.
4. Continual Improvement Action Items for each of the POs and PSOs.
5. Any other matter with the permission of the chair.

2. Review of Minutes of the previous IAAB Meeting

Table 1: Actions Items suggested during the previous IQAC meeting for Continual Improvement

Action Item No.	Action Item	Person Responsible to Coordinate	Status as on (5 Nov 2019)
I/2018-19/1	Documentation of Specific outcomes for each of the activities related to the POs & PSOs	Departmental accreditation coordinators	Every activity has been mapped to POs and PSOs. Course File has been revamped to ensure meticulous documentation. Documentation produced during DAB meetings of respective departments.
I/2018-19/2	Certification courses for students and staff	Respective Departmental HODs	Certification Courses have been made part of Faculty Performance Appraisal. Moreover, pupils have been persuaded through mentors to take-up certification courses.
I/2018-19/3	Establishing/offering online courses	Faculty	Faculty have been made tech savvy through FDPs in harnessing the power of technology in teaching, and e-Platforms for TLP have been mandatory for every course. In addition TLP Center has been established to facilitate the faculty in new age TLP. Moreover, management has approved to establish state of art recording lab to strengthen the TLP.

Action Item No.	Action Item	Person Responsible to Coordinate	Status as on (5 Nov 2019)
I/2018-19/4	Rigorous alumni interaction and strengthening of the network	Chairperson - Alumni Association	All the possible social media platforms are utilized to strengthen the Alumni network. Also, more activities are conducted at departmental level to tap their potential.
I/2018-19/5	Community based, and socially relevant Capstone and Mini Projects	Respective Departmental HODs	Students are motivated to take-up mini-projects and capstone projects facilitating them to apply for KSCST and other funding agencies. Moreover, community engagement cell has been established to initiate the social innovation.
I/2018-19/6	Goal oriented entrepreneurship activities	Dean-MBA & Coordinator - IIEDC	Panel Discussion, MDPs, and Guest lecturers have been arranged. Incubation and IPR Cell have been established to reinforce the system.
I/2018-19/7	More Design Development Patent related activities	Coordinator – Innovation Club	New Age Incubation Network (NAIN) has been established.

3. Action Taken Report (ATR)

3.1 Action item 1 (Documentation of specific outcomes for each of the activities related to the POs & PSOs)

- Every activity has been mapped to POs and PSOs.
- Course File has been revamped to ensure meticulous documentation.
- Documentations produced during DAB meetings of respective departments.
- Segregations are made with special reference to KSA (Knowledge-Skill-Attitude)

3.2 Action item 2 (Certification courses for students and staff)

Table 2: Certifications courses by Staff

SI. No.	Faculty Name	Course Title	Examination Authority
1	Dr Shreeranga Bhat	International Qualified Six sigma Master Black Belt	Indian Statistical Institute, Bangalore
		Foundation course on learning and development intervention, Orientation to Human Resource Development and Leadership	CLHRD Mangalore
		IUCEE International Engineering Educator Certification Program	IUCEE
2	Mr Sushanth H G	Outcome Based Pedagogic Principles for Effective Teaching	NPTEL online Certification
		Introduction to Thermodynamics: Transferring Energy from Here to There	Online non-credit course authorized by the University of Michigan and offered through Coursera
3	Dr Sudheer M	Effective Engineering Teaching inpractice	NPTEL online Certification
		Course on Dynamic Response of Advanced Composites	
4	Mr Pavana Kumara and Mr Poornesh M	Course on Dynamic Response of Advanced Composites	NPTEL online Certification

SI. No.	Faculty Name	Course Title	Examination Authority
		Effective Engineering Teaching inpractice	NPTEL online Certification
5	Mr SharunMendonca	Introduction to Thermodynamics: Transferring Energy from Here to There	Online non-credit course authorized by the University of Michigan and offered through Coursera
		Foundation course on learning and developmentintervention, Orientation to Human Resource Development and Leadership	CLHRD Mangalore
6	Mr Rahul Kumar B and Mr Jinu Mathew	Introduction to Materials Science and Engineering	NPTEL online Certification
7	Mr John Paul Vas	Six Sigma	NPTEL online Certification
		Foundation course on learning and development intervention, Orientation to Human Resource Development and Leadership	CLHRD Mangalore
8	Mr Akshay N H	Product Design and Development	NPTEL online Certification
9	Mr Canute Sherwin	Manufacturing Guidelines for Product Design	NPTEL online Certification
10	Mr Swaraj Lewis	Inspection and Quality Control in Manufacturing	NPTEL online Certification
11	Mr RavikanthPrabhu	Introduction to Research	NPTEL online Certification

SI. No.	Faculty Name	Course Title	Examination Authority
		Foundation course on learning and developmentintervention, Orientation to Human Resource Development and Leadership	CLHRD Mangalore
12	Dr Binu K G	IUCEE International Engineering Educator Certification Program	IUCEE
		Foundation course on learning and development intervention, Orientation to Human Resource Development and Leadership	CLHRD Mangalore
13	Mr Joel D'Mello, Mr Rudolf D'Souza, Mr Alister D'Souza, Mr Neil Vaz and Mr RolvinD'Silva	Foundation course on learning and development intervention, Orientation to Human Resource Development and Leadership	CLHRD Mangalore
14	Mr Vijay V S	IUCEE International Engineering Educator Certification Program	IUCEE
15	Ms Ramya M	Effective Engineering Teaching inpractice	NPTEL Online certification
16	Ms Sumangala N	Data Mining	NPTEL online Certification
		Machine Learning, ML	
		Programming, Data Structures and Algorithms using Python	
17	Ms Sadhana Kumble	Introduction to Machine Learning Machine Learning for Engineering and Science Applications	NPTEL online Certification

SI. No.	Faculty Name	Course Title	Examination Authority
		IIEECP Certification	IUCEE
18	Mr Sathyendra Bhat	Educational Leadership Introduction to Machine Learning	NPTEL online Certification
		IIEECP Certification	IUCEE
19	Mr Hareesh B	IIEECP Certification	IUCEE
20	Mr. Gururaja S	Machine Learning, ML Real- time Operating System Digital Image Processing	NPTEL online Certification
21	Mr RageshRaju	Google Cloud Platform Fundamentals: Core Infrastructure Essential Cloud Infrastructure: Foundation Essential Cloud Infrastructure: Core Services Elastic Cloud Infrastructure: Scaling and Automation Elastic Cloud Infrastructure: Containers and Services Reliable Cloud Infrastructure: Design and Process	Coursera
22	Ms Chitralekha J	Introduction to Cognitive Psychology	Swayam/NPTEL
		Enhancing Soft skill and Personality	
23	Dr Shakila B	Financial Statement Analysis and Reporting	Swayam/NPTELonline Certification

SI. No.	Faculty Name	Course Title	Examination Authority
24	Dr Prakash Pinto	Financial Statement Analysis and Reporting	Swayam/NPTELonline Certification
25	Dr Anjali Ganesh	Emotional Intelligence	Swayam/NPTELonline Certification
		Enhancing soft skills and personality	
26	Ms Manjula K	Foundation Course in Managerial Economics	Swayam/NPTEL online Certification
		Emotional Intelligence	
27	Mr Rolen Rodrigues	Educational Leadership Introduction to Cognitive Psychology	NPTEL online Certification
		IIEECP(International Engineering Educator Certification Program)	IUCEE
28	Mr Franco Menezes	Introduction to Cognitive Psychology	NPTEL online Certification
		IIEECP	IUCEE
29	Mr Ajithanjaya	IIEECP	IUCEE
30	Mr Subramanya K	IIEECP	IUCEE
31	Ms Nandini Maninarayana	Using Databases with Python Using Python to Access Web Data The Arduino Platform and C Programming Introduction to the Internet of Things and Embedded Systems	Coursera
32	Ms Reshma K J	Introduction to Research	NPTEL online

SI. No.	Faculty Name	Course Title	Examination Authority
			Certification
33	Ms Arya Shri	Introduction to Coding Theory	NPTEL online Certification
34	Mr Uday J	Hardware Modelling using Verilog	NPTEL online Certification
35	Ms Jennifer Saldanha	Biomedical Signal Processing	NPTEL online Certification
36	Ms Preetha D'Souza	Semiconductor Devices and Circuits	NPTEL online Certification
37	Ms Sandhya Dass	Outcome based pedagogic principles of Effective Teaching	NPTEL online Certification
38	Ms Priya Miranda	CMOS Digital VLSI Design	NPTEL online Certification
		Principles of communication systems	
39	Ms Sadhika Shetty	Digital Image Processing	NPTEL online Certification
40	Ms Avila Pinto	Microprocessors & Microcontrollers	NPTEL online Certification
41	Ms Chaithra U R	Digital Circuits	NPTEL online Certification
		Cryptography and Network security	
		Customized Course from Training Services	MathWorks
42	Ms Rupal D'Souza	Cryptography and Network Security	NPTEL online Certification

SI. No.	Faculty Name	Course Title	Examination Authority
43	Ms Jayalakshmi K P	Psychiatry-An Overview	NPTEL online Certification
44	Ms VinithaPrasanna	Microprocessors & Microcontrollers	NPTEL online Certification
45	Ms Deepthi S R	Digital Circuits	NPTEL online Certification
46	Ms Shama B	Customized Course from Training Services	MathWorks
47	Dr Kavitha K Mahesh	Introduction to R Software	NPTEL online Certification
		Big Data Computing	
48	Mr Shreenath Acharya	Big Data Computing	NPTEL online Certification
		Programming in Java	
		Apache PIG Fundamentals	EDUCBA (Corporate Bridge Consultancy Pvt Ltd by IIT and IIM graduates)
		IUCEE International Engineering Educator	IUCEE
49	Ms Gayana M N	Data Science for Engineers	NPTEL online Certification
		Introduction to Machine Learning	
50	Dr Sridevi Saralaya	Big Data Computing	NPTEL online Certification
		Data Science for Engineers	

SI. No.	Faculty Name	Course Title	Examination Authority
		IUCEE International Engineering Educator	IUCEE
51	Ms Supriya Salian	Introduction to Internet of Things	NPTEL online Certification
52	Ms Supreetha R	Data Science for Engineers	NPTEL online Certification
		Introduction to Machine Learning	
53	Ms Smitha V George	Big Data Computing	NPTEL online Certification
		Introduction to Machine Learning	
54	Ms Sunitha Guruprasad	Introduction to Soft Computing	NPTEL online Certification
55	Ms Evita Coelho	ICT based STTP on problem based learning	NITTR
		IUCEE International Engineering Educator	IUCEE
56	Ms Anusha M M	IUCEE International Engineering Educator	IUCEE
57	Dr Rachana P	Introduction to Internet of Things	NPTEL online Certification
58	Dr Usha Divakarla	Introduction to Internet of Things	NPTEL online Certification
59	Ms Babitha	Joy of computing Python	NPTEL online Certification
		Big Data Computing	
		Machine Learning: A-Z Hands on Python	Udemy

SI. No.	Faculty Name	Course Title	Examination Authority
60	Ms Lavina D'Silva	Big Data Computing	NPTEL online Certification
		IUCEE International Engineering Educator	IUCEE
61	Ms Vijetha U	Google App Script Complete Course - Beginner to Advanced	Udemy
62	Ms Sujatha	Beginner's guide to writing manuscript in LateX	Researcher academy Elsevier
		Basics of Scrum, Agile ad Project delivery	Udemy
		Programming with Python	
		Introduction to abstract and linear algebra	NPTEL online Certification
63	Dr Vincent Crasta	Teaching and learning in general program	NPTEL online Certification
64	Dr Rajesh Kumar P C	Course on EER	IUCEE
65	Ms Venita Monteiro	Teaching and learning in general program	NPTEL online Certification

Table 3: Certification courses by Students

Sl No.	Student Name	Course Title	Examination Authority (NPTEL, Udemy, Coursera, etc)
1	Nigel D'Costa	Introduction to programming using Python	Microsoft Technology Associate
		Introduction to programming using	

Sl No.	Student Name	Course Title	Examination Authority (NPTEL, Udemy, Coursera, etc)
		JavaScript	
2	Preetham Pai D	Introduction to programming using JavaScript	Microsoft Technology Associate
3	Anwitha A	Problem Solving Through Programming in C	NPTEL online Certification
		Programming Data Structures and Algorithms Using Python	
4	Glen Lobo	Python Programming	NPTEL online Certification
		InfyTQ	Infosys
5	Pragathi S Beedu	Introduction to modern application development	NPTEL online Certification
6	Priyadarshini	Introduction to modern application development	NPTEL online Certification
7	Nikitha Kini	Introduction to modern application development	NPTEL online Certification
8	Swathi S Karanth	Introduction to modern application development	NPTEL online Certification
9	Suman R Nayak	Introduction to modern application development	NPTEL online Certification
10	Prajna P J	Introduction to programming using JavaScript	Microsoft Technology Associate
11	Aishwarya	Introduction to programming using JavaScript	Microsoft Technology Associate
12	Sandhyashree	Introduction to programming using JavaScript	Microsoft Technology Associate
13	Reddy Ashok	Introduction to programming using JavaScript	Microsoft Technology Associate
14	Winston Pereira	Programming in Java	NPTEL online Certification
15	39 MBA Students	Business Analytics with R tool &	ATS Infotech

Sl No.	Student Name	Course Title	Examination Authority (NPTEL, Udemy, Coursera, etc)
		MOS certification	
16	55 Students	Personality Development & Public Speaking sessions	MBA Dept., SJEC
17	55 Students	IT for Business	MBA Dept. , SJEC
18	36 Students	Python	Spoken tutorial by IITs
19	4 Students	C	Spoken tutorial by IITs
20	5 Students	C++	Spoken tutorial by IITs
21	51 Students	Google Analytics	Google Analytics

More than 250 students from the ECE department have taken up online courses in the Academic Year 2018-19. Some of the courses are listed below:

- SQL Fundamentals, Javascript Tutorials, HTML Fundamentals in SOLOLEARN
- C Programming, C++ and Arduino in Spoken Test Project, IIT Bombay
- Matlab Onramp, Matlab for Data Processing and Visualization – Mathworks
- Various NPTEL Courses

3.3 Action item 3 (Establishing/offering online courses)

- Faculty have been made tech savvy through FDPs in harnessing the power of technology in teaching, and e-Platforms for TLP have been mandatory for every course.
- In addition TLP Center has been established to facilitate the faculty in new age TLP.
- Moreover, management has approved to establish state of art recording lab to strengthen the TLP.

3.4 Action item 4 (Rigorous alumni interaction and strengthening of the network)

The following actions were taken to strengthen the alumni network and alumni interaction.
At the institutional level:

1. A complete database of all the alumni (students who have successfully completed the programme) is maintained.
2. Regular communication mailers to connect with the alumni.

3. Alumni portals and social media platforms showcasing alumni achievers and activities on campus.
4. Annual alumni meet which enables alumni to connect with each other, with the management, with the students and with the faculty members.

Department of Electrical &Electronics Engineering

Fig. 1: Electrical Distribution Systems by Ms Prarthana Rao, Alumni Batch 2017, on 15 April 2019, by EEE Department

Fig. 2: Project Management and CommunicationbyMr Sanjay Khan, on 29 January 2019, Alumni Batch 2012, organizedby EEE Department

Fig. 3: Route to Higher Studies in Western Universities by Mr Cedric D'Souza, on 28 January 2019, Alumni Batch 2017, by EEE Department

Fig. 4: Motivational Talk by Ms Janashree Anchan, Alumni batch 2016, on 13 November 2018, organized by EEE Department

Fig. 5: Igniting Young Minds for Higher Studies on 10 August 2018 by Mr. B Jayaprakash, Alumni Batch 2016, organized by EEE Department

Department of Electronics & Communication Engineering

Fig. 6: Technical talk on “Opportunities abroad and Industry expectations” by Ms Raksha Janet Jathanna, Alumna of Electronics and Communication Engineering, for Sixth semester students, on 5 March 2019, organized by ECE Department

Fig. 7: Technical talk on “Roadmap to successful Project Deployment” by Mr David John Saldanha, Alumnus of Electronics and Communication Engineering for Sixth semester students, on 21 February 2019, organized by ECE Department.

Department of Computer Science & Engineering

The following actions were taken to strengthen the alumni network and alumni interaction:

1. Alumni are involved in the various phases of project evaluation as panelists which allow them to give constructive feedback on the students’ ongoing projects.
2. Alumni are invited as resource persons for technical talks and workshops which facilitate them to interact with the students and faculty members.
3. Alumni are invited as members of Department advisory board which enable them to give constructive feedback and suggestions regarding issues for the betterment of the department, identifying curriculum gaps and bridging those gaps etc.

Department of Business Administration

Fig. 8: Interaction with Alumni Ms ZeebaNaaz, Lead-Talent Acquisition at Phoenix Global DMCC, Hyderabad, from the batch 2010-12, for Second year MBA Students, on 14 August 2019

Fig. 9: Interaction session with Alumni Ms Prajna Jyothi Dsouza, Manager-HR, Mangalore Internet City and Batch of 2010, for First year MBA students, on 17 December 2018

Fig. 10: Interaction session with alumni, Mr Johnson Stephen Mascarenhas, HR Coordinator at Starlink DMCC, Dubai, for I year MBA Students, on 30 November 2018

Fig. 11: Interaction with alumni, Ms Varsha Baliga, Sr. Tax Analyst, Pricewaterhouse Coopers for the First and Second year MBA Students, on 5 November 2018

Department of MCA

Alumni have been identified and invited for conducting technical talks in the coming semester. All the departments have called alumni during the final year project exhibition to evaluate the project.

Department of EEE

Fig. 12: Technova 2019 Project showcase cum competition for final year students on 20May 2019, Evaluated by Mr Mahesh J, organized by EEE Department

Department of ECE

- Winston Vishal D'Souza, Alumnus ECE and Manager D & D Smart Labs, Incubated at SJEC is actively involved in Mentoring and Guiding ECE students for their internships and Final Year Projects.
- Mr Sourabh Jain (99 Games), Mr ShivarajPujary (Manipal Technologies), Mr VigneshAithal (Cadence Technologies), Ms ShilpaShenoy (KarMic Design Pvt. Ltd) all alumni of ECE Dept are members of Department Advisory Board.

Department of CSE

The initial project idea and the synopsis presentation involved the following Alumni for the evaluations and suggestions to further strengthen the ideas and also possible modifications that could be applied for improvements.

- Mr Mohammed Awsaf Ali, Engineer Komquest solutions. (2015 batch student)
- Mr Vishal Archie Rego, CEO - AstheticA – Web sites, software, hosting, branding, marketing and service (UG as well as 2012 batch PG student).

Fig. 13: Involved alumni Ms Archana Bhat during the Technova 2019, Project Evaluation on May 20, 2019, by the Department of Computer Science & Engineering

Department of MBA

Ms Pooja Bhat K, proprietor, Hanuman Printers, Vittal, an alumnus of 2017 batch has visited the MBA department as an examiner for internship viva-voce held on 27th October 2018 for the graduates of 2019.

Department of MCA

Fig. 14: Alumni involvement during the Technical event, by the Department of Computer Applications

3.5 Action item 5, 6, 7 (Community based, and socially relevant Capstone and Mini Projects, Goal oriented entrepreneurship activities, More Design Development Patent related activities)

Fig. 15: Entrepreneurial Talk on “Start a start-up: Become an Entrepreneur” on 26 October 2019, by CSE Department in association with Industry and Innovation Group (IIG) and NAIN.

Fig. 16: Industrial visit to New Mangalore Port Trust (NMPT), on 25 October 2019, by Department of Mechanical Engineering

Fig. 17: Entrepreneurial Talk by Hallimane Rotti Shilpa, on 24 October 2019, by MBA Department and IIG

Fig. 18: Industrial visit to GWASF-Quality Casting Pvt Ltd, Baikampady, on 23 October 2019, by Industry and Innovation Cell of Mechanical Engineering

Fig. 19: Industrial Visit to IRC Ready Mix Concrete Plant, Ganesh Cement Spun Poles & Pipes factory at Industrial Area, Baikampady and construction site visit to Westline Signature for the Final Year Civil Engineering Students, on 17 October 2019

Fig. 20: Campaign for students of St Jacobs Higher Primary School, Farla, to celebrate Innovation Day, on 11 October 2019, by The Industry and Innovation Group, SJEC

Fig. 21: Technical Talk on Avenues for Civil Engineers by Mr Maninarayan K T, Construction and Contract Management Expert, Eptisa-BETS JV, Kathmandu, Nepal., on 9 October 2019, by Department of Civil Engineering

Fig. 22: MOU with AIESEC in MAHE, on 30 September 2019, by Industry and Innovation Group (IIG) and Collaborations office.

Fig. 23: Technical Talk on Rainwater Harvesting and Construction Equipment by ErBharath J and ErUjwal D'Souza, on 30 September 2019

Fig. 24: Technical Talk on Innovative World of Civil Engineering and Construction Safety, by Dr K S Babunarayan, Professor and Eminent Structural Engineer, Dept of Civil Engineering-NITK Surathkal, Er. Ashok Kumar, Consulting Engineer, Mangaluru,
Er. Kennet D'Souza, Consulting Engineer and ACCE(I) Office Bearer, Er. Sathyaranjan Rao, Consulting Engineer and Vice-Chairman ACCE(I) Mangaluru Centre and Er. Ashwil, RAMCO Cement Rep., on 26 September 2019, by the Department of Civil Engineering

Fig. 25: Industrial Visit to Westline Signature and Marian Park for third-year students, on 25 September 2019, by the Department of Civil Engineering

Fig. 26: Industrial Visit to Skyline Signature and Marian Park for Fifth Semester Civil Engineering students, on 24 September 2019, by the Department of Civil Engineering

Fig. 27: Industrial Visit to Nirmithi Kendra, Surathkal for second year students, on 23 September 2019, by the Department of Civil Engineering

Fig. 28: MOU with SELCO Foundation, on 21 September 2019, to be anchored by the Department of E & E

Fig. 29: Technical Session on Ideation on Socially Relevant Projects, on 21 September 2019, by Mr Adithya, Mr Mohsim and Mr Ashwin, Program Managers at SELCO Foundation

Fig. 30: Industrial visit to Varahi hydropower plant, Hosangadi and Mani Dam, Yadur, on 17 September 2019 & 5 October 2019, by the Department of Mechanical Engineering

Fig. 31: Inauguration of Tessolve Semiconductor Laboratory and Bio-medical Electronics Research Laboratory, on 14 September 2019, by the Department of Electronics and Communication Engineering in association with Industry & Innovation Group (IIG)

Fig. 32: Display of recycling projects at 10th Edition of International Plastics Exposition 2019 (IPLEX 2019), from 23-25 August 2019, by Department of Mechanical Engineering and Civil Engineering

Fig. 33: E-STEP Start-up Bootcamp, on 22 August 2019, by The New Age Incubation Network (NAIN) Incubation Centre in association with Karnataka Innovation and Technology Society (KITS)

Fig. 34: Interaction with Doctors of FMMC by ECE Faculty, on 7 August 2019

Fig. 35: Demonstration of ‘AReal Arc Welding Simulator’ by Mr Sanjay Hubli, Regional Manager and Mr Manjunath – Engineer from Mogora Cosmic Pvt. Ltd Pune,on 13 June 2019, in the Mechanical Workshop

Fig. 36: MoU with Marian Projects Pvt. Ltd, on 29 May 2019, anchored by the Deparment of Civil Engineering

Fig. 37: Industrial Visit to Udupi Power Corporation Ltd (UPCL) for second year students, on 9 May 2019, by the Department of EEE

Fig. 38: Hands-on session on “Raspberry Pi programming” by Mr Gopala Krishna BhatKakunje, Director of Kakunje Software Pvt Ltd. for Fifth semester students, on 26 and 27 April 2019, by Department of CSE

Fig. 39: Talk on “Latest Designing Tools in Industry” by Mr Akshay B Gaikwad and Mr Sheik Mohammed, Faculty, CADD Centre Mangaluru, on 23 April 2019, by Mechanical Engineering Department

Fig. 40: Talk on “Electrical Distribution System” by Ms Prarthana Rao, Engineer at MESCOM, Kavoorfor second year students, on 15 April 2019, organized by EEE Department

Fig. 41: Talk on “Performance Analysis of Communication Systems through Simulink and SDR”, by Dr Prashanth Kumar H, Assistant. Prof-ECE, NITK Surathkal for final year students, on 15 April 2019, by ECE Department

Fig. 42: Industrial Visit to Master PlanneryNirmithi Kendra for VI Semester students, on 15 April 2019, by the Department of Civil Engineering in association with IIEDC

Fig. 43: Talk on “Engineering and Innovation” for second year CSE students, by Dr Poornalatha G, Department of Information & Communication Technology, Manipal University on 13 April 2019, by CSE Department

Fig. 44: One-day Industrial visit to KPTCL Kavoor Substation Industrial Visit for the 4-semester students on 28 March 2019, by the Electrical and Electronics Department

Fig. 45: Ingenious-2k19, a half-day event on Business Plan, on 25 March 2019, by the Department of Business Administration

Fig. 46: Industrial Visit to Infosys, Mudipu, Mangaluru for sixth semester students, on 12 March 2019, by the Department of CSE

Fig. 47: Industrial Visit to Varahi Hydro-Electric Power Plant for final year students, on 11 March 2019, by the Department of EEE

Fig. 48: A talk on “Semiconductor Industry Opportunities and Challenges” by Mr Arun Mathias, Manager - Sandeepani School of Embedded System Design, Bengaluru, for Third and Fourth year ECE students, on 1 March 2019, by ECE Department

Fig. 49: Industrial visit to Varahi hydropower plant, Hosangadi and Mani dam, Yadur for final year students, on 25 February 2019, by the Industry Interaction Cell of Mechanical Engineering

Fig. 50: Memorandum of Understanding (MoU) with the Karnataka German Technical Training Institute (KGTTI), on 25 February 2019

Fig. 51: One day workshop on BlockChain by Mr. Marimuthu C, Research Scholar, Department of CSE, NITK, Surathkal for Sixth semester students, on 23 February 2019, by CSE Department

Fig. 52: Outreach Programme on Intellectual Property Awareness at ShubhodayaVidyalaya, Mudushedde, on 21 February 2019, by SJEC in association with Karnataka State Council for Science and Technology, (KSCST), IISC Campus, Bengaluru, Cell for IPR Promotion and Management (CIPAM) and Department of Industrial Policy & Promotion, Ministry of Commerce & Industry, Govt of India

Fig. 53: KarMic-St Joseph Academic Lab set up as a part of MOU signed on 5 February 2019, by ECE Department

Fig. 54: Talk on Project Management & Communication by Mr Sanjay Khan, on 29 January 2019, by EEE Department

Fig.55: Management Development Programme on “Leadership Skills for Women Entrepreneurs”, Ms Shipra Rai and Mr A. R. Nagesh, Senior Manager (Technical), KSFC, Mangaluru, on 18 January 2019, by the Department of Business Administration

Fig. 56: FDP on“Recent Trends in Medical Image Processing Using Wavelet Transforms”, during 1-5 January 2019, by ECE Department

Fig. 57: MoU with Master PlanneryNirmithi Kendra, Puttur, on 18 December 2018, anchored by the Department of Civil Engineering

Fig. 58: Technical Talk on “Industrial Scenario in DK & significance of factory act for an industrial set up” by Mr K.G. Nanjappa, Deputy Director of Factories, Bengaluru, for the third year students, on 16 November 2018, by Electronics and Communication Engineering Department

Fig. 59: Colloquy-18, A Panel Discussion on the theme “Smart City Mangaluru and Business Opportunities”, on 15 November 2018, by the Department of Business Administration and Industry Interaction and Entrepreneurship Development Cell (IIEDC)

Fig. 60: Talk on “Skilling Engineers for Professional Success” by Konkan Railways for the Second and Third year students, on 14 and 15 November 2018, by ‘TORQUE’, Mechanical Engineering Students’ Association

Fig. 61: Industrial visit to “Udupi Power Corporation Ltd, Padubidri” for second year students, on 12 November 2018, by the Industry Interaction Cell of Mechanical Engineering Department

Fig. 62: Industrial visit to New Mangalore Port Trust, Panambur for V Semester students, on 2 November 2018, by the Department of Civil Engineering

Fig. 63: One Day Workshop on IP Security for pre-final year students, by Mr. Rahul Dutta, Associate Engineer in J P Morgan, Hyderabad, on 27 October 2018, by CIPHER- student association and IIEDC

Fig. 64: Industrial Visit to Water Treatment plant, Tumbe Dam and Sewage Treatment Plant, Kavoor, Mangaluru for VII Semester students, on 12 October 2018, by the Department of Civil Engineering

Fig. 65: Motivational Talk on Entrepreneurship Development by Dr G Srinikethan, In-charge Director, NITK STEP for Final year students of E&E and Civil and pre-final year students of MCA, on 10 October 2018, by the Department of Electrical and Electronics Engineering in association with IIEDC

Fig. 66: Industrial Visit to Bharath Electronics Limited (BEL), Centre for Nano Science and Engineering (CenSe) and Zreyah Semiconductors Systems Pvt Ltd., during 5-6 October 2018, by ECE Department

Fig. 67: Inauguration of Student Association – PRODIGI, with Mr Madan B, Director, KarMic Design Pvt. Ltd. and Mr KeerthanPrabhu, Founder, College Innovators, NMAMIT, Nitte, on 25 September 2018, by ECE Department

Fig. 68: Fig. 55: 'Involve - The DNA of Leadership'-Talk by Mr KeerthanPrabhu, on 25 September 2018, by ECE Department

Fig. 69: MATLAB DAY with NainiDawar, an Educational Technical Evangelist at MathWorks India, on 7 Sept 2018, by ECE Department

Fig. 70: Talk on “Accessible and Multimodal Computing” by Dr Sreekanth N S, Scientist ‘D’/ Principal Technical Officer, C-DAC, Bengaluru, on 7 September 2018, by Department of CSE

Fig. 71: Interactive Session on Industry Practices on Software Project Delivery by Mr Hari S, Lead-Education Training and Assessment (ETA), Infosys Trivandrum Development Centre for the CSE students, on 10 August 2018, by the Department of Computer Science and Engineering in association with Industry Interaction and Entrepreneurship Development Cell (IIEDC)

Fig. 72: Interactive Session on Industry Practices on Software Project Delivery by Mr Hari S, Lead-Education Training and Assessment (ETA), Infosys Trivandrum Development Centre for the MCA students, on 8 August 2018, by the Department of Computer Applications

Fig. 73: Infosys Campus Connect Faculty Enablement Program on Foundation Program 5.0, from 06 to 10 August 2018, by the Departments of Computer Applications in collaboration with the Department of Computer Science and Engineering

Fig. 74: Motivational Talk on "Indian Railways & Competitive Exams" by Mr. P R Pinto Superintendent Material Control Lab, Indian Railways, Mumbai for the third semester EEE students, on 6 August 2018, by the Department of EEE

Fig. 75: Industrial Visit to Master Plannery Rural Development Centre, Puttur, by the Department of Civil Engineering

A guest lecture on “Software Test Automation” was organized by the Department of Computer Applications for the students of MCA by Mr. Shrikrishna Bhat, Associate Manager – Quality Control, Glowtouch Technologies Pvt. Ltd. Mangaluru on March 9th 2019 at Bishop Aloysius Paul Hall from 10:00 am to 1:00 pm. The objective of the talk was to give an idea about the practices of Software Testing at an IT organization and understand the basic Test Concepts with respect to organization requirement

MOUs

Several MOUs/MOAs have been signed by the department of ECE at College Level, with programme specific Institutions/Organizations since AY 2018-19. Some of them are:

- KarMic design Pvt Ltd on 05-02-2019
- Tessolve Semiconductor Pvt Ltd on 04 July 2019
- Father Muller Charitable Institution on 15-02-2019
- College of Information and Electrical Engineering, Asia University, Taiwan on 18-06-2019
- ATS Infotech Pvt Ltd on 23-11-2018
- St Aloysius Collegeon 14-12-2018

Additional Training to Foster Critical Thinking

Department of Mechanical Engineering

Fig. 76: “Importance of GATE Exam” by ACE Institute for the final year students, on 30th October 2018, by TORQU, Mechanical Engineering Students’ Association.

Fig. 77: “ORIENTATION THROUGH GATE” by Mr Ananth Pai and Mr. Uday Shankar, Academy in Pursuit of Engineering Excellence (APEX) for final year engineering students, on August 25, 2018

Department of EEE

Fig. 78: “Indian Railways & Competitive Exams” by Mr. P R Pinto, Superintendent Material Control Lab, Indian Railways, Mumbai on 6th August 2018, by EEE Department

Department of ECE

Industry Orientation Lab is a part of regular time table of 2nd and 3rd Year students. This beyond the syllabus activity mainly focuses on use of Modern Tools and Project Design and Development.

Department of CSE

Individual Effectiveness Labs (IEL):

- IEL sessions were conducted by I-Point Facilitators for the II year students during the odd semester of the academic year 2018-2019. The sessions were conducted for a duration of two hours each week, on a regular basis.
- The following topics were dealt in IEL sessions: Personal Effectiveness, Goal Setting, Articulation, Group Discussion, Letter & Email, Presentation Skills and Team Work.

Organizational Effectiveness Labs (OEL):

- OEL sessions were conducted by I-Point Facilitators for the II year MCA students during the odd semester of the academic year 2018-2019. The sessions were conducted for a duration of two hours each week, on a regular basis.
- The following topics were dealt in OEL sessions: Professional Etiquette, Time Management, Group Discussion, Resume Writing, Interview, Outbound and Handling Feedback.

Department of MBA

- **V-ACT** -During the year 2018-19 V-ACT -Soft Skills, Personality Development and V-ACT Aptitude sessions were conducted for I MBA students. V-ACT -Soft Skills covered topics like Positive Attitude & Adaptability, Team Work & Professional ethics, Time Management & Communication. V-ACT Aptitude sessions covered topics like under and Number Theory & HCF and LCM, Permutations and Combinations and Average, Ratio and Proportion.
- **ATS**-Microsoft certification-Business Analytics -1st May to 4th May delivered to students and faculty.
- **Session on MOOCs**: Session on “Massive Open Online Courses (MOOCs) with special reference to NPTEL courses” on 28th December 2018 for the first year MBA students. Prof. Keith Fernandes explained the significance of online courses and the need to register for the same as these courses are delivered by experts from IITs, IIMs, and recognized foreign universities.

Fig. 79: Outbound training at Madikeri, during 12-13October 2018, by MBA Department

Department of MCA

Individual Effectiveness Labs (IEL):

- IEL sessions were conducted by I-Point Facilitators for the I year MCA students during the odd semester of the academic year 2018-2019. The sessions were conducted for a duration of two hours each week, on a regular basis.
- The following topics were dealt in IEL sessions: Personal Effectiveness, Goal Setting, Articulation, Group Discussion, Letter & Email, Presentation Skills and Team Work.

Organizational Effectiveness Labs (OEL):

- OEL sessions were conducted by I-Point Facilitators for the II year MCA students during the odd semester of the academic year 2018-2019. The sessions were conducted for a duration of two hours each week, on a regular basis.
- The following topics were dealt in OEL sessions: Professional Etiquette, Time Management, Group Discussion, Resume Writing, Interview, Outbound and Handling Feedback

Department of Physics

Fig. 80: Outreach program at Govt High School, Hosabettu on 7th Sept 2109 by Physics Department

Fig. 81: Outreach program at Govt High School Navoor, Bantawala on 16thNov. 2109 by Physics Department

4. Attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs), and Continual Improvement Action Items for each of the POs and PSOs.

4.1 BE in Mechanical Engineering

Table 2: Attainment Gap Analysis of BE-Mechanical Engineering (I shift)

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO1	Apply Knowledge	2	1.66	Moderately	Problem solving skills of students needs to be improved. Use of problem based learning or flip classroom and more tutorial classes have to be conducted.
PO2	Solve Problems	2	1.75	Moderately	
PO3	Design/ Development of Solution	2	2.08	High	Open ended experiments or real life based problems need to be given.
PO4	Conduct Investigations	2	2.78	High	
PO5	Use Modern Tools	2	2.08	High	Use of Virtual Lab, Simulation , Modelling and Analysis tools like CATIA, ANSYS, CFD, MATLAB etc need to be continued.
PO6	Engineer and Society	2	2.04	High	Encourage students to develop more projects related to industry and solve contemporary issues
PO7	Environment and Sustainability	2	2.06	High	

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
					in society related to environment and sustainability.
PO8	Professional Ethics	2	2.17	High	Use of rubrics to assess late submission and study of case studies related to the effect of wrong ethical practices.
PO9	Individual and Team Work	2	2.30	High	Encourage students to do mini projects, seminars, assignments in a group.
PO10	Communicate Effectively	2	2.16	High	Assess group activities using technical reports and presentations to improve communications both technical and personal.
PO11	Project Management and Finance	2	1.90	Moderately	Use of time management and cost estimation tools in project work need to be continued.
PO12	Lifelong Learning	2	1.78	Moderately	TLP practices like Flip classroom and

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
					promoting self learning using NPTEL video lectures will help in achieving this PO.
PSO1	Qualify in competitive Exam	2	1.16	Moderately	Assessment of aptitude classes need to be conducted. Technical quizzes need to be conducted as a part of assignment work.
PSO2	Conduct Research	2	1.82	Moderately	Encourage reading journal paper and promote research based projects.

Table 3: Attainment Gap Analysis BE-Mechanical Engineering (First Year)

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO1	Apply Knowledge	2	2.2	High	Conduct quiz, Seminars etc. on basic concepts
PO2	Solve Problems	2	2.48	High	An activity can be given to identify real life practical problems and find solution
PO3	Design/ Development of Solution	2	1.4	Moderately	Use case studies or open ended problems
PO4	Conduct	2	1.768	Moderately	Use of virtual lab or

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
	Investigations				open ended experiments
PO5	Use Modern Tools	2	1.196	Moderately	More classes on virtual lab or Simulation labs can be conducted
PO6	Engineer and Society	2	1.4	Moderately	Encourage students to develop capstone/mini projects to solve contemporary issues in society. Conduct seminar on environment and sustainability issues related to subject.
PO7	Environment and Sustainability	2	1.12	Moderately	
PO8	Professional Ethics	2	0.6	Low	Develop awareness about Professional Ethics by using plagiarism software, Rubrics to assess late submission and study of case studies related to the effect of wrong ethical practices
PO9	Individual and Team Work	2	1.56	Moderately	Encourage students to do mini projects, seminars, assignments in a group.
PO10	Communicate	2	1.76	Moderately	Continue V-ACT

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
	Effectively				Classes.
PO11	Project Management and Finance	2	0.6	Low	Arrange talks on industrial and financial management
PO12	Lifelong Learning	2	0.872	Low	Arrange talks in various domains, Industrial visits and promote self-learning by encouraging students to learn using MOOCs like NPTEL etc

4.2 BE in Electrical and Electronics Engineering

Table 4: Attainment Gap Analysis of BE-Electrical and Electronics Engineering

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO1	Apply Knowledge	2	1.66	Not Attained	Create Virtual Simulation Models using Vlab, Simulink etc
PO2	Solve Problems	2	1.90	Moderately Attained	
PO3	Design/ Development of Solution	2	2.10	Attained	Form Student groups to work on creative and innovative projects.
PO4	Conduct Investigations	2	2.07	Attained	
PO5	Use Modern Tools	2	2.03	Attained	PLC and programming languages as Vocational Courses

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO6	Engineer and Society	2	2.05	Attained	1. Problem solving on energy saving and water management. 2. Safety Practices
PO7	Environment and Sustainability	2	2.02	Attained	
PO8	Professional Ethics	2	2.09	Attained	
PO9	Individual and Team Work	2	2.28	Strongly Attained	Conducting workshops and seminars on team building, soft skill and professional etiquettes.
PO10	Communicate Effectively	2	1.77	Moderately Attained	
PO11	Project Management and Finance	2	1.61	Not Attained	
PO12	Lifelong Learning	2	1.53	Not Attained	Promote students participation in GATE exams, MOOCs etc
PSO1	Qualify in competitive Exam	2	1.62	Not Attained	PLC and programming languages as Vocational Courses
PSO2	Conduct Research	2	1.75	Moderately Attained	Organizing seminars on entrepreneurship and financial management

Table 5: Attainment Gap Analysis BE-Electrical and Electronics Engineering (First Year)

PO/ PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO 1	Apply Knowledge	2	1.66	Not Attained	Create Virtual Simulation Models

PO/ PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO 2	Solve Problems	2	1.90	Moderately Attained	using Vlab, Simulink etc
PO 3	Design/ Development of Solution	2	2.10	Attained	Form Student groups to work on creative and innovative projects
PO 4	Conduct Investigations	2	2.07	Attained	
PO 5	Use Modern Tools	2	2.03	Attained	PLC and programming languages as Vocational Courses
PO 6	Engineer and Society	2	2.05	Attained	1. Problem solving on energy saving and water management. 2. Safety Practices
PO 7	Environment and Sustainability	2	2.02	Attained	
PO 8	Professional Ethics	2	2.09	Attained	
PO 9	Individual and Team work	2	2.28	Strongly Attained	Conducting workshops and seminars on team building, soft skill and professional etiquettes.
PO 10	Communicate effectively	2	1.77	Moderately Attained	
PO 11	Project Management and Finance	2	1.61	Not Attained	
PO 12	Lifelong Learning	2	1.53	Not Attained	Promote students participation in GATE exams, MOOCs etc.
PSO 1	Hardware and Software tools	2	1.62	Not Attained	PLC and programming languages as Vocational Courses.

PO/ PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PSO 2	Entrepreneurship and Financial Management	2	1.75	Moderately Attained	Organizing seminars on entrepreneurship and financial management.

4.3 BE in Electronics and Communication Engineering

Table 6: Attainment Gap Analysis of BE-Electronics and Communication Engineering

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO 1	Apply Knowledge	2	2.20	Moderately Attained	--
PO 2	Solve problems	2	2.24	Moderately Attained	--
PO 3	Design / Development of Solutions	2	2.09	Moderately Attained	Use case studies or open ended problems. Maximize proposals for various project funding. Senior students mentoring juniors in project and placement related aspects.
PO 4	Conduct and analyze experiments	2	2.61	Strongly Attained	--
PO 5	Use Modern tools	2	2.53	Strongly Attained	--
PO 6	Contemporary	2	2.27	Moderately	Visit nearby schools

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
	Engineering Problems			Attained	with a line of Educational Toys. Maximize proposals for various project funding.
PO 7	Society and Environment	2	2.96	Strongly Attained	
PO 8	Professional Ethics	2	2.59	Strongly Attained	--
PO 9	Multidisciplinary Teams	2	2.84	Strongly Attained	Senior students mentoring juniors in project and placement related aspects.
PO 10	Communicate Effectively and team work	2	2.49	Strongly Attained	Maximize proposals for various project funding.
PO11	Project Management and Leadership	2	2.41	Moderately Attained	Maximize proposals for various project funding
PO 12	Lifelong Learning Mode	2	2.57	Strongly Attained	Start Gate Coaching for interested students Senior students mentoring juniors in project and placement related aspects. Train students of the programme on placement related critical concepts.

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PSO 1	Competitive Exams	2	2.02	Moderately Attained	Start Gate Coaching for interested students. Train students of the programme on placement related critical concepts.
PSO-2	Industry Interaction	2	1.90	Not Attained	Conduct more alumni interactions. Train students of the programme on placement related critical concepts.

Table 7: Attainment Gap Analysis BE-Electronics and Communication Engg (First Year)

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO 1	Apply Knowledge	2	2.56	Strongly Attained	--
PO 2	Solve problems	2	2.72	Strongly Attained	--
PO 3	Design / Development of Solutions	2	1.96	Not Attained	Introduce course project for first year Basic Electronics subjects.
PO 4	Conduct and analyze experiments	2	2.70	Strongly Attained	--
PO 5	Use Modern tools	2	2.66	Strongly Attained	--
PO 6	Contemporary	2	2.36	Moderately	Visit nearby

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
	Engineering Problems			Attained	schools
PO 7	Society and Environment	2	2.55	Strongly Attained	--
PO 8	Professional Ethics	2	2.36	Moderately Attained	--
PO 9	Multidisciplinary Teams	2	2.31	Moderately Attained	
PO 10	Communicate Effectively and team work	2	1.96	Not Attained	Introduce course project for first year basic electronics subjects
PO11	Project Management and Leadership	2	2.16	Moderately Attained	
PO 12	Lifelong Learning Mode	2	2.36	Moderately Attained	
PSO 1	Competitive Exams	2	NA	-	
PSO-2	Industry Interaction	2	NA	-	

4.4 BE in Civil Engineering

Table 8: Attainment Gap Analysis of BE-Civil Engineering

PO/PSO No	Keywords	Target Level	Attainment level	Observations	Action to be taken
PO1	Apply Knowledge	2	2.01	Moderately attained	Assignment on Civil Engineering Application problems
PO2	Solve Problems	2	1.98	Not attained	Conducting Quiz and One Minute Paper on Real

PO/PSO No	Keywords	Target Level	Attainment level	Observations	Action to be taken
					world practical Problems
PO3	Design/ Development of Solution	2	2.32	Strongly attained	Assignment on Complex Engineering Problems
PO4	Conduct Investigations	2	2.64	Strongly attained	Conduct experiments beyond the syllabus in Laboratories.
PO5	Use Modern Tools	2	2.22	Moderately attained	Spoken tutorial organised by IIT Bomaby related to Q-CAD, Carrying out experiments using Virtual lab
PO6	Engineer and Society	2	2.50	Strongly attained	Encouraging students to give awareness program about environmental impact
PO7	Environment and Sustainability	2	2.79	Strongly attained	Technical Talks on “Sustainability Concepts”
PO8	Professional Ethics	2	2.55	Strongly attained	Technical Talks on Professional ethics , Law for Civil Engineers and Code of Ethics
PO9	Individual and Team Work	2	2.21	Moderately attained	Involvement of students by conducting the activities through SHILPA
PO10	Communicate Effectively	2	2.57	Strongly attained	Encourage students to present seminars
PO11	Project Management and Finance	2	2.28	Strongly attained	Technical Talks on project management and finance

PO/PSO No	Keywords	Target Level	Attainment level	Observations	Action to be taken
PO12	Life-long Learning	2	2.64	Strongly attained	Motivating the students to Present papers in Conferences / Journals
PSO1	Real field challenges and Conduct research	2	2.79	Strongly attained	Industrial visits to Construction Sites
PSO2	Qualify in competitive exam	2	1.19	Not attained	Conduct technical aptitude training

Table 9: Attainment Gap Analysis BE-Civil Engineering (First Year)

PO/PSO No	Keywords	Target Level	Attainment level	Observations	Action to be taken
PO1	Apply Knowledge	2	2.38	High	Conduct quiz, Seminars etc. on basic concepts
PO2	Solve Problems	2	2.24	High	An activity can be given to identify real life practical problems and find solution
PO3	Design/ Development of Solution	2	1.90	Moderate	Conduct quiz, assignment on complex engineering problem
PO4	Conduct Investigations	2	2.82	High	Classes on Virtual Lab
PO5	Use Modern Tools	2	2.53	High	Classes on Virtual Lab
PO6	Engineer and Society	2	0.33	Low	Encouraging students to do seminar on environment and sustainability
PO7	Environment and	2	2.79	High	--

PO/PSO No	Keywords	Target Level	Attainment level	Observations	Action to be taken
	Sustainability				
PO8	Professional Ethics	2	2.11	High	Encourage students to do seminar on Professional Ethics
PO9	Individual and Team Work	2	2.21	High	Encourage students to do seminars and assignment in group
PO10	Communicate Effectively	2	1.62	Moderate	Continue V-Act Classes
PO11	Project Management and Finance	2	0.29	Low	Arrange talks on financial management and material management
PO12	Life-long Learning	2	0.33	Low	Encouraging students to learn using NPTEL etc.

4.5 BE in Computer Science and Engineering

Table 10: Attainment Gap Analysis of BE-Computer Science and Engineering

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO1	Apply Knowledge	2	1.16	Moderate	Conduct quiz, seminars on basic concepts
PO2	Solve Problems	2	1.26	Moderate	Perform extra experiments in lab other than the ones prescribed in the syllabus.
PO3	Design/ Development of Solution	2	1.54	Moderate	Mini projects can be given for a subject/ group of subjects

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO4	Conduct Investigations	2	1.54	Moderate	An activity to identify real life practical problems and propose a solution.
PO5	Use Modern Tools	2	1.6	Moderate	Conduct workshops, hands on sessions on modern tools and technologies
PO6	Engineer and Society	2	1.67	Moderate	Encourage students to develop projects to solve contemporary issues in society.
PO7	Environment and Sustainability	2	1.47	Moderate	
PO8	Professional Ethics	2	2.52	High	Incorporate a component in assessment Rubrics to measure originality
PO9	Individual and Team Work	2	1.53	Moderate	Encourage students to do mini projects, seminars, assignments in a group Encourage students to participate in the Intercollegiate competitions.
PO10	Communicate Effectively	2	2.07	High	
PO11	Project Management and Finance	2	1.67	Moderate	Train the students to manage an engineering activity within time and budget constraint.
PO12	Lifelong Learning	2	1.04	Moderate	Arrange talks in various domains
PSO1	Entrepreneurship and Freelancing	2	1.74	Moderate	Conduct talks by Entrepreneurs

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PSO2	Competitive Exams and Higher Studies	2	1.51	Moderate	Maintain a technical questionnaire database to train students for placement and competitive exams.

Table 11: Attainment Gap Analysis BE- Computer Science Engineering (First Year)

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO1	Apply Knowledge	2	2.7	High	Conduct quiz, seminars on basic concepts
PO2	Solve Problems	2	2.7	High	Perform extra experiments in lab other than the ones prescribed in the syllabus.
PO3	Design/ Development of Solution	2	2.3	High	
PO4	Conduct Investigations	2	3.0	High	Conduct virtual labs
PO5	Use Modern Tools	2	2.7	High	
PO6	Engineer and Society	2	3.0	High	Conduct Technical talks and seminars
PO7	Environment and Sustainability	2	2.5	High	
PO8	Professional Ethics	2	0.3	Low	Induction classes
PO9	Individual and Team Work	2	3.0	High	Encourage students to do seminars, assignments in a group
PO10	Communicate Effectively	2	2.2	High	Conduct spoken tutorials and I-point classes.

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO11	Project Management and Finance	2	0.3	Low	Induction classes
PO12	Lifelong Learning	2	3.0	High	Arrange talks in various domains
PSO1	Entrepreneurship and Freelancing	2	NA		
PSO2	Competitive Exams and Higher Studies	2	NA		

4.6 Master of Business Administration

Table 12: Attainment Gap Analysis of Master of Business Administration

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO1	Apply Knowledge	2	1.75	Moderate	Practical cases in all the courses IT for Business course Sessions in IPR
PO2	Analytical and critical thinking	2	1.74	Moderate	Exposure to personal finance to induce self-management Crisis management MBA students to partner with computer science to develop apps in the area of management

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO3	Value based Leadership ability	2	1.90	Moderate	Industry connect and Socially relevant student activities Industry visits and internships with goal to take back to the college
PO4	Analyze global, and ethical aspects of business	2	2.12	High	Certification to students in the area of mutual funds, stock market and insurance Alumni interactions
PO5	Team environment	2	1.82	Moderate	Group discussion /Interview facing. Business Plan Contest Business plan workshop Public speaking workshop
PO6	Soft skills	2	1.60	Moderate	Development of Communication skill of the students through different programmes. Add-on-course soft skills, personality development & Aptitude. (Part of V-act Programme)

4.7 Master of Computer Application

Table 13: Attainment Gap Analysis of Master of Computer Applications

PO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO1	Computational Knowledge	1	0.33	Low	Team Activity based on Programming concepts
PO2	Problem Analysis	1	0.36	Low	Activity can be given to analyze real life problem
PO3	Design/Development of Solutions	1	0.46	Low	Micro project can be given
PO4	Conduct Investigations of Complex Problems	1	0.20	Low	Out of box problems can be given
PO5	Modern Tools Usage	1	0.36	Low	Promoting the usage of Remote/ Virtual Labs while solving assignments or micro project
PO6	Professional Ethics	1	0.18	Low	Industrial visits/ Talk on Ethical issues can be arranged and activities to assess its effectiveness
PO7	Life-Long Learning	1	0.34	Low	Online courses are to be made compulsory
PO8	Project Management and Finance	1	0.12	Low	Collaborative learning / Project Based Learning

PO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
					activities can be introduced
PO9	Communication Efficacy	1	0.23	Low	Seminars and project presentations
PO10	Societal and Environmental Concern	1	0.23	Low	Outreach programs in villages adopted by SJEC to support MHRD initiatives
PO11	Individual and team work	1	0.27	Low	Seminar/ project / assignments/participation in technical events
PO12	Innovation and Entrepreneurship	1	0.08	Low	Encourage students to take part in IDEATION events / build innovative Projects
PO13	Research Environment	1	0.11	Low	Encourage students to take up research oriented projects and publish/ present papers