One Day Workshop on

"Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process"

For faculty members of University departments

15th June 2022
Venue: Hall of Guines-68, Dept. of Manufacturing Engineering

Resource persons

Prof.S.Baskar
Professor and Dean (R&D), TCE, Madurai

Prof.T.Thyagarajan
Former Dean-MIT Campus

Dr.A.Suresh Babu
Deputy Director-IQAC & Convener

Organized by

INTERNAL QUALITY ASSURANCE CELL (IQAC)

ANNA UNIVERSITY
CHENNAI – 600025.

CONTENTS

Report on One day Workshop on "Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process" Organized by IQAC on 15.06.2022 @ Hall of Guines-68.

The Internal Quality Assurance Cell (IQAC) organized a one day Workshop on **"Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process"** on 15.06.2022 from 09.30 AM to 05.20 PM for the benefit of faculty members of CEG, MIT, ACT and SAP Campus of Anna University. The expert talk was arranged in Hall of Guines-68, Department of Manufacturing Engineering.

Around 69 faculty members from the four campuses (CEG, MIT, ACT and SAP) of Anna University attended the workshop. Dr.R.Gunasekaran, Director-IQAC welcomed the gathering and outlined the significance of Quality Initiatives and Enhancements in the NBA Accreditation process. He thanked the Honorable Vice-Chancellor Prof.R.Velraj to inaugurate the workshop and chief guest Prof.S.Baskar & Prof.T.Thyagarajan for readily accepting to present the workshop. Dr.A.Suresh Babu, Deputy Director-IQAC, introduced the speaker to the audience.

Dr.R.Gunasekaran, Professor & Director-IQAC, Anna University, Chennai, **made his presentation highlighting the following points:**

NBA Accreditation process - An Introduction

- NBA Quality Indicators
- Significance of Accreditation
- Difference between Vision & Mission
- Difference between PEOs & POs
- COs & Assessment
- Evaluation & Mapping
- Graduate Attributes
- Difference between Tier I & II
- Criteria & Weightages
- Pre-qualifier
- SAR preparation (Part-A & Part-B)
- Display of Documents

The invited speaker, **Prof.S.Baskar, Professor and Dean (R&D), Thiagarajar College of Engineering, Madurai**, **made his presentation highlighting the following points:**

Detailed process for preparation of SAR

- Traditional Education
- Outcome Based Education (OBE)
- Key Components of OBE
- Benefits of OBE
- PEO, GAs, POs and COs

- Content delivery
- Assessment methods

The invited speaker, **Prof.T.Thyagarajan, Former Dean-MIT Campus, Anna University, Chennai**, **made his presentation highlighting the following points:**

Micro level action plan for NBA Expert team visit

- Preparation of Documents
- PPT slides Preparation
- Major Milestones
- Suggestions for maintaining the Campus/Centre/ Department
- Formation of Various Committees
- Stakeholders Interaction

Dr.A.Suresh Babu, Deputy Director-IQAC, thanked the chief guests for the informative sessions. He also expressed thanks on behalf of the IQAC team to the audience for their attentive and active participation in the workshop.

A Q&A session was conducted at the end of each session. The workshop was concluded at 5.20PM in the Hall of Guines-68, Department of Manufacturing Engineering.

INTERNAL QUALITY ASSURANCE CELL (IQAC)
Anna University, Chennai-600025.

Note No.: AU/IQAC/2022/Training Programme/Workshop   Date: 26.05.2022

NOTE SUBMITTED TO THE VICE-CHANCELLOR:

Sub: AU-IQAC-One day workshop on NBA Accreditation Process-Approval Requested-Reg.
*****

The Internal Quality Assurance Cell (IQAC), as a participative cell of the University that works on evolving strategies to remove deficiencies and enhance quality, thus channelizing the efforts of the University towards achieving holistic academic excellence. The Cell consistently coordinates all the University and Departments accreditation and ranking processes, namely NAAC, NBA, NIRF, QS, THE, etc., and regularly conducts related workshops and awareness programs for all stakeholders.

In this connection, IQAC planned to conduct a **One day Workshop on "Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process" on 15.06.2022.**

It is requested for kind approval of the following:

A. **To conduct one day workshop** on 15.06.2022 for the benefit of the teaching staff of Anna University, Chennai.

B. To invite **Prof.S.Baskar**, Professor and Dean (R&D), Thiagarajar College of Engineering, Madurai and **Prof.T.Thyagarajan**, Former Dean-MIT Campus, Anna University, as **resource persons** for the one day workshop.

C. To meet the workshop expenditure Rs.53,000/- (Rupees Fifty Three Thousand only) from the head of account **"IQAC-Training programme"** as per the University norms. The expenditure break up is as follows:

Sl.No.	Items	Amount(Rs.)
1	Lunch & Refreshments (100 Participants)	20,000/-
2	Honorarium for Two Resource Persons (Rs.1,500/- per hour, as per university norms)	9,000/-
3	Travel Expenses	15,000/-
4	Certificate & Contingencies	9,000/-
Total		**53,000/-**

Submitted for kind approval of **A, B & C,** please.

DIRECTOR-IQAC

REGISTRAR i/c

APPROVED / NOT APPROVED

VICE-CHANCELLOR

3

Dr.R.GUNASEKARAN
Professor & Director

Lr.No. AU/IQAC/2022/NBA Workshop/Nomination of Faculty   **Date: 06-06-2022**

To

All the Head of Department (UD)

Anna University

Chennai-600 025.

Esteemed Professor

Sub: AU-IQAC-One day workshop on NBA Accreditation Process-Nomination-Reg.

Ref: Vice-Chancellor's Approval dated 26.05.2022

The Internal Quality Assurance Cell (IQAC), as a participative cell of the University that works on evolving strategies to remove deficiencies and enhance quality, thus channelizing the efforts of the University towards achieving holistic academic excellence.

As a part of quality improvement, IQAC planned to conduct a **One day Workshop on "Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process" on 15.06.2022.**

The Titles, Resource persons, Coordinators and time schedule are given as follows.
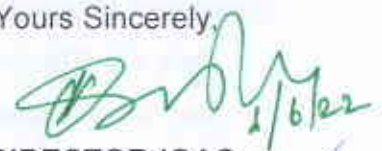
Sl. No	Time	Title of Session	Resource Persons	Coordinators
1	10:00 am to 11:00 am	NBA Accreditation process - An introduction	Dr.R.Gunasekaran Director-IQAC	Dr.A.Suresh Babu Deputy Director-IQAC
2	11:00 am to 01:00 pm	Detailed process for preparation of SAR PART-I	Prof.S.Baskar Professor and Dean (R&D), Thiagarajar Engineering College, Madurai	
3	01:45 pm to 03:45 pm	Detailed process for preparation of SAR PART-II		
4	03:45 pm to 05:15 pm	Micro level action plan for NBA Expert team visit	Prof.T.Thyagarajan Former Dean-MIT	

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In this regard, it is requested that to nominate IQAC Department Coordinator and a junior faculty from IQAC Department Cell in the following format to participate in the workshop.

Sl.No	Name of the Faculty member	Designation	E-mail ID	Mobile Number
1				
2				

Thanking You.

Yours Sincerely,

DIRECTOR-IQAC

CC:
1. PA to Registrar
2. PS to Vice-Chancellor
3. Deputy Director's-IQAC, IQAC-Coordinators of the Workshop
4. HoD- Manufacturing- With the request to do the needful for the hall availability

INTERNAL QUALITY ASSURANCE CELL (IQAC)
Anna University, Chennai 600025.

One day Workshop on
"Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process"

Date: 15.06.2022 Wednesday   Time: 09.30 am to 05.20 pm
Venue: Hall of Guines-68, Dept. of Manufacturing Engineering

****

PROGRAM AGENDA

09.30 am – 10.00 am	**Inaugural Address**	**Prof.R.Velraj** Vice-Chancellor
10.00 am - 11.00 am	**NBA Accreditation process - An introduction**	**Prof. R. Gunasekaran** Director-IQAC
11.00 am - 01.00 pm	**Detailed process for preparation of SAR PART-I**	**Prof.S.Baskar** Professor and Dean (R&D), TCE, Madurai
01.00 pm - 01.45 pm	**Lunch**	
01.45 pm - 03.45 pm	**Detailed process for preparation of SAR PART-II**	**Prof.S.Baskar** Professor and Dean (R&D), TCE, Madurai
03.45 pm - 05.15 pm	**Micro level action plan for NBA Expert team visit**	**Prof.T.Thyagarajan** Former Dean-MIT
05.15 pm - 05.20 pm	**Vote of thanks**	**Dr.A.Suresh Babu** Deputy Director-IQAC

Internal Quality Assurance Cell
Anna University, Chennai-600025

PROFILE OF RESOURCE PERSON

Name of the resource person   : **Dr.R.Gunasekaran,**

Designation   : Director-IQAC, Anna University, Chennai.

Qualification   : Ph.D.,

EXPERIENCE

Year	Designation
Mar.2022 to Present	Director, Internal Quality Assurance Cell (IQAC), Anna University, Chennai
Dec. 2018 to Mar. 2022	Professor & Head, Department of Computer Technology, Anna University, Chennai
2015 to Present	Professor, Department of Computer Technology, Anna University, Chennai.
2012 to 2015	Associate Professor, Department of Computer Technology, Anna University, Chennai.
2008 to 2012	Assistant Professor (Sr.G), Department of Computer Technology, Anna University, Chennai.
2005 to 2008	Lecturer, Department of Information Technology, Anna University, Chennai.
2003 to 2005	Lecturer, Department of Computer Science and Engineering, B.S.Abdur Rahman University, Chennai.

HONORS AND AWARDS

Year	Award Details
2021	IEEE Publication Award, from IEEE Madras Section
2019 & 2020	Young Faculty Research Fellowship under Visvesvaraya Ph.D. Scheme, from MeitY, Government of India.
2017	Professional Achievement, from IEEE Madras Section.
2014 to 2015	Raman Post-Doctoral Fellowship at the USA, from University Grants Commission, India.
2009	The Young Engineer Award, in recognition of the contributions in Computer Engineering, from the Institution of Engineers (India).

Topic Handled in Webinar : **NBA Accreditation process - An introduction**

Date and Time of Session : **15.06.2022, 10.00AM to 11.00AM**

PROFILE OF RESOURCE PERSON

Name of the Resource Person   : **Prof.S.Baskar,**

Designation   : Dean R&D, Thiagarajar College of Engineering, Madurai

Qualification   : Ph.D.,

    Prof.S.Baskar received his Bachelor's Degree in Electrical and Electronics Engineering with distinction from Madurai Kamaraj University, Madurai in the year 1991. He finished his Masters in control and instrumentation with distinction from college of engineering, Guindy, Anna University Chennai in the year 1993. He obtained his Ph.D.in the area of hybrid evolutionary algorithms from Madurai Kamaraj University, Madurai, India, in 2001.He has completed his post-doctoral research in the area of Evolutionary Computation and its applications at Nanyang Technological University (NTU), Singapore under BOYSCAST fellowship during 2003–2004, supported by Department of Science and Technology (DST), Govt. of India. He has been serving as faculty of Electrical& Electronics Engineering in Thiagarajar college of Engineering, Madurai, since 1994 where he is now working as professor& Dean (Research & Development).

    His current research interests include the development of new evolutionary algorithms and its applications to complex, real-world optimization problems. He has published over 100+papers in International /National Journals in the area of evolutionary optimization and applications. He is the Recipient of Gold medal for the best research paper in Journal of Institution of Engineers (India), Computer Engineering Division in the year 2001. His Google Scholar h-index, i10-indexand citations are 6743, 32 and 63 respectively as on 22nd Feb. 2021. Fourteen research scholars completed Ph.D degree from his supervision and five scholars doing Ph.D research currently in the major areas of evolutionary optimization.

    He has been Principal Investigator in the Project titled "Design and fabrication of Magnetostrictive position sensor for control rod drive mechanism (CRDM)" supported by Bhabha atomic research centre, Mumbai and also major research project titled " Evolutionary algorithm based Computationally expensive problem solving using surrogate models " supported by UGC, New Delhi. He is a senior member of IEEE, Fellow of Institution of Engineers (India) and Life Member of the Indian Society for Technical Education.

    He is the reviewer for various international journals in the major area of soft computing. He has delivered more than 100 invited lectures in conferences/workshops. He has conducted several Conferences and Short-term training programmes in the area of "Evolutionary optimization and applications"

He has visited several engineering colleges as programme evaluators of NBA visiting team for the evaluation of the programmes. He served as an Expert member/Master Trainer of OBE/OBA training organized by NBA. He is one of the members of the documentation team, who prepared Washington Accord approved Tier- I document for NBA accreditation.He has acted a Resource person to various orientation programmes/workshops on "Outcome Based Education and Accreditation" organized by the NBA. He is also a former member of the Engineering Accreditation Evaluation Committee [EAEC] and Moderation committee of National Board of Accreditation (NBA), New Delhi.

He has attended CDIO- (Conceive, Design, Implement, and Operate) international conferences/meeting at Singapore polytechnic, Singapore, Chengdu Technical University, Chengdu-China, Kanazawa Technical University, Kanazawa-Japan, Duy Tan University-Vietnam, Alliance Neusoft University, Dalian-China, and Denmark Technical University, Aalborg University, Aarhus University Denmark. He has also attended University Power Engineering conference (UPEC) at Staffordshire University, UK.

He has attended MHRD sponsored 3-week academic leadership programme (LEAP)organized by NIT -Trichy, IIIT- Sri City and NTU-Singapore during Feb-March, 2019.He has completed IUCEE International Engineering Educators Certification Program (IIEECP) with distinction. He has completed popular teaching and learning MOOCs courses such as "Learning How to learn" and "Learning Sciences – What every teacher should know". He has conducted more than 100 workshops in OBE, modern pedagogy and OBA since October 2012.

Topic handled in Workshop   : **Detailed process for preparation of SAR**

Date and Time of Sessions   : **15.06.2022, 11.30AM to 01.00PM & 01.45PM to 03.45PM**

Internal Quality Assurance Cell
Anna University, Chennai-600025

PROFILE OF RESOURCE PERSON

Name of the resource person   : **Prof.T.Thyagarajan,**

Designation   : Former Dean-MIT Campus.

Qualification   : Ph.D.,

EXPERIENCE

Year	Designation
2022 to Till	Emirates Professor
2019 to 2022	Dean of MIT campus, Anna University-Chennai
2015 to 2019	Director- Internal Quality Assurance Cell
2013 to 2020	Director - Centre for University Industry Collaboration
2010 to 2013	Director - University Library

HONORS AND AWARDS

Year	Award Details
2015	Dr.A.P.J. Abdul Kalam Award, Marina Lab, Tamilnadu
2015	Shri Rajiv Gandhi Gold Medal Award, New Delhi
2012	IEEE-MGA Certificate of appreciation
2011	IEEE-R10 Distinguished Large Section Award
2009	IEEE Certificate of appreciation award from IEEE-GOLD
1998	Sisir Kumar Mitra memorial award
1992	Dept. of Technical Education Award for guiding best UG Project work

Topic Handled in Webinar : **Micro level action plan for NBA Expert team visit**

Date and Time of Session : **15.06.2022, 03.45PM to 05.15PM**

INTERNAL QUALITY ASSURANCE CELL (IQAC)

Anna University, Chennai – 600025

Ph: 2235 8585, E-mail: iqac@annauniv.edu

Dr.R.GUNASEKARAN
Professor & Director

Lr.No. AU/IQAC/2022/NBA Workshop/Invitation   **Date: 06-06-2022**

To
Dr.S.Baskar
Professor and Dean (R&D)
Department of Electrical and Electronics Engineering
Thiagarajar Engineering College, Madurai-625015.
Esteemed Professor

Sub: AU-IQAC-One day workshop on NBA Accreditation Process-Invitation-Reg.
Ref: Vice-Chancellor's Approval dated 26.05.2022

As part of the quality sustenance and enhancement activities, Internal Quality Assurance Cell (IQAC) planned to conduct a One day Workshop on **"Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process"** on 15.06.2022.

Considering your vast experience related to NBA Accreditation related activities, you are requested to be the **"Resource Person"** on One day Workshop at Anna University, Chennai on 15.06.2022.

The Coordinators and time schedule are given as follows for your ready reference. In this regard arrangements required for your travel may please be confirmed through e-mail to iqac@annauniv.edu.

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Looking forward to your presence and valuable inputs.

Thanking You.

Yours Sincerely,

DIRECTOR-IQAC

INTERNAL QUALITY ASSURANCE CELL (IQAC)

Anna University, Chennai – 600025

Ph: 2235 8585, E-mail: iqac@annauniv.edu

Dr.R.GUNASEKARAN
Professor & Director

Lr.No. AU/IQAC/2022/NBA Workshop/Invitation   **Date: 06-06-2022**

To
    Prof.T.Thyagarajan
    Former Dean MIT Campus
    Anna University, Chennai-600044.

Esteemed Professor

    Sub: AU-IQAC-One day workshop on NBA Accreditation Process-Invitation-Reg.
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Looking forward to your presence and valuable inputs.

<div align="center">Thanking You.</div>

<div align="right">Yours Sincerely,

DIRECTOR-IQAC</div>

INTERNAL QUALITY ASSURANCE CELL

ANNA UNIVERSITY, CHENNAI-600025.

One day Workshop on "Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process"

Date & Time : 15.06.2022 @ 09.30AM

Venue : Hall of Guines-68

ATTENDANCE SHEET

Sl.No	Name of the Department	Name of the Faculty member	Designation	E-mail ID	Mobile number	Signature FN	Signature AN
1	Manufacturing Engineering	Dr.M.Omkumar	Professor	omkumar2000@yahoo.com	9840398684	*(signature)*	*(signature)*
2	Manufacturing Engineering	Mr.S.Joyson Selvakumar	Teaching Fellow	joysonselvakumar18@gmail.com	8344540706	AB	AB
3	Chemistry	Dr.S.Angayarkanny	Assistant Professor	akilaprince@gmail.com	9444617586	*(signature)*	*(signature)*
4	Chemistry	Dr.Keerthi	Assistant Professor	dr.keerthi1012@gmail.com	9940133080	*(signature)*	*(signature)*
5	Physics	Dr G Velraj	Associate Professor	gvelraj@annauniv.edu	9944176380	*(signature)*	*(signature)*
6	Physics	Dr.S Sundaramoorthy	Teaching Fellow	suncasincb@gmail.com	9500006988	*(signature)*	*(signature)*
7	Electronics & Communication Engineering	Dr.J.Kamala	Associate Professor	jkamalaa@annauniv.edu	9444148847	*(signature)*	*(signature)*
8	Electronics & Communication Engineering	Dr K Gunaseelan	Associate Professor	guna_2012@annauniv.edu	9626505161	*(signature)*	*(signature)*
9	Computer Science & Engineering	Ms.M.S.Karthika Devi	Assistant Professor	karthikadevi88@gmail.com	9791763413	*(signature)*	*(signature)*
10	Computer Science & Engineering	Ms M.Saranya	Teaching Fellow	saranyamani18@gmail.com	9710003226	M. Saranya	M.Saranya
11	Information Science & Technology	Dr.P.Geetha	Assistant Professor	githap@gmail.com	9444635269	AB	AB
12	Information Science & Technology	Dr.D.Narashiman	Teaching Fellow	dnarashiman@auist.net	9841811598	AB	AB
13	Mathematics	Dr.K.V.Vijayashree	Assistant Professor (SG)	vkviji@annauniv.edu	9840225176	*(signature)*	*(signature)*

INTERNAL QUALITY ASSURANCE CELL

ANNA UNIVERSITY, CHENNAI-600025.

One day Workshop on "Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process"

| Date & Time : 15.06.2022 @ 09.30AM | Venue : Hall of Guines-68 |

ATTENDANCE SHEET

Sl.No	Name of the Department	Name of the Faculty member	Designation	E-mail ID	Mobile number	Signature FN	Signature AN
14	Mathematics	Dr.R.Akila	Assistant Professor	akilarajamanickam@yahoo.com	9677123627	(sign)	
15	Management Studies	Dr. A. K. Sheik Manzoor ~~Dr Hansa Lysander Manohar~~ Professor Associate Professor	~~Professor~~	mhansa@gmail.com	~~9940160099~~ 9884714212	(sign)	
16	Management Studies	Dr T.Padmavathi	Assistant Professor	padmavathi.mudoms@gmail.com	9962988714	(sign)	
17	Management Studies	Dr. T. Varun Achu Sam K2	Visiting Faculty TF	achusamk@gmail.com varun.thendavan@gmail.com	9600413556 9444075978	(sign)	
18	English	Ms.M.S.Gitanjali	Assistant Professor	gitanjalims.au@gmail.com	9600953947	(sign)	
19	English	Mr.P.Ramakrishnan	Teaching Fellow	ramkindra@gmail.com	9994598918	(sign)	
20	Civil Engineering	Dr.M.Muttharam	Professor	muttharam@annauniv.edu muttharam@gmail.com	9884545211	(sign)	(sign)
21	Civil Engineering	Dr.V.Lenin Kalyanasundaram	Assistant Professor	leninks@annauniv.edu	9486748073	AB	AB
22	Civil Engineering	Dr.V.Sudha	Technical Assistant	sudhashrije@yahoo.co.in	9677171057	(sign)	
23	Civil Engineering	Mr.D.Senthil kumar	Professional Assistant-II	senthilofficemail@gmail.com	9443819101	O. Reqt. O. Reqt.	
24	Industrial Engineering	Dr.K.Padmanabhan Panchu	Assistant Professor	panchu81@gmail.com	8939934561	(sign)	
25	Industrial Engineering	Mrs V.Kamala	Assistant Professor	kamala@annauniv.edu	9003165255	(sign)	
26	Industrial Engineering	Dr.A.Gnanavel Babu	Associate Professor	dr.agbabu@gmail.com .	9551133779	AB	AB

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INTERNAL QUALITY ASSURANCE CELL

ANNA UNIVERSITY, CHENNAI-600025.

One day Workshop on "Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process"

Date & Time : 15.06.2022 @ 09.30AM   Venue : Hall of Guines-68

ATTENDANCE SHEET

Sl.No	Name of the Department	Name of the Faculty member	Designation	E-mail ID	Mobile number	Signature FN	Signature AN
27	Production Technology	Dr.C.Nandakumar	Assistant Professor (Sl.Gr)	nandakumar.mit@gmail.com	9842735311		
28	Production Technology	Dr.N.Srirangarajalu	Assistant Professor (Sr.Gr)	nsrirangarajalu@mitindia.edu	9444827193		
29	Computer Technology	Dr.B.Thanasekhar	Associate Professor	thanasekhar@gmail.com	9442244436		
30	Computer Technology	Dr.S.Muthurajkumar	Assistant Professor	muthurajkumarss@gmail.com	9444882247		
31	Instrumentation Engineering	Dr M.Vijayakarthik	Assistant Professor	vijayakarthick@yahoo.co.in	99769 95692		
32	Instrumentation Engineering	Mr. S.S. Pream Anand	Teaching Fellow	sivaanand129@gmail.com	82202 80956		
33	Aerospace Engineering	Dr.V.Arumugam	Professor	arumugam.mitaero@gmail.com	9444145210		
34	Aerospace Engineering			anitha_g@annauniv.edu	9444880422	AB	AB
35	Aerospace Engineering	Dr.A.Kaviyarasu	Assistant Professor	isrokavi@gmail.com	9551235989		
36	Rubber & Plastics Technology	Dr.K.Elangovan	Associate Professor	elangok@mitindia.edu	9094680905		
37	Rubber & Plastics Technology	Mr A Karthik Narayanan	Teachig fellow	karthikanbu@mitindia edu	9790990929		
38	Electronics Engineering	Dr G Kavitha	Associate Professor	kavithag_mit@annauniv edu	9176655521		
39	Electronics Engineering	Dr.V.Sathiesh Kumar	Assistant Professor	sathiieesh@gmail com .	9444721638		

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INTERNAL QUALITY ASSURANCE CELL

ANNA UNIVERSITY, CHENNAI-600025.

One day Workshop on "Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process"

Date & Time : 15.06.2022 @ 09.30AM   Venue : Hall of Guines-68

ATTENDANCE SHEET

Sl.No	Name of the Department	Name of the Faculty member	Designation	E-mail ID	Mobile number	Signature FN	Signature AN
40	Leather Technology	Dr.Bindia Saphu Sahu	Associate Assistant Professor	bindiya1480@gmail.com	9884914481	*(signed)*	*(signed)*
41	Leather Technology	Mr R Renganath Rao	Assistant Professor	r.renganathrao@gmail.com	8056290472	R.Rangadha Rao	R.Rangadha Rao
42	Textile Technology	Dr.V.R Giri Dev	Professor & Head	vrgiridev@yahoo.com	9486600246	*(signed)*	
43	Textile Technology	Dr.N.Gobi	Assistant Professor (Sl.Gr)	gobsnn@gmail.com	9884845999	*(signed)*	
44	Textile Technology	Dr.M.Murugesan	Associate Professor	murugesanmuthalagu@gmail.com	9962434848	*(signed)*	*(signed)*
45	Textile Technology	Mrs.A.Hajara Farzana	Teaching Fellow	mashaj@gmail.com	8903485848 9500670435	*(signed)*	*(signed)*
46	Textile Technology	Mrs.G.Priya	Teaching Fellow	privigadharma@gmail.com	9962676401	*(signed)*	
47	Ceramic Technology	Dr.D.Thenmuhil	Associate Professor	thenmuhil@annauniv.edu	9840619319	AB	AB
48	Ceramic Technology	Dr.K.Ilango	Teaching Fellow	ilango.pec@gmail.com	9597319101	*(signed)*	
49	Ceramic Technology	Dr.E Satheeshkumar	Teaching Fellow	satheeshkumar.e@gmail.com	9790566536	*(signed)*	
50	Chemical Engineering	Dr.T.Santhoshini Priya	Assistant Professor	santhoshinipriya.thomas@gmail.com	7708027208	*(signed)*	
51	Chemical Engineering	Dr.E.Vasanth Kumar	Teaching Fellow	vippiv44@gmail.com	9791171220	*(signed)*	
52	Bio-Technology	Dr.S.Ashok Kumar	Assistant Professor (Sr.Gr)	sekarashok@gmail.com	9629670607	*(signed)*	*(signed)*

53 Bio Technology Dr. MATHANGI GANAPATHY VISITING FACULTY mathangi3@gmail.com 9962102988 *(signed)*

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INTERNAL QUALITY ASSURANCE CELL

ANNA UNIVERSITY, CHENNAI-600025.

One day Workshop on "Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process"

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ATTENDANCE SHEET

Sl.No	Name of the Department	Name of the Faculty member	Designation	E-mail ID	Mobile number	Signature FN	Signature AN
53	Planning	Mr. P. Sudharsanmurthy	Teaching Fellow	sudarsanamurthy@gmail.com	9962178201		
54	Planning	Ms. K. Madhivadhani	Teaching Fellow	vadhani27@gmail.com	9442262120		
55	Mechanical Engineering	Dr. J. Sudha	Assistant Professor	sumail@annauniv.edu	9444113347		
56	Mechanical Engineering	Dr. M. Vasumathi	Assistant Professor (Sr. Gr)	vasumathiivenkat@gmail.com	9444272975	AB	AB
57	Printing Technology	Dr. J. Sandeep	Assistant Professor (Sr. Gr)	j.sandeep@annauniv.edu	9789315436		
58	Printing Technology	Mr. T. Murugesan	Teaching Fellow	muruksan@gmail.com	9500035420		
59	Applied Science & Technology	Dr. V. Charles Augustin	Assistant Professor (Sl. Gr)	mvdcharles@gmail.com	9444814498		
60	Automobile Engineering	Dr. G. Anandkumar	Assistant Professor	anand8285@gmail.com	9994195762		
61	Manufacturing Engineering	Mr. M. Diwakar	Teaching Fellow	divakarias1994@gmail.com	8015721156		
62	Manufacturing Engineering	Mr. N. Rajesh Kumar	Professional Assistant-III	rajeshceg86@gmail.com	9940556722		
63	Geology	Dr. K. Sivaraj	Assistant Professor (Sr. Gr)	kasivaraj@gmail.com	9551770210		
64	Geology	Dr. N. Gobalakrishnan	Teaching Fellow	ngobalgeology@gmail.com	9597277262		
65	Geology	Dr. A. Yuvaraja	Teaching Fellow	aglyuva@gmail.com	8838211714		

INTERNAL QUALITY ASSURANCE CELL

ANNA UNIVERSITY, CHENNAI-600025.

One day Workshop on "Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process"

Date & Time : 15.06.2022 @ 09.30AM

Venue : Hall of Guines-68

ATTENDANCE SHEET

Sl.No	Name of the Department	Name of the Faculty member	Designation	E-mail ID	Mobile number	Signature FN	Signature AN
66	Biotechnology	Sruthi Ann Alex	Teaching Fellow	sraann@gmail.com	9500915219		
67	Media Science	Dr.M.N.Neelamalar	Associate Professor	netalar@yahoo.com	9283120950	AB	AB
68	Media Science	P.Thenmozhi	Teaching Fellow	thenmozhi.ams@gmail.com	9500082418		
69	Information Science & Technology	P.S.Apirajitha	Teaching Fellow	apirajitha@auist.net	8056142087		
70	Information Science & Technology	Dr.N.Thangaraj	Assistant Professor	ntc@auist.net	9884344550		
71	Automobile Engineering	S.Vinothkumar	Teaching Fellow	vinothkumars@mitindia.edu	9659735484		
72	Instrumentation Engineering	Dr.S.Srinivasan	Professor	srini@mitindia.edu	9382882300		
73	Physics	Dr.G.Kalpana	Professor & Head	bodphysics@rmmauniv.edu	984009726		
74	Physics	Dr.K.Vishista	Associate Professor	vishista@yahoo.com	9444021782	AB	AB
75	Instrumentation Engineering	Dr.N.Pappa	Professor & Head	npappa@rediffmail.com	9962560646		
76	Information Science & Technology	Dr.C.Sunil Retmin Raj	Teaching Fellow	retmin3001@gmail.com	9445653804		
77	Electronics & Communication Engineering	Mr.S.Irudaya das	Professional Assistant-I	das.cegl@gmail.com	9840598206	AB	AB
78	MEDIA SCIENCES	S. INDIRA PRIYADHARSINI	TEACHING FELLOW	indira16018-7@gmail.com	89544 50915		

INTERNAL QUALITY ASSURANCE CELL

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Sl.No	Name of the Department	Name of the Faculty member	Designation	E-mail ID	Mobile number	Signature FN	Signature AN
79	M. Pradeep kmar	M. Pradeep kmar	Proffesor	Pradeep @anna vnivrsi	9965156229	Pradeep	Pradeep
80							
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WELCOME to Esteemed Colleagues

CONTENTS
✓ **NBA Quality Indicators**
✓ **Weightages**
✓ **Pre-qualifier**
✓ **SAR preparation**
  ✓ **Part-A**
  ✓ **Part-B**
✓ **Display of Documents**

Dr. R. Gunasekaran
P(CT) & Director-IQAC

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PREAMBLE

- NBA: **Initially established by AICTE, in the year 1987,** for periodic evaluations of technical institutions & programmes
- NBA: **An autonomous body with effect from 7th January 2010**
- Purpose: **Assurance of Quality** and Relevance of Education, especially **of the programmes in professional and technical disciplines**

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SIGNIFICANCE OF ACCREDITATION

- To **excel among stakeholders** (peers, students, employers, societies etc.).
- To **attain international recognition** of accredited degrees awarded.
- To facilitate **receiving of grants** from Government regulatory bodies and institutions/agencies.
- To **encourage** the institute to move continuously towards the **improvement of quality**, and the **pursuit of excellence**.
- To facilitate institutions for **updating curriculum, teaching and learning processes, faculty achievements, students' skills/abilities/knowledge.**
- To make the institute/department **aware of** the **weaknesses** of and **act on suggestions** for improvement

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DIFFERENCE BETWEEN VISION & MISSION

- **Mission** statements are essentially **the means to achieve the vision** of the institution.
- If the **vision is to create high-quality engineering professionals**,
  – then the **mission could be to offer a well-balanced programme of instruction, practical experience, and opportunities for overall personality development.**

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DIFFERNCE BETWEEN PEOS & POs

- Programme Educational Objectives **(PEOs)** – **broad statements** that describe the career and professional accomplishments that **the programme is preparing graduates to achieve.**

- Programme Outcomes **(POs)** – Programme Outcomes are **narrower statements** that describe **what students are expected to know** and be able to do **upon the graduation** (skills, knowledge, and behaviour).

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Cos & ASSESSMENT

- **Course Outcomes (COs)** -- Course Outcomes are **narrower statements** that describe **what students are expected to know, and be able to do at the end of each course (**skills, knowledge, and behaviour) through the course.
- **Assessment** – **One or more processes**, carried out by the institution, that **identify, collect, and prepare data to evaluate the achievement of PEOs & POs.**

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EVALUATION & MAPPING

- **Evaluation –** Evaluation is one or more processes, done by the evaluation team, for **interpreting the data and evidence accumulated through assessment practices**. Evaluation determines the extent to which **PEOs or POs are being achieved** and results in **decisions and actions to improve the programme.**
- **Mapping –** Mapping is the process of representing, preferably in **matrix form, the correlation among the parameters.**

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GRADUATE ATTRIBUTES-1 (Kpin)

- **Engineering Knowledge :** **Apply the knowledge** of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
- **Problem analysis : Identify, formulate**, research literature, and analyze complex engineering problems reaching substantiated conclusions using **first principles** of mathematics, natural sciences, and engineering sciences.
- **Conduct investigations of complex problems:** Use research-based knowledge and research methods including **design of experiments**, analysis and interpretation of data, and synthesis of the information to provide valid conclusions

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GRADUATE ATTRIBUTES-2 (MoSESE)

- **Modern Tool Usage :** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- **The Engineer and Society :** Apply reasoning informed by the contextual knowledge to **assess societal, health, safety, legal, and cultural issues** and the consequent responsibilities relevant to the professional engineering practice.
- **Environment and Sustainability:** Understand the impact of the professional engineering solutions in **societal and environmental contexts,** and demonstrate the knowledge of need for **sustainable development.**
- **Ethics :**Apply ethical principles and commit to **professional ethics** and responsibilities and norms of the engineering practice.

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GRADUATE ATTRIBUTES-3 (TeCoProLi)

- **Individual and Team Work :** Function effectively as an individual, and as a **member or leader in diverse teams**, and in multidisciplinary settings.
- **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to **comprehend and write effective reports and design documentation, make effective presentations**, and give and receive clear instructions.
- **Project Management and Finance :** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a **member and leader in a team, to manage projects** and in multidisciplinary environments.
- **Life-long learning :** Recognize the need for, and have the preparation and ability to engage in **independent and life-long learning in the broadest context of technological change.**

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DIFFERENCE BETWEEN TIER I & II

- The **TIER-I: Autonomous institutions and University Departments**, while the **TIER-II document is for non-autonomous** institutions affiliated to a university.
- In both TIER-I and TIER-II documents, **the same set of criteria** have been considered for accreditation.
- In the **TIER-I** document, the criteria which are based on **outcome parameters have been given more weightage,** whereas in the **TIER-II** document, the **weightage of the output-based criteria is more**
- **However, a non-autonomous institution may also apply for accreditation on the basis of TIER-I document**, if they feel that their curriculum is capable of attaining the desired outcomes of a programme.

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CRITERIA AND WEIGHTAGES FOR TIER-1 & TIER-2 COLLEGES

Sl.. No.	Criteria (Vi Go Fa C S)	Weightage for Tier-1	Weight age for Tier-2
1	**Vi**sion and **M**ission ; PEOs	50	60
2	Program **C**urriculum &Teaching –Learning Processes	100	120
3	**C**ourse Outcomes and Program Outcomes	175	120
4	**St**Udent s' performance	100	150
5	**Fa**culty information and contribution	200	200
6	**F**acilities & Technical support	80	80
7	**C**ontinuous improvement	75	50
8	**Fir**st Year Academics	50	50
9	**St**udent support systems	50	50
10	**Go**vernance, Institutional Support and Financial Resources	120	120

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NBA- Metrics
Dept/Prog specific criteria (780)

Vision, Mission, PEO (50)

Continuous Improvement (75)

Prog. Curriculum & TLP (100)

Facilities & Tech Support (80)

Co & PO (175)

Faculty Info & Contribution (200)

Student Performance (100)
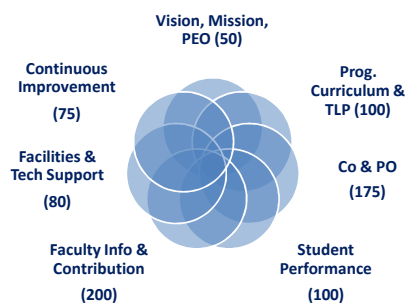
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NBA- Metrics
Institutional specific criteria (220)

First year academics (50)

Student support system (50)

Total: 780 +220 = 1000

Governance, Institutional support & Financial Resources (120)
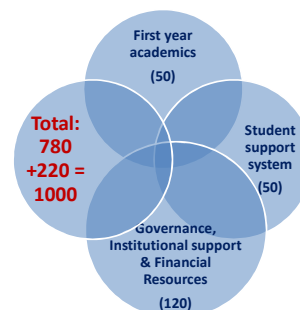
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NBA Weightages for sub categories-1
(Tier-1 institutions)

- **Cr-1: Vision, Mission, PEOs-50**
- **Cr-2: Curriculum & TLP-100**
  - Curriculum-30
  - TLP- 70
- **Cr-3: CO/PO- 175**
  - Correlation-25
  - Attainment of CO-75
  - Attainment of PO-75

- **Cr-4: Student performance-100**
  - Enrolment-20
  - Succession rate-20
  - Performance in 2nd yr-10
  - Placement, Hr & ED - 30
  - Professional Activities-20

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NBA Weightages for sub categories-2
(Tier-1 institutions)

- **Cr-5: Faculty information & contribution-200**
  - SFR-20
  - Cadre ratio-20
  - Qualification-20
  - Retention-10
  - Teaching innovation-10
  - FDP-15
  - R & D-75
  - Performance appraisal -10
  - Adjunct faculty-10
- **Cr-6: Facilities & Tech Support-80**
  - Lab-40
  - Maintenance-10
  - Safety-10
  - Project Labs-20

- **Cr-7: Continuous improvement-75**
  - Action taken on result analysis-30
  - Action taken on academic audit-15
  - Improvement in Placement / Hr. Studies/ED-10
  - Improvement on quality of students-20

- **Cr-8: First Year Academics-50**
  - FSR-5
  - Qualification-5
  - Performance -10
  - Co attainment-10
  - PO attainment-20

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NBA Weightages for sub categories-3
(Tier-1 institutions)

- **Cr-9: Student Support Systems-50**
  - Mentoring-5
  - Feedback-10
  - Feedback on Facilities-5
  - Self learning-5
  - Career guidance-10
  - Entrepreneur -5
  - Co-curricular-10

- **Cr-10: Governance, Institutional support & Financial resources-120**
  - Organization/Transparency – 55
  - Institutional budget-15
  - Program budget-30
  - Library/Internet-20

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NBA: PRE-QUALIFIER

- **PROGRAM SPECIFIC INFORMATION**
  - Name of program
  - Program applied level
  - Start of year
  - Year of AICTE approval
  - Initial intake
  - Intake increase
  - Current intake
  - Accreditation status
  - Program for consideration

- Student Admission
- Information of the Faculty
- Student Faculty Ratio (SFR)
- Placement Ratio/Percentage

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Slide 1: Student admission (Prog. Specific)

Student admission (Prog. Specific)

B2. Student Admissions (Program specific):-

Years	CAY 2019-20	CAYm1 2018-19	CAYm2 2017-18	CAYm3 2016-17
Sanctioned intake of the program (N)				
Total number of students admitted in first year ($N1$)				
Number of students admitted in 2nd year in the same batch via lateral entry ($N2$)				
Total number of students admitted in the Program ($N1 + N2$)				
% of Students Admitted over the previous three academic years starting from CAYm1 (Total Admitted/Sanctioned Intake):				

Kindly note that the years mention here is for example only, institute is required to consider the academic years as per the definition of CAY given in the document and according to the prevailing year. The % of student admitted in the program is to be restricted upto 100%.

Table B2.1

CAY: Current Academic Year
CAYm1: Current Academic Year minus 1= Current Assessment Year
CAYm2: Current Academic Year minus 2= Current Assessment Year minus1
CAYm3: Current Academic Year minus 3= Current Assessment Year minus2

Slide 2: Faculty information

Faculty information

B3. Information of Faculty

Please provide the list of faculty in the Department as per the below format separately (year wise) for each year under consideration

S. No.	Name	PAN No.	Qualification	Area of Specialization	Designation	Date of Joining	Date on which Designated as Professor/ Associate Professor	Currently Associated (Y/N)	Nature of Association (Regular/Contract/Adjunct)	If contractual mention Full time or Part time	Date of Leaving (In case Currently Associated is " No")
1.											
..											
N.											

Table B3.1

B3.1. No. of the Available Faculty

S. No.	Designation/Numbers	Number of Faculty in the Department for both UG and PG	
		CAY (2019-20)	CAYm1 (2018-19)
1.	Professor		
2.	Associate Professor		
3.	Assistant Professor		
4.	Number of Ph.D.* (as per the AICTE norms)		

Kindly note that the years mention here is for example only, institute is required to consider the academic years as per the definition of CAY given in the document and according to the prevailing year.

Table B3.1

Slide 3: Student Faculty Ratio

Student Faculty Ratio

No. of UG Programs in the Department (n): _____
No. of PG Programs in the Department (m): _____
No. of Students in UG 2nd Year= **u1**
No. of Students in UG 3rd Year= **u2**
No. of Students in UG 4th Year= **u3**
No. of Students in PG 1st Year= **p1**
No. of Students in PG 2nd Year= **p2**
No. of Students = Sanctioned Intake + Actual admitted lateral entry student

(The above data to be provided considering all the UG and PG programs of the department)

S=Number of Students in the Department = U1 + U2 + U3 + P1 + P2

F = Total Number of Faculty Members in the Department (excluding first year faculty)

Year	CAY	CAYm1	CAYm2
u1.1			
u1.2			
u1.3			
UG1	u1.1+u1.2+u1.3	u1.1+u1.2+u1.3	u1.1+u1.2+u1.3
...			
u_n.1			
u_n.2			
u_n.3			
UGn	u_n.1+u_n.2+u_n.3	u_n.1+u_n.2+u_n.3	u_n.1+u_n.2+u_n.3
p1.1			
p1.2			
PG1	p1.1+p1.2	p1.1+p1.2	p1.1+p1.2
....			
pm.1			
pm.2			
PGm	pm.1+pm.2	pm.1+pm.2	pm.1+pm.2
Total No. of Students in the Department (S)	UG1 + UG2 +.. +UGn + PG1 +.. PGm	UG1 + UG2 + .. +UGn + PG1+.. + PGm	UG1 + UG2 + .. +UGn + PG1+.. + PGm
No. of Faculty in the Department (F)	F1	F2	F3
Student Faculty Ration (SFR)	SFR1=S1/F1	SFR2= S2/F2	SFR3= S3/F3
Average SFR	SFR=(SFR1+SFR2+SFR3)/3		

Slide 4: PART-A: Institutional information

PART-A: Institutional information

- Name & address of Institution
- Name & address of affiliating university
- Year of establishment of institution
- Type of Institution
- Ownership
- Other academic institutions
- Details of all the programs offered
- Programmes considered for accreditation
- Total number of employees
  - A) Regular
  - B) On contract
- Total Number of engineering Students
- Vision of Institution
- Mission of Institution
- Contact information of NBA coordinator

Slide 5: Cr-1: Vision, Mission and PEOs:50

Cr-1: Vision, Mission and PEOs:50

Criterion 1: Vision, Mission and Program Educational Objectives (50)

Sub	Criteria	Marks	Evaluation Guidelines
1.1.	State the Vision and Mission of the Department and institution	05	A. Availability of the Vision and Mission statements of the Department (1) B. Appropriateness/Relevance of the Statements (2) C. Consistency of the Department statements with the institution statements (2) (Here institution Vision and Mission statements have been asked to ensure consistency with the department Vision and Mission statements; the assessment of the institution Vision and Mission will be done in Criterion 10)

Exhibits/Context to be Observed/Assessed:

A. Vision and Mission Statements
B. Correctness from definition perspective
C. Consistency between institution and Department statements

Slide 6: Cr-1: Vision, Mission and PEOs:50

Cr-1: Vision, Mission and PEOs:50

1.2.	State the Program Educational Objectives (PEOs)	05	A. Listing of the Program Educational Objectives (3 to 5) of the program under consideration (5)

Exhibits/Context to be Observed/Assessed:

A. Availability and correctness of the PEOs statements

1.3.	Indicate where and how the Vision, Mission and PEOs are published and disseminated among stakeholders	15	A. Adequacy in respect of publication and dissemination (3) B. Process of dissemination among stakeholders (3) C. Extent of awareness of Vision, Mission and PEOs among the stakeholders (9)

Exhibits/Context to be Observed/Assessed:

A. Adequacy Department Vision, Mission and PEOs: Availability on institution website under relevant program link; Availability at department notice boards, HoD Chamber, department website, if Available; Availability in department level documents/course of study

B. Process of dissemination: Documentary evidence to indicate the process which ensures awareness among internal and external stakeholders with effective process implementation

C. Extent of Awareness: Based on interaction with internal and external stakeholders

Slide 25

Cr-1: Vision, Mission and PEOs:50

1.4.	State the process for defining the Vision and Mission of the Department, and PEOs of the program	15	A. Description of process involved in defining the Vision, Mission of the Department (07) B. Description of process involved in defining the PEOs of the program (08)

Exhibits/Context to be Observed/Assessed:

A. Documentary evidence to indicate the process which ensures effective participation of internal and external department stakeholders with effective process implementation

1.5.	Establish consistency of PEOs with Mission of the Department	10	A. Preparation of a matrix of PEOs and elements of Mission statement (5) B. Consistency/justification of co-relation parameters of the above matrix (5)

Exhibits/Context to be Observed/Assessed:

A. Availability of a matrix having PEOs and Mission elements B. Justification for each of the elements mapped in the matrix

	Total:	50	

Slide 26

Cr-2: Prog Curriculum & TLP:100

Criterion 2: Program Curriculum and Teaching–Learning Processes (100)

Sub	Criteria	Marks	Evaluation Guidelines
2.1.	Program Curriculum	30	
2.1.1	State the process for designing the program curriculum	10	Process used to demonstrate how the program curriculum is evolved and periodically reviewed considering the POs and PSOs. Also consider the involvement of the Industry(10).

Exhibits/Context to be Observed/Assessed:

Documentary evidence to indicate the process which demonstrate how the program curriculum is evolved and periodically reviewed considering the POs and PSOs.

2.1.2	Structure of the Curriculum	05	Refer to SAR: Expectation in 2.1.2 & 2.1.3 is that the curriculum is well balanced structure & appropriate for a degree program(5).

Exhibits / Context to be Observed / Assessed

Slide 27

Cr-2: Prog Curriculum & TLP:100

2.1.3	State the components of the curriculum	05	Refer to SAR: Expectation in 2.1.2 & 2.1.3 is that the curriculum is well balanced structure & appropriate for a degree program(5).

Exhibits / Context to be Observed / Assessed

Documentary evidence

2.1.4	State the process used to identify extent of compliance of the curriculum for attaining the Program utcomes(POs) & Program Specific Outcomes(PSOs)	10	Process used to identify extent of compliance of curriculum for attaining POs & PSOs (10)

Exhibits / Context to be Observed / Assessed

Documentary evidence to indicate the process which ensures mapping/compliance of Curriculum with the POs & PSOs.

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Cr-2: Prog Curriculum & TLP:100

Sub	Criteria	Marks	Evaluation Guidelines
2.2.	Teaching-Learning Process	70	
2.2.1.	Describe the process followed to improve quality of Teaching Learning.	15	A. Adherence to Academic Calendar (2) B. Use of various instructional methods and pedagogical initiatives (2) C. Methodologies to support weak students and encourage bright students (2) D. Quality of classroom teaching (Observation in a Class) (2) E. Conduct of experiments (Observation in Lab) (2) F. Continuous Assessment in the laboratory (3) G. Student feedback of teaching learning process and action taken (2)

Exhibits/Context to be Observed/Assessed:

A. Availability of Academic Calendar based on University academic calendar and its effective compliance
B. Documentary evidence to support implementation of pedagogical initiatives such as real life examples, collaborative learning, ICT supported learning, interactive class rooms, etc.
C. Guidelines to identify weak and bright students; post identification actions taken; impact observed
D. Class room ambience; efforts to keep students engaged (also to be verified during interaction with the students)
E. Quality of laboratory experience with respect to conducting, recording observations, analysis etc.(also to be verified during interaction with the students)
F. Internal Semester examination and internal marks thereof, Practical record books, each experiment assessment, final marks based on assessment of all the experiments and other assessments, if any
G. Feedback format, frequency, analysis and actions taken (also to be verified during interaction with students)

Slide 29

Cr-2: Prog Curriculum & TLP:100

2.2.2.	Quality of internal semester Question papers, Assignments and Evaluation.	15	A. Process for internal semester question paper setting and evaluation and effective process implementation (3) B. Process to ensure questions from outcomes/learning levels perspective (2) C. Evidence of COs coverage in class test / mid-term tests (5) D. Quality of Assignment and its relevance to COs (5)

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National Board of Accreditation

Exhibits/Context to be Observed/Assessed:

A. Process of internal semester question paper setting, model answers, evaluation and its compliance
B. Question paper validation to ensure desired standard from outcome attainment perspective as well as learning levels perspective
C. Mapping of questions with the Course outcomes
D. Assignments to promote self-learning, survey of contents from multiple sources, assignment evaluation and feedback to the students, mapping with the COs

Slide 30

Cr-2: Prog Curriculum & TLP:100

2.2.3.	Quality of student projects	20	A. Identification of projects and allocation methodology to Faculty Members (2) B. Types and relevance of the projects and their contribution towards attainment of POs and PSOs (2) C. Project related to Industry (3) D. Process for monitoring and evaluation (2) E. Process to assess individual and team performance (3) F. Quality of completed projects/working prototypes (5) G. Evidences of papers published /Awards received by projects, etc. (3)

Exhibits/Context to be Observed/Assessed:

A. Projects identification and guide allocation process
B. Projects classification (application, product, research, review etc.) consideration to factors such as environment, safety, ethics, cost, standards and mapping with program outcomes and program specific outcomes
C. Continuous monitoring mechanism and evaluation
D. Methodology (appropriately documented) to assess individual contribution/understanding of the project as well as collective contribution/understanding
E. Based on Projects demonstration
F. Quality of place (host) where the paper has been published /quality of competition in which award has been won

Cr-2: Prog Curriculum & TLP:100

Sub	Criteria	Marks	Evaluation Guidelines
2.2.4.	Initiatives related to industry interaction	10	A. Industry supported laboratories (2)
			B. Industry involvement in the program design and Curriculum (3)
			C. Industry involvement in partial delivery of any regular courses for students (3)
			D. Impact analysis of industry institute interaction and actions taken thereof (2)

Exhibits/Context to be Observed/Assessed:
A. Type of industries, type of labs, objectives, utilization and effectiveness
B. Documentary evidence
C. Analysis and actions taken thereof

Sub	Criteria	Marks	Evaluation Guidelines
2.2.5.	Initiatives related to industry internship/summer training	10	A. Industrial training/tours for students (2)
			B. Industrial /internship /summer training of more than two weeks and post training Assessment (3)
			C. Impact analysis of industrial training (2)
			D. Student feedback on initiative (3)

Exhibits/Context to be Observed/Assessed:
A and B. Type of Industries, planned or non-planned activity, objectives clearly defined, no. of students participated, relevant area of training, visit report documented
C and D. Impact analysis and feedback format, analysis and actions taken (also to be verified during interaction with students)

Total:		**100**	

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Cr-3: CO & PO- 175

Criterion 3: Course Outcomes and Program Outcomes (175)

Sub	Criteria	Marks	Evaluation Guidelines
3.1.	Establish the correlation between the courses and the POs and PSOs	25	A. Evidence of COs being defined for every course (5)
			B. Availability of COs embedded in the syllabi (5)
			C. Explanation of Course Articulation Matrix table to be ascertained (5)
			D. Explanation of Program Articulation Matrix tables to be ascertained (10)

Exhibits/Context to be Observed/Assessed:

A. Appropriateness of the statements shall be seen for at least one course each from 2nd, 3rd and final year of study

B. Mapping to be verified for at least two matrices

C. Mapping to be verified for at least one course per year of study; program outcomes and program specific outcomes getting mapped with the core courses are also to be verified

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Cr-3: CO & PO- 175

3.2.	Attainment Course Outcomes	75	
3.2.1	Describe the assessment processes used to gather the data upon which the evaluation of Course Outcome is based.	10	A. List of assessment processes (2)
			B. The quality /relevance of assessment processes and tools used (8)

Exhibits/Context to be Observed/Assessed:

A and B. Evidence for appropriate assessment processes including data collection, verification, analysis, decision making.

3.2.2.	Record the attainment of Course Outcomes of all courses with respect to set attainment levels.	65	A. Verify the attainment levels as per the benchmark set for all courses (65)

Exhibits/Context to be Observed/Assessed:

A. Methodology to define set levels and its compliance; data collection, verification, analysis and decision making; details for one course per year of study to be verified

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Cr-3: CO & PO- 175

3.3.	Attainment of Program Outcomes and Program Specific Outcomes	75	
3.3.1.	Describe assessment tools and processes used for assessing the attainment of each of the POs and PSOs	10	A. List of assessment tools and processes (5)
			B. The quality/relevance of assessment tools/processes used (5)

Exhibits/Context to be Observed/Assessed:

A and B. Direct and indirect assessment tools and processes; effective compliance; direct assessment methodology, indirect assessment formats-collection-analysis; decision making based on direct and indirect assessment

3.3.2.	Provide results of evaluation of each PO and PSO	65	A. Verification of documents, results and level of attainment of each PO/PSO (50)
			B. Overall levels of attainment (15)

Exhibits/Context to be Observed/Assessed:

A and B. Appropriate attainment level and documentary evidences; details for POs and PSOs attainment from core courses to be verified. Also atleast two POs and two PSOs attainment levels shall be verified

Total		175	

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Cr-4: Students' Performance-100

Criterion 4: Students' Performance (100)

Sub	Criteria	Marks	Evaluation Guidelines
4.1.	Enrolment Ratio (20)	20	A. > = 90% students enrolled at the First Year Level on average basis during the previous three academic years starting from current academic year (20)
			B. > = 80% students enrolled at the First Year Level on average basis during the previous three academic years starting from current academic year (18)
			C. > = 70% students enrolled at the First Year Level on average basis during the previous three academic years starting from current academic year (16)
			D. > = 60% students enrolled at the First Year Level on average basis during the previous three academic years starting from current academic year (14)
			E. Otherwise '0'.

Exhibits/Context to be Observed/Assessed:
A, B and C. Data to be verified for each of the assessment years

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Cr-4: Students' Performance-100

4.2.	Success Rate in the stipulated period of the program	20	
4.2.1.	Success rate without backlogs in any Semester/year of study Without Backlog means **no compartment or failures in any semester/year of study**	15	SI= (Number of students who graduated from the program without backlog)/(Number of students admitted in the first year of that batch and actually admitted in 2nd year via lateral entry and separate division, if applicable) Average SI = Mean of success index (SI) for past three batches Success rate without backlogs in any year of study = 15 × Average SI

Exhibits/Context to be Observed/Assessed:

Data to be verified for each of the assessment years

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Cr-4: Students' Performance-100

4.2.2.	Success rate in stipulated period (actual duration of the program) [Total of with backlog + without backlog]	5	SI = (Number of students who graduated from the program in the stipulated period of course duration)/(Number of students admitted in the first year of that batch and actually admitted in 2nd year via lateral entry and separate division, if applicable) Average SI = mean of success index (SI) for past three batches Success rate = 5 × Average SI

Exhibits/Context to be Observed/Assessed:

A. Data to be verified for each of the assessment years

Note: if 100% students clear without any backlog then also total marks scored will be 40 as both 4.2.1 and 4.2.2 will be applicable simultaneously.

4.3.	Academic Performance in Second Year	10	Academic Performance = 1.5 * Average API (Academic Performance Index) API = ((Mean of 2nd Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks of all successful students in Third Year/10)) x (successful students/number of students appeared in the examination) Successful students are those who are permitted to proceed to the third year

Exhibits/Context to be Observed/Assessed:

A. Data to be verified for at least one of the assessment years

Cr-4: Students' Performance-100

4.4.	Placement, Higher studies and Entrepreneurship	30	Assessment Points = 30 × average of three years of [(x + y + z)/N] where, x = Number of students placed in companies or Government sector through on/off campus recruitment y = Number of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National level tests, GRE, GMAT etc.) z = No. of students turned entrepreneur in engineering/technology N = Total number of final year students

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Exhibits/Context to be Observed/Assessed:

A. Data to be verified for at least one of the assessment years

4.5.	Professional Activities	20	
4.5.1.	Professional societies / chapters and organizing engineering events	05	A. Availability and activities of professional societies/chapters (3) B. Number, quality of engineering events (organized at institution) (2) (Level - Institution /State/ National/International)

Exhibits/Context to be Observed/Assessed:

Self –Explanatory

Cr-4: Students' Performance-100

4.5.2.	Publication of technical magazines, newsletters, etc.	05	A. Quality and Relevance of the contents and Print Material (3) B. Participation of Students from the program (2)

Exhibits/Context to be Observed/Assessed:

A. Documentary evidence

B. Documentary evidence - Students participation (also to be confirmed during interaction with the students)

4.5.3.	Participation in inter-institute events by students of the program of study (at other institutions)	10	A. Events within the state (2) B. Events outside the state (3) C. Prizes/awards received in such events (5)

Exhibits/Context to be Observed/Assessed:

A B & C. Quality of events and documentary evidence

Total:		100	

Cr-5: Faculty Info-200

Criterion 5: Faculty Information and Contributions (200)

Sub	Criteria	Marks	Evaluation Guidelines
5.1.	Student-Faculty Ratio (SFR)	20	Marks to be given proportionally from a maximum of 20 to a minimum of 10 for average SFR between 15:1 to 25:1, and zero for average SFR higher than 25:1. Marks distribution is given as below: < = 15 - 20 Marks < = 17 - 18 Marks < = 19 - 16 Marks < = 21 - 14 Marks < = 23 - 12 Marks < = 25 - 10 Marks > 25 - 0 Marks

Exhibits/Context to be Observed/Assessed:

- SFR is to be verified considering the faculty of the entire department.
- No. of Regular faculty calculation considering **Regular faculty definition***; Faculty appointment letters, time table, subject allocation file, salary statements.
- No. of students calculation as mentioned in the SAR(please refer table under criterion 5.1)
- Faculty Qualification as per AICTE guidelines shall only be counted

Cr-5: Faculty Info-200

5.2.	Faculty Cadre Proportion	20	Cadre Proportion Marks = $\left[\frac{AF1}{RF1} + \frac{AF2}{RF2} \times 0.6 + \frac{AF3}{RF3} \times 0.4\right] \times 10$ • If AF1 = AF2 = 0 then zero marks • Maximum marks to be limited if it exceeds 20 (Refer calculation in SAR)

Exhibits/Context to be Observed/Assessed:

(Faculty Qualification and experience required for cadre posts shall only be considered as per AICTE norms/guidelines)

- Cadre wise No. of faculty available; Faculty qualification and experience and eligibility; Appointment/Promotion orders
- Cadre wise no. of faculty required as per AICTE guidelines (refer calculation in SAR)

5.3.	Faculty Qualification	20	FQ = 2.0x[(10X + 4Y)/F)] where X is no. of faculty with Ph.D., Y is no. of faculty with M.Tech, F is no. of faculty required to comply 1:20 Faculty Student ratio (no. of faculty and no. of students required to be calculated as per 5.1)

Exhibits/Context to be Observed/Assessed:

- Documentary evidence – Faculty Qualification

Cr-5: Faculty Info-200

5.2.	Faculty Cadre Proportion	20	Cadre Proportion Marks = $\left[\frac{AF1}{RF1} + \frac{AF2}{RF2} \times 0.6 + \frac{AF3}{RF3} \times 0.4\right] \times 10$ • If AF1 = AF2 = 0 then zero marks • Maximum marks to be limited if it exceeds 20 (Refer calculation in SAR)

Exhibits/Context to be Observed/Assessed:

(Faculty Qualification and experience required for cadre posts shall only be considered as per AICTE norms/guidelines)

- Cadre wise No. of faculty available; Faculty qualification and experience and eligibility; Appointment/Promotion orders
- Cadre wise no. of faculty required as per AICTE guidelines (refer calculation in SAR)

5.3.	Faculty Qualification	20	FQ = 2.0x[(10X + 4Y)/F)] where X is no. of faculty with Ph.D., Y is no. of faculty with M.Tech, F is no. of faculty required to comply 1:20 Faculty Student ratio (no. of faculty and no. of students required to be calculated as per 5.1)

Exhibits/Context to be Observed/Assessed:

- Documentary evidence – Faculty Qualification

Cr-5: Faculty Info-200

5.4	Faculty Retention	10	A. ≥ 90% of required Faculties retained during the period of assessment keeping CAYm2 as base year (10) B. ≥75% of required Faculties retained during the period of assessment keeping CAYm2 as base year (08) C. ≥ 60% of required Faculties retained during the period of assessment keeping CAYm2 as base year (06) D. ≥ 50% of required Faculties retained during the period of assessment keeping CAYm2 as base year (04) E. Otherwise (0)

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Exhibits/Context to be Observed/Assessed:

• Faculty date of joining; at least three month (July-April-May) salary statement for each of the assessment years

5.5	Faculty competencies in correlation to Program Specific Criteria	10	A. Specialization B. Research Publications C. Course Developments D. Other relevant points

Cr-5: Faculty Info-200

5.6	Innovations by the Faculty in Teaching and Learning	10	A. Statement of clear goals, use of appropriate methods, significance of results, effective presentation (4) B. Availability of work on the Institute Website (2) C. Availability of work for peer review and critique (2) D. Reproducibility and Reusability by other scholars for further development (2)

Exhibits/Context to be Observed/Assessed:

A.   Availability on Institute website; awareness among faculty and students of the department

B and C. Self-explanatory

D.   Innovations that contribute to the improvement of student learning, typically include use of ICT, instruction delivery, instructional methods, assessment, evaluation etc.

5.7	Faculty as participants in Faculty development /training activities /STTPs	15	For each year: Assessment = $3 \times$ Sum/0.5RF Average assessment over last three years starting from CAYm1 (Marks limited to 15)

Exhibits/Context to be Observed/Assessed:

• Relevance of the training/development program

• No. of days; No. of faculty

5.8	Research and Development	75	A. Number of quality publications in refereed/SCI Journals, citations, Books/Book Chapters etc. (15)
5.8.1.	Academic Research	20	B. PhD awarded during the assessment period while working in the institute (5)

Cr-5: Faculty Info-200

5.8.2.	Sponsored Research	20	Funded research from outside; Cumulative during CAYm1, CAYm2 and CAYm3 Amount > Rs.50 Lakh - 2 0 Marks Amount > Rs.40 Lakh and < Rs.50 Lakh -15 Marks Amount > Rs.30 Lakh and < Rs.40 Lakh -10 Marks Amount > Rs.15 Lakh and < Rs.30 Lakh -5 Marks

Exhibits/Context to be Observed/Assessed:
• Documentary evidence: Funding agency; Duration, Research progress; Outcome

5.8.3.	Development Activities	15	A. Product Development B. Research laboratories C. Instructional materials D. Working models/Charts/monograms, etc.

Exhibits/Context to be Observed/Assessed:
• Self-explanatory

Cr-5: Faculty Info-200

5.8.4.	Consultancy (From Industry)	20	Consultancy; Cumulative during CAYm1, CAYm2 and CAYm3 Amount > Rs.10 Lakh -20 Marks Amount < Rs.10 Lakh and > Rs.8 Lakh -15 Marks Amount < Rs.8 Lakh and > Rs.6 Lakh -10 Marks Amount < Rs.6 Lakh and > Rs.4 Lakh -5 Marks Amount < Rs.4 Lakh and > Rs.2 Lakh -2 Marks Amount < Rs.2 Lakh -0 Marks

Exhibits/Context to be Observed/Assessed:
• Documentary evidence: Funding agency; Duration; Research progress; Outcome

5.9	Faculty Performance Appraisal and Development System (FPADS)	10	A. A well-defined performance appraisal and development system instituted for all the assessment years (5) B. Its implementation and effectiveness (5)

Exhibits/Context to be Observed/Assessed:
A. Notified performance appraisal and development system; Appraisal Parameters; Awareness
B. Implementation, Transparency and Effectiveness

5.10	Visiting/Adjunct/Emeritus Faculty etc.	10	• Provision of Visiting/Adjunct/Emeritus faculty etc.(1) • Minimum 50 hours per year interaction (per year to obtain three marks : 3 x 3 = 9)

Exhibits/Context to be Observed/Assessed:
Documentary evidence

Total:		200	

Cr-6: Facility & Tech support -80

Criterion 6: Facilities and Technical Support (80)

Sub	Criteria	Marks	Evaluation Guidelines
6.1.	Adequate and well equipped laboratories, and technical manpower	40	A. Adequate well-equipped laboratories to run all the program-specific curriculum (25) B. Availability of adequate and qualified technical supporting staff (15)

Exhibits/Context to be Observed/Assessed:
A. Adequacy; well-equipped laboratories; utilization
B. Self-explanatory

6.2.	Laboratories: Maintenance and overall ambience.	10	• Maintenance and overall ambience (10)

Exhibits/Context to be Observed/Assessed:
Self-explanatory

6.3.	Safety measures in laboratories	10	• Safety measures in laboratories (10)

Exhibits/Context to be Observed/Assessed:
Self-explanatory

6.4.	Project laboratory/Facilities	20	• Facilities & Utilization (20)

Exhibits/Context to be Observed/Assessed:
Self-explanatory

Total:		80	

Cr-7: Continuous Improvement (75)

Criterion 7: Continuous Improvement (75)

Sub	Criteria	Marks	Evaluation Guidelines
7.1.	Actions taken based on the results of evaluation of each of the POs and PSOs	30	A. Documentation of POs & PSOs attainment levels (15) B. Identification of gaps/shortfalls (5) C. Plan of action to bridge the gap and its Implementation (10)

Exhibits/Context to be Observed/Assessed:

• Documentary evidence in respect of each of the Pos

7.2	Academic Audit and actions taken during the period of Assessment	15	A. Assessment shall be based on conduct and actions taken in relation to continuous improvement (15)

Exhibits/Context to be Observed/Assessed:

A. Academic Audit assessment criteria, frequency, conduct mechanism, action plan based on audit, implementation and effectiveness

Cr-7: Continuous Improvement (75)

7.3.	Improvement in Placement, Higher Studies and Entrepreneurship	10	Assessment is based on improvement in: (Refer placement index 4.5) A. Improvement in Placement numbers, quality, core hiring industry and pay packages (5) B. Improvement in Higher Studies admissions for pursuing PhD. in premier institutions (3) C. Improvement in number of Entrepreneurs (2) (Marks to be given proportionately considering nos. in the base year CAYm3)

Exhibits/Context to be Observed/Assessed:

A, B and C: Nos. in each year of the assessment; improvement considering CAYm3 as a base year

7.4.	Improvement in the quality of students admitted to the program	20	A. Assessment is based on improvement in terms of ranks/score in qualifying state level/national level entrances tests, percentage Physics, Chemistry and Mathematics marks in 12th Standard and percentage marks of the lateral entry students.

Exhibits/Context to be Observed/Assessed:

A. Documentary evidence – list of students admitted; admission authority guidelines; ranks/scores; comparative status considering CAYm3 as a base year

| | **Total:** | **75** | |

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Cr-8: First Year Academics (50)

Criterion 8: First Year Academics (50)

Sub	Criteria	Marks	Evaluation Guidelines
8.1.	First Year Student- Faculty Ratio (FYSFR)	05	For each year of assessment = (5×20)/FYSFR (Limited to Max. 5) Average of Assessment of data in CAY, CAYm1 and CAYm2 *Note: If FYSFR is greater than 25, then assessment equal to zero.

Exhibits/Context to be Observed/Assessed:
- No. of Regular faculty calculation considering Regular faculty definition and fractional load; Faculty appointment letters; Salary statements
- No. of students calculation as mentioned in the SAR

8.2.	Qualification of Faculty Teaching First Year Common Courses	05	A. Assessment of faculty qualification $(5x + 3y)$/RF B. Average of Assessment of previous three academic years including current academic year. (Refer 8.2. for x, y and RF)

Exhibits/Context to be Observed/Assessed:
- Documentary evidence – Faculty Qualification

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Cr-8: First Year Academics (50)

8.3.	First Year Academic Performance	10	Academic Performance = ((Mean of 1st Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks in First Year of all successful students/10)) x (successful students/number of students appeared in the examination) (Successful students are those who are permitted to proceed to the Second year)

Exhibits/Context to be Observed/Assessed:
- Data to be verified for at least one of the assessment years

8.4.	Attainment of Course Outcomes of first year courses	10	
8.4.1.	Describe the assessment processes used to gather the data upon which the evaluation of Course Outcomes of first year is based.	05	A. List of assessment processes (1) B. The relevance of assessment tools used (4)

A and B. Direct and indirect assessment(if applicable), tools and processes; effective compliance; direct
assessment methodology, indirect assessment formats-collection-analysis; decision making

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Cr-8: First Year Academics (50)

8.4.2.	Record the attainment of Course Outcomes of all first year courses	05	A. Verify the records as per the benchmark set for the courses (5)

Exhibits/Context to be Observed/Assessed:

A. Documentary evidence – Attainment for atleast 3 courses

8.5.	Attainment of Program Outcomes of all first year courses	20	
8.5.1.	Indicate results of evaluation of each relevant PO/PSO	10	A. Process of computing POs/PSOs attainment level from the COs of related first year courses (5) B. Verification of documents validating the above process (5)

Exhibits/Context to be Observed/Assessed:

A and B. Documentary evidence for each relevant PO/PSO

8.5.2.	Actions taken based on the results of evaluation of relevant POs / PSOs	10	A. Appropriate actions taken (10)

Exhibits/Context to be Observed/Assessed:

A. Documentary evidence for each relevant PO/PSO

| | **Total** | **50** | |

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Cr-9: Student Support -50

Criterion 9: Student Support Systems (50)

Sub	Criteria	Marks	Evaluation Guidelines
9.1.	Mentoring system to help at individual level	05	A. Details of the mentoring system that has been developed for the students for various purposes and also state the efficacy of such system (5)

Exhibits/Context to be Observed/Assessed:

A. Mentoring system terms of reference; implementation; effectiveness (also to be verified during interaction with the students)

9.2.	Feedback analysis an /reward corrective measures taken, if any	10	A. Methodology being followed for analysis of feedback and its effectiveness (5) B. Record of corrective measures taken (5)

Exhibits/Context to be Observed/Assessed:

A. Feedback questions, collection process, analysis, actions taken, effectiveness

9.3.	Feedback on facilities	05	A. Feedback collection, analysis and corrective action (5)

Exhibits/Context to be Observed/Assessed:

Self explanatory

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Cr-9: Student Support -50

9.4.	Self Learning	05	A. Scope for self-learning (2) B. The institution needs to specify the facilities, materials for learning beyond syllabus, Webinars, Podcast, MOOCs etc. and demonstrate its effective utilization (3)

Exhibits/Context to be Observed/Assessed:

Self explanatory

9.5.	Career Guidance, Training, Placement	10	A. Availability of career guidance facilities (2) B. Counseling for higher studies (GATE/GRE, GMAT, etc.) (2) C. Pre-placement training (3) D. Placement process and support (3)

Exhibits/Context to be Observed/Assessed:

Availability, implementation, effectiveness (also to be verified during interaction with the students)

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Cr-9: Student Support -50

9.6.	Entrepreneurship Cell	05	A. Entrepreneurship initiatives (3)
			B. Data on students benefitted (2)

Exhibits/Context to be Observed/Assessed:

Availability, implementation, effectiveness (also to be verified during interaction with the students)reference; implementation; effectiveness (also to be verified during interaction with the students)

9.7.	Co-curricular and Extra-curricular Activities	10	A. Availability of sports and cultural facilities (3)
			B. NCC, NSS and other clubs (3)
			C. Annual students activities (4)

Exhibits/Context to be Observed/Assessed:

Availability, implementation, effectiveness (also to be verified during interaction with the students)

	Total:	50	

Cr-10: Governance (120)

Criterion 10: Governance, Institutional Support and Financial Resources (120)

Sub	Criteria	Marks	Evaluation Guidelines
10.1.	Organization, Governance and Transparency	55	
10.1.1.	State the Vision and Mission of the institute	05	A. Availability of the Vision and Mission statements of the institution (2)
			B. Appropriateness/Relevance of the Statements (3)

Exhibits/Context to be Observed/Assessed:

A. Institution Vision and Mission statements: Availability of statements on institution website; Availability at Central facilities such as Library, Computer Center, Principal Chamber etc. Availability of one set of statements in each of the departments; Availability in institution level documents

B. Correctness from definition perspective

10.1.2.	Availability of the Institutional Strategic Plan and its Effective Implementation and Monitoring	25	Availability of a 5 year Strategic Plan.

Exhibits/Context to be Observed/Assessed:

Cr-10: Governance (120)

10.1.3.	Governing body, administrative setup, functions of various bodies, service rules procedures, recruitment and promotional policies.	10	A. List the Governing Body Composition and its Sub Committees, senate, and all other academic and administrative bodies; their memberships, functions, and responsibilities; frequency of the meetings; participation details of external members and attendance therein (4)
			B. The published service rules, policies and procedures with year of publication (3)
			C. Minutes of the meetings and action-taken reports (3)

Exhibits/Context to be Observed/Assessed:
Self - explanatory

10.1.4.	Decentralization in working and grievance redressal mechanism	05	A. Organizational Structure, List of Administrative Committees and Administrative Heads who have been delegated powers for taking administrative decisions (1)

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			B. Specify the mechanism and composition of grievance redressal cell (1)
			C. Action taken report of representations (sample) (3)

Exhibits/Context to be Observed/Assessed:

Cr-10: Governance (120)

10.1.5.	Delegation of financial powers	05	A. Financial powers delegated to the Principal, Heads of Departments and relevant in-charges (2)
			B. Demonstrate the utilization of financial powers for each of the assessment years (3)

Exhibits/Context to be Observed/Assessed:
A. Circulars notifying financial powers
B. Documentary evidence to exhibit utilization at each levels during assessment years

10.1.6.	Transparency and availability of correct/unambiguous information in public domain	05	A. Information on the policies, rules, processes is to be made available on web site (2)
			B. Dissemination of the information about student, faculty and staff (2)
			C. Mandatory disclosure as per AICTE/AISHE on the website. (1)

Exhibits/Context to be Observed/Assessed:
A. and B. Website and Documentary evidence

10.2.	Budget Allocation, Utilization, and Public Accounting at institution level	15	
10.2.1.	Adequacy of Budget allocation	05	A. Quantum of budget allocation for three years (3)
			B. Justification of budget allocated for three years (2)

Exhibits/Context to be Observed/Assessed:
A. Budget formulation, finalization and approval process
B. Requirement – allocation –adequacy – justification thereof

10.2.2	Utilization of allocated funds	05	A. Budget utilization for three years (05)

Exhibits/Context to be Observed/Assessed:
A. Balance sheet; effective utilization; random verification for atleast two of the three assessment years

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Cr-10: Governance (120)

10.2.3.	Availability of the audited statements on the institution's website	05	A. Availability of Audited statements on website (5)

Exhibits/Context to be Observed/Assessed:
A. Website

10.3.	Program Specific Budget Allocation, Utilization	30	To be evaluated in consultation with the Program Experts
10.3.1.	Adequacy of budget allocation	10	A. Quantum of budget allocation for three years (5)
			B. Justification of budget allocated for three years (5)

Exhibits/Context to be Observed/Assessed:

A. Budget formulation, finalization and approval process

B. Requirement – allocation –adequacy – justification thereof

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Cr-10: Governance (120)

10.3.2.	Utilization of allocated funds	20	A. Budget utilization for three years (20)

Exhibits/Context to be Observed/Assessed:
A. Balance sheet; effective utilization; random verification for atleast two of the three assessment years

10.4.	Library and Internet	20	
10.4.1.	Quality of learning resources (hard/soft)	10	A. Availability of relevant learning resources including e-resources and Digital Library (7)
			B. Accessibility to students (3)

Exhibits/Context to be Observed/Assessed:
Availability; Adequacy; Effectiveness
(Also to be verified during interactions with the faculty and students)

10.4.2.	Internet	10	A. Available bandwidth (4)
			B. Wi Fi availability (2)
			C. Internet access in labs, classrooms, library and offices of all Departments (2)
			D. Security mechanism (2)

Exhibits/Context to be Observed/Assessed:
Availability; Adequacy; Effectiveness
(Also to be verified during interactions with the faculty and students)

Total:	120	

Slide 1

MICRO LEVEL ACTION PLAN FOR NBA TEAM VISIT
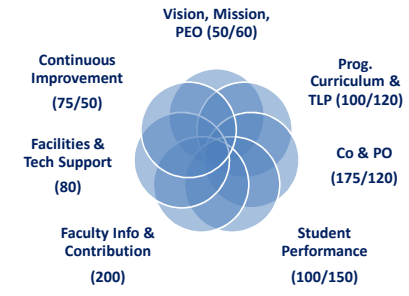
CONTENTS
✓ Preparation of Documents
✓ PPT slides preparation
✓ Formation of various committees
✓ Stakeholders interaction

Dr. T. Thyagarajan
Former Dean,
MIT Campus

15-06-2022, Wednesday — Prof. T.T, AU-NBA Coordinator, Anna University — 1

Slide 2

NBA- Metrics
Dept/Prog specific criteria (780)

- Vision, Mission, PEO (50/60)
- Continuous Improvement (75/50)
- Prog. Curriculum & TLP (100/120)
- Facilities & Tech Support (80)
- Co & PO (175/120)
- Faculty Info & Contribution (200)
- Student Performance (100/150)

15-06-2022, Wednesday — Prof. T.T, AU-NBA Coordinator, Anna University — 2

Slide 3

NBA- Metrics
Institutional specific criteria (220)

- First year academics (50)
- **Total: 780 +220 = 1000**
- Student support system (50)
- Governance, Institutional support & Financial Resources (120)

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Slide 4

NBA Weightages for sub categories-1 (Tier-1 institutions)

- **Cr-1: Vision, Mission, PEOs-50**
- **Cr-2: Curriculum & TLP-100**
  - Curriculum-30
  - TLP- 70
- **Cr-3: CO/PO- 175**
  - Correlation-25
  - Attainment of CO-75
  - Attainment of PO-75
- **Cr-4: Student performance-100**
  - Enrolment-20
  - Succession rate-20
  - Performance in 2nd yr-10
  - Placement, Hr & ED - 30
  - Professional Activities-20

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Slide 5

NBA Weightages for sub categories-2 (Tier-1 institutions)

- **Cr-5: Faculty information & contribution-200**
  - SFR-20
  - Cadre ratio-20
  - Qualification-20
  - Retention-10
  - Teaching innovation-10
  - FDP-15
  - R & D-75
  - Performance appraisal -10
  - Adjunct faculty-10
- **Cr-6: Facilities & Tech Support-80**
  - Lab-40
  - Maintenance-10
  - Safety-10
  - Project Labs-20

- **Cr-7: Continuous improvement-75**
  - Action taken on result analysis-30
  - Action taken on academic audit-15
  - Improvement in Placement / Hr. Studies/ED-10
  - Improvement on quality of students-20

- **Cr-8: First Year Academics-50**
  - FSR-5
  - Qualification-5
  - Performance -10
  - Co attainment-10
  - PO attainment-20

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Slide 6

NBA Weightages for sub categories-3 (Tier-1 institutions)

- **Cr-9: Student Support Systems-50**
  - Mentoring-5
  - Feedback-10
  - Feedback on Facilities-5
  - Self learning-5
  - Career guidance-10
  - Entrepreneur -5
  - Co-curricular-10

- **Cr-10: Governance, Institutional support & Financial resources-120**
  - Organization/Transparency – 55
  - Institutional budget-15
  - Program budget-30
  - Library/Internet-20

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AWARD OF ACCREDITATION FOR SIX YEARS :

Y	C	W	D
>=7	<=3	0	0

- ➢ NO "Deficiency" or "Weakness" in any of the criteria and at least seven criteria must be fully compliant with only "Concerns" in the remaining criteria.
- ➢ Ph.D. in the department should be greater than or equal to 30 per cent of the required number of faculty averaged over two academic years i.e. (CAY) and (CAYM1).
- ➢ The admissions in the UG program should be more than or equal to 60 per cent, averaged over three academic years (including lateral entry), (CAYm1), (CAYm2) and (CAYM3).

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Award of Accreditation for Six Years contd/-:

- ➢ Faculty Student Ratio in the department should be less than or equal to 1:20 averaged over three academic years i.e. (CAY), (CAYM1) and (CAYM2).
- ➢ At least 2 Professors or 1 Professor and 1 Associate Professor (on regular basis) with Ph.D. degree should be available in the respective department for two academic years i.e. (CAY) and (CAYM1).
- ➢ HoD of the program under consideration should possess Ph.D. degree in the Current Academic Year (CAY)

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INSTITUTION SPECIFIC DETAILS-1

1. Composition of Syndicate GC/GB, Senate and other Academic and Administrative bodies, their functions and responsibilities. List of all the meetings held in the past 3 years along with the attendance records, minutes and action-taken reports of a few meetings of such bodies along with the list of current faculty members.
2. Rules, policies and procedures published by the Institution including service book and academic regulations along with the proof that the employees/students are aware of the rules and procedures.
3. Budget allocation and utilization: Audited Statement of Accounts.
4. Informative web site.
5. Library resources - books and journal holdings.

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INSTITUTION SPECIFIC DETAILS -2

6. Listing of core, computing and manufacturing facilities, etc.
7. Records of T & P, career and guidance cells.
8. Records of safety checks and critical installations.
9. Medical care records and usages of ambulance, etc.
10. Academic calendar, schedule of tutorial and makeup classes.
11. Handouts/files along with Outcomes; list of additional topics to meet the outcomes.
12. Set of question papers, assignments, evaluation schemes, etc.
13. Feedback form, analysis of feedback and corrective actions.
14. Documented feedback received from the stake-holders (e.g., Industries, Parents, Alumni, Financiers, etc.)
15. List of faculty along with their qualifications teaching first year courses.
16. Results of the First Year students.

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PROGRAM SPECIFIC DETAILS- 1

P.1. NBA accreditation reports of the past visits, if any.
P.2. Department budget and allocations (last 3 years data).
P.3. Admission – seats filled and ranks (last 3 years data).
P.4. List/Number of students who cleared the program in 4 years (last 3 years data).
P.5. Average Grade point (CGPA) (last 3 years data of students' CGPA/ percentage).
P.6. Placement and higher studies data (last 3 years data).
P.7. Professional society activities, events, conferences organized, etc.
P.8. List of students' papers along with hard-copies of the publications, magazines, etc.
P.9. Sample best and average project reports/theses.

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PROGRAM SPECIFIC DETAILS- 2

P.10. Details of faculty student ratio.
P.11. Faculty details with their service books, salary details, sample appointment letters, promotion and award letters.
P.12. Faculty list with designation, qualification, joining date, R & D, interaction details.
P.13. List of faculty publications along with DOIs and publication/citation details.
P.14. List of R & D and consultancy projects along with approvals and project completion reports
P.15. List and proofs of faculty interaction with outside world.
P.16. List of class rooms, faculty rooms.
P.17. List of program specific labs and computing facility within department.
P.18. List of non-teaching staff with their appointment letters etc.
P.19. List of short-term courses, workshop arranged and course-modules developed.

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Slide 13

PROGRAM SPECIFIC DETAILS- 3

P.20. Records of **new program specific facility created**, if any.

P.21. Records of overall **program specific improvements**, if any.

P.22. Curriculum, POs, PEOs, Mission and Vision statements.

P.23. **Mapping of Course Outcomes with Program Outcomes**.

P.24. **Course files**, plan of course delivery, question papers, answer scripts, assignments, reports of assignments, project reports, report of design projects, list of laboratory experiments, reports of lab experiments, etc.

P.25. **Rubrics** developed to validate the POs.

P.26. Improvement in curriculum for mapping POs and PSOs.

P.27. **Direct and indirect assessment** to show attainment of POs and PSOs.

P.28. **Stake-holders involvement** in the process of improvement of PEOs and POs.

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Slide 14

Principal Presentation Template

S.N.	Information on	No. of Slides Indicative
1.	Promoters	01
2.	Group Activities; other Institution details; if applicable	01
3.	Institute achievements/Recognitions: • Institute level • Faculty level • Student level	03
4.	Faculty Centric Policies & Utilization	02
5.	Student Centric Policies & Utilization	02
6.	Quality Assurance Initiative & Impact	02
7.	Curriculum & Teaching – Learning Process – Implementation details	05
8.	Faculty Information & Contribution points (As per SAR; Institute level – Program wise)	06
9.	Student Performance Points (As per SAR; Institute level – Program wise)	06
10.	Facilities and Technical Support	02
11.	Governance, Institutional Support and Financial Resources	05
12.	Vision, Mission and Program Educational Objectives(Process – formulation & Attainment)	05
	Total:	40

Note: Institute may add/delete few slides. Maximum Permissible slides are 45.

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Slide 15

Head of the Department Presentation Template

S.N.		Information on	No. of Slides Indicative
1.	Part I	Introduction	01
2.		Department achievements/Recognitions: • Department level • Faculty level • Student level	03
3.		Criteria 1- Vision, Mission and Program Educational Objectives	02
4.		Criteria 2- Program Curriculum and Teaching – Learning Processes	03
5.		Criteria 3 - Program Outcomes and Course Outcomes	08
6.		Criteria 4 - Students' Performance	07
7.		Criteria 5 - Faculty Information and Contributions	08
8.		Criteria 6 - Facilities and Technical Support – Teaching Labs and Special Laboratories	02
9.		Criteria 7 - Continuous Improvement	06
	Part II	**OBE Philosophy of the Department:** Description of OBE Philosophy followed by the Department in attainment of COs & POs and Assessment methodology	20-25

Note: Department may add/delete few slides. Maximum Permissible slides are 60-65

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Slide 16

11. PPT Slide Preparation

Suggested Guidelines:

- The headings for the slides can be as per the nomenclature used by NBA under each criteria
- Highlight major milestones
- Assign numbers to all the slides
- Use light color background with dark color letters
- Avoid lengthy paragraphs and animation
- Use bullets, tables, bar/pi- charts, Graphs, Photos etc.,
- Substantiate qualitative terms with statistics in the form of comparison table for the past 3 years as per the SAR

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Slide 17

General Tips to prepare PPTs-2

- Name of the Dept/Centre/ Campus
- Assign numbers to all the slides
- Avoid animation
- Use light color background with dark color letters
- Avoid lengthy paragraphs
- Use bullets, tables, bar charts, pi-diagram, Graphs etc.,

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Slide 18

General Tips to prepare PPTs-3

- Use relevant photos to avoid monotony
- Substantiate qualitative terms with statistics in the form of comparison table for the past 5 years as per the SSR
- The headings for the slides can be as per the nomenclature used by NAAC under each criteria

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MAJOR MILESTONES

- Anna University: 4.9.78
- 246 acres, 4 campuses, 13 const. colleges, 3 regional campuses, 593 affiliated colleges
- 29 UG, 90 PG & 16,000 students in Univ. Depts.
- 41 UG & 57 PG & 7.2 L students in Affiliated colleges
- 14,000 Ph.D scholars
- Illustrious Alumni:
- CEG: Dr. Verghese Kurien (white revolution)
- MIT: Dr. APJ Abdul Kalam , 11th President of India
- ACT: Dr. T. Ramasami, DST Sec
- SAP: Mr D. Udayakumar, Rupee Symbol Designer

- QS WU-Ranking: 801-1000
- NIRF-2020: O-20, U-12,E-14,A-18,M-59
- NAAC-2014: 3.46/4 (A Grade)
- UGC-UPE
- National Facilities: CGC, IRS, NHHID, NCSCM
- Active R & D centers:12
- Departments:34
- AU Professors as Vice Chancellors/ Directors: 23 (10 State Univ)

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HISTORY OF ANNA UNIVERSITY

Governance - Organizational Structure

CREATING PROCESS FOR A SUSTAINABLE R & D ECO SYSTEM

EXTENDED COLLABORATIONS

R & D PARADIGM

ESTABLISHING STATE OF ART R & D LAB

RESEARCH FEOLLOWSHIPS

COLLABORATIVE RESEARCH

CONDUCT OF JOINT CONFERECES

EXAMINER- Ph.D ViVA VOCE

JOINT SUPERVISION – MS/Ph. D SCHOLARS

JOINT PUBLICATIONS/ PATENTS

SHARING OF FACILITIES

perfection, innovation and transparency in all walks …

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Outcome based Education — Blooms Taxonomy - Course Outcomes (COs)

Recommended Distribution of Marks:

Level of Questions		Lower Oder (L1 and L2)	Intermediate Order (L3 and L4)	Higher Order (L5 and L6)
Recommended Dbn of Marks (%)	UG	20 to 35	Minimum 40	15 to 25
	PG	10 to 25	Minimum 50	15 to 25

CREATING · EVALUATING · ANALYZING

APPLYING

UNDERSTANDING

REMEMBERING

Attainment of Program Outcomes (POs) — Upon graduation

Attainment of Course Outcomes (COs) — Upon course completion

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National and International Collaboration

International Collaboration

National Collaboration

Dr.D.Manamali, Dr.S.Srinivasan, Dr.Tonia, Dr.J.Parkash, Dr.Hui Tian, Dr.J.Parkash, Dr.Sirish L. Shah, Dr.N.Pappa, Dr.Jagannathan Sarangapani, Dr.N.Pappa, Dr.D.Manamalli, Dr.Herbert Wiener, Dr.N.Pappa, Dr.D.Manamalli, Dr.Daniel Honc

Dr.D.Kalpana, Dr.M.Chiadmbaram, Dr.J.Prakash, Dr.Shankar Narasimhan, Dr.J.Prakash, Dr.Sachin Patwardhan, Dr.C.Sha, Dr.A.Go, Dr.S.Srinivasan, Dr.Malarkodi, Dr.S.Sutha, Dr.Biren Pattanaik

Department of Instrumentation Engineering, MIT Campus, Anna University, Chennai **31th March**

Book Publications and Patents

Linear and Non-Line System Theory · Process Modelling Identification and Control for Engineers · Mechano-Electric Correlations in the Human Physiological System · Mathematical Models of Systems and Analysis · Instrumentation Systems and Computational Techniques · Electrical and Electronics Engineering · FLOW METE · TRANSDUCER ENGINEERING · Advances in Artificial Intelligence Systems

Department of Instrumentation Engineering, MIT Campus, Anna University **31th March**

Endowment Lectures

ANNA UNIVERSITY MIT CAMPUS CHENNAI 600 044

Dr. S. Renganathan Endowment Lecture
Prof. Dr. S. Ganesan

Dr. P. KANAGASABAPATHY ENDOWMENT LECTURE
Prof. Dr. S. Ganesan

DR.P.KANAGASABAPATHY ENDOWMENT LECTURE
Prof. Dr.-Ing. Sebastian Engell
Prof. Dr.T.Thyagarajan

Department of Instrumentation Engineering, MIT Campus, Anna University **31th March**

Catalogue Stand — Acrylic ZigZag A3 / A4 · Acrylic Frameless A4 · Shell A4 · Mesh Single / Double A3 / A4 · Metal ZigZag · Wooden Top · Magazine-105 · Magazine-107

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Display of documents for verification by NAAC PTM

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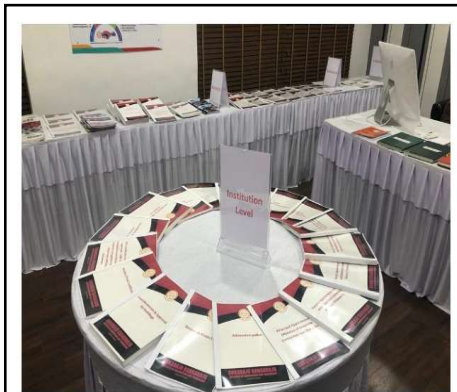15-06-2022, Wednesday   Prof. T.T, AU-NBA Coordinator, Anna University   32

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MIT- Dean Off Team, Fine tuning the arrangements on WEEKEND

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Suggestions for maintaining the Campus/Centre/ Department-1

- Welcome board to the NBA Expert team members
- Name boards for the Centers/ Dept/ Division/ Labs/ Class rooms/Dept library/ Project lab/ Smart class room/ Seminar hall/ Staff room/ Rest room (For ladies and gents) etc.,
- Notice boards (sufficient numbers, with partition, sub headings to display items relevant to General, Staff, Student, R & D, Academic etc.,)
- Seminar hall for presentation of PPT slides to the NBA team
- Room with good ambience and with display stands/tables for displaying all the files, documents, registers etc as per 7 criteria

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Suggestions for maintaining the Campus/Centre/ Department-2

- Display of name list of Staff (T , NT and Admn.)
- Display boards for every lab with details of Staff in-charge, List of major equipment, List of important experiments etc.,
- Display of important equipment in respective labs along with its name plate details
- Display of Charts, Scientists photos, Dept Vision & Mission, First aid charts, Dos/Don'ts, Fire extinguishers in the labs
- White wash/ Color wash / Painting
- Flower pots & Dust bins
- Refurbishing the rest rooms (wherever necessary)

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Suggestions for maintaining the Campus/Centre/ Department-3

- Display of Course files (Assignments, Tutorials, lesson plans, Old QP, corrected answer sheets etc)
- Display of lab records, Attendance registers, Issue registers, Stock registers, Syllabus book & Maintenance register
- Display of list of publications, books published, Manuals authored, Monograms published, MOUs signed, details of Special chairs created
- Display of   All other files/ documents / registers pertaining to 10 NBA Criteria

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3. RECEPTION WITH RED CARPET WELCOME

Responsibilities:
- Flower Bouquets for reception at Hotel (for PTV)
- Flower Bouquets for reception at AU Admin block (for both)
- Ponnadai (8 + 8)
- Red carpet welcome at Admin block (for both)
- NCC cadets salute (for both)
- Flower pots in the Admin Block
- Request for budget
- Any other related work

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4. CAMPUS IMPROVEMENTS / MAINTENANCE

- Responsibilities:
  - Minor repair works in Buildings/ Rest rooms
  - Colour wash- Admin building
  - Colour wash- CUIC building
  - Colour wash of other buildings
  - Campus cleaning (Removal of Bushes, Construction material, Debris)
  - Generator to Admin block on 3 days (both)
  - Booklet on Infrastructure developed (past 5 years)
  - Any other related work

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5. VIDEO AND PHOTO COVERAGE

- Responsibilities:
  - Photos & Video Coverage for First day FN and Last Day AN (for EMV)
  - Photos for all the 3 days (for PTV) as per NAAC guidelines
  - Video coverage for all the 3 days (PTV) as per NAAC guidelines for 4 teams
  - Vehicle arrangements for the photo/video team to accompany the EMV/PTV for 4 teams
  - Request for Budget
  - Any other related work

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6. LOGISTICS

- Responsibilities:
  - Vehicle arrangements for accompanying teams
  - Coordination with Hospitality/Reception/ Campus visit committees
  - Request for budget
  - Any other related work
- **7. FOOD AND REFRESHMENTS-1**
  - Refreshments (FN) at syndicate hall and Academic Council Hall
  - Lunch in the guest house
  - Refreshments (Eve) at stakeholder meeting venues
  - Dinner

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8. HALL ARRANGEMENTS (SYNDICATE HALL)

- Responsibilities:
- Seating arrangement for NBA Experts
- Seating arrangement for AU Team (VC, R, IQAC Coordinator, NAAC Coordinator, D- P & D, FO, Deans)
- PA System, Air conditioning, LCD Projector, Computer System, Placards , Collect Ponnadai from Reception committee
- Generator (with the help of EO Team)
- Loading PPT slides
- Coordinating with Food & Refreshments Team

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8. HALL ARRANGEMENTS

- **Responsibilities**:
- NBA Team Discussion Room
- Venue and facility for secretarial assistance
- Venue and facility for Stake holders meeting
- Venue and facility for Display of Documents
- Venue and facility for Exit meeting
- Generator, PA systems, Computers, Printer, LCD Projector

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9. Interaction with Stakeholders

- Students: UG, PG, PhD (Boys, Girls, Day-scholars, Hostlers)-100
- Faculty: AP, Assoc Prof, Professor (Male, Female, all campuses)- 100
- Non-Teaching: Technical, Admin; Male & Female, Different cadres-60
- Employers: (Core , IT Product, IT Services, Covering 8 Faculties)-25
- Alumni: (Male, Female)-25
- Parents: 25
- Syndicate Members: Lunch on Meeting

LIST OF STAKE HOLDERS

- Management Committee
- Head of the Institution
- Faculty
- Non-teaching & Admin Staff
- Students
- Parents
- Employers
- Alumni

Key areas : Management committee

- Involvement in framing Vision / Mission
- Translation of Vision/Mission
- Filling of vacancies
- Grievance redressal mechanism
- Welfare programmes
- Future Plans
- Plans to generate resources
- Mechanism to initiate new programs/modify existing programs

HODs' Interaction-1

- What are your roles and responsibilities?
- What are the characteristics that make this programme good or unique?
- What are your views on the employability of your students?
- Are the students exposed to issues related to globalization and changing technologies?
- What proportion of final year projects are industry based?
- How do you supervise the industry based student projects?
- What proportion of final year projects is research-oriented?
- Is the course material made available to students?

HODs' Interaction-2

- Where do students perform their assignment work?
- Are separate working spaces for group work available?
- What are the modern tools used for teaching?
- How is exposure to professional practice monitored and assessed?
- What are the overall quality mechanisms that ensure appropriateness of outcomes?
- How is academic faculty involved in achieving Graduate Attributes?
- What efforts are made to ensure that assessment truly assesses the student learning outcomes in each subject?
- How are course outcomes and assessment measures at the unit level tracked to close the loop, on delivery of targeted graduate outcomes?

HODs' Interaction-3

- What are the roles of the Programme Coordinator, course coordinators and academic faculty in programme review and quality improvement?
- How often does the faculty meet as a teaching team to discuss programme improvement issues?
- To what extent is improvements made from student feedback?
- What are the mechanisms available for formal/documented student feedback?
- What changes have been made to the programme as a result of your evaluation?
- What is the process used for making changes to the programme outcomes?
- What programme changes have been made from the input by industry-institute interaction partnership cell?
- What are the strengths and weaknesses of your department and support departments?
- How much time is available to the faculty for professional development? What is the budget for faculty professional development?

Faculty Members' Interaction-1

- What are the PEOs and POs you teach and support ?
- What is your role in assessment/evaluation of PEOs and POs?
- What is the Professional development you have received during the past 3 years?
- How does your research activity benefit the UG program?
- How is the engineering design skill embedded in your UG Programme?
- How do you ensure student exposure to issues related to globalization and changing technologies?
- How much time you devote for your professional development?

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Faculty Members' Interaction-2

- What professional society are you a member? How it is beneficial to you ?
- What unique/unusual teaching methods are used in the department?
- What is the impact of industry-institute interaction on POs?
- What is your role in the continuous improvement of the program?
- How often the staff meeting is held to discuss program improvement issues?
- What are the other consultation/grievance mechanisms available?
- How do you balance your load between teaching and research?
- What are the unwanted things happening in the program?

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Key areas : Non-teaching and Admn staff

- Staff development programmes
- Staff view of the value of their contribution to the institutions
- Relationship with faculty
- User friendly approach towards students
- Staff welfare programmes
- Grievance redressal mechanism
- Level of computer literacy and use

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Parents' interaction

- The nature of interaction with the college authorities/HOD/Faculty members and frequency
- Knowledge about Vision/ Mission/ PEOs/ POs/ Curriculum/ Syllabus /Cos
- Role in framing the Vision/ Mission/ PEOs/ POs/ Curriculum/ Syllabus /Cos
- Rubrics used to validate the POs
- Role in continuous improvement PEOs, POs, Cos through survey
- Facilities for overall development of wards
- Anti ragging committee
- Training & Placement Guidance
- Higher education guidance
- Career counseling methods
- Suggestions for the improvement of the institution and areas in which they can contribute

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Employers' Interaction

- The nature of interaction with the College authorities/HOD and frequency
- Knowledge about Vision/ Mission/ PEOs/ POs/ Curriculum/ Syllabus /Cos
- Role in framing the Vision/ Mission/ PEOs/ POs/ Curriculum/ Syllabus /Cos
- Rubrics used to validate the Pos
- Role in continuous improvement PEOs, POs, Cos through survey
- Core competency of the students and their industry readiness
- Facilities provided by the institution during the Placement/Internship Process
- Suggestions for the improvement of the institution and areas in which they can contribute

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Students' Interaction-1

- Comment on facilities such as laboratory, IT access, information resources and project work, Central facilities.
- Are you providing feedback as part of a quality/programme improvement mechanism?
- Have issues such as globalization, ethics and sustainable practices been addressed yet?
- What do you think are the key attributes an employer would be looking for in a graduate engineer?
- How effective is laboratory learning? Are experiments prescriptive or open ended?
- What has been the nature of project-based learning activity in the programme? Have you been confronted with multi-disciplinary, open ended, complex projects? Has it been necessary to consider factors such as social, environmental, safe practices and ethical matters?

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Students' Interaction-2

- Have you been involved in any team based learning activities yet? Have you become a good team player and/or team leader? Are you assessed for your team performance?

- What skills are you expected to acquire at the time of graduation?

- Are you acquiring the expected / required skills?

- Are the faculty members competent in the subjects they teach?

- Why did you choose this institution/department / programme?

- Are the laboratory equipment /tools/accessories well-maintained?

- How good is the hands-on experience?

- What type of job can you get as a graduate of this programme? At what salary?

- Would you recommend this program to a friend?

Alumni Interaction

- The nature of interaction with the College authorities/ HOD and frequency

- Competencies developed at the college

- Knowledge about Vision/ Mission/ PEOs/ POs/ Curriculum/ Syllabus /Cos

- Role in framing the Vision/ Mission/ PEOs/ POs/ Curriculum/ Syllabus /Cos

- Rubrics used to validate the POs

- Role in continuous improvement PEOs, POs, Cos through survey

- Alumni contribution for institutional development

- Alumni meetings-nature and outcome

- Suggestions for active functioning of alumni association

- Suggestions for the improvement of the institution and areas in which they can contribute

ஊர் கூடி தேர் இழுப்போம்

Outcome Based Education (OBE)

Dr S.BASKAR
Professor, TCE

Contents

- Traditional Education
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Traditional Education

- Provides students with a learning environment with little attention to whether or not students ever learn the material.

- Students are given grades and rankings compared to each other – students become exam oriented or CGPA driven.

- Graduates are not completely prepared for the workforce.

- Lack of emphasis on soft skills needed in jobs e.g. communication skills, interpersonal skills, analytical skills, working attitude etc

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Outcome Based Education (OBE)

- Starting with a **clear picture** of what is important for students to be **able to do**...

- Then organizing the **curriculum**, **delivery** and **assessment** to make sure learning happens...

Course, Degree, Programme

- Course
  - **Course** is a unit of teaching, which encompasses various topics, that typically lasts one semester, is led by one or more faculty and has a fixed registered students.
- Programme
  - Cohesive arrangement of courses, co-curricular and extra-curricular activities to accomplish predetermined objectives leading to the awarding of a degree.
- Degree
  - Academic award conferred upon a student on successful completion of a program designed to achieve the defined attributes

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Outcome Based Education

- What students will be able to do by the time and after few years of graduation?
- 'Learner Centric', rather than the traditional 'Teacher Centric'
- Continuous improvement in the educational (Teaching-Learning) process
- Preparing Graduates to fit themselves globally
- Effective and innovative Content delivery methods, assessment methods and procedures
- Enrichment of Faculty involvement in the Teaching-Learning Process

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Why OBE

- International recognition and Global employment opportunities
- More employable and innovative graduates with professional and soft skills, social responsibility and ethics
- Better visibility and reputation of technical institution among stakeholders
- Improving the commitment and involvement of all stakeholders
- Enabling graduates to excel in their profession and career accomplishments
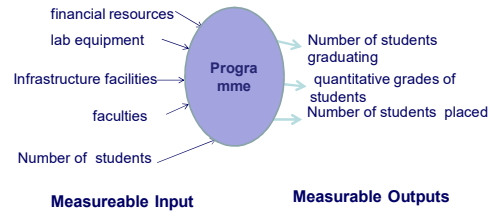- Preparing graduates with leadership positions and challenging technology development opportunities

Traditional Education

financial resources
lab equipment
Infrastructure facilities
faculties
Number of students

Progra mme

Number of students graduating
quantitative grades of students
Number of students placed

Measureable Input

Measurable Outputs

Outcome Based Education

Measureable Inputs

financial resources
lab equipment
Infrastructure facilities
faculties
Number of students

Progra mme

Course outcomes
Knowledge, skills and behaviour of students graduating
career and professional accomplishments of graduates

Measurable Outcomes

Benefits of OBE -Teacher

- Teaching will become a far more creative and innovative career.

- Lecturers will no longer feel the pressure of having to be the "source of all knowledge"

- *Producing thinking, caring students.*

OUTCOME BASED ACCREDITATION (OBA)

- Programmes to be accredited from March 2013 onwards will have to be based on OBE approach!

- NO OBE = NO ACCREDITATION

Keys of OBE System
(William G. Spady)

- Developing a clear set of learning outcomes around which all of the system's components can be focused

- Establishing the conditions and opportunities within the system that enable and encourage all students to achieve those essential outcomes

- Having learners do important things with what they know is a major step beyond knowing itself

OBE -5 D's

- ✓ Define Outcomes
- ✓ Design Curriculum
- ✓ Deliver Instruction
- ✓ Document Results
- ✓ Determine Advancement

OBE Assumptions

- all learners can learn and succeed;

- success breeds success; and

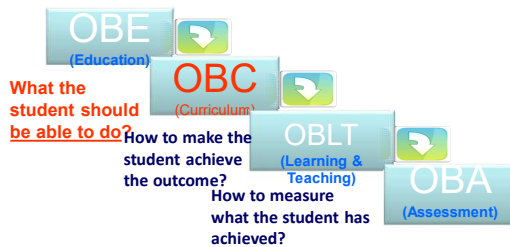- "teaching institutions" control the conditions of success.

OBE Framework

OBE (Education)

OBC (Curriculum)

OBLT (Learning & Teaching)

OBA (Assessment)

What the student should be able to do?

How to make the student achieve the outcome?

How to measure what the student has achieved?

Key Components of OBE

- Vision and Mission of the Institute
- Vision and Mission of the Department
- Programme Educational Objectives (PEOs)
- Graduate Attributes (GAs)
- Programme Outcomes (POs)
- Course Outcomes (COs)
- Programme Specific Criteria

VISION AND MISSION OF THE INSTITUTION

Vision:
- Vision is a picture of the future you seek to create, described in the present tense, as if it were happening now. It shows where we want to go, and what we will be like when we get there.

Mission:
- Mission statement defines what an institution is, why the institution exists, its reason for being. It defines what are we here to do together

Department - VISION AND MISSION

- The vision and mission of the department should be correlated with the mission and vision of the institution.

- more focused on the theme area and based on the SWOT analysis.

- A mission statement might include a brief history and philosophy of the academic programme, the type of students to be served, the academic environment and primary focus of the curriculum, faculty roles, the contributions to and connections with the community, the role of research.

Programme Educational Objectives (PEOs)

- PEOs are broad statements that describe the career and professional accomplishments that the programme is preparing graduates to accomplish after 3 to 5 years of graduation.

- PEOs should be measurable, appropriate, realistic, and achievable.

- PEOs addresses needs of the stakeholders

Guidelines for the PEOs

- PEOs should be consistent with the mission of the Institution

- The number of PEOs should be manageable

- PEOs should be achievable by the programme

- PEOs should be specific to the programme and not too broad

- PEOs should be based on the needs of the constituencies

Program Educational objectives (PEOs) –An Example

- **Successful Careers** (PEO#1): Graduates of the programme will have successful technical or professional careers.

- **Lifelong Learning** (PEO#2): Graduates of the programme will continue to learn and to adapt in a world of constantly evolving technology.

PEOs

- Develop assessment methods for each PEO to measure the attainment with expected attainment level for each PEO

- generally a good idea to identify between three and five PEOs.

- Publish and Disseminate the PEOs among the stakeholders.

- Check for the consistency of the PEOs with the mission statements of the Department.

PEOs Assessment

PEO #1:
- *Level of technical or professional contribution according to employer*
  - *Goal: 95% or more of graduates meet or exceed expectations*
- *Percentage of graduates working in technical or professional careers or enrolled in graduate or professional school*
  - *Goal: 95% or more of graduates meet or exceed expectations*
- *Percentage who are working towards another degree since graduation*
  - *Goal: 30% or more of graduates meet or exceed expectations*
- *Percentage who have published a conference or journal article since graduation*
  - *Goal: 10% or more of graduates meet or exceed expectations*
- *Percentage who have filed for a patent since graduation*
  - *Goal: 5% or more of graduates meet or exceed expectations*
- *Percentage who have had a patent granted since graduation*
  - *Goal: 3% or more of graduates meet or exceed expectations*

PEOs Assessment

PEO#2:
- Level of success in learning new areas, engaging in professional development, and adapting to technological change according to employer.
  Measurement: Employer survey. **Goal**: 95% or more of graduates meet or exceed expectations.
- Percentage of graduates who consulted a journal or conference article to solve a problem since graduation.
  Measurement: Alumni survey. **Goal**: 25% or more.
- Percentage who have taken a class or attended a seminar since graduation.
  Measurement: Alumni survey. **Goal**: 50% or more.
- Percentage who attended a conference or professional meeting since graduation.
  Measurement: Alumni survey. **Goal**: 50% or more.
- Percentage who obtained another degree since graduation.
  Measurement: Alumni survey. **Goal**: 25% or more.

Graduate Attributes (GAs)

- A set of individually assessable outcomes that are the components indicative of the graduate's potential to acquire competence to practice at the appropriate level.

- The GAs are exemplars of the attributes expected of a graduate from an accredited programme.

- International Engineering Alliance – IEA
  Washington Accord (UG-Engg), Sydney Accord (Diploma), Dublin Accord (ITI)
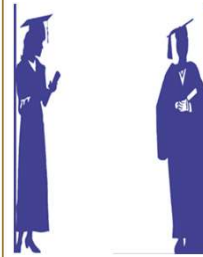
- Seoul Accord -Computer professionals

Summary of Graduate Attributes

- Engineering knowledge
- Problem analysis
- Design & Development of Solutions
- Investigation of Complex Problem
- Modern tool usage
- Engineer and society
- Environment& sustainability
- Ethics
- Individual & team work
- Communication
- Lifelong learning
+ Project management & finance

IEA-Graduate Attributes Ver-3.0

- **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation to the solution of complex engineering problems.
- **Problem analysis:** Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- **Conduct investigations of complex problems** using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

IEA-Graduate Attributes Ver-3.0

- **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for the sustainable development.
- **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.

IEA-Graduate Attributes Ver-3.0

- **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

- **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

- **Life-long learning:** Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Outcomes (POs)

- POs describe what students should know and be able to do at the end of the programme.

- POs are to be in line with the graduate attributes of IEA.

- POs are to be specific, measurable and achievable.

- POs transform the PEOs into specific student performance and behaviors that demonstrate student learning and skill development

Programme Outcomes -Dimensions

Knowledge Outcomes
- Pertain to grasp of fundamental cognitive content, core concepts, basic principles of inquiry, a broad history

Skills Outcomes
- Focus on capacity for applying basic knowledge, analyzing and synthesizing information, assessing the value of information, communicating effectively and collaborating

Attitudes and Values outcome
- Encompass affective states, personal/professional/social values and ethical principles

Behavioral Outcomes
- Reflect a manifestation of knowledge, skills and attitudes as evidenced by performance, contributions.

Programme Outcomes -Guidelines

- Describe student performance, not teacher/professor performance
- Describe learning product, not process
- Are specific without simply stating the subject matter to be learned
- Stick to one type of result for each outcome (e.g., do not say "Knows the scientific method and applies it effectively")
- Start with an action verb that indicates observable and measurable behavior

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Programme Outcomes –Contd.

- Develop assessment methods for each PO to measure the attainment.

- Publish and Disseminate the POs among the students and faculty.

- Check for the consistency of the POs with the PEOs of the Programme and Graduate Attributes.

PROGRAMME SPECIFIC CRITERIA (PSC)

- Each programme must satisfy a set of criteria specific to it, known as Programme Specific Criteria which deal with the requirements for engineering practice particular to the related sub-discipline.

- concern about curricular issues and qualifications of faculty.

- The programme curriculum is to be provided in correlation with the programme specific criteria.

- NBA adopts PSC specified by appropriate American Professional societies such as ASME, ASCE, IEEE etc.

- The institution shall provide evidence that the programme curriculum satisfies the PSC , and industry specific criteria and industry interactions/internship.

PROGRAMME SPECIFIC CRITERIA

Program Criteria for Civil and Similarly Named Engineering Programs

Lead Society: American Society of Civil Engineers (ASCE)

These program criteria apply to engineering programs including "civil" and similar modifiers in their titles.

1. Curriculum

- *The program must prepare graduates to apply knowledge of mathematics through differential equations, calculus-based physics, chemistry, and at least one additional area of basic science, consistent with the program educational objectives; apply knowledge of four technical areas appropriate to civil engineering; conduct civil engineering experiments and analyze and interpret the resulting data; design a system, component, or process in more than one civil engineering context; explain basic concepts in management, business, public policy, and leadership; and explain the importance of professional licensure.*

PROGRAMME SPECIFIC CRITERIA

Program Criteria for Computer Science and Similarly Named Computing Programs

- *Lead Society: Institute of Electrical and Electronics Engineers (IEEE) Cooperating Society for Computer Engineering Programs: CSAB*

- *These program criteria apply to computing programs using computer science or similar terms in their titles. The program must enable students to attain, by the time of graduation:*
- *An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.*
- *An ability to apply design and development principles in the construction of software systems of varying complexity.*

Course Outcomes

- The course outcomes must state the **major** skills, knowledge, attitude or ability that students will acquire.
- Course outcomes should be expressed in terms of measurable and/or observable behaviors
- Course Outcomes should be agreed upon by the faculty in a program and should drive program outcomes.
- Course outcomes should begin with an action verb (e.g., write, install, solve, and apply).

OBE Design

Mapping between PEOs, POs and COs
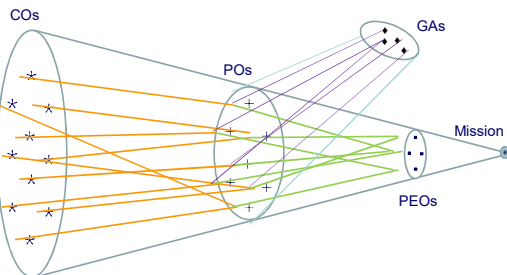
Content delivery

- Lecture
- Lecture with discussion
- Demonstrations
- Group discussion
- Debate
- Technical Quiz
- Seminar
- Mini-project
- Asynchronous discussions

Assessment Tools

- *Direct methods* display the student's knowledge and skills from their performance in the continuous assessment tests, end-semester examinations, presentations, and classroom assignments etc.

- These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning.

Assessment Tools

- *Indirect methods* such as surveys and interviews ask the stakeholders to reflect on student's learning.

- They assess opinions or thoughts about the graduate's knowledge or skills.

- Indirect measures can provide information about graduate's perception of their learning and how this learning is valued by different constituencies.

Assessment methods and tools

- Direct Assessment Method: using measurable performance indicators of students
  - Exams
  - Assignments
  - Projects
  - Tutorials
  - Labs
  - Presentations

- Indirect Assessment Method: Ascertaining opinion or self-reports
  - Alumni survey
  - Employer survey
  - Exit survey
  - Course-end survey, etc.,.

Rubrics

- Rubrics is set of performance indicators which define and describe the important component of the work being completed

- Information to/about individual student competence (Analytic)
  - Communicate expectations
  - Diagnosis for purpose of improvement and feedback

- Overall examination of the status of the performance of a group of students? (Holistic)

Generic or Task Specific ?

- Generic
  - General rubric that can be used across similar performance (used across all communication task or problem solving tasks)
  - Big picture approach
  - Element of subjectivity
- Task specific
  - Can only be used for a single task
  - Focused approach
  - Less subjective

When to Assess

Program Educational Objectives(PEOs)	Few years after Graduation – 4 to 5 years
Program Outcomes (POs)	Upon graduation
Course Outcomes (COs)	Upon course completion

PEO Assessment tools

- ❑ The data may be collected progressively
- ❑ Survey questions should elicit the required information
  - **Not to confirm the objective**
- ❑ Ex. PEO: producing the graduates with leadership qualities
  - Employer survey
  - Q1: At which level/position our graduates (year) are working in your organization

Assessment Tool (frequency)
Employer satisfaction survey (Yearly)
Alumni survey (Yearly).
Placement records, higher education records

Administrative System-OBE

- *Course Coordinator*
- *Module Coordinator*
- *Program Assessment Committee*
- *Program Coordinator*
- *Department Advisory Board (DAB)*
- *Internal Quality Assurance Cell (IQSC)*

PHOTOS TAKEN DURING WORKSHOP

Welcome Address by Dr.A.Suresh Babu, Deputy Director-IQAC, Anna University

Former Dean-MIT Campus Felicitating the Honorable Vice-Chancellor, Prof.R.Velraj

Inaugurated by Honorable Vice-Chancellor, Prof.R.Velraj

Interaction audience with Dr.R.Gunasekaran, Director-IQAC, Anna University

Interaction audience with Dr.R.Gunasekaran, Director-IQAC, Anna University

Director-IQAC, Felicitating the Speaker Prof.Dr.S.Baskar, TCE, Madurai

Interaction audience with Invited Speaker Prof.S.Baskar, TCE, Madurai

Former Dean-MIT Campus, Felicitating the Audience

**Former Dean-MIT Campus, Felicitating the Speaker
Prof.Dr.S.Baskar, TCE, Madurai**

**Interaction audience with Invited Speaker
Prof.T.Thyagarajan, Former Dean-MIT Campus**

INTERNAL QUALITY ASSURANCE CELL (IQAC)

Anna University, Chennai

ONE-DAY WORKSHOP on

"DISSEMINATION OF QUALITY INITIATIVES AND ENHANCEMENTS IN THE NBA ACCREDITATION PROCESS"

This is to certify that Dr./Mr./Ms. ....

participated in the One-day workshop on "Dissemination of Quality Initiatives and Enhancements in the NBA Accreditation process" organized by the Internal Quality Assurance Cell (IQAC), Anna University, Chennai, on 15th June, 2022.

Coordinator

Director - IQAC