Event proposal form

1	Event type and name	Workshop 2 Days Workshop on Accreditations and Academic Autonomy
2	Date and time	August 11 & 12, 2023 Time : 9.00am to 4.10pm
3	Participants/ audience	VJEC Faculty
4	Venue	Board Room & Varikkattu Hall
5	Objectives	1. Understanding the Importance of Accreditations 2. Exploring the Process of Accreditation 3. Enhancing Quality Assurance and Continuous Improvement 4. Discuss methods for getting autonomy by engaging stakeholders, setting realistic targets, and leveraging institutional strengths.
6	Expected outcomes	1. Participants will gain a deeper understanding of the importance of accreditations and their impact on institution 2. Participants will be familiar with the step-by-step process of obtaining accreditations 3. Participants will feel empowered to align accreditation goals with their organizational objectives. 4. Participants will be equipped with techniques for monitoring and evaluating performance to meet accreditation standards.
7	Resource requirements	Nil
8	Any other relevant information	Resource person: 1. Dr. Rajendran V, Vice Chancellor, AMET University, Chennai
9	Schedule	Day 1: Full Day- NAAC Criterion 1, 2, 3 and 4 Analysis Day 2: Forenoon- NAAC Criterion 5, 6 and 7 Analysis Day 2: Afternoon – Preparatory meeting for Autonomy (for all staff)
10	Responsible persons	Staff coordinator: Dr Jayesh George, IQAC coordinator

Proposal prepared by
Dr Jayesh George

Approved by
Dr Benny Joseph

Workshop on

Accreditations and Academic Autonomy

August 11 & 12, 2023

Resource Person
Dr Rajendran V
Vice Chancellor
AMET University

Workshop on Accreditations and Academic Autonomy _ August 11 & 12, 2023

2 messages

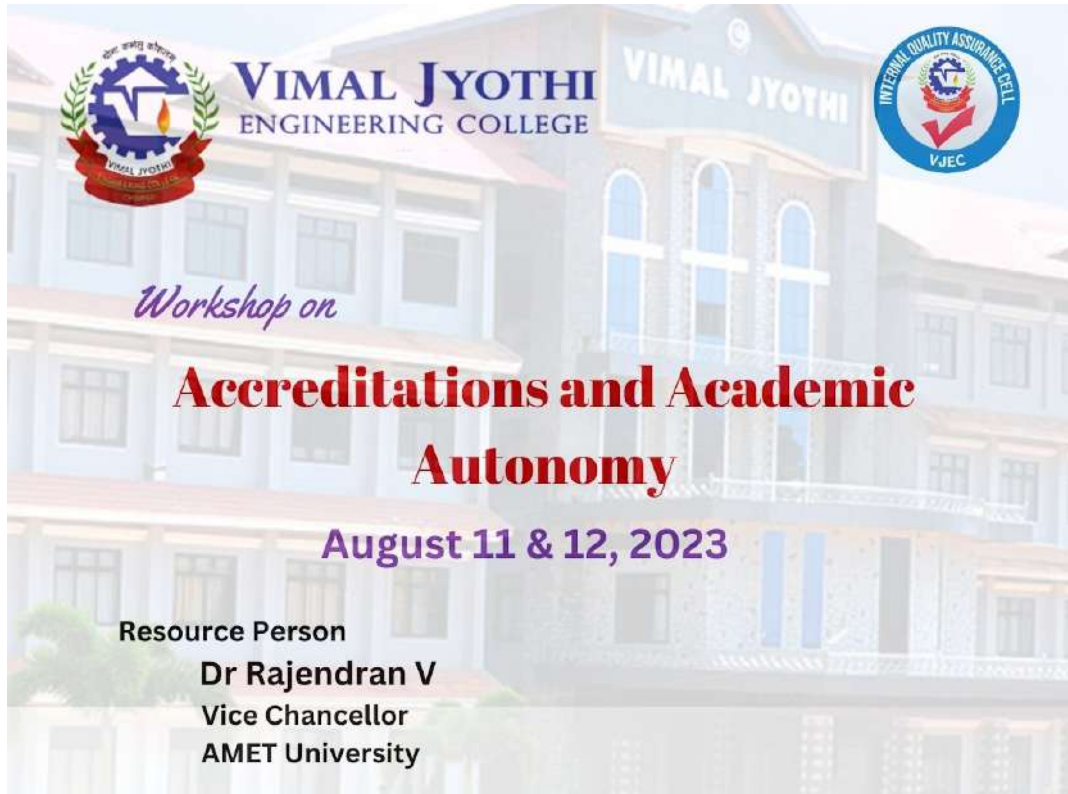**Dr. Jayesh George** <jayeshg1988@vjec.ac.in>   Thu, Jun 22, 2023 at 3:20 PM
To: Dr Benny Joseph <bennyjoseph@vjec.ac.in>

Dear Sir
I have attached the brochure and event proposal form for your approval.

Best regards,
Dr Jayesh George M
Associate Professor
Department of Electronics & Communication Engineering
Vimal Jyothi Engineering College, Kannur, Kerala, India.
Ph: +91 9746135446

2 attachments

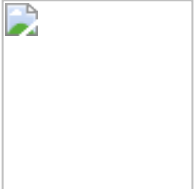**Workshop on Accreditations and Academic Autonomy.jpg**
244K

📄 **Event proposal form- workshop Autonomy.docx**
31K

Dr Benny Joseph <bennyjoseph@vjec.ac.in>   Thu, Jun 22, 2023 at 3:45 PM
To: Anisha Joseph CS <anisha@vjec.ac.in>, "Dr. Vadhana Kumari CS" <dr.vadhanakumari@vjec.ac.in>, Soumya john <soumyakulakkottu@vjec.ac.in>, Hridya CE <hridyap94@vjec.ac.in>, Beena Joseph Library <beenajoseph@vjec.ac.in>, Subhalakshmi ASH <subhalakshmi@vjec.ac.in>, Dinsha PK CS <dinshapk@vjec.ac.in>, Jerrin Yomas <jerrinyomas@vjec.ac.in>, Aswathi K CE <aswathik@vjec.ac.in>, Josy James ME <josyjames@vjec.ac.in>, Raju Kk <rajukk@vjec.ac.in>, "Vasudevan. M" <vasu@vjec.ac.in>, Midhun Mukundan <midhunmukundan@vjec.ac.in>, Abhiram P CS <abhiramp@vjec.ac.in>, Anuragi CE <anuragi@vjec.ac.in>, Dhanoj M <dhanoj24@vjec.ac.in>, "Dr. P. Sridharan ME" <sridharanp@vjec.ac.in>, "Shaji M.A" <shajimamundackal@vjec.ac.in>, Vj Divya B <divyab@vjec.ac.in>, Ramitha T CS <ramithat@vjec.ac.in>, Grace John <gracejohn@vjec.ac.in>, Anit Thomas CS Nov 2021 <anitthomasm@vjec.ac.in>, Indulekha EE <kmindulekha@vjec.ac.in>, Biju Mathew <bijupmathews@vjec.ac.in>, "Reshma K.V" <reshmakv@vjec.ac.in>, "Ryne P.M" <ryne@vjec.ac.in>, "ashwinjoy@vjec.ac.in CE" <ashwinjoy@vjec.ac.in>, margaret CE <margaret@vjec.ac.in>, "Dr. Saathappan CE" <drsaath@vjec.ac.in>, Jyothi Joseph <jyothijoseph@vjec.ac.in>, Logi N Boby CE <logibobyabraham@vjec.ac.in>, Abhijath IP CE <abhijathip@vjec.ac.in>, Rijin K CS <rijinik@vjec.ac.in>, "Dr. Febin IP CS Nov 2021" <febinip@vjec.ac.in>, Tintu George <tintugeorge@vjec.ac.in>, Shimna P CE <shimnap@vjec.ac.in>, "rinnet@vjec.ac.in CE" <rinnet@vjec.ac.in>, Laly James <lalyjames@vjec.ac.in>, Jayesh George Vj <jayeshg1988@vjec.ac.in>, "gokulnath@vjec.ac.in ME" <gokulnath@vjec.ac.in>, Tom Sithara ASH <tomsithara@vjec.ac.in>, Dilin Vjec Me <iamdilin@vjec.ac.in>, Jitto John <jitto@vjec.ac.in>, Jobin KV ASH <jobinkv@vjec.ac.in>, Shyni K CS <shynik@vjec.ac.in>, Sr Jessy <jessykunnum@gmail.com>, Christopher Vj <christopher0420@vjec.ac.in>, Anitta Jose CE <anittajose@vjec.ac.in>, Nayana Suresh <nayanasuresh@vjec.ac.in>, Siji ASH <sijibaskar@vjec.ac.in>, Thomas Jacob <thomaspullattu@vjec.ac.in>, Binil Kumar K <binil@vjec.ac.in>, ambilimacse@vjec.ac.in, Theertha CE <theerthadeljit@vjec.ac.in>, Riya Pradeep CE <riyapradeep@vjec.ac.in>, Sigi Thomas <sigithomasj@vjec.ac.in>, Ram Prasidh ME <ramprasidh@vjec.ac.in>, R Senthilkumar <rsenthilkumar@vjec.ac.in>, "Dr. Justin EE" <agjustin@vjec.ac.in>, Manju M CS <manjum@vjec.ac.in>, Sinai Michel CE <sinaimichel@vjec.ac.in>, Resmitha rami antony CE <resmitharaniantony@vjec.ac.in>, Suhada CS <suhadac@vjec.ac.in>, "Ms. Alphonsa George ASH" <alphonsageorge92@vjec.ac.in>, Justine M Augustine <justine@vjec.ac.in>, "Dr. Anupama RP ASH" <anupamarp@vjec.ac.in>, Jijo Joseph EEE <jijo4joseph@vjec.ac.in>, Rojith EE <rojithk@vjec.ac.in>, Jomy Jose <jomyjose@vjec.ac.in>, Saneesh K CE <saneeshkrish46@vjec.ac.in>, "Dr. Vibhoosha CE" <vibhoosha@vjec.ac.in>, Mejo M Francis <mejofrancis@vjec.ac.in>, Prabin James <prabinjesus@vjec.ac.in>, "Manoj. V. Thomas" <manojkurissinkal@vjec.ac.in>, G Glan Devadhas <glandeva@vjec.ac.in>, Jyothsna Mohan CS <jyothsnasmohan@vjec.ac.in>, Vineethamol Abraham <vineetha@vjec.ac.in>, Ann Mathew <annmathew@vjec.ac.in>, Dean Academic VJEC <deanacademic@vjec.ac.in>, Jancy <jancy@vjec.ac.in>, "Vidhya S. S CSE" <vidhyasud@vjec.ac.in>, Najira Salam CSE <najirasalam@vjec.ac.in>, Divya Thomas ASH <divyathomas@vjec.ac.in>, Lijisha T CS <lijishat@vjec.ac.in>, Swathi Chandra EE <swathichandramt@vjec.ac.in>, "Adarsh K. S" <adarshks@vjec.ac.in>, Keerthijith CS <keerthijithp@vjec.ac.in>, Lekshmy Hari <lekshmyhari@vjec.ac.in>, Rehna CM CS <rahnacm@vjec.ac.in>, Vyshak KV ME <vysakhkv@vjec.ac.in>, Department ASH <dash@vjec.ac.in>, Shamya A <shamyasanthosh@vjec.ac.in>, Ankita Sebastian EE <ankitasebastian@vjec.ac.in>, Ancy K Sunny <ancyksunny@vjec.ac.in>, Shaji George <shajigc@vjec.ac.in>, Sisna P CS <sisnap@vjec.ac.in>, Training & Placement <tpc@vjec.ac.in>, Jinsa Mathew <jinsamathew@vjec.ac.in>, Sreekanth ME <sreekanth@vjec.ac.in>, Neena V V <neenaphalgun@vjec.ac.in>, Ance Maria Thomas <ancemariathomas@vjec.ac.in>, Reema Mathew <reemamathew@vjec.ac.in>, Thipthi Balakrishnan CS <thripthibalakrishnan@vjec.ac.in>, Anusha Chacko <anushachacko@vjec.ac.in>, Sudharsana Vijayan EI <sudharsanavijayan@vjec.ac.in>, V Aji Augustine ME <ajiaugustine@vjec.ac.in>, Abdul Latheef <abdullatheef@vjec.ac.in>, Akhil KK CS <akhilkk@vjec.ac.in>, Athira CE <athirarajendran@vjec.ac.in>, George Kv <george@vjec.ac.in>, "Manoj K. C" <kcmanojkc@vjec.ac.in>, Parvanendu CE <parvanendu@vjec.ac.in>, Jerin Saji <jerinsaji@vjec.ac.in>, Anju Sunny <anjusunny@vjec.ac.in>, Vinod J Thomas <vinodkurisinkal@vjec.ac.in>, Deepu VS CE <deepuvs@vjec.ac.in>, Ujwala Vijayan CS <ujwalavijayan@vjec.ac.in>, Namitha P CS <namithap@vjec.ac.in>, Anoop KR ME <anoopkr@vjec.ac.in>, Leena PV ASH <leenapv@vjec.ac.in>, Divya K <divyavinod@vjec.ac.in>, Dain Philipose ME <dainphilipose@vjec.ac.in>, Rojin CE <rojinp@vjec.ac.in>, Stanly Kurian <stanlykurian@vjec.ac.in>, Athira Thomas EE <athiramthomas@vjec.ac.in>, Ashila KA CS <ashilaka@vjec.ac.in>, Arunlal ME <arunlalmp@vjec.ac.in>, Rijoy GN EE <rijoygn@vjec.ac.in>, Thomas John <thomas.john@vjec.ac.in>, "Roshini T.V" <roshini.tv@vjec.ac.in>, "Dr. Anto EC" <dr.anto@vjec.ac.in>, Warden - Alphonsa hostel <alphonsa@vjec.ac.in>, "Dean(Exams)VJEC" <deanexam@vjec.ac.in>, Teena George <teenag@vjec.ac.in>, "Appu C. Kurian" <appu.kurian@vjec.ac.in>, "Renji P. Cherian" <renji@vjec.ac.in>, Anitha Babu <anithababu@vjec.ac.in>, Anu CS <anuvellackallil@vjec.ac.in>, Tinu Francis <tinufrancis@vjec.ac.in>, Liji Merlin Kurian CS <lijikurian@vjec.ac.in>, Dominic

<dominic@vjec.ac.in>, Diya Rameshan CS <diyarameshan@vjec.ac.in>, Tintu Devasia <tintudevasia@vjec.ac.in>, Sreelakshmi CS <sreelakshmim@vjec.ac.in>, Sreedaya CS <sreedayam@vjec.ac.in>, Shelma George <shelmageorge@vjec.ac.in>, Jeethu CS <jeethuthomas@vjec.ac.in>, "Shimna P.K" <shimna@vjec.ac.in>, Shijith Thomas <shijiththomas@vjec.ac.in>, JIjina MT CS <jijinamt@vjec.ac.in>, Shamin Kk <shaminmuthu@vjec.ac.in>, Bindu Sebastian <bindujohn@vjec.ac.in>, Niyas KM ME <niyaskm@vjec.ac.in>, "Shinu M. M" <shinumm@vjec.ac.in>, Peter CE <peterjobe@vjec.ac.in>, Rajitha KV CS <rajithakv@vjec.ac.in>, Sreeraji CS <sreerajinarayanan@vjec.ac.in>, Namitha PR CS Nov 2021 <namithapr@vjec.ac.in>
Cc: Office VJEC <office@vjec.ac.in>, Josteen J Puthumana <josteen@vjec.ac.in>, Santhome Hostel <santhome@vjec.ac.in>, Bursar <bursar@vjec.ac.in>, "K.J.Sebastian Puthenpura" <sebastianputhenpura@vjec.ac.in>, Manager <manager@vjec.ac.in>, Fr Jinu <jinuachan@vjec.ac.in>, Chairman VJEC <chairman@vjec.ac.in>, Assistant manager <asstmanager@vjec.ac.in>, Wardens <warden@vjec.ac.in>

Regards
Benny Joseph

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2 attachments

Workshop on Accreditations and Academic Autonomy.jpg
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Event proposal form- workshop Autonomy.docx
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V/RAJENDRAN MR

Kannur To **CHENNAI (T1)**

V/RAJENDRAN MR

CNN → MAA (T1)

Flight	Gate	Boarding Time	Boarding	Seat
6E 7374	-	**1930 Hrs**	**Zone 1**	**5F**

Date	**12 Aug 2023**	Departure	**2015 Hrs**
Seq	**0009**	Services	NIL

Flight	**6E 7374**
Date	**12 Aug 2023**
PNR	**AUNN9K**
Services	NIL

Seat **5F**

Seq **0009**

Gate is subject to change and will close 25 minutes prior to departure.

"See it, Say it, Secure it "- Aviation Security Culture Week

IndiGo ✈   **Boarding Pass (Web Check-in)**

V/RAJENDRAN MR

Chennai (T1) To **KANNUR**

V/RAJENDRAN MR

MAA (T1) → CNN

Flight	Gate	Boarding Time	Boarding	Seat
6E 7372	-	**1315 Hrs**	**Zone 1**	**4A**

Date	**10 Aug 2023**
Seq	**0009**

Departure	**1400 Hrs**
Services	NIL

Flight	**6E 7372**
Date	**10 Aug 2023**
PNR	**G2PVVR**
Services	NIL

Seat   **4A**
Seq   **0009**

Gate is subject to change and will close 25 minutes prior to departure.

"See it, Say it, Secure it "- Aviation Security Culture Week

IQAC VJEC Faculty Training Program _ Workshop on Accreditations and Academic Autonomy

A workshop on Accreditations and Academic Autonomy by IQAC VJEC for the faculty members was conducted from 11 August 2023 to 12 August 2023 at Varikkattu Hall. The resource Person was Dr. Rajendran V, Vice Chancellor of AMET University, Chennai. He explained about Importance of Accreditations, Exploring the Process of Accreditation, Enhancing Quality Assurance and Continuous Improvement, Discussed methods for getting autonomy by engaging stakeholders, setting realistic targets, and leveraging institutional strengths.and its usage to all the participants. All Staff members from different department were participated in this workshop.

Report Prepared by
Dr Jayesh George M
IQAC Associate Coordinator

Report Approved by
Dr Benny Joseph
Principal.

Event Proposal Form

1	Event type and name	**IQAC VJEC Workshop for Faculty Development** Workshop on Effective use of campus management solution
2	Date	July 22, 2023 at 11.30 AM
3	Participants/ audience	Newly joined VJEC faculty
4	Venue	Board Room, VJEC
5	Objectives	• To impart the knowledge on 1. Effective use of CMS 2. Use of CMS for Appraisal 3. Use of CMS foer feedback 4. Use of CMS for exam management 5. Use of CMS for mentoring
6.	Expected outcomes	All faculty members are aware about CMS platform used in College
7	Connected PEOs/POs/COs	-
8	Resource requirements	Ms. Ancy K Sunny, AP/ADS Dept
9	Responsible persons	Prepared by Recommended by **Dr Jayesh George M** **Dr. Benny Joseph, Principal**

Workshop for all newly joined staff

Effective Use of Campus Management Solutions

11.30 AM - 1.00 PM, July 22, 2023

Resource Person
Ms Ancy K Sunny

IQAC Workshop on CMS_ 22 July 2023

4 messages

Dr. Jayesh George <jayeshg1988@vjec.ac.in>   Thu, Jul 20, 2023 at 10:20 AM
To: Dr Benny Joseph <bennyjoseph@vjec.ac.in>
Cc: Ancy K Sunny <ancyksunny@vjec.ac.in>

Dear Sir

IQAC VJEC would like to conduct a workshop on Effective Use of Campus Management Solutions on 22 July 2023 at 11.30 AM. Venue is Board Room. All the newly joined staff are requested to register for this event using the link below.

https://forms.gle/oYHXCGKRDrDw4eme7

Regards

Dr Jayesh George M
Associate Professor
ECE Department, VJEC
Ph: +91 9746135446

iqac cms.jpg
317K

Dr Benny Joseph <bennyjoseph@vjec.ac.in>   Thu, Jul 20, 2023 at 11:36 AM
Reply-To: staff@vjec.ac.in
To: staff@vjec.ac.in

Regards
Benny Joseph
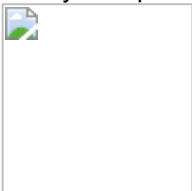
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iqac cms.jpg
317K

Dr. Jayesh George <jayeshg1988@vjec.ac.in>   Fri, Jul 21, 2023 at 4:23 PM
To: staff@vjec.ac.in
Cc: Dr Benny Joseph <bennyjoseph@vjec.ac.in>, Dean Academic VJEC <deanacademic@vjec.ac.in>, iqac@vjec.ac.in,
Ancy K Sunny <ancyksunny@vjec.ac.in>

Dear teachers

The principal has directed that all staff who joined after January 1, 2023 must attend the upcoming workshop.
Attendance will be monitored. Registration link is available in trailing mail.

Regards

Dr Jayesh George M
Associate Professor
ECE Department, VJEC
Ph: +91 9746135446

---------- Forwarded message ---------
From: **Dr. Jayesh George** <jayeshg1988@vjec.ac.in>
Date: Thu, 20 Jul, 2023, 10:20 am
Subject: IQAC Workshop on CMS_ 22 July 2023
To: Dr Benny Joseph <bennyjoseph@vjec.ac.in>
Cc: Ancy K Sunny <ancyksunny@vjec.ac.in>

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iqac cms.jpg
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Ancy K. Sunny CSE <ancyksunny@vjec.ac.in>   Sat, Jul 22, 2023 at 3:08 PM
To: "Dr. Jayesh George" <jayeshg1988@vjec.ac.in>

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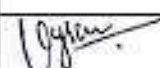--
Regards,
Ancy K. Sunny
AP, CSE
VJEC

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4 attachments

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1.jpg
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2.jpg
1999K

 IMG_0001.pdf
73K

Workshop on Effective Use of Campus Management Solution: Date: 22/7/23

PRN	Name	Dept	Email ID	DOJ	Remarks
FCS081	Dinsha P K	CSE	dinshapk@vjec.ac.in	03-01-2023	
FCE102	Aswathi K	CE	aswathik@vjec.ac.in	12-01-2023	
FCS082	Namitha P	CSE	namithap@vjec.ac.in	16-01-2023	
FEE063	Rijoy G N	EEE	rijoygn@vjec.ac.in	16-01-2023	
FCE103	Shimna P	CE	shimnap@vjec.ac.in	19-01-2023	
FCS083	Liji Merlin Kurian	CSE	lijikurian@vjec.ac.in	22-02-2023	_(signature)_
FCS085	Ashila K A	CSE	ashilaka@vjec.ac.in	13-03-2023	
FCS086	Lijisha T	CSE	lijishat@vjec.ac.in	14-03-2023	
FCE104	Parvanendu K	CE	parvanendu@vjec.ac.in	22-03-2023	
FME099	Vysakh K V	ME	vysakhkv@vjec.ac.in	27-03-2023	_(signature)_
FCS087	Dr. Vadhana Kumari	CSE	dr.vadhanakumari@vjec.ac.in	08-05-2023	
FCS088	Ramitha T	CSE	ramithat@vjec.ac.in	01-06-2023	_(signature)_
ASH054	Dr. Anupama R Prasad	ASH	anupamarp@vjec.ac.in	03-06-2023	
ASH055	Alphonsa George	ASH	alphonsageorge92@vjec.ac.in	08-06-2023	
FCS089	Karthika K	ADS			
FCS090	Sr Reema Jose	CSE	srreemajose@vjec.ac.in	10-07-2023	Reema _(signature)_
FCS091	Neethu Mathew	CSE	neethumathew@vjec.ac.in	19-07-2023	_(signature)_
FCE105	Fr Tony Kunnath	CE	tonykc@vjec.ac.in	20-07-2023	

IQAC VJEC Faculty Training Program _ Effective use of Campus management Solutions

A workshop on Effective use of CMS was conducted by IQAC VJEC for the newly joined facultyMembers on 22 July 2023, 11.30 AM at Board Room. The resource Person was Ms. Ancy K Sunny from ADS Department. She explained about Spaneos CMS and its usage to all the participants. 5 Staff members from different department were participated in this workshop.

Photos

Report Prepared by
Dr Jayesh George M
IQAC Associate Coordinator

Report Approved by
Dr Benny Joseph
Principal.

Event proposal form

1	Event type and name	Workshop EmpowerED: A One Day Workshop on Advancing Modern Teaching and Learning Methodologies
2	Date and time	March 25, 2023, 10 AM
3	Participants/ audience	VJEC Faculty
4	Venue	Board Room
5	Objectives	• Understand the basics of Adobe Express. • Learn how to use Adobe Express to create engaging learning materials. • Explore innovative teaching methodologies and how they can be applied using Adobe Express.
6	Expected outcomes	Faculty to get insight into the Adobe Express
7	Connected PO/PSO	-
8	Resource requirements	Laptop
9	Any other relevant information	Resource person: Mr. Shaminmuth K
10	Responsible persons	Staff coordinators: Dr Jayesh George M, IQAC

Proposal prepared by   Approved by
Dr Jayesh George M   Dr Benny Joseph

VIMAL JYOTHI ENGINEERING COLLEGE

EMPOWERED: A ONE DAY WORKSHOP ON ADVANCING MODERN TEACHING AND LEARNING METHODOLOGIES

ON MARCH 25, 2023 FOR VJEC FACULTY

TIME: 10 AM ONWARDS I VENUE: BOARD ROOM

SESSION ON: USING ADOBE EXPRESS TO CREATE ENGAGING LEARNING MATERIALS

by **MR. SHAMINMUTH K K**

Program Organized by IQAC

EmpowerED: A One Day Workshop on Advancing Modern Teaching and Learning Methodologies_ Poster

Dr Benny Joseph <bennyjoseph@vjec.ac.in>   Tue, Mar 21, 2023 at 12:27 PM

To: Anisha Joseph CS <anisha@vjec.ac.in>, Soumya john <soumyakulakkottu@vjec.ac.in>, Hridya CE <hridyap94@vjec.ac.in>, Beena Joseph Library <beenajoseph@vjec.ac.in>, Subhalakshmi ASH <subhalakshmi@vjec.ac.in>, Dinsha PK CS <dinshapk@vjec.ac.in>, Jerrin Yomas <jerrinyomas@vjec.ac.in>, Aswathi K CE <aswathik@vjec.ac.in>, Josy James ME <josyjames@vjec.ac.in>, Raju Kk <rajukk@vjec.ac.in>, "Vasudevan. M" <vasu@vjec.ac.in>, Midhun Mukundan <midhunmukundan@vjec.ac.in>, Abhiram P CS <abhiramp@vjec.ac.in>, Anuragi CE <anuragi@vjec.ac.in>, Dhanoj M <dhanoj24@vjec.ac.in>, "Dr. P. Sridharan ME" <sridharanp@vjec.ac.in>, "Shaji M.A" <shajimamundackal@vjec.ac.in>, Divya B <divyab@vjec.ac.in>, Grace John <gracejohn@vjec.ac.in>, Anit Thomas CS Nov 2021 <anitthomasm@vjec.ac.in>, Indulekha EE <kmindulekha@vjec.ac.in>, Biju Mathew <bijupmathews@vjec.ac.in>, "Reshma K.V" <reshmakv@vjec.ac.in>, "Ryne P.M" <ryne@vjec.ac.in>, "ashwinjoy@vjec.ac.in CE" <ashwinjoy@vjec.ac.in>, margaret CE <margaret@vjec.ac.in>, "Dr. Saathappan CE" <drsaath@vjec.ac.in>, Jyothi Joseph <jyothijoseph@vjec.ac.in>, Logi N Boby CE <logibobyabraham@vjec.ac.in>, Abhijath IP CE <abhijathip@vjec.ac.in>, Rijin K CS <rijinik@vjec.ac.in>, "Dr. Febin IP CS Nov 2021" <febinip@vjec.ac.in>, Tintu George <tintugeorge@vjec.ac.in>, Shimna P CE <shimnap@vjec.ac.in>, "rinnet@vjec.ac.in CE" <rinnet@vjec.ac.in>, Laly James <lalyjames@vjec.ac.in>, Jayesh George Vj <jayeshg1988@vjec.ac.in>, "gokulnath@vjec.ac.in ME" <gokulnath@vjec.ac.in>, Tom Sithara ASH <tomsithara@vjec.ac.in>, Dilin Vjec Me <iamdilin@vjec.ac.in>, Jitto John <jitto@vjec.ac.in>, Jobin KV ASH <jobinkv@vjec.ac.in>, Shyni K CS <shynik@vjec.ac.in>, Sr Jessy <jessykunnum@gmail.com>, Christopher Vj <christopher0420@vjec.ac.in>, Anitta Jose CE <anittajose@vjec.ac.in>, Nayana Suresh CS <nayanasuresh@vjec.ac.in>, Siji ASH <sijibaskar@vjec.ac.in>, Thomas Jacob <thomaspullattu@vjec.ac.in>, Binil Kumar K <binil@vjec.ac.in>, ambilimacse@vjec.ac.in, Theertha CE <theerthadeljit@vjec.ac.in>, Riya Pradeep CE <riyapradeep@vjec.ac.in>, Sigi Thomas <sigithomasj@vjec.ac.in>, Ram Prasidh ME <ramprasidh@vjec.ac.in>, R Senthilkumar <rsenthilkumar@vjec.ac.in>, "Dr. Justin EE" <agjustin@vjec.ac.in>, Manju M CS <manjum@vjec.ac.in>, Sinai Michel CE <sinaimichel@vjec.ac.in>, Resmitha rami antony CE <resmitharaniantony@vjec.ac.in>, Suhada CS <suhadac@vjec.ac.in>, Justine M Augustine <justine@vjec.ac.in>, Jijo Joseph EEE <jijo4joseph@vjec.ac.in>, Rojith EE <rojithk@vjec.ac.in>, Jomy Jose <jomyjose@vjec.ac.in>, Saneesh K CE <saneeshkrish46@vjec.ac.in>, "Dr. Vibhoosha CE" <vibhoosha@vjec.ac.in>, Mejo M Francis <mejofrancis@vjec.ac.in>, Prabin James <prabinjesus@vjec.ac.in>, "Manoj. V. Thomas" <manojkurissinkal@vjec.ac.in>, G Glan Devadhas <glandeva@vjec.ac.in>, Jyothsna Mohan CS <jyothsnasmohan@vjec.ac.in>, Vineethamol Abraham <vineetha@vjec.ac.in>, Ann Mathew <annmathew@vjec.ac.in>, Dean Academic VJEC <deanacademic@vjec.ac.in>, Jancy <jancy@vjec.ac.in>, "Vidhya S. S CSE" <vidhyasud@vjec.ac.in>, Najira Salam CSE <najirasalam@vjec.ac.in>, Divya Thomas ASH <divyathomas@vjec.ac.in>, Lijisha T CS <lijishat@vjec.ac.in>, Swathi Chandra EE <swathichandramt@vjec.ac.in>, "Adarsh K. S" <adarshks@vjec.ac.in>, Keerthijith CS <keerthijithp@vjec.ac.in>, Lekshmy Hari <lekshmyhari@vjec.ac.in>, Rehna CM CS <rahnacm@vjec.ac.in>, Department ASH <dash@vjec.ac.in>, Shamya A <shamyasanthosh@vjec.ac.in>, Ankita Sebastian EE <ankitasebastian@vjec.ac.in>, Ancy K Sunny <ancyksunny@vjec.ac.in>, Shaji George <shajigc@vjec.ac.in>, Sisna P CS <sisnap@vjec.ac.in>, Training & Placement <tpc@vjec.ac.in>, Jinsa Mathew <jinsamathew@vjec.ac.in>, Sreekanth ME <sreekanth@vjec.ac.in>, Neena V V <neenaphalgun@vjec.ac.in>, Ance Maria Thomas <ancemariathomas@vjec.ac.in>, Reema Mathew <reemamathew@vjec.ac.in>, Thipthi Balakrishnan CS <thripthibalakrishnan@vjec.ac.in>, Anusha Chacko <anushachacko@vjec.ac.in>, Sudharsana Vijayan EI <sudharsanavijayan@vjec.ac.in>, V Aji Augustine ME <ajiaugustine@vjec.ac.in>, Abdul Latheef <abdullatheef@vjec.ac.in>, Akhil KK CS <akhilkk@vjec.ac.in>, Athira CE <athirarajendran@vjec.ac.in>, George Kv <george@vjec.ac.in>, "Manoj K. C" <kcmanojkc@vjec.ac.in>, Jerin Saji <jerinsaji@vjec.ac.in>, Anju Sunny <anjusunny@vjec.ac.in>, Vinod J Thomas <vinodkurisinkal@vjec.ac.in>, Deepu VS CE <deepuvs@vjec.ac.in>, Ujwala Vijayan CS <ujwalavijayan@vjec.ac.in>, Namitha P CS <namithap@vjec.ac.in>, Anoop KR ME <anoopkr@vjec.ac.in>, Leena PV ASH <leenapv@vjec.ac.in>, Divya K <divyavinod@vjec.ac.in>, Dain Philipose ME <dainphilipose@vjec.ac.in>, Rojin CE <rojinp@vjec.ac.in>, Stanly Kurian <stanlykurian@vjec.ac.in>, Athira Thomas EE <athiramthomas@vjec.ac.in>, Ashila KA CS <ashilaka@vjec.ac.in>, Arunlal ME <arunlalmp@vjec.ac.in>, Rijoy GN EE <rijoygn@vjec.ac.in>, Thomas John <thomas.john@vjec.ac.in>, "Roshini T.V" <roshini.tv@vjec.ac.in>, "Dr. Anto EC" <dr.anto@vjec.ac.in>, Warden - Alphonsa hostel <alphonsa@vjec.ac.in>, "Dean(Exams)VJEC" <deanexam@vjec.ac.in>, Teena George <teenag@vjec.ac.in>, "Appu C. Kurian" <appu.kurian@vjec.ac.in>, "Renji P. Cherian" <renji@vjec.ac.in>, Anitha Babu <anithababu@vjec.ac.in>, Anu CS <anuvellackallil@vjec.ac.in>, Tinu Francis <tinufrancis@vjec.ac.in>, Liji Merlin Kurian CS <lijikurian@vjec.ac.in>, Dominic <dominic@vjec.ac.in>, Diya Rameshan CS <diyarameshan@vjec.ac.in>, Tintu Devasia <tintudevasia@vjec.ac.in>, Sreelakshmi CS <sreelakshmim@vjec.ac.in>, Sreedaya CS <sreedayam@vjec.ac.in>, Shelma George <shelmageorge@vjec.ac.in>, Jeethu CS <jeethuthomas@vjec.ac.in>, "Shimna P.K" <shimna@vjec.ac.in>, Shijith Thomas <shijiththomas@vjec.ac.in>, Jljina MT CS <jijinamt@vjec.ac.in>, Shamin Kk <shaminmuthu@vjec.ac.in>, Bindu Sebastian <bindujohn@vjec.ac.in>, Niyas KM ME <niyaskm@vjec.ac.in>, "Shinu M. M" <shinumm@vjec.ac.in>, Peter CE <peterjobe@vjec.ac.in>, Rajitha KV CS <rajithakv@vjec.ac.in>, Sreeraji CS <sreerajinarayanan@vjec.ac.in>, Namitha PR CS Nov 2021 <namithapr@vjec.ac.in>

Cc: Office VJEC <office@vjec.ac.in>, Josteen J Puthumana <josteen@vjec.ac.in>, "Fr. Lipin" <libinezhupara777@gmail.com>, Santhome Hostel <santhome@vjec.ac.in>, Bursar <bursar@vjec.ac.in>, "K.J.Sebastian Puthenpura" <sebastianputhenpura@vjec.ac.in>, Manager <manager@vjec.ac.in>, Fr Jinu <jinuachan@vjec.ac.in>, Chairman <chairman@vjec.ac.in>, Assistant manager <asstmanager@vjec.ac.in>, Wardens <warden@vjec.ac.in>

Regards
Benny Joseph

Dear Sir
IQAC VJEC would like to conduct a one-day workshop on Advancing Modern Teaching and Learning Methodologies on 25 March 2023. PFA

Best regards,
Dr Jayesh George M
Associate Professor
Department of Electronics & Communication Engineering
Vimal Jyothi Engineering College, Kannur, Kerala, India.
Ph: +91 9746135446

3 attachments

IQAC.jpg
175K

Event proposal form-1.docx
30K

EmpowerED A One Day Workshop on Advancing Modern Teaching and Learning Methodologies.docx
79K

VIMAL JYOTHI ENG. COLLEGE KANNUR
"EmpowerED: A One Day Workshop on Advancing Modern Teaching and Learning Methodologies"

Session 1: Using Adobe Express to Create Engaging Learning Materials

Duration: 1.5 hours   **Resource person: SHAMINMUTH KK**

Course Objectives:
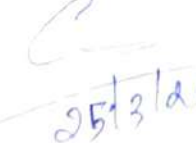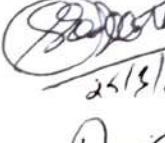
- Understand the basics of Adobe Express.
- Learn how to use Adobe Express to create engaging learning materials.
- Explore innovative teaching methodologies and how they can be applied using Adobe Express.

- **Course outline:**
  Introduction (5 mins)
- Introduce the course objectives and outline
- Discuss the importance of innovative teaching methodologies
- **II. Overview of Adobe Express (15 mins)**
- Explain what Adobe Express is and what it can be used for
- Show how to access Adobe Express
- Demonstrate the key features of Adobe Express
- **III. Creating Engaging Learning Materials (25 mins)**
- Introduce the concept of engaging learning materials and its importance
- Demonstrate how to create engaging learning materials using Adobe Express
- Provide examples of engaging learning materials created using Adobe Express
- **IV. Innovative Teaching Methodologies (20 mins)**
- Introduce innovative teaching methodologies
- Discuss how Adobe Express can be used to support innovative teaching methodologies
- Provide examples of innovative teaching methodologies that can be implemented using Adobe Express
- **V. Hands-on Practice (20 mins)**
- Provide participants with an opportunity to practice using Adobe Express to create engaging learning materials
- Encourage participants to experiment with innovative teaching methodologies
- **VI. Conclusion and Next Steps (5 mins)**
- Summarize the key points of the course
- Provide resources for further learning
- Encourage participants to continue experimenting with Adobe Express and innovative teaching methodologies

IQAC – List of participants (Sat 25, 2023, March)

Name	Department	Signature
1. LIJISHA·T	CSE	
2. ASHILA·KA	CSE	
3. SUBHALAKSHMI·V	ASH	
4. Leena·P·V	ASH	
5. Liji Martin Kurian	CSE	
6. Sudarsana Vijayan	EC	
7 Midhun Mukundan MK	ME	
8 Arunlal M·P	ME	
9. Dilin Dinesh,	ME	25/3/2023
10· SHAJI GEORGE	ME	
11· Sreekanth·mP	ME	25/3/23
12. ANIL JOHNEY	ME	

Report on IQAC VJEC Workshop

Empower ED: A One Day Workshop on Advancing Modern Teaching and Learning Methodologies

A workshop on EmpowerED: A One Day Workshop on Advancing Modern Teaching and Learning Methodologieswas conducted by IQAC VJEC for the faculty Members on 25 March 2023, 10.00 AM at CAD Lab/ME. The resource Persons was Shaminmuth MM. 12 Staff members from different department were participated in this workshop.
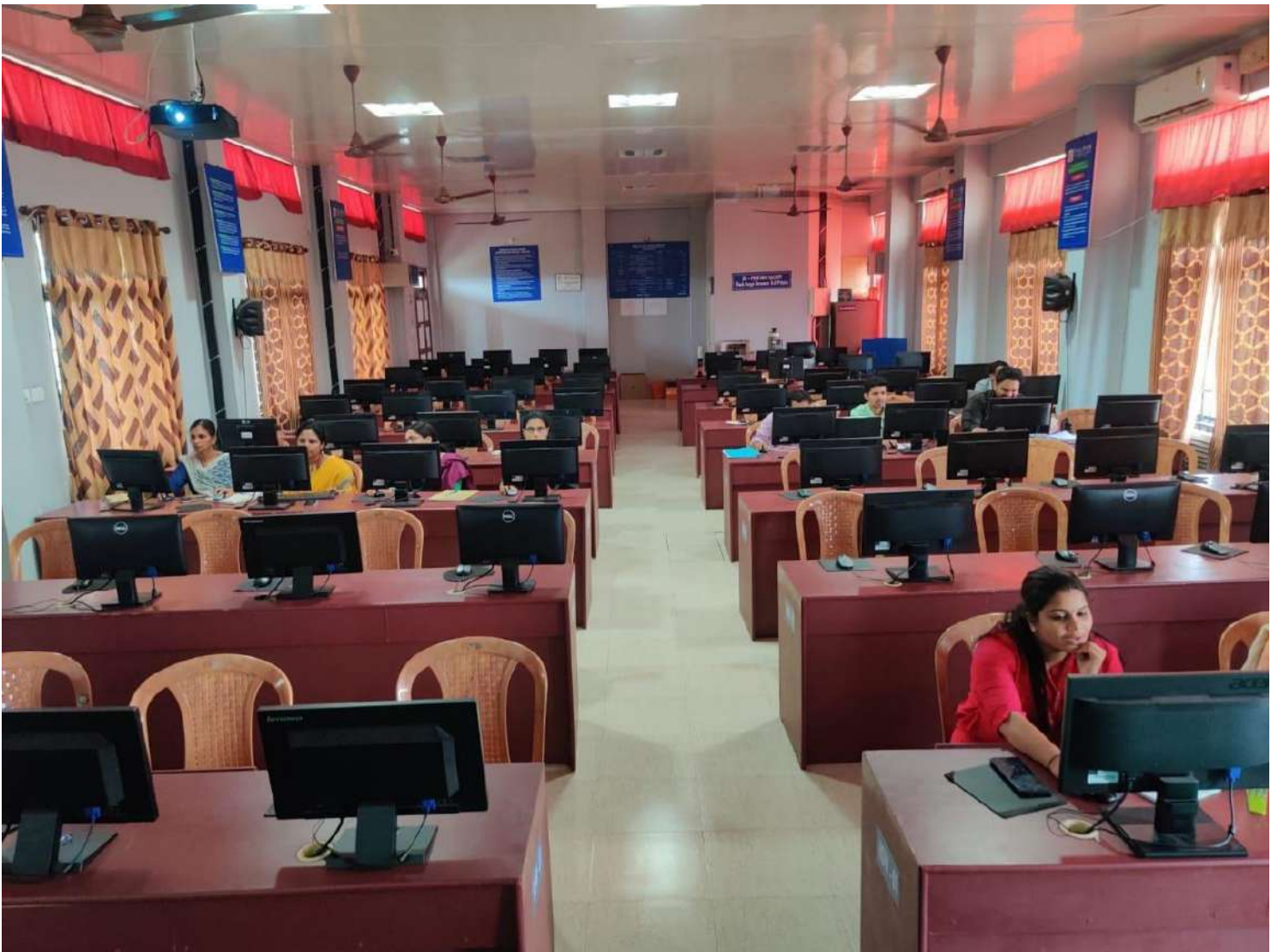
Photos

Report Prepared by
Dr Jayesh George M
IQAC Associate Coordinator

Report Approved by
Dr Benny Joseph
Principal.

Webpage Created by Faculties on Adobe Express Workshop (25/03/23)

1 message

Shamin Muth KK <shaminmuthu@vjec.ac.in>   Wed, Mar 29, 2023 at 10:09 AM
To: Dr Benny Joseph <bennyjoseph@vjec.ac.in>
Cc: Jayesh VJEC ECE <jayeshg1988@vjec.ac.in>

Sir,
Kindly go through a few web pages designed by the participants of IQAC workshop held on 25th March 2023:
Dr. Sreekanth MP

https://express.adobe.com/page/W3UGNMR2XmCNU/

Mr. Shaji George (ME)

https://express.adobe.com/page/QmUFZG0ngvSa5/

Ashila KA (CSE)

https://express.adobe.com/page/7YyNsukTGMxNl/

Sudarsana Vijayan (AEI)

https://express.adobe.com/page/Bg69YkhTQ6ARu/

Arunlal MP (ME)

https://express.adobe.com/page/tkI9VmoTEztc5/

Leena PV (ASH)

https://express.adobe.com/page/7kXMuiX7j82K1/

Subalakshmi V (ASH)

https://express.adobe.com/page/BRmtd6g9DcssB/

Mr. Midhun Mukundan (ME)

https://express.adobe.com/page/rTSSOj5HjqgJi/

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Event Proposal Form

1	Event type and name	**IQAC VJEC Workshop for Faculty Development** Workshop on Knimbus Digital Library
2	Date	November 8, 2022 at 11.00 AM
3	Participants/ audience	VJEC faculty
4	Venue	Board Room, VJEC
5	Objectives	• To impart the knowledge on 1. How to register users 2. Access through mobile app or desktop anywhere, anytime 3. Use of 50GB free space for institutional repository 4. Access to 298 Science Direct subscribed journals 5. Access to 1 Lakh+ open eBooks, 20,000+ open journals 6. How Knimbus is useful for college AICTE/NAAC Accreditation 7. Reports to analysis insight view of student's usage
6.	Expected outcomes	All faculty members are aware about Knimbus Platform
7	Connected PEOs/POs/COs	-
8	Resource requirements	Mr. Arjun from Knimbus
9	Responsible persons	Prepared by Recommended by **Dr Jayesh George M** **Dr. Benny Joseph, Principal** **Mr. Stanly Kurian**

knimbus
Your Library. Anywhere. Anytime.

Offline Faculty Training *at*
Vimal Jyothi Engineering College, Kannur
(APJAKTU Consortium)

📅 **8ᵗʰ November 2022**
🕐 **11 AM - 12 PM**
📍 **Chemperi, Kannur, Kerala**

Trainer
Mr. Arjun Nair

VIMAL JYOTHI ENGINEERING COLLEGE
JYOTHI NAGAR, CHEMPERI – 670632, KANNUR, KERALA
ACCREDITED BY IEI, NBA & NAAC • ISO 9001:2015 CERTIFIED
AFFILIATED TO KTU • APPROVED BY AICTE

Co-ordinators
Dr. Jayesh George | **Mr. Stanly Kurian**
Associate Co-ordinator, IQAC | Librarian

IQAC VJEC Faculty Training Program _ Knimbus Digital Library Platform

Dr Benny Joseph <bennyjoseph@vjec.ac.in>   Sat, Nov 5, 2022 at 2:39 PM
To: faculty@vjec.ac.in

All the faculty members free of class work are directed to attend.

[Quoted text hidden]

2 attachments

Knimbus.jpg
1743K

Workshop on Knimbus Digital Library Event proposal.docx
64K

Vimal Jyothi Engineering College, Chemperi
IQAC Workshop

Knimbus Digital Library Platform on 8 Nov 2022

Sl. NO	Name	Dept	Signature
1.	Dr. Jayesh George	ECE	
2.	Mr. Midhun Mukundan MK	ME	
3.	Ms. Shimna P.K	ECE	
4.	Ms. Beena Joseph	Library	
5.	Tomy Jose	ASH	
6.	Divya B	CSE	
7	Suhada C	CSE	
8.	Jyothsna S Mohan	CSE	
9	Renny Joseph	CE	
10.	Teslein T. Pulliman	Office	
11	Miss M Francis	ME	
12	Dr. P. Sridharan	ME	
13	Neenu. Y.V	CSE	
14	Prabin James	EEE	
15	Anit Thomas M	ADS	
16	Shamya A	AEI	
17	Dr. Vibhoosha M.P	CE	
18	Dr. R. SENTHIL KUMAR	EEE	

IQAC VJEC Faculty Training Program _ Knimbus Digital Library Platform

A workshop on Knimbus Digital Library Platform was conducted by IQAC VJEC for the faculty Members on 11 November 2022, 11.10 AM at Board Room. The resource Person was Mr. Arjun Nair from Knimbus. He explained about Knimbus platform and its usage to all the participants. 18 Staff members from different department were participated in this workshop.
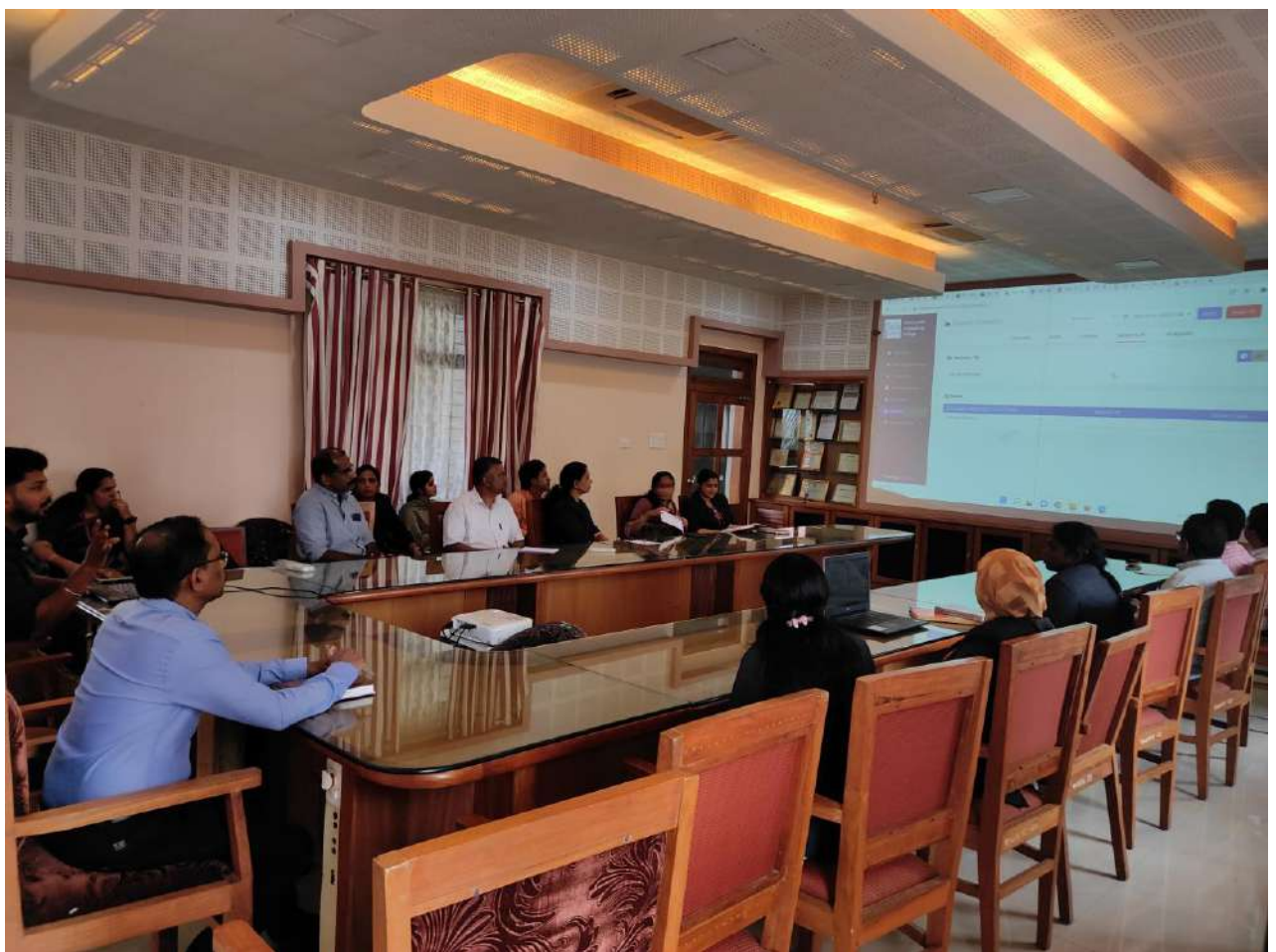
Photos

Report Prepared by
Dr Jayesh George M
IQAC Associate Coordinator

Report Approved by
Dr Benny Joseph
Principal.

Vimal Jyothi Engineering College, Chemperi

INTERNAL QUALITY ASSURANCE CELL

Workshop on OBE and CO Attainment Calculation

15 March 2022, 10.00 AM to 4.00 PM

INDEX

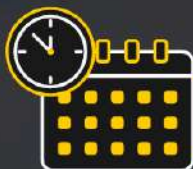**VIMAL JYOTHI ENGINEERING COLLEGE**

((•)) **WORKSHOP**

Internal Quality Assurance cell

workshop on OBE and CO Attainment calculation

15 MARCH 2022, 10.00 AM TO 4.00 PM

COORDINATORS

DR. JAYESH GEORGE
ASSOCIATE PROFESSOR

DR. ANTO SAHAYA DHAS
PROFESSOR & HOD

Vimal Jyothi Engineering College, Chemperi

INTERNAL QUALITY ASSURANCE CELL

Workshop on OBE and CO Attainment Calculation

15 March 2022, 10.00 AM to 4.00 PM

Schedule

10.00 AM – Welcome Address - Dr Anto Sahaya Dhas (IQAC Coordinator)

10.05 AM – Overview on OBE – Dr. Benny Joseph (Principal)

11.00 AM – Outcome based education and its importance – Ms. Lekshmy S, AP/ECE

2.00 PM – CO attainment Calculation- Mr. Shinu M M, AP/AEI

3.55 PM – Vote of Thanks- Dr Jayesh George M (Workshop Coordinator)

VIMAL JYOTHI ENGINEERING COLLEGE, CHEMPERI

Workshop on OBE and CO Attainment Calculation

15 March 2022, 10.00 AM to 4.00 PM

Attendance sheet

The following staff members have attended the IQAC Workshop

Sl. No	Faculty Name	Dept
1	Dr G. Glan Devadhas	AEI
2	Mrs Reshma KV	AEI
3	Mr Dhanoj M	AEI
4	Mrs Jinsa Mathew	AEI
5	Dr.D.Anto Sahaya Dhas	ECE
6	Dr.Roshini T V	ECE
7	Ms.Jerrin Yomas	ECE
8	Ms.Reema Mathew	ECE
9	Mr.Vinod J Thomas	ECE
10	Mr.Manoj K C	ECE
11	Ms.Bindu Sebastian	ECE
12	Dr.Jayesh George	ECE
13	Mr.Adarsh K S	ECE
14	Ms.Shimna P K	ECE
15	Mr.Binil Kumar K	ECE
16	Ms.Grace John M	ECE
17	Ms.Anusha Chacko	ECE
18	Ms.Ann Mathew	ECE
19	Mr.Jithin James	ECE
20	Ms.Sudharsana Vijayan	ECE
21	Prof. George K V	ASH
22	Dominic N Thomas	ASH
23	Vineethamol Abraham	ASH
24	Siji P	ASH
25	Ammu Jose	ASH
26	Raiza Yousuf	ASH
27	Vasudevan M	ASH
28	Jomy Jose	ASH
29	Shijith Thomas	ASH
30	Soumya John	ASH

Coordinator
Dr Jayesh George M

OBE and CO Attainment Calculation Workshop

15 March 2022

jayeshg1988@vjec.ac.in Switch account

Your email will be recorded when you submit this form

* Required

Internal Quality Assursance Cell, VJEC

Fill this form before 2 PM Today

Faculty Name (This name will be seen as such in the certificate) *
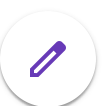
Your answer

Designation *

Your answer

Department *

○ ASH

○ ECE

○ AEI

Workshop objectives where clearly stated and met *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

The workshop was well organized *

1	2	3	4	5
○	○	○	○	○

Workshop helped me to understand OBE *

1	2	3	4	5
○	○	○	○	○

Workshop helped me to understand CO attainment Calculation *

1	2	3	4	5
○	○	○	○	○

The information presented were relevant and useful *

1	2	3	4	5
○	○	○	○	○

The presenters provided adequate time for questions and answered them satisfactorily *

	1	2	3	4	5
	○	○	○	○	○

The workshop increased my knowledge in OBE *

	1	2	3	4	5
	○	○	○	○	○

Send me a copy of my responses.

Page 1 of 1

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Google Forms

Timestamp	Email Address	Faculty Name	Designation	Department	Workshop objectives where clearly stated and met	The workshop was well organized	Workshop helped me to understand OBE	Workshop helped me to understand CO attainment Calculation	The information presented were relevant and useful	The presenters provided adequate time for questions and answered them satisfactorily	The workshop increased my knowledge in OBE
3/16/2022 9:48:01	jayeshg1988@vjec.ac.in	Dr Jayesh George M	Associate Professor	ECE	5	5	5	5	5	5	5
3/16/2022 9:49:45	vinodkurisinkal@vjec.ac.i	VINOD J THOMAS	Associate Professor	ECE	3	3	3	3	3	3	2
3/16/2022 9:55:59	jithinjames@vjec.ac.in	Jithin James	Assistant Professor	ECE	3	4	3	3	3	3	2
3/16/2022 10:07:20	kcmanojkc@vjec.ac.in	MANOJ K C	ASSOCIATE PROFESSO	ECE	5	5	5	5	5	5	5
3/16/2022 10:09:11	shimna@vjec.ac.in	SHIMNA P K	Assistant Professor	ECE	5	5	5	5	5	5	5
3/16/2022 10:56:51	jinsamathew@vjec.ac.in	Jinsa Mathew	Assistant Professor	AEI	4	4	4	4	4	4	4
3/16/2022 11:03:22	shijiththomas@vjec.ac.in	Shijith Thomas	Asst Professor	ASH	2	1	1	2	2	2	2
3/16/2022 11:03:22	reemamathew@vjec.ac.ir	Dr Reema Mathew A	Assoc Professor	ECE	4	4	4	3	4	4	3
3/16/2022 11:12:16	adarshks@vjec.ac.in	ADARSH K S	Assistant Proessor	ECE	3	3	3	3	3	3	3
3/16/2022 11:16:16	anushachacko@vjec.ac.ir	Anusha Chacko	Assistant Professor	ECE	5	5	5	4	5	5	5
3/16/2022 11:25:50	bindujohn@vjec.ac.in	Bindu Sebastian	AP	ECE	5	5	5	5	5	5	5
3/16/2022 11:28:04	gracejohn@vjec.ac.in	Grace John M	Assistant professor	ECE	3	3	4	4	4	3	3
3/16/2022 11:29:02	shinumm@vjec.ac.in	Shinu MM	Assistant Professor	AEI	5	5	5	5	5	5	5
3/16/2022 12:09:24	sudharsanavijayan@vjec.	SUDHARSANA VIJAYAN	ASSISTANT PROFESSO	ECE	3	3	3	3	3	3	3

VIMAL JYOTHI ENGINEERING COLLEGE
CHEMPERI, KANNUR

INTERNAL QUALITY ASSURANCE CELL

CERTIFICATE OF PARTICIPATION

Jithin James

Assistant Professor

has participated in the one day workshop on **OBE and CO Attainment Calculation** on March 15, 2022, organized by Internal Quality Assurance Cell, Vimal Jyothi Engineering College, Kannur, Kerala.

Dr. Jayesh George M
IQAC Co-coordinator

Dr. D . Anto Sahaya Dhas
IQAC Coordinator

Dr. Benny Joseph
Principal

VIMAL JYOTHI ENGINEERING COLLEGE
CHEMPERI, KANNUR

INTERNAL QUALITY ASSURANCE CELL

CERTIFICATE OF PARTICIPATION

Shijith Thomas

Asst Professor

has participated in the one day workshop on **OBE and CO Attainment Calculation** on March 15, 2022, organized by Internal Quality Assurance Cell, Vimal Jyothi Engineering College, Kannur, Kerala.

Dr. Jayesh George M
IQAC Co-coordinator

Dr. D . Anto Sahaya Dhas
IQAC Coordinator

Dr. Benny Joseph
Principal

Vimal Jyothi Engineering College, Chemperi

INTERNAL QUALITY ASSURANCE CELL

Workshop on OBE and CO Attainment Calculation

15 March 2022, 10.00 AM to 4.00 PM

Report

IQAC of Vimal Jyothi Engineering College conducted a Workshop on OBE and CO Attainment Calculation on 15 March 2022, 10.00 AM to 4.00 PM. The workshop is started with the welcome address by the IQAC Coordinator Dr. Anto Sahaya Dhas. The schedule of the events as follows.

10.00 AM – Welcome Address - Dr Anto Sahaya Dhas (IQAC Coordinator)

10.05 AM – Overview on OBE – Dr. Benny Joseph (Principal)

11.00 AM – Outcome based education and It's importance – Ms. Lekshmy S, AP/ECE

2.00 PM – CO attainment Calculation- Mr. Shinu MM, AP/AEI

3.55 PM – Vote of Thanks- Dr Jayesh George M (Workshop Coordinator)

Workshop has been attended by 30 staff members from ECE, AEI and ASH departments. The workshop was concluded at 4.00 PM after the Vote of Thanks by Dr. Jayesh George, Assoc. Prof/ECE

Report Prepared by

Dr Jayesh George M

Workshop Coordinator
Associate Professor
ECE Dept, VJEC

16 March 2022

Vimal Jyothi Engineering College, Chemperi

INTERNAL QUALITY ASSURANCE CELL

Workshop on AICTE EXAM REFORMS POLICY

4 March 2021, 10.00 Am to 3.00 PM

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5. Feedback Questions

6. Feedback Responses

7. Sample certificates

8. Report

VIMAL JYOTHI ENGINEERING COLLEGE

INTERNAL QUALITY ASSURANCE CELL

AICTE EXAM REFORMS POLICY

4 March 2021, Varikkattu Hall

Workshop is open to all VJEC Faculty Members

10.00 AM: Dr. Benny Joseph(Principal) - AICTE Exam Reforms Policy & Overview

10.30 AM: Dr. Roshini TV (Dean Academic) - POs, Competencies and PIs

11.30 AM: Dr. VRA Saathappan (Professor/CE) - Sample Question Papers

2.00 - 3.00 PM - Discussion on Even Semester First Internal Question Paper Prepared by Participants

Prerequisites: Participants are expected to keep the question paper for first internal exams of even semester in the current format before attending the workshop

Coordinators: Dr. Anto Sahaya Dhas D
Dr. Jayesh George M

Vimal Jyothi Engineering College, Chemperi

INTERNAL QUALITY ASSURANCE CELL

Workshop on AICTE EXAM REFORMS POLICY

4 March 2021, 10.00 Am to 3.00 PM

Schedule

10.00 AM – Welcome Address - Dr Anto Sahaya Dhas (IQAC Coordinator)

10.05 AM – AICTE Exam Reforms Policy and Overview – Dr. Benny Joseph (Principal)

10.30 AM – POs, Competencies and PIs - Dr Roshini TV (Dean Academics)

11.30 AM - Sample question papers based on new policy - Dr. VR A Sathappan (Professor/CE)

2.00 PM - Discussion on the Question Papers prepared by Faculty

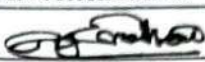3.00 PM – Vote of Thanks- Dr Jayesh George M (Workshop Coordinator)
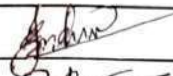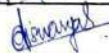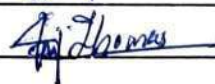
VIMAL JYOTHI ENGINEERING COLLEGE, CHEMI

AICTE EXAM REFORMS POLICY

4-Mar-21

10.00 AM to 3.00 PM

Department of Civil Engineering

Sl. No	Faculty Name	FN Attendance	AN Attendance
1	Dr. Biju Mathew		
2	Dr.VRA Sathappan		
3	Ms. Anuragi P		
4	Ms. Margaret Abraham		
5	Ms. ANITTA JOSE		
6	Mr. SREEJITH K		
7	Ms. INDU T		
8	Mr. Peter Jobe		
9	Ms. Aiswara M		
10	Ms. Anitha Babu		
11	Mr.Linjesh Sebastian		
12	Mr. Logi.N.Boby		
13	Mr. Saneesh K		
14	Mr Rojin P		
15	Ms. Hridya P		
16	Ms. Aiswyra S		
17	Ms. Sigi Thomas		
18	Mr Ashwin Joy		
19	Ms. Athira Rajendran		
20	Mr. Abhijath I P		
21	Ms. Rinnet Francis		
22	Ms. MAQSOODA J H S		
23	Ms. VINAYA S M		
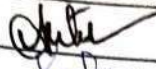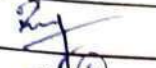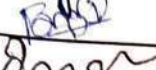
VIMAL JYOTHI ENGINEERING COLLEGE, CHEMPERI

AICTE EXAM REFORMS POLICY

4-Mar-21

10.00 AM to 3.00 PM

Department of Electronics and Communication Engineering

| Sl. No	Faculty Name	FN Attendance	AN Attendance
1	Dr.D.Anto Sahaya Dhas		
2	Dr.Roshini T V		
3	Ms.Jerrin Yomas		
4	Ms.Reema Mathew		
5	Mr.Vinod J Thomas		
6	Mr.Manoj K C		
7	Ms.Bindu Sebastian		
8	Dr.Jayesh George		
9	Mr.Adarsh K S		
10	Ms.Shimna P K		
11	Ms.Lekshmy S		
12	Mr.Binil Kumar K		
13	Ms.Grace John M		
14	Ms.Anusha Chacko		
15	Ms.Ann Mathew		
16	Mr.Jithin James		
17	Ms.Sudharsana Vijayan		

VIMAL JYOTHI ENGINEERING COLLEGE, CHEMPERI

AICTE EXAM REFORMS POLICY

4-Mar-21

10.00 AM to 3.00 PM

Department of Mechanical Engineering

Sl. No	Faculty Name	FN Attendance	AN Attendance
1	Cdr. Raju K K (Retd.)		
2	Dr. T. D John		
3	Dr.S Christopher Ezhil Singh		
4	Dr.P Sridharan		
5	Mr.Ryne P M		
6	Mr. Rameshan K P		
7	Mr. Midhun Mukundan		
8	Mr. Shaji George		
9	Mr. Mejo M Francis		
10	Mr. Appu Kurian		
11	Mr. Shaminmuth K K		
12	Mr. Johny P Joseph		
13	Mr. Aji Augustine		
14	Mr. Alex George		
15	Mr.Gokulnath R		
16	Dr.Sreekanth M P		
17	Mr. Niyas K M		
18	Mr. Dilin Dinesh		
19	Mr. Jerin Saji		
20	Mr Deepak Kumar		
21	Mr.Arunlal R M.P		
	ARUN. B.S		
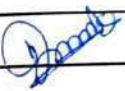
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AICTE EXAM REFORMS POLICY

4-Mar-21
10.00 AM to 3.00 PM

Department of Computer Science and Engineering

Sl. No	Faculty Name	FN Attendance	AN Attendance
1	Dr. JEETHU V. DEVASIA		
2	Dr. MANOJ V. THOMAS		
3	Dr. RENJI P. CHERIAN		
4	Ms. DIVYA B.		
5	Ms. NEENA V. V.		
6	Ms. VIDHYA S. S.		
7	Sr. JISHA C. T.		
8	Ms. ANCY K SUNNY		
9	Ms. ASHA BABY	*(signature)*	*(signature)*
10	Ms. DERROLL DAVID		
11	Ms. ANISHA JOSEPH	*(signature)*	*(signature)*
12	Ms. AKHILA MATHEW		
13	Ms. KEERTHIJITH P.		
14	Ms. ACHALA PRASAD		
15	Mr. ANSIL NAZAR		
16	Ms. TINTU DEVASIA		
17	Ms. DIVYA K.		
18	Mr. ABDUL LATHEEF		
19	Ms. ANKITA SEBASTIAN		
20	Ms. ANGEL VARGHESE		
21	Mr. ARJUN R		
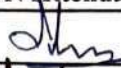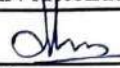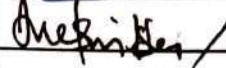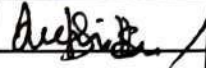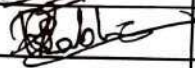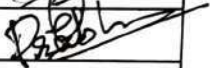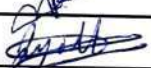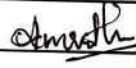
VIMAL JYOTHI ENGINEERING COLLEGE, CHE

AICTE EXAM REFORMS POLICY

4-Mar-21

10.00 AM to 3.00 PM

Department of Electrical and Electronics Engineering

Sl. No	Faculty Name	FN Attendance	AN Attendance
1	Ms.Laly James		
2	Dr.Justin sunil Dhas · G		
3	Dr.Senthil Kumar		
4	Ms.Tintu george		
5	Ms.Teena George		
6	Mr.Prabin James		
7	Mr.Jijo Joseph		
8	Ms.Shelma George		
9	Ms. Indulekha K M		
10	Ms. Jyothi Joseph		
11	Ms. Lipina Gopal		
12	Ms. Amrutha Maria		
13	Mr. Dinesh C K		
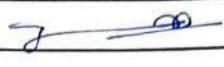
VIMAL JYOTHI ENGINEERING COLLEGE, CHEM

AICTE EXAM REFORMS POLICY

4-Mar-21
10.00 AM to 3.00 PM

Department of Applied Science and Humanities
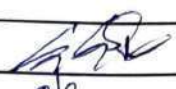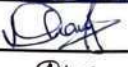
Sl. No	Faculty Name	FN Attendance	AN Attendance
1	Jagannath M P	*signature*	
2	Dominic N Thomas		
3	Vineethamol Abraham	*signature*	
4	Siji P		
5	Prof. George K V		
6	Ammu Jose	*signature*	
7	Raiza Yousuf		
8	Vasudevan M		
9	Jomy Jose		
10	Shijith Thomas		
11	Soumya John		

VIMAL JYOTHI ENGINEERING COLLEGE, CHEMI

AICTE EXAM REFORMS POLICY

4-Mar-21

10.00 AM to 3.00 PM

Department of Applied Electronics and Instrumentation Engineering

Sl. No	Faculty Name	FN Attendance	AN Attendance
1	Dr V Sampath Kumar		
2	Dr G. Glan Devadhas		
3	Mrs Shamya A		
4	Mrs Reshma KV		
5	Mr Dhanoj M		
6	Mr Shinu MM		
7	Mrs Jinsa Mathew		

EXAMINATION REFORMS POLICY

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ALL INDIA COUNCIL FOR TECHNICAL EDUCATION
Nelson Mandela Marg, Vasant Kunj, New Delhi-110070

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Examination Reforms Policy

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PREFACE

Globalisation of the world economy and higher education are driving profound changes in engineering education system. Worldwide adaptation of Outcome-Based Education (OBE) framework and enhanced focus on higher-order learning and professional skills necessitates paradigm shift in traditional practices of curriculum design, education delivery and assessment. In recent years, worldwide sweeping reforms are being undertaken to bring about essential changes in engineering education in terms of what to teach (content) and how to teach (knowledge delivery) and how to assess (student learning).

Examinations/student assessments play a very important role in deciding the quality of education. The academic quality of examinations (question papers) in Indian engineering education system has been a matter of concern from a long time. This report attempts to bring out recommendations for reforms in examination system to meet challenges of emerging engineering education landscape.

The recommendations are presented in four sections. Beginning in Section-1, the most important drivers for examination reforms in Indian engineering education system are discussed. Section-2 brings out strategies to be adopted to align assessment with the desired student learning outcomes. A two-step method is proposed for mapping the examination questions with course outcomes. Section-3 highlights the necessity of designing question papers to test higher order abilities and skills. Application of blooms taxonomy framework to create an optimal structure of examination papers to test the different cognitive skills is discussed in detail. Challenge of assessing higher order abilities and professional skills through traditional examination system is brought out in Section-4. Several educational experiences and assessment opportunities are identified to overcome the challenges. Appendices contain the supplement material that is helpful for Universities/ Colleges to implement recommendations.

At this juncture, reforms in examinations are critical for the improvement of the quality and relevance of Indian engineering education. It is hoped that the Report will be of use to Universities and Colleges to bring out the much-needed change. The cooperation received from AICTE officials in bringing out the Report is gratefully acknowledged.

Prof. Ashok S. Shettar

Prof. Rama Krishna Challa

Prof. Sanjay Agarwal

Prof. Upendra Pandel

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EXAMINATION REFORMS POLICY

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1. INTRODUCTION

Globalisation of the world economy and higher education are driving profound changes in engineering education system. There is a continuing need to dynamically adapt to these changes, to ensure that we remain competitive and can respond effectively to the challenges of globalisation. Future engineering graduates not only need to be knowledgeable in his/her discipline but also needs a new set of soft, professional skills and competencies [1].

In recent years, there have been essential changes in engineering education in terms of what to teach (content) and how to teach (knowledge delivery) and how to assess (student learning).

AICTE has already taken initiation to come out with model curriculum for engineering programs. The digital initiatives of MHRD and AICTE have made available very large number of MOOC courses through SWAYAM, that can help the colleges and teachers to adopt innovative methodologies in the delivery of course.

The present report focusses on the recommendations for reforms in examinations (assessment of student) in the context of emerging landscape of engineering education.

Examinations/student assessments play a very important role in deciding the quality of education. They must not only assess student's achievements (and grades) but also measure whether the desired learning outcomes have been achieved. The achievement of objectives and program outcomes are crucial and needs to be proven through accurate and reliable assessments.

The academic quality of examinations (question papers) in Indian engineering education system has been a matter of concern from a long time. It is widely acknowledged that "assessment drives learning", what and how students learn depends to a major extent on how they think they will be assessed [2]. The question papers that require simple memory recall will not ensure deep, meaningful learning. High expectations for learning motivate the students to rise to the occasion. The assessment (examination) must embed those high expectations to ensure that the learner is motivated to attain them.

Considering the above imperatives, it is clear that reforms in Examinations are critical for improvement of the quality of Indian engineering education. The most important drivers for reforms in examination system of Indian engineering education are:

1. Adaptation of Outcome-Based Education Framework

Outcome-based education (OBE)- a performance-based approach has emerged as a major reform model in the global engineering education scenario [3]. The country that wants to be a signatory member of a multinational agreement for the mutual recognition of engineering degrees, i.e. the Washington Accord (WA) must implement OBE. This will be an endorsement that the engineering education system has demonstrated a strong, long-term commitment to quality assurance in producing engineers ready for industry practice in the international scene. Being signatory to the Washington Accord, Indian accreditation agency 'National Board of Accreditation (NBA)' has made it mandatory for engineering institutions to adapt OBE framework for their curriculum design, delivery and assessment. In OBE framework, the educational outcomes of a program are clearly and unambiguously specified. These determine the curriculum content and its organization, the teaching methods and strategies and the assessment process.

Though Indian Universities and Colleges have started adapting OBE framework for their engineering programs,

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the focus is limited to the curriculum design part, i.e. connecting curriculum components to the program outcomes. Very little attention is being given for connecting examination questions/assessment tools to the program outcomes. The absence of proper mapping between program outcomes and assessment tools lead to the inaccurate and unreliable measurement of attainment of outcomes by the students. This missing connect creates a big gap in the effective adaptation of OBE framework, making the whole exercise futile.

2. Importance of Higher-order Abilities and Professional Skills

In the present examination system, memorization occupies a dominant place. The recall of factual knowledge, though essential to any examination, is only one of several major abilities to be demonstrated by the graduates. The assessment process must also test higher level skills viz. ability to apply knowledge, solve complex problems, analyse, synthesise and design. Further, professional skills like the ability to communicate, work in teams, lifelong learning have become important elements for employability of the graduates [4]. It is important that the examinations also give appropriate weightage to the assessment of these higher-level skills and professional competencies.

Keeping in view of the above challenges and looking at some of the worldwide best practices in assessment, the present report comes up with several recommendations that can be used by Universities/Colleges to design their assessment strategies.

2. ASSESSMENT STRATEGY FOR OUTCOME-BASED EDUCATION

2.1 Mapping Program Outcomes to Assessment (Examinations)

Graduate attributes (GAs) articulate the generic abilities to be looked for in a graduate of any undergraduate degree program. They form the Program Outcomes (POs) that reflect the skills, knowledge and abilities of graduates regardless of the field of study. This does not mean that POs are necessarily independent of disciplinary knowledge –rather, these qualities may be developed in various disciplinary contexts.

In outcome-based education, a "design down" process is employed which moves from POs to Course Outcomes (COs) and outcomes for individual learning experiences. Outcomes at each successive level need to be aligned with, and contribute to, the program outcomes.

Courses are the building blocks of a program. Teaching strategies, learning activities, assessments and resources should all be designed and organized to help students achieve the learning outcomes at the course level. In the assessment activities, students demonstrate their level of achievement of the course learning outcomes. In a constructively aligned program, the courses are carefully coordinated to ensure steady development or scaffolding from the introduction to mastery of the learning outcomes, leading to achievement of the intended POs. For the effectiveness of the program, the achievement of POs is crucial which needs to be proven through accurate and reliable assessments.

2.2 Two-step Process for Bringing Clarity to POs

POs give useful guidance at the program level for the curriculum design, delivery and assessment of student learning. However, they represent fairly high-level generic goals that are not directly measurable. Real observability and measurability of the POs at course level is very difficult. To connect high-level learning outcomes (POs) with course content, course outcomes and assessment, there is a necessity to bring further clarity and specificity to the program outcomes [5]. This can be achieved through the following two-step

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process of identifying Competencies and Performance Indicators (PI).

(1) Identify Competencies to be attained: For each PO define competencies –different abilities implied by program outcome statement that would generally require different assessment measures. This helps us to create a shared understanding of the competencies we want students to achieve. They serve as an intermediate step to the creation of measurable indicators.

Example:
Program Outcome (Attribute 3)

Design:
PO3: 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 public health and safety, and cultural, societal, and environmental considerations.

Competencies
1. Demonstrate an ability to define a complex, open-ended problem in engineering terms.
2. Demonstrate an ability to generate a diverse set of alternative design solutions.
3. Demonstrate an ability to select the optimal design scheme for further development.
4. Demonstrate an ability to advance an engineering design to the defined end state.

(2) Define Performance Indicators: For each of the competencies identified, define performance Indicators (PIs) that are explicit statements of expectations of the student learning. They can act as measuring tools in assessment to understand the extent of attainment of outcomes. They can also be designed to determine the appropriate achievement level or competency of each indicator so that instructors can target and students can achieve the acceptable level of proficiency.

Example:
For the Competency -2

Demonstrate an ability to generate a diverse set of alternative design solutions

Performance Indicators:
1. Apply formal idea generation tools to develop multiple engineering design solutions
2. Build models, prototypes, algorithms to develop a diverse set of design solutions
3. Identify the functional and non-functional criteria for evaluation of alternate design solutions.

It should be noted that, when we consider the program outcome, it looks like, it can be achieved only in the Capstone project. But if we consider the competencies and performance indicators, we start seeing the opportunities of addressing them (and hence PO) in various courses of the program.

Once the above process is completed for the program, the assessment of COs for all the courses is designed by connecting assessment questions (used in various assessment tools) to the PIs. By following this process, where examination questions map with PIs, we get clarity and better resolution for the assessment of COs and POs. The pictorial representation of the process is given in Fig. 1

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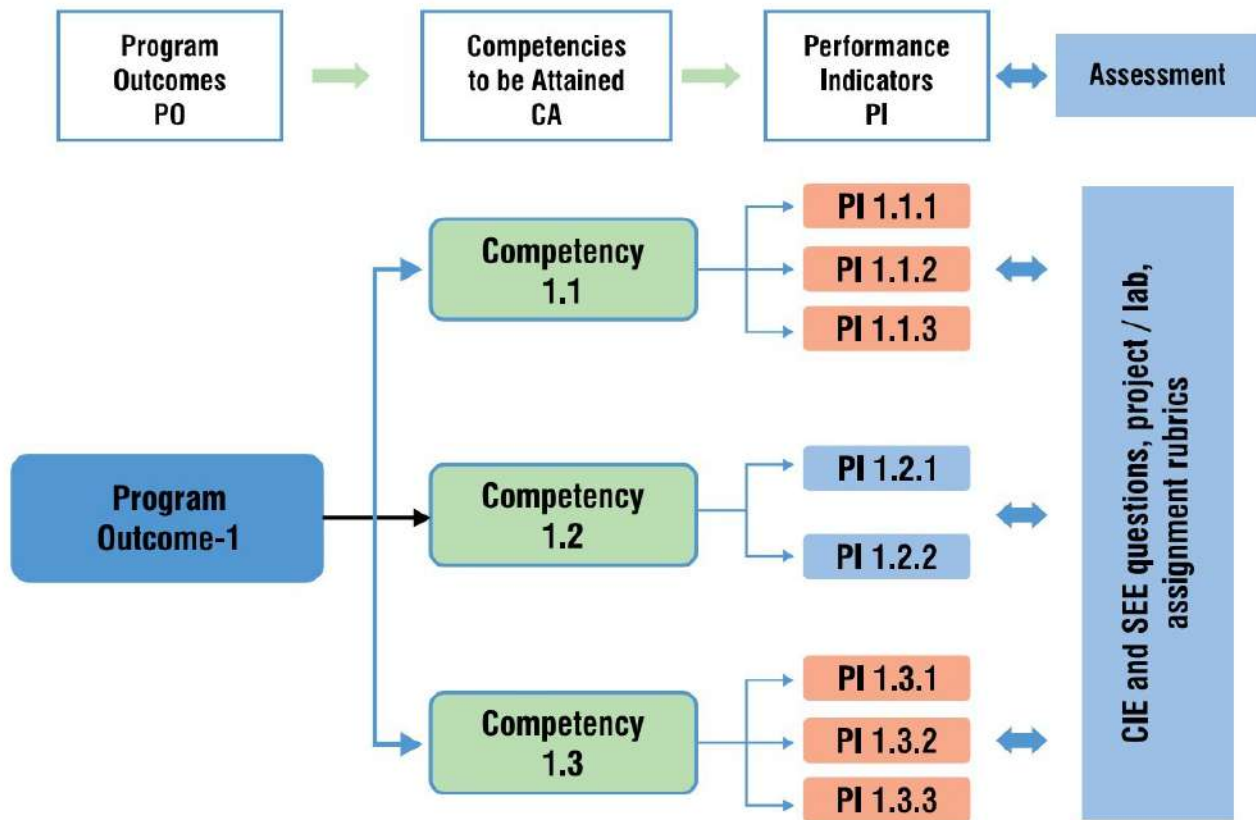
Fig.1 Connecting POs to Assessment

2.3 Program Outcomes – Competencies – Performance Indicators

Following table gives the suggestive list of competencies and associated performance indicators for each of the PO in Mechanical Engineering Program.

PO 1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation for the solution of complex engineering problems.		
Competency		**Indicators**
1.1	Demonstrate competence in mathematical modelling	1.1.1 Apply mathematical techniques such as calculus, linear algebra, and statistics to solve problems
		1.1.2 Apply advanced mathematical techniques to model and solve mechanical engineering problems
1.2	Demonstrate competence in basic sciences	1.2.1 Apply laws of natural science to an engineering problem
1.3	Demonstrate competence in engineering fundamentals	1.3.1 Apply fundamental engineering concepts to solve engineering problems
1.4	Demonstrate competence in specialized engineering knowledge to the program	1.4.1 Apply Mechanical engineering concepts to solve engineering problems.

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EXAMINATION REFORMS POLICY

PO 2: Problem analysis: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

	Competency		Indicators
2.1	Demonstrate an ability to identify and formulate complex engineering problem	2.1.1	Articulate problem statements and identify objectives
		2.1.2	Identify engineering systems, variables, and parameters to solve the problems
		2.1.3	Identify the mathematical, engineering and other relevant knowledge that applies to a given problem
2.2	Demonstrate an ability to formulate a solution plan and methodology for an engineering problem	2.2.1	Reframe complex problems into interconnected sub-problems
		2.2.2	Identify, assemble and evaluate information and resources.
		2.2.3	Identify existing processes/solution methods for solving the problem, including forming justified approximations and assumptions
		2.2.4	Compare and contrast alternative solution processes to select the best process.
2.3	Demonstrate an ability to formulate and interpret a model	2.3.1	Combine scientific principles and engineering concepts to formulate model/s (mathematical or otherwise) of a system or process that is appropriate in terms of applicability and required accuracy.
		2.3.2	Identify assumptions (mathematical and physical) necessary to allow modeling of a system at the level of accuracy required.
2.4	Demonstrate an ability to execute a solution process and analyze results	2.4.1	Apply engineering mathematics and computations to solve mathematical models
		2.4.2	Produce and validate results through skilful use of contemporary engineering tools and models
		2.4.3	Identify sources of error in the solution process, and limitations of the solution.
		2.4.4	Extract desired understanding and conclusions consistent with objectives and limitations of the analysis

PO 3: 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 public health and safety, and cultural, societal, and environmental considerations.

	Competency		Indicators
3.1	Demonstrate an ability to define a complex/ open-ended problem in engineering terms	3.1.1	Recognize that need analysis is key to good problem definition
		3.1.2	Elicit and document, engineering requirements from stakeholders
		3.1.3	Synthesize engineering requirements from a review of the state-of-the-art
		3.1.4	Extract engineering requirements from relevant engineering Codes and Standards such as ASME, ASTM, BIS, ISO and ASHRAE.
		3.1.5	Explore and synthesize engineering requirements considering health, safety risks, environmental, cultural and societal issues
		3.1.6	Determine design objectives, functional requirements and arrive at specifications

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3.2	Demonstrate an ability to generate a diverse set of alternative design solutions	3.2.1	Apply formal idea generation tools to develop multiple engineering design solutions
		3.2.2	Build models/prototypes to develop a diverse set of design solutions
		3.2.3	Identify suitable criteria for the evaluation of alternate design solutions
3.3	Demonstrate an ability to select an optimal design scheme for further development	3.3.1	Apply formal decision-making tools to select optimal engineering design solutions for further development
		3.3.2	Consult with domain experts and stakeholders to select candidate engineering design solution for further development
3.4	Demonstrate an ability to advance an engineering design to defined end state	3.4.1	Refine a conceptual design into a detailed design within the existing constraints (of the resources)
		3.4.2	Generate information through appropriate tests to improve or revise the design

PO 4: 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.

	Competency		Indicators
4.1	Demonstrate an ability to conduct investigations of technical issues consistent with their level of knowledge and understanding	4.1.1	Define a problem, its scope and importance for purposes of investigation
		4.1.2	Examine the relevant methods, tools and techniques of experiment design, system calibration, data acquisition, analysis and presentation
		4.1.3	Apply appropriate instrumentation and/or software tools to make measurements of physical quantities
		4.1.4	Establish a relationship between measured data and underlying physical principles.
4.2	Demonstrate an ability to design experiments to solve open-ended problems	4.2.1	Design and develop an experimental approach, specify appropriate equipment and procedures
		4.2.2	Understand the importance of the statistical design of experiments and choose an appropriate experimental design plan based on the study objectives
4.3	Demonstrate an ability to analyze data and reach a valid conclusion	4.3.1	Use appropriate procedures, tools and techniques to conduct experiments and collect data
		4.3.2	Analyze data for trends and correlations, stating possible errors and limitations
		4.3.3	Represent data (in tabular and/or graphical forms) so as to facilitate analysis and explanation of the data, and drawing of conclusions
		4.3.4	Synthesize information and knowledge about the problem from the raw data to reach appropriate conclusions

PO 5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

	Competency		Indicators
5.1	Demonstrate an ability to identify/ create modern engineering tools, techniques and resources	5.1.1	Identify modern engineering tools such as computer-aided drafting, modeling and analysis; techniques and resources for engineering activities
		5.1.2	Create/adapt/modify/extend tools and techniques to solve engineering problems

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5.2	Demonstrate an ability to select and apply discipline-specific tools, techniques and resources	5.2.1	Identify the strengths and limitations of tools for (i) acquiring information, (ii) modeling and simulating, (iii) monitoring system performance, and (iv) creating engineering designs.
		5.2.2	Demonstrate proficiency in using discipline-specific tools
5.3	Demonstrate an ability to evaluate the suitability and limitations of tools used to solve an engineering problem	5.3.1	Discuss limitations and validate tools, techniques and resources
		5.3.2	Verify the credibility of results from tool use with reference to the accuracy and limitations, and the assumptions inherent in their use.

PO 6: 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.

	Competency		Indicators
6.1	Demonstrate an ability to describe engineering roles in a broader context, e.g. pertaining to the environment, health, safety, legal and public welfare	6.1.1	Identify and describe various engineering roles; particularly as pertains to protection of the public and public interest at the global, regional and local level
6.2	Demonstrate an understanding of professional engineering regulations, legislation and standards	6.2.1	Interpret legislation, regulations, codes, and standards relevant to your discipline and explain its contribution to the protection of the public

PO 7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and the need for sustainable development.

	Competency		Indicators
7.1	Demonstrate an understanding of the impact of engineering and industrial practices on social, environmental and in economic contexts	7.1.1	Identify risks/impacts in the life-cycle of an engineering product or activity
		7.1.2	Understand the relationship between the technical, socio-economic and environmental dimensions of sustainability
7.2	Demonstrate an ability to apply principles of sustainable design and development	7.2.1	Describe management techniques for sustainable development
		7.2.2	Apply principles of preventive engineering and sustainable development to an engineering activity or product relevant to the discipline

PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

	Competency		Indicators
8.1	Demonstrate an ability to recognize ethical dilemmas	8.1.1	Identify situations of unethical professional conduct and propose ethical alternatives
8.2	Demonstrate an ability to apply the Code of Ethics	8.2.1	Identify tenets of the ASME professional code of ethics
		8.2.2	Examine and apply moral & ethical principles to known case studies

PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

	Competency		Indicators
9.1	Demonstrate an ability to form a team and define a role for each member	9.1.1	Recognize a variety of working and learning preferences; appreciate the value of diversity on a team
		9.1.2	Implement the norms of practice (e.g. rules, roles, charters, agendas, etc.) of effective team work, to accomplish a goal.

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9.2	Demonstrate effective individual and team operations-- communication, problem-solving, conflict resolution and leadership skills	9.2.1	Demonstrate effective communication, problem-solving, conflict resolution and leadership skills
		9.2.2	Treat other team members respectfully
		9.2.3	Listen to other members
		9.2.4	Maintain composure in difficult situations
9.3	Demonstrate success in a team-based project	9.3.1	Present results as a team, with smooth integration of contributions from all individual efforts

PO 10: Communication: Communicate effectively on complex engineering activities with the engineering community and with the 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

Competency		Indicators	
10.1	Demonstrate an ability to comprehend technical literature and document project work	10.1.1	Read, understand and interpret technical and non-technical information
		10.1.2	Produce clear, well-constructed, and well-supported written engineering documents
		10.1.3	Create flow in a document or presentation - a logical progression of ideas so that the main point is clear
10.2	Demonstrate competence in listening, speaking, and presentation	10.2.1	Listen to and comprehend information, instructions, and viewpoints of others
		10.2.2	Deliver effective oral presentations to technical and non-technical audiences
10.3	Demonstrate the ability to integrate different modes of communication	10.3.1	Create engineering-standard figures, reports and drawings to complement writing and presentations
		10.3.2	Use a variety of media effectively to convey a message in a document or a presentation

PO 11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

Competency		Indicators	
11.1	Demonstrate an ability to evaluate the economic and financial performance of an engineering activity	11.1.1	Describe various economic and financial costs/benefits of an engineering activity
		11.1.2	Analyze different forms of financial statements to evaluate the financial status of an engineering project
11.2	Demonstrate an ability to compare and contrast the costs/benefits of alternate proposals for an engineering activity	11.2.1	Analyze and select the most appropriate proposal based on economic and financial considerations.
11.3	Demonstrate an ability to plan/manage an engineering activity within time and budget constraints	11.3.1	Identify the tasks required to complete an engineering activity, and the resources required to complete the tasks.
		11.3.2	Use project management tools to schedule an engineering project, so it is completed on time and on budget.

PO 12: 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.

Competency	Indicators

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12.1	Demonstrate an ability to identify gaps in knowledge and a strategy to close these gaps	12.1.1 Describe the rationale for the requirement for continuing professional development
		12.1.2 Identify deficiencies or gaps in knowledge and demonstrate an ability to source information to close this gap
12.2	Demonstrate an ability to identify changing trends in engineering knowledge and practice	12.2.1 Identify historic points of technological advance in engineering that required practitioners to seek education in order to stay current
		12.2.2 Recognize the need and be able to clearly explain why it is vitally important to keep current regarding new developments in your field
12.3	Demonstrate an ability to identify and access sources for new information	12.3.1 Source and comprehend technical literature and other credible sources of information
		12.3.2 Analyze sourced technical and popular information for feasibility, viability, sustainability, etc.

The above table can be used for most of the engineering programs. However, for Computer Science & Engineering/ Information Technology programs it requires some modifications.

A suggestive list of competencies and associated performance indicators for Computer Science & Engineering/ Information Technology **Programs is given in Appendix- A**

3. IMPROVING STRUCTURE AND QUALITY OF ASSESSMENTS

For improving the structure and quality of assessment in various engineering programs following points need to be remembered:

1. In Indian engineering education system, written examinations play a major role in assessing the learning and awarding of grades to the student. Universities and colleges give highest weightage to the outcomes of the written examinations in overall grading. Questions raised in the examination/test papers play an important role in defining the level of learning the student is expected to achieve in the courses and hence in the program. Since assessment drives learning, the design of question papers needs to go beyond the mere test of memory recall. They also need to test higher-order abilities and skills.

2. Written examinations assess a very limited range of outcomes and cognitive levels. Particularly in the courses, where course outcomes (COs) cover a broad range of expectations, written examinations alone will not be sufficient to make valid judgements about student learning. A wide range of assessment methods (e.g., term papers, open-ended problem-solving assignments, course/lab project rubrics, portfolios etc.) need to be employed to ensure that assessment methods match with learning outcomes.

3. It is advisable to formulate assessment plans for each of the course in the program that brings clarity to the following:

   a. Alignment of assessment with learning outcome of the course

   b. Level of learning (cognitive) student is expected to achieve

   c. Assessment method to be adapted

The method to align examination questions/assessment to COs and hence POs was discussed in the section-1.

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The following sections discuss the application of Bloom's taxonomy framework to create the optimal structure of examination papers to test the different cognitive skills.

3.1 Bloom's Taxonomy for Assessment Design

Bloom's Taxonomy provides an important framework to not only design curriculum and teaching methodologies but also to design appropriate examination questions belonging to various cognitive levels. Bloom's Taxonomy of Educational Objectives developed in 1956 by Benjamin Bloom [6] was widely accepted by educators for curriculum design and assessment. In 2001, Anderson and Krathwohl modified Bloom's taxonomy [7] to make it relevant to the present-day requirements. It attempts to divide learning into three types of domains (cognitive, affective, and behavioural) and then defines the level of performance for each domain. Conscious efforts to map the curriculum and assessment to these levels can help the programs to aim for higher-level abilities which go beyond remembering or understanding, and require application, analysis, evaluation or creation.

Revised Bloom's taxonomy in the cognitive domain includes thinking, knowledge, and application of knowledge. It is a popular framework in engineering education to structure the assessment as it characterizes complexity and higher-order abilities. It identifies six levels of competencies within the cognitive domain (Fig. 2) which are appropriate for the purposes of engineering educators.

According to revised Bloom's taxonomy, the levels in the cognitive domain are as follows:

Level	Descriptor	Level of attainment
1	Remembering	Recalling from the memory of the previously learned material
2	Understanding	Explaining ideas or concepts
3	Applying	Using the information in another familiar situation
4	Analysing	Breaking information into the part to explore understandings and relationships
5	Evaluating	Justifying a decision or course of action
6	Creating	Generating new ideas, products or new ways of viewing things

Fig. 2: Revised Bloom's Taxonomy

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Bloom's taxonomy is hierarchical, meaning that learning at the higher level requires that skills at a lower level are attained.

3.2 Action Verbs for Assessment

Choice of action verbs in constructing assessment questions is important to consider. Quite often, the action verbs are indicators of the complexity (level) of the question. Over time, educators have come up with a taxonomy of measurable verbs corresponding to each of the Bloom's cognitive levels [8]. These verbs help us not only to describe and classify observable knowledge, skills and abilities but also to frame the examination or assignment questions that are appropriate to the level we are trying to assess.

Suggestive list of skills/ competencies to be demonstrated at each of the Bloom's level and corresponding cues/ verbs for the examination/ test questions is given below:

Level	Skill Demonstrated	Question cues / Verbs for tests
1. Remember	• Ability to recall of information like facts, conventions, definitions, jargon, technical terms, classifications, categories, and criteria • ability to recall methodology and procedures, abstractions, principles, and theories in the field • knowledge of dates, events, places • mastery of subject matter	list, define, tell, describe, recite, recall, identify, show, label, tabulate, quote, name, who, when, where
2. Understand	• understanding information • grasp meaning • translate knowledge into new context • interpret facts, compare, contrast • order, group, infer causes • predict consequences	describe, explain, paraphrase, restate, associate, contrast, summarize, differentiate interpret, discuss
3. Apply	• use information • use methods, concepts, laws, theories in new situations • solve problems using required skills or knowledge • Demonstrating correct usage of a method or procedure	calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, experiment, show, examine, modify
4. Analyse	• break down a complex problem into parts • Identify the relationships and interaction between the different parts of a complex problem • identify the missing information, sometimes the redundant information and the contradictory information, if any	classify, outline, break down, categorize, analyze, diagram, illustrate, infer, select
5. Evaluate	• compare and discriminate between ideas • assess value of theories, presentations • make choices based on reasoned argument • verify value of evidence • recognize subjectivity • use of definite criteria for judgments	assess, decide, choose, rank, grade, test, measure, defend, recommend, convince, select, judge, support, conclude, argue, justify, compare, summarize, evaluate

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6. Create	• use old ideas to create new ones • Combine parts to make (new) whole, • generalize from given facts • relate knowledge from several areas • predict, draw conclusions	design, formulate, build, invent, create, compose, generate, derive, modify, develop, integrate

It may be noted that some of the verbs in the above table are associated with multiple Bloom's Taxonomy levels. These verbs are actions that could apply to different activities. We need to keep in mind that it's the skill, action or activity we need students to demonstrate that will determine the contextual meaning of the verb used in the assessment question.

3.3 Assessment Planning

While using Bloom's taxonomy framework in planning and designing of assessment of student learning, following points need to be considered:

1. Normally the first three learning levels; remembering, understanding and applying and to some extent fourth level analysing are assessed in the Continuous Internal Evaluation (CIE) and Semester End Examinations (SEE), where students are given a limited amount of time. And abilities; analysis, evaluation and creation can be assessed in extended course works or in a variety of student works like course projects, mini/ minor projects, internship experience and final year projects.
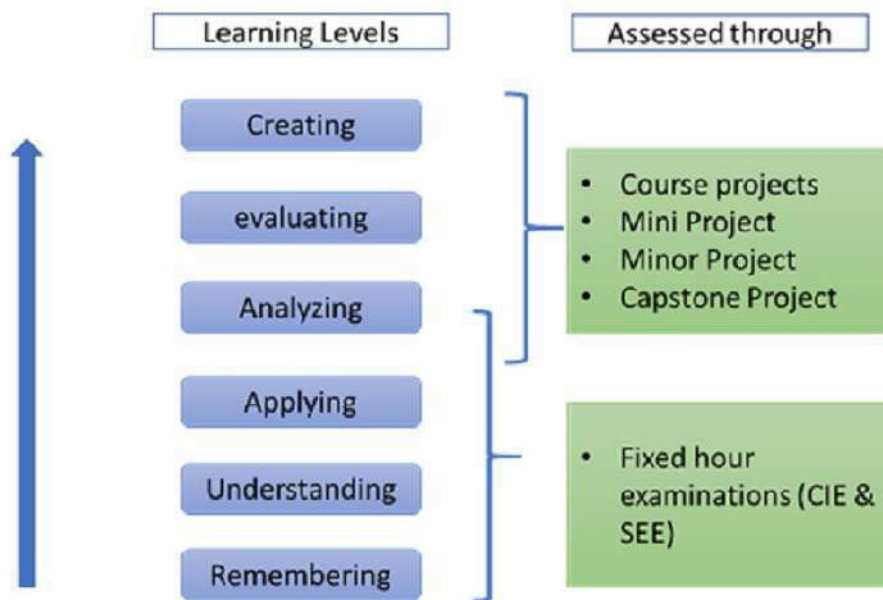
Fig. 3: Assessment methods for different Bloom's cognitive levels

2. Before adopting this framework for reforms in examination system of a University/Institution, it is worthwhile to study the present pattern of assessment in each of the course in the program to gain insight about:

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a) Alignment of assessment questions with course learning outcomes

b) Whether all the learning outcomes are tested; sometimes some learning outcomes are over tested at the expense of others which may be not tested at all.

c) Overall weightage in the assessment, to each of Bloom's learning levels

d) Assessment methods used to adequately assess the content and desired learning outcomes

Based on the study, improvement priorities for each of the above factors need to be arrived at. The reform process needs to be well planned and implemented through institutional strategy and communicated to all stakeholders particularly to the students.

3. A good and reasonable examination paper must consist of various difficulty levels to accommodate the different capabilities of students. Bloom's taxonomy framework helps the faculty to set examination papers that are well balanced, testing the different cognitive skills without a tilt towards a tough or easy paper perception. If the present examination questions are more focused towards lower cognitive skills, conscious efforts need to be made to bring in application skills or higher cognitive skills in the assessment. It is recommended that at institution/ University level, upper limit need to be arrived for lower order skills (for example, no more than 40% weightage for knowledge-oriented questions). It is important to note that, as nature of every course is different, the weightage for different cognitive levels in the question papers can also vary from course to course.

- Examples of typical questions for each of Bloom's cognitive level are given in Appendix-B

- Model Question Papers are given in Appendix- C

4. ASSESSING HIGHER-ORDER ABILITIES & PROFESSIONAL SKILLS

In the 21st century, professional skills (also known as soft skills, generic skills or transferable skills) have emerged as important attributes of a graduate engineer. Studies show that Industry/ employers around the world value these abilities more than the disciplinary knowledge. This is also reflected in the NBA graduate attributes wherein six out of twelve attributes belong to this category, viz. (1) communication, (2) teamwork, (3) understanding ethics and professionalism, (4) understanding global and societal contexts, (5) lifelong learning, and (6) knowledge of contemporary issues. Further, higher-order cognitive abilities like critical thinking, problem-solving and making informed decisions are also crucial for a graduate to succeed in the emerging world. Though the employers consider these professional skills and higher abilities as important, students are weak in them. The main challenge surrounding them is that they are difficult to assess through existing conventional examination system.

4.1 Innovative Educational Experiences to Teach and Assess

One of the main obstacles in addressing these outcomes is the limitation of educational experience we create within our engineering programs. Most of the coursework in our programs are oriented towards teaching technical knowledge and skills; hence, the assessment is limited to those abilities. However, acquiring the professional outcomes may not result simply from participation in a particular class or set of classes. Rather, these outcomes are more often acquired or influenced through sources both in and outside the classroom [4].

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To address these challenges, comprehensive reforms are needed in the way we design our curriculum, student learning experiences and assessment of the outcomes. Worldwide several attempts are being made to address these challenges. Following are the few educational experiences that are recommended to teach and assess professional outcomes and higher-order cognitive abilities:

- Course projects
- Open-ended experiments in laboratories
- Project-based learning modules
- MOOCs
- Co-Curricular experiences
- Mini / Minor projects
- Final year projects
- Internship experiences
- E-portfolios of student works

4.2 Using Scoring Rubrics as Assessment Tool

To evaluate the above, student works for attainment of course outcomes and hence POs, it is of utmost importance to have reliable methods / proper assessment tools. Rubrics provide a powerful tool for assessment and grading of student work. They can also serve as a transparent and inspiring guide to learning. Rubrics are scoring, or grading tool used to measure a students' performance and learning across a set of criteria and objectives. Rubrics communicate to students (and to other markers) your expectations in the assessment, and what you consider important.

There are three components within rubrics namely (i) criteria / performance Indicator: the aspects of performance that will be assessed, (ii) descriptors: characteristics that are associated with each dimension, and (iii) scale/level of performance: a rating scale that defines students' level of mastery within each criterion.

Fig. 3: Examples of Rubrics (Accessed from Rogers (2010)

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4.3 Open-Book Examinations

In the earlier sections it was noted that the traditional written examinations have a significant weakness that they tend to encourage rote learning and more superficial application of knowledge. This deficiency can be overcome by "open-book examination". Open-book examination is similar to time constrained written examinations but designed in a way that allows students to refer to either class notes, textbooks, or other approved material while answering questions. They are particularly useful if you want to test skills in application, analysis and evaluation, i.e. higher levels of Bloom's taxonomy. However, in a program, the courses or the curriculum areas that are best suited to an open-book exam are to be carefully chosen.

Advantages of open-book examinations
1. Less demanding on memory and hence less stressful

2. Questions can emphasise more on problem-solving, application of knowledge and higher-order thinking rather than simple recall of facts.

3. Assessment questions can reflect real-life situations that require comprehension, information retrieval and synthesising skills of the students to solve.

Designing a good open-book examination
- Set questions that require students to do things with the information available to them, rather than to merely locate the correct information and then summarize or rewrite it.

- The questions in open-book exam must take advantage of the format, and give more weightage to the application of knowledge, critical thinking and use of resources for solving real complex engineering problems.

- As the nature of questions is complex, it is to be ensured that the students get enough time. Open book test questions typically take longer time compared to traditional examinations. It is advisable either to set less number of questions that encompass 2 or 3 concepts taught or allocate longer duration of time for the examinations.

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APPENDIX-A

Competencies and Performance Indicators (PIs)
Computer Science & Engineering/Information Technology Programs

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PO 1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation for the solution of complex engineering problems.

	Competency		Indicators
1.2	Demonstrate competence in mathematical modelling	1.2.1	Apply the knowledge of discrete structures, linear algebra, statistics and numerical techniques to solve problems
		1.2.2	Apply the concepts of probability, statistics and queuing theory in modeling of computer-based system, data and network protocols.
1.5	Demonstrate competence in basic sciences	1.5.1	Apply laws of natural science to an engineering problem
1.6	Demonstrate competence in engineering fundamentals	1.6.1	Apply engineering fundamentals
1.7	Demonstrate competence in specialized engineering knowledge to the program	1.7.1	Apply theory and principles of computer science and engineering to solve an engineering problem

PO 2: Problem analysis: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

	Competency		Indicators
2.1	Demonstrate an ability to identify and formulate complex engineering problem	2.5.1	Evaluate problem statements and identifies objectives
		2.5.2	Identify processes/modules/algorithms of a computer-based system and parameters to solve a problem
		2.5.3	Identify mathematical algorithmic knowledge that applies to a given problem
2.6	Demonstrate an ability to formulate a solution plan and methodology for an engineering problem	2.6.1	Reframe the computer-based system into interconnected subsystems
		2.6.2	Identify functionalities and computing resources.
		2.6.3	Identify existing solution/methods to solve the problem, including forming justified approximations and assumptions
		2.6.4	Compare and contrast alternative solution/methods to select the best methods
		2.6.5	Compare and contrast alternative solution processes to select the best process.
2.7	Demonstrate an ability to formulate and interpret a model	2.7.1	Able to apply computer engineering principles to formulate modules of a system with required applicability and performance.
		2.7.2	Identify design constraints for required performance criteria.
2.8	Demonstrate an ability to execute a solution process and analyze results	2.8.1	Applies engineering mathematics to implement the solution.
		2.8.2	Analyze and interpret the results using contemporary tools.
		2.8.3	Identify the limitations of the solution and sources/causes.
		2.8.4	Arrive at conclusions with respect to the objectives.

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PO 3: 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 public health and safety, and cultural, societal, and environmental considerations.

	Competency		Indicators
3.5	Demonstrate an ability to define a complex/ open-ended problem in engineering terms	3.5.1	Able to define a precise problem statement with objectives and scope.
		3.5.2	Able to identify and document system requirements from stake-holders.
		3.5.3	Able to review state-of-the-art literature to synthesize system requirements.
		3.5.4	Able to choose appropriate quality attributes as defined by ISO/IEC/IEEE standard.
		3.5.5	Explore and synthesize system requirements from larger social and professional concerns.
		3.5.6	Able to develop software requirement specifications (SRS).
3.6	Demonstrate an ability to generate a diverse set of alternative design solutions	3.6.1	Able to explore design alternatives.
		3.6.2	Able to produce a variety of potential design solutions suited to meet functional requirements.
		3.6.3	Identify suitable non-functional requirements for evaluation of alternate design solutions.
3.7	Demonstrate an ability to select optimal design scheme for further development	3.7.1	Able to perform systematic evaluation of the degree to which several design concepts meet the criteria.
		3.7.2	Consult with domain experts and stakeholders to select candidate engineering design solution for further development
3.8	Demonstrate an ability to advance an engineering design to defined end state	3.8.1	Able to refine architecture design into a detailed design within the existing constraints.
		3.8.2	Able to implement and integrate the modules.
		3.8.3	Able to verify the functionalities and validate the design.

PO 4: 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.

	Competency		Indicators
4.4	Demonstrate an ability to conduct investigations of technical issues consistent with their level of knowledge and understanding	4.4.1	Define a problem for purposes of investigation, its scope and importance
		4.4.2	Able to choose appropriate procedure/algorithm, dataset and test cases.
		4.4.3	Able to choose appropriate hardware/software tools to conduct the experiment.
4.5	Demonstrate an ability to design experiments to solve open-ended problems	4.5.1	Design and develop appropriate procedures/methodologies based on the study objectives
4.6	Demonstrate an ability to analyze data and reach a valid conclusion	4.6.1	Use appropriate procedures, tools and techniques to collect and analyze data
		4.6.2	Critically analyze data for trends and correlations, stating possible errors and limitations
		4.6.3	Represent data (in tabular and/or graphical forms) so as to facilitate analysis and explanation of the data, and drawing of conclusions
		4.6.4	Synthesize information and knowledge about the problem from the raw data to reach appropriate conclusions

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PO 5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

	Competency		Indicators
5.4	Demonstrate an ability to identify/create modern engineering tools, techniques and resources	5.4.1	Identify modern engineering tools, techniques and resources for engineering activities
		5.4.2	Create/adapt/modify/extend tools and techniques to solve engineering problems
5.5	Demonstrate an ability to select and apply discipline-specific tools, techniques and resources	5.5.1	Identify the strengths and limitations of tools for (i) acquiring information, (ii) modeling and simulating, (iii) monitoring system performance, and (iv) creating engineering designs.
		5.5.2	Demonstrate proficiency in using discipline-specific tools
5.6	Demonstrate an ability to evaluate the suitability and limitations of tools used to solve an engineering problem	5.6.1	Discuss limitations and validate tools, techniques and resources
		5.6.2	Verify the credibility of results from tool use with reference to the accuracy and limitations, and the assumptions inherent in their use.

PO 6: 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.

	Competency		Indicators
6.3	Demonstrate an ability to describe engineering roles in a broader context, e.g. pertaining to the environment, health, safety, legal and public welfare	6.3.1	Identify and describe various engineering roles; particularly as pertains to protection of the public and public interest at the global, regional and local level
6.4	Demonstrate an understanding of professional engineering regulations, legislation and standards	6.4.1	Interpret legislation, regulations, codes, and standards relevant to your discipline and explain its contribution to the protection of the public

PO 7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and the need for sustainable development.

	Competency		Indicators
7.3	Demonstrate an understanding of the impact of engineering and industrial practices on social, environmental and in economic contexts	7.3.1	Identify risks/impacts in the life-cycle of an engineering product or activity
		7.3.2	Understand the relationship between the technical, socio-economic and environmental dimensions of sustainability
7.4	Demonstrate an ability to apply principles of sustainable design and development	7.4.1	Describe management techniques for sustainable development
		7.4.2	Apply principles of preventive engineering and sustainable development to an engineering activity or product relevant to the discipline

PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

	Competency		Indicators
8.3	Demonstrate an ability to recognize ethical dilemmas	8.3.1	Identify situations of unethical professional conduct and propose ethical alternatives
8.4	Demonstrate an ability to apply the Code of Ethics	8.4.1	Identify tenets of the ASME professional code of ethics
		8.4.2	Examine and apply moral & ethical principles to known case studies

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PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

	Competency		Indicators
9.4	Demonstrate an ability to form a team and define a role for each member	9.4.1	Recognize a variety of working and learning preferences; appreciate the value of diversity on a team
		9.4.2	Implement the norms of practice (e.g. rules, roles, charters, agendas, etc.) of effective team work, to accomplish a goal.
9.5	Demonstrate effective individual and team operations-- communication, problem-solving, conflict resolution and leadership skills	9.5.1	Demonstrate effective communication, problem-solving, conflict resolution and leadership skills
		9.5.2	Treat other team members respectfully
		9.5.3	Listen to other members
		9.5.4	Maintain composure in difficult situations
9.6	Demonstrate success in a team-based project	9.6.1	Present results as a team, with smooth integration of contributions from all individual efforts

PO 10: Communication: Communicate effectively on complex engineering activities with the engineering community and with the 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

	Competency		Indicators
10.4	Demonstrate an ability to comprehend technical literature and document project work	10.4.1	Read, understand and interpret technical and non-technical information
		10.4.2	Produce clear, well-constructed, and well-supported written engineering documents
		10.4.3	Create flow in a document or presentation - a logical progression of ideas so that the main point is clear
10.5	Demonstrate competence in listening, speaking, and presentation	10.5.1	Listen to and comprehend information, instructions, and viewpoints of others
		10.5.2	Deliver effective oral presentations to technical and non-technical audiences
10.6	Demonstrate the ability to integrate different modes of communication	10.6.1	Create engineering-standard figures, reports and drawings to complement writing and presentations
		10.6.2	Use a variety of media effectively to convey a message in a document or a presentation

PO 11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

	Competency		Indicators
11.4	Demonstrate an ability to evaluate the economic and financial performance of an engineering activity	11.4.1	Describe various economic and financial costs/benefits of an engineering activity
		11.4.2	Analyze different forms of financial statements to evaluate the financial status of an engineering project
11.5	Demonstrate an ability to compare and contrast the costs/benefits of alternate proposals for an engineering activity	11.5.1	Analyze and select the most appropriate proposal based on economic and financial considerations.

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| 11.6 | Demonstrate an ability to plan/manage an engineering activity within time and budget constraints | 11.6.1 | Identify the tasks required to complete an engineering activity, and the resources required to complete the tasks. |
| | | 11.6.2 | Use project management tools to schedule an engineering project, so it is completed on time and on budget. |

PO 12: 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.

Competency	Indicators
12.4 Demonstrate an ability to identify gaps in knowledge and a strategy to close these gaps	12.4.1 Describe the rationale for the requirement for continuing professional development
	12.4.2 Identify deficiencies or gaps in knowledge and demonstrate an ability to source information to close this gap
12.5 Demonstrate an ability to identify changing trends in engineering knowledge and practice	12.5.1 Identify historic points of technological advance in engineering that required practitioners to seek education in order to stay current
	12.5.2 Recognize the need and be able to clearly explain why it is vitally important to keep current regarding new developments in your field
12.6 Demonstrate an ability to identify and access sources for new information	12.6.1 Source and comprehend technical literature and other credible sources of information
	12.6.2 Analyze sourced technical and popular information for feasibility, viability, sustainability, etc.

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APPENDIX-B

Sample questions for Bloom's Taxonomy levels

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SAMPLES QUESTIONS FOR BLOOMS TAXONOMY LEVELS:

1. REMEMBER

Skill Demonstrated	Question Ques / Verbs for tests
• Ability to recall of information like, facts, conventions, definitions, jargon, technical terms, classifications, categories, and criteria	list, define, describe, state, recite, recall, identify, show, label, tabulate, quote, name, who, when, where, etc.
• ability to recall methodology and procedures, abstractions, principles, and theories in the field	
• knowledge of dates, events, places	
• mastery of subject matter	

Sample Questions:

1. State Ohm's law
2. List the physical and chemical properties of silicon
3. List the components of A/D converter
4. List the arithmetic operators available in C in increasing order of precedence.
5. Define the purpose of a constructor.
6. Define the terms: Sensible heat, Latent heat and Total heat of evaporation
7. List the assembler directives.
8. Describe the process of galvanisation and tinning
9. Write truth table and symbol of AND, OR, NOT, XNOR gates
10. Define the terms: Stress, Working stress and Factor of safety.
11. What is the difference between declaration and definition of a variable/function?
12. List the different storage class specifiers in C.
13. What is the use of local variables?
14. What is a pointer to a pointer?
15. What are the valid places for the keyword "break" to appear?
16. What is a self-referential structure?

2. UNDERSTAND

Skill Demonstrated	Question Ques / Verbs for tests
• understanding information	describe, explain, paraphrase, restate, associate, contrast, summarize, differentiate interpret, discuss
• grasp meaning	
• translate knowledge into new context	
• interpret facts, compare, contrast	
• order, group, infer causes	
• predict consequences	

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EXAMINATION REFORMS POLICY

Sample Questions:

1. Explain the importance of sustainability in Engineering design
2. Explain the behaviour of PN junction diode under different bias conditions
3. Describe the characteristics of SCR and transistor equivalent for a SCR
4. Explain the terms: Particle, Rigid body and Deformable body giving two examples for each.
5. How many values of the variable num must be used to completely test all branches of the following code fragment?

```
if (num>0)
    if (value<25)
{
    value=10*num;
    if(num<12)
     value=value/10;

}
else
    Value=20*num;
else
    Value=30*num
```

6. Discuss the effect of Make in India initiative on the Indian manufacturing Industry.
7. Summarise the importance of ethical code of conduct for engineering professionals
8. Explain the syntax for 'for loop'.
9. What is the difference between including the header file with-in angular braces $<$ $>$ and double quotes " "?
10. What is the meaning of base address of the array?
11. What is the difference between actual and formal parameters?
12. Explain the different ways of passing parameters to the functions.
13. Explain the use of comma operator (,).
14. Differentiate between entry and exit controlled loops.
15. How is an array different from linked list?

3. APPLY

Skill Demonstrated	Question Ques / Verbs for tests
• use information • use methods, concepts, laws, theories in new situations • solve problems using required skills or knowledge • Demonstrating correct usage of a method or procedure	calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, experiment, show, examine, modify

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Sample Questions:

1. Model and realize the following behaviors using diodes with minimum number of digital inputs.

   (i) Turning on of a burglar alarm only during night time when the locker door is opened.

   (ii) Providing access to an account if either date of birth or registered mobile number or both are correct.

   (iii) Updating the parking slot empty light in the basement of a shopping mall.

2. One of the resource persons needs to address a huge crowd (nearly 400 members) in the auditorium. A system is to be designed in such a way that everybody attending the session should be able to hear properly and clearly without any disturbance. Identify the suitable circuit to boost the voice signal and explain its functionality in brief.

3. A ladder 5.0 m long rests on a horizontal ground & leans against a smooth vertical wall at an angle 20^0 with the vertical. The weight of the ladder is 900 N and acts at its middle. The ladder is at the point of sliding, when a man weighing 750 N stands on a rung 1.5 m from the bottom of the ladder. Calculate the coefficient of friction between the ladder & the floor.

4. A ball is dropped from 6 meters above a flat surface. Each time the ball hits the surface after falling a distance h, it rebounds a distance rh. What will be the total distance the ball travels in each of the following cases.

   (a) r>1   (b) 0<r<1   (c) r=1
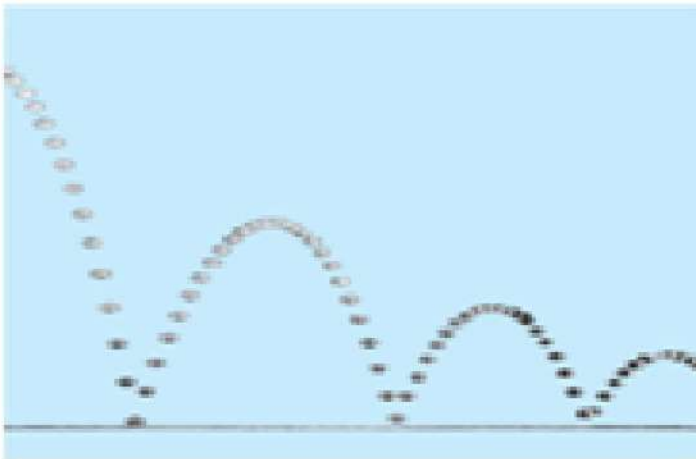
5. The region bounded by the curves $y=e^{((-1)\square x)}, y=0, x=1$, and $x=5$ is rotated about the x-axis. Use Simpson's Rule with $n=8$ to estimate the volume of the resulting solid.

6. An electric train is powered by machine which takes the supply from 220 V DC rail running above the train throughout. Machine draws current of 100 A from the DC rail to account for high torque during starting and runs at 700 r.p.m initially. Calculate the new speed of the train once it picks up the speed where the torque output required is only 70% of starting torque. Assume the motor has a resistance of 0.1Ω across its terminals.

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7. Write an algorithm to implement a stack using queue.

8. A single array A[1..MAXSIZE] is used to implement two stacks. The two stacks grow from opposite ends of the array. Variables top1 and top2 (topl < top2) point to the location of the topmost element in each of the stacks. What is the condition for "stack full", if the space is to be used efficiently.

9. Consider the following table of arrival time and burst time for three processes P0, P1 and P2.

Process	Arrival time	Burst Time
P0	0 ms	9 ms
P1	1 ms	4 ms
P2	2 ms	9 ms

The pre-emptive shortest job first scheduling algorithm is used. Scheduling is carried out only at arrival or completion of processes. What is the average waiting time for the three processes?

10. A CPU generates 32-bit virtual addresses. The page size is 4 KB. The processor has a translation look-aside buffer (TLB) which can hold a total of 128-page table entries and is 4-way set associative. What is the minimum size of the TLB tag?

4. ANALYZE

Skill Demonstrated	Question Ques / Verbs for tests
• break down a complex problem into parts. • Identify the relationships and interaction between the different parts of complex problem	classify, outline, break down, categorize, analyse, diagram, illustrate, infer, select

Sample Questions:

1. A class of 10 students consists of 5 males and 5 females. We intend to train a model based on their past scores to predict the future score. The average score of females is 60 whereas that of male is 80. The overall average of the class is 70. Give two ways of predicting the score and analyse them for fitting model.

2. Suppose that we want to select between two prediction models, M1 and M2. We have performed 10 rounds of 10-fold cross-validation on each model, whereas the same data partitioning in round one is used for both M1 and M2. The error rates obtained for M1 are 30.5, 32.2, 20.7, 20.6, 31.0, 41.0, 27.7, 26.0, 21.5, 26.0. The error rates for M2 are 22.4, 14.5, 22.4, 19.6, 20.7, 20.4, 22.1, 19.4, 16.2, 35.0. Comment on whether one model is significantly better than the other considering a significance level of 1%.

3. Return statement can only be used to return a single value. Can multiple values be returned from a function? Justify your answer.

4. Bob wrote a program using functions to find sum of two numbers whereas Alex wrote the statements to find the sum of two numbers in the main() function only. Which of the two methods is efficient in execution and why?

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5. Carly wants to store the details of students studying in 1st year and later on wishes to retrieve the information about the students who score the highest marks in each subject. Specify the scenario where the data can be organized as a single 2-D array or as multiple 1-D arrays.

6. Dave is working on a Campus Management Software but is unable to identify the maximum number of students per course. He decided to implement the same using arrays but discovered that there is memory wastage due to over-provisioning. Which method of memory storage should be used by Dave and how it can be implemented using C?

7. Albert is working on a 32-bit machine whereas Julie is working on a 64-bit machine. Both wrote the same code to find factorial of a number but Albert is unable to find factorial of a number till 9 whereas Julie is able to find the factorial of higher number. Identify the possible reason why Albert is unable to find the factorial. Suggest some changes in the code so that Albert can handle bigger inputs.

8. While writing a C code, the problem faced by the programmers is to find if the parenthesis is balanced or not. Write an algorithm to check if the parenthesis in C code are balanced. Initially your code should work for balanced { and } braces.

9. Swapping of the data in a linked list can be performed by swapping the contents in the linked list. Can the contents of a linked list be swapped without actually swapping the data?

5. EVALUATE

Skill Demonstrated	Question Ques / Verbs for tests
• compare and discriminate between ideas • assess value of theories, presentations • make choices based on reasoned argument • verify value of evidence • recognize subjectivity • use of definite criteria for judgments	assess, decide, choose, rank, grade, test, measure, defend, recommend, convince, select, judge, support, conclude, argue, justify, compare, summarize, evaluate

6. CREATE

Skill Demonstrated	Question Ques / Verbs for tests
• use old ideas to create new ones • Combine parts to make (new) whole, • generalize from given facts • relate knowledge from several areas • predict, draw conclusions	design, formulate, build, invent, create, compose, generate, derive, modify, develop, integrate

Both higher order cognitive skills 'Evaluate' and 'Create' are difficult to assess in time-limited examinations. These need to be assessed in variety of student works like projects, open ended problem-solving exercises etc. Typical examples of problem statements or need statements which need higher order abilities to solve are given below

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Sample Problem / Need statements:

1. Automatic tethering of milking machine to the udder of a cow. A milk diary wants to automate the milking process. The milking process involves attaching the milking cups to the teats. Design a system for the same.

2. An electric vehicle uses LIoN batteries. The batteries have to be charged and get discharged during use. The batteries require continuous monitoring during charging and discharging so that they remain healthy and yield a long life. Design a system to monitor and manage the health of the batteries.

3. A Biotech industry needs automation for filling its product into 20 ltr bottles. Design a system to meter the flow into the bottles so that each bottle has 20 ltr of the liquid. There will be more than one filling station and the system has to monitor all the filling stations as well as keep count of the total production on a daily basis.

4. Microwave Doppler radar with a range of 9m are available for motion detection. Design a surround view monitoring system for a 3 wheeler to detect human obstacles while the vehicle is in motion.

5. Design a system to assist the driver by using cameras to detect lane markers and pedestrians while the vehicle is in motion.

6. Develop a small size USB 2.0 / 3.0 CMOS camera system which can be used for industrial inspection, medical applications, microscopy, etc. The system should be able to capture the image quickly and be able to process the captured image and then store it also

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APPENDIX-C
Model Question Papers

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MODEL QUESTION PAPER

Course: Programming for Problem solving (ESC 103)
Maximum Marks :100; Duration: 03 hours

Q.No	Questions	Marks	CO	BL	PI
1(a)	Explain the steps involved in solving a problem using computer.	08	CO1	L2	1.4.1
1(b)	Write an algorithm to find roots of a quadratic equation $ax2 + bx + c = 0$ reading the values of a, b and c.	12	CO2	L3	1.4.1
2(a)	Compare if-else-if and switch statement giving examples for their relevant use.	08	CO2	L2	1.4.1
2b	Write a C program that reads a given integer number and checks whether it a palindrome. A palindrome is a number that has same value even when it is reversed. Eg: 12321 is a palindrome.	12	CO3	L3	1.4.1
3a	Compare the working of three looping constructs of C language giving their syntax.	08	CO3	L2	1.4.1

3b	What does the following program do?
	`#include <stdio.h>`
	`int main()`
	`{`
	`   char ch;`
	`   int vcnt = 0, ccnt=0;`
	`   for ( ch = getchar(); ch != '\n'; ch=getchar()){`
	`   if(ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u' ||`
	`      ch=='A' || ch=='E' || ch=='I' || ch=='O' || ch=='U')`
	`      vcnt++;`
	`   else if((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))`
	`      ccnt++;`
	`   }`
	`   printf( " %d   %d\n", vcnt, ccnt);`
	`}`
	Rewrite the above program using while and switch constructs.
		12	CO4	L4	1.4.1

4a	Compare call by value and call by reference with relevant examples.	8	CO3	L2	1.4.1
4b	Write a C function to find the largest and smallest in a given list of integers of size n using call by reference: `void minmax( int list[ ], int n, int *min, int *max);`	12	CO3	L3	1.4.1
5a	Explain at least four file handling operations available in C language giving their syntax.	4	CO3	L2	1.4.1
5b	Identify the bug in the following function written to return the swapped values of two integer variables given:				

	`int swap( int *x, int *y)`
	`{`
	`   int *temp;`
	`   temp = x, x=y, y = temp;`
	`}`
		6	CO5	L4	1.4.1

5c	Define a structure to store time with three components hours, mins and seconds. Write a modular C program to compute the time taken by an athlete to complete a marathon reading the start and end time of his run.	10	CO3	L3	1.4.1
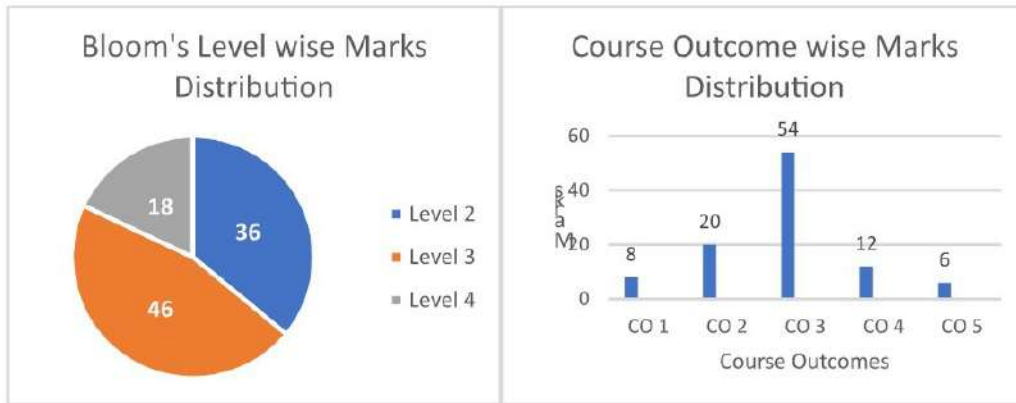
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EXAMINATION REFORMS POLICY

Bloom's Level wise Marks Distribution

- Level 2: 36
- Level 3: 46
- Level 4: 18

Course Outcome wise Marks Distribution

Course Outcomes	Marks
CO 1	8
CO 2	20
CO 3	54
CO 4	12
CO 5	6

BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 – Analysing, 5 – Evaluating, 6 - Creating)

CO – Course Outcomes

PO – Program Outcomes; PI Code – Performance Indicator Code

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MODEL QUESTION PAPER FOR END SEMESTER EXAMINATION

Course Name: Programming for Problem Solving
Duration: 3 hrs. ; Max. Marks: 100

Instructions:

a. Attempt five questions selecting ONE from each section. Question 9 (Section E) is compulsory.
b. All the questions carry equal marks.
c. Draw neat diagrams wherever applicable.

Q. No	Question	Marks	BL	CO	PO	PI Code
	Section-A					
1.	a. What is an algorithm? Explain the characteristics of an algorithm.	2+6	1,2	2	1	1.4.1
	b. Write an algorithm to find angle between hour and minute hands of a clock at a given time.	7	3	3	1	1.4.1
	c. Is it mandatory to declare main() function with return type as void or int. What will be the effect if there is no return type declared for main() function?	3+2	4	3	1	1.4.1
	OR					
2.	a. What is the difference between definition and declaration in C? When a user writes "int x;" is it treated as declaration or definition in C.	3+2	2,4	3	1	1.4.1
	b. Write a program in C to find largest of 3 positive integer numbers using conditional operators.	7	3	3	1,2	1.4.1, 2.2.4
	c. What is meant by iterative statements? What are the different types of iterative statements in C?	8	1,2	3	1	1.4.1
	Section-B					
3.	a. Bob has placed N objects in a row which are marked with a number equal to their weight in Kg. He wants to check whether the objects are in increasing order of their weights or not. Write a C program to help Bob.	12	3	3,6,7	1,2	1.4.1, 2.2.4
	b. Differentiate between Big-O and Big-Omega notation.	4	2	3	1	1.4.1
	c. What is the role of index in an array? How are the elements of a 2D array accessed in C?	2+2	2	3	1	1.4.1
	OR					
4.	a. Ram is conducting a study which is based on counting the number of cars crossing the highway. Every hour he generates a random string containing sequence of characters <rbwbwr...>, where r represents red color, w denotes white color and b denotes blue color cars. The string is forwarded to Shyam for analysis who computes the number of red, blue and white color cars crossing Ram every hour. Assume that Ram works for 5 hours in a day, help Shyam generate a daily report containing the following:	4+4+4	3	3,6,7	1,2	1.4.1, 2.2.4
	i. Total number of different colour cars crossing Ram in an hour.					
	ii. Total number of different colour cars crossing Ram in a day.					
	iii. Total number of cars crossing Ram in a day.					

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EXAMINATION REFORMS POLICY

	b.	What is a variable? Explain the ways to declare scope of a variable.	2+6	1,2	3	1	1.4.1
Section-C							
5.	a.	Write a program which will read positive integer numbers from the users and compute the sum if the number can be expressed as power of 2. The test whether a number can be expressed as power of 2 will be done using a function power_of_two(int a).	12	3	3,6,7	1,2	1.4.1
	b.	What is recursion? Differentiate between homogeneous and heterogeneous recursion with the help of an example.	2+3+3	2	3	1	1.4.1
OR							
6.	a.	What are the different ways to pass parameters to a function? Explain with the help of a suitable example.	4+4	2	3,5	1	1.4.1
	b.	Is it possible to return multiple values from a function? Justify the statement with the help of an example.	4+8	3	3,6,7	1,2	1.4.1
Section-D							
7.	a.	What is a structure? What is the benefit offered by using a structure over multiple arrays?	2+6	2	5	1	1.4.1
	b.	Ram is working on a project which requires returning multiple values from a function. He observed that a return statement can only be used to return a single value from a function. How the function should be implemented so that multiple values can be returned by Ram?	12	4	5	1	1.4.1
OR							
8.	a.	Write a program that reads a number as input from the user. The entered number is written to a file "even.txt" if the input is even else it is written to "odd.txt". Write a C code to perform the desired task.	12	3	5	1	1.4.1
	b.	What are the different methods to open a file? Explain each with the help of a C program.	3+5	2	5	1	1.4.1
Section-E (Compulsory Question)							
9.	a.	What is a compiler? List names of any 2 compilers.	2 ½	1	1	1	1.4.1
	b.	What are the benefits of designing a flowchart for solving a problem?	2 ½	4	2	1	1.4.1
	c.	What is the output of the following code? `int main(){ int x=10; int y=sizeof(x/2); printf("%d",y); }`	2 ½	3	4	1	1.4.1
	d.	What is the difference between creating constant using #define macro and const keyword?	2 ½	3	3	1	1.4.1
	e.	What is the role of function prototype? When is it required in C?	2 ½	2	3	1	1.4.1

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	f. Which of the following are unary operators in C? State reason for your answer. a. ! b. sizeof c. ~ d. &&	2 ½	2	3	1	1.4.1
	g. Which of the following special symbol allowed in a variable name? State reason for your answer. a. * (asterisk) b. | (pipeline) c. - (hyphen) d. _ (underscore)	2 ½	2	3	1	1.4.1
	h. In which header file is the NULL macro defined? State reason for your answer. a. stdio.h b. stddef.h c. stdio.h and stddef.h d. math.h	2 ½	2	3	1	1.4.1

BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 – Analysing, 5 – Evaluating, 6 - Creating)

CO – Course Outcomes

PO – Program Outcomes; PI Code – Performance Indicator Code

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EXAMINATION REFORMS POLICY

MODEL QUESTION PAPER

Total Duration (H:M): 3:00

Course : Basic Electrical Engineering (ESC101)

Maximum Marks :100

Q.No	Questions	Marks	CO	BL	PI
1(a)	Calculate current through 4 Ω resistor using Kirchoff's Laws? Verify the same using Superposition Theorem.	12	CO1	L3	1.3.1
1(b)	Derive the expression for the transient current in a series 'R-L' circuit when a 'dc' voltage of V volts is applied. Sketch time variation of current in the circuit.	8	CO1	L2	1.3.1
2(a)	Two impedances $Z1 = 15 + j12 Ω$ and $Z2 = 8 - j5$ Ω are connected in parallel. If the potential difference across one of the impedance is 250 V, calculate i) total current and branch currents ii) total power and power consumed in each branch iii) overall p.f. IV) draw the phasor diagram	12	CO2	L3	1.3.1
2b	It is desired to operate a 100 W, 120 V, electric bulb at its rated current on a 240 V, 50 Hz supply. The simplest arrangement is to use either (a) a resistor, or (b) a capacitor or (c) an inductor having 10 Ω resistance in series with the electric bulb so as to drop the excess voltage. Determine the value of the component used, the total power consumed and the power factor in each case. Giving reasons, state which alternative is the best.	8	CO2	L4	1.3.1
3a	A single phase 25 kVA 1000/2000 V, 50 Hz transformer has maximum efficiency of 98% at full load upf. Determine its efficiency at, (a) 3/4th full load, unity power factor (b) 3/4th full load 0.8 power factor	12	CO3	L3	1.3.1
3b	Explain the working of a practical transformer with relevant phasor diagram. and define voltage regulation.	8	CO3	L2	1.3.1
4a	A two pole 3 phase 50 Hz induction motor is running on load with a slip of 4%. Calculate the actual speed and the synchronous speed of the machine. Sketch the speed/ load characteristic of the machine.	8	CO4	L2	1.3.1
4b	A wireless battery powered drilling machine operates on 24 V DC with constant speed and negligible field current. Initially when the machine is powered it runs at 1200 rpm and draws 0.5 A from the battery. Further when the drill bit starts drilling the hole, the speed reduces to 1120 rpm. Determine power requirement from the battery for drilling if the resistance of the armature is 0.2Ω. What is the power drawn initially?	12	CO4	L4	1.3.1

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5a	Explain the working principle of a single phase pulse width modulated voltage source inverter with relevant circuit diagram and draw the output voltage wave form.	8	CO5	L2	1.3.1
5b	To protect an expensive circuit component from being delivered too much power, you decide to incorporate a fast blowing fuse into the design. Knowing that the circuit component is connected to 12 V, its minimum power consumption is 12 watts and the maximum power it can safely dissipate is 100 watts, which of the three available fuse ratings should you select: 1A , 4A or 10 A? Give reasons.	6	CO6	L4	1.3.1
5c	Calculate the i) ampere-hour and ii) watt-hour efficiency of a secondary cell which is discharged at a uniform rate of 30 A for 6 hours at an average terminal voltage of 2 V. It is then charged at a uniform rate of 40 A for 5 hours to restore it to its original condition. The terminal voltage during charging is 2.5 V.	6	CO6	L3	1.3.1
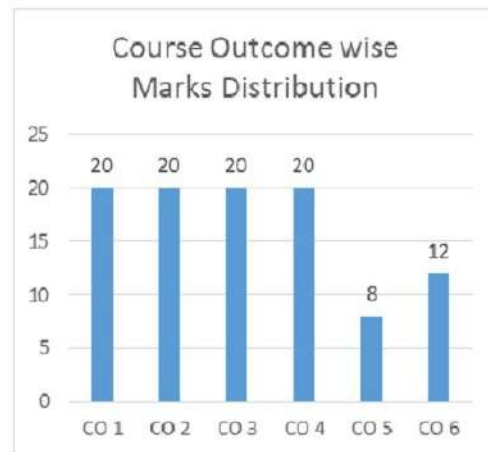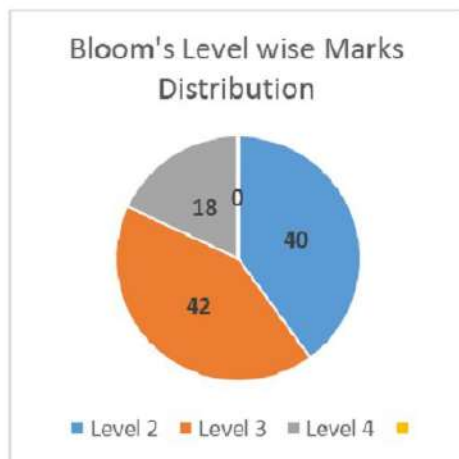
Bloom's Level wise Marks Distribution

Course Outcome wise Marks Distribution

BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 – Analysing, 5 – Evaluating, 6 - Creating)

CO – Course Outcomes

PO – Program Outcomes; PI Code – Performance Indicator Code

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EXAMINATION REFORMS POLICY

APPENDIX-D
Sample Scoring Rubrics

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RUBRICS FOR COMMUNICATION (WRITTEN & ORAL)

Component	Proficient	Acceptable	Needs Improvements
Written Communication	Report is well organized and clearly written. The underlying logic is clearly articulated and easy to follow. Words are chosen that precisely express the intended meaning and support reader comprehension. Diagrams or analyses enhance and clarify presentation of ideas. Sentences are grammatical and free from spelling errors.	Report is organized and clearly written for the most part. In some areas the logic or flow of ideas is difficult to follow. Words are well chosen with some minor exceptions. Diagrams are consistent with the text. Sentences are mostly grammatical and only a few spelling errors are present but they do not hinder the reader.	Report lacks an overall organization. Reader has to make considerable effort to understand the underlying logic and flow of ideas. Diagrams are absent or inconsistent with the text. Grammatical and spelling errors make it difficult for the reader to interpret the text in places.
Presentation			
Visual Aids	Slides are error-free and logically present the main components of the process and recommendations. Material is readable and the graphics highlight and support the main ideas.	Slides are error-free and logically present the main components of the process and recommendations. Material is mostly readable and graphics reiterate the main ideas.	Slides contain errors and lack a logical progression. Major aspects of the analysis or recommendations are absent. Diagrams or graphics are absent or confuse the audience.
Oral Presentation	Speakers are audible and fluent on their topic, and do not rely on notes to present or respond. Speakers respond accurately and appropriately to audience questions and comments.	Speakers are mostly audible and fluent on their topic, and require minimal referral to notes. Speakers respond to most questions accurately and appropriately.	Speakers are often inaudible or hesitant, often speaking in incomplete sentences. Speakers rely heavily on notes. Speakers have difficulty responding clearly and accurately to audience questions.
Body Language	Body language, as indicated by appropriate and meaningful gestures (e.g., drawing hands inward to convey contraction, moving arms up to convey lift, etc.) eye contact with audience, and movement, demonstrates a high level of comfort and connection with the audience.	Body language, as indicated by a slight tendency to repetitive and distracting gestures (e.g., tapping a pen, wringing hands, waving arms, clenching fists, etc.) and breaking eye contact with audience, demonstrates a slight discomfort with the audience.	Body language, as indicated by frequent, repetitive and distracting gestures, little or no audience eye-contact, and / or stiff posture and movement, indicate a high degree of discomfort interacting with audience.

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EXAMINATION REFORMS POLICY

RUBRICS FOR ASSESSMENT OF DESIGN PROJECTS

Category	Needs Improvements	Acceptable	Proficient
Purpose of the Project	Does not clearly explain the intended outcome of the project or provides little information about the problem that was being solved, the need being met, or why the project was selected	Provides a description of the intended outcome of the project which includes information about the problem that was being solved or the need being met, and why the project was selected	Provides a detailed intended outcome of the project which includes information about the problem that was being solved or the need being met, and clearly articulates the reasons and decision-making process used to select the project
Research	Lacks awareness of similar work done by others in an unacceptable literary form	Reflects awareness of similar work done by others and presents it in an acceptable literary format	• Reflects thorough understanding of similar work done by others and presents it in an acceptable literary format
Choices	Lacks justification of choices with little or no references to functional, aesthetic, social, economic, or environmental considerations	Justifies choices made with reference to functional, aesthetic, social, economic, or environmental considerations	Demonstrates sophisticated justification of choices with reference to functional, aesthetic, social, economic, or environmental consideration
Alternative Designs	Only one design presented or clearly infeasible alternative given. Serious deficiencies in exploring and identifying alternative designs.	Alternative approaches identified to some degree.	Final design achieved after review of reasonable alternatives.
Application of Engineering Principles	No or erroneous application of engineering principles yielding unreasonable solution. Serious deficiencies in proper selection and use of engineering principles.	Effective application of engineering principles resulting in reasonable solution.	Critical selection and application of engineering principles ensuring reasonable results.
Final Design	Not capable of achieving desired objectives.	Design meets desired objectives.	Design meets or exceeds desired objectives.
Interpretation of Results	No or erroneous conclusions based on achieved results. Serious deficiencies in support for stated conclusions.	Sound conclusions reached based on achieved results.	Insightful, supported conclusions and recommendations.

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Rubrics can also be used effectively to design the continuous assessment of the student projects. The Performance Indicators referred to in the previous sections can be used measurement criteria in the rubric. In the following example, we can see that for different phases of the students projects, we can design the rubrics keeping in mind the deliverables of the project at that particular stage.

5 - SEMESTER MINI PROJECT

RUBRICS FOR REVIEW – I

PI Code	PI	Marks	Very Poor Up to 20%	Poor Up to 40%	Average Up to 60%	Good Up to 80%	Very good Up to 100%
2.1.1	Articulate problem statements and identify objectives - GA	02	Problem statement and objectives are not identified	Problem statement and objectives are not clear	Problem statement is clear and objectives are not in line with problem statement	Problem statement is clear and objectives are not completely defined.	Problem statement is clear and objectives are completely defined
2.1.2	Identify engineering systems, variables, and parameters to solve the problems - IA	02	Engineering systems are not identified. Variables, and parameters to solve the problems are not defined	Engineering systems are identified but not clear. Variables, and parameters to solve the problems are not defined	Engineering systems are clear. Variables, and parameters to solve the problems are not defined	Engineering systems are identified. Variables, and parameters to solve the problems are partially defined	Engineering systems are identified. Variables, and parameters to solve the problems are completely defined
2.2.3	Identify existing processes/ solution methods for solving the problem, including forming justified approximations and assumptions - GA	02	Not able to identify existing solution for solving the problem. The assumptions, approximations and justifications are also not identified.	Not able to identify existing solution for solving the problem. The assumptions, approximations and justifications are identified but not clear	Not able to identify existing solution for solving the problem. But assumptions and approximations are aligned to the objectives.	Able to identify existing solution for solving the problem. Assumptions, and approximations are clear	Able to identify existing solution for solving the problem. But assumptions, approximations and justifications are clear
2.2.4	Compare and contrast alternative solution processes to select the best process - GA	02	Not able to identify alternative solution processes	Not able to compare alternative solution processes	Able to compare alternative solution processes but could not contrast clearly	Able to compare alternative solution processes and contrast clearly but not able to select best process	Able to compare alternative solution processes, contrast it and also able to select best process
10.1.1	Read, understand and interpret technical and non-technical information - GA	02	Not able to identify technical and non-technical information	Able to identify non-technical information	Able to read technical and non-technical information, but could not understand and interpret	Able to read, understand technical and non-technical information, but could not interpret	Able to read, understand and interpret technical and non-technical information

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EXAMINATION REFORMS POLICY

GA – Group Assessment   IA – Individual Assessment

RUBRICS FOR REVIEW – II

PI Code	PI	Marks	Very Poor Up to 20%	Poor Up to 40%	Average Up to 60%	Good Up to 80%	Very good Up to 100%
3.2.1	Apply formal idea generation tools to develop multiple engineering design solutions - GA	02	Not able to identify tools to develop solutions	Able to identify but not able to use it effectively	Able to use the tool but not able to generate engineering designs	Able to generate engineering designs but not able to justify	Able to generate engineering designs with justification
3.2.3	Identify suitable criteria for evaluation of alternate design solutions - GA	02	Not able to identify criteria	Able to identify criteria but not able to use them	Able to use criteria but not able to compare alternatives	Not able to justify the comparison with criteria	Able to justify the comparison with criteria
3.3.1	Apply formal decision-making tools to select optimal engineering design solutions for further development - GA	02	Not able to identify decision-making tools	Able to identify but not able to choose optimum one	Able to identify optimum one but not able to use it	Able to use optimum one but not able to justify	Able to use optimum one with justification
3.2.2	Build models/ prototypes to develop diverse set of design solutions - IA	02	Not able to identify tool to build model/ prototype	Able to choose the tool but not able to use it effectively	Able to use the tool but not able to generate alternatives	Able to generate alternatives but not able to justify the best solution	Able to generate and justify the best solution
13.1.1	Develop 2D drawings of components/ systems using modern CAD tools - IA	02	Not able to identify CAD tools	Able to identify but not able to use CAD tool	Able to use CAD tool but not able to generate drawings	Able to generate drawings but not able to follow drawing standards	Able to generate drawings with standards
13.1.2	Develop 3D models of components/systems using modern CAD tools - IA	03	Not able to identify CAD tools	Able to identify but not able to use CAD tool	Able to use CAD tool but not able to generate 3D models	Able to generate models but not able to follow standards	Able to generate models with standards
13.1.3	Apply GD&T principles as per ASME standards to manufacturing drawings, with all relevant data like material, hardness, surface finish, and tolerances - IA	02	Not able to extract GD&T principles from ASME standards	Able to extract but not able to understand them	Able to understand but not able to apply GD&T standards	Able to apply GD&T standards to drawings but not able to justify	Able to apply and justify GD&T standards to drawings

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GA – Group Assessment   IA – Individual Assessment

RUBRICS FOR REVIEW – III

PI Code	PI	Marks	Very Poor Up to 20%	Poor Up to 40%	Average Up to 60%	Good Up to 80%	Very good Up to 100%
3.4.2	Generate information through appropriate tests to improve or revise design - GA	02	Not able to identify suitable tests to be done	Able to identify but not able to follow testing procedure	Able to follow testing procedures but not able to collect information	Able to collect information but not able to apply it for improvement	Able to apply information for the improvement
4.3.1	Use appropriate procedures, tools and techniques to conduct experiments and collect data - GA	04	Not able to identify tools, techniques and procedures	Able to identify but not able to conduct experiments	Able to conduct experiments but not able to follow procedure	Able to follow procedure but not able to collect data	Able to collect data as per the standards
4.3.2	Analyze data for trends and correlations, stating possible errors and limitations - GA	03	Not able to understand data	Able to understand but not able to analyze data	Able to analyze data but not able to correlate them	Able to correlate but not able to identify errors and limitations	Able to identify errors and limitations
10.2.2	Deliver effective oral presentations to technical and non-technical audiences - IA	03	Could not deliver effective presentations.	Could not deliver presentation, but presentation was prepared and attempted.	Able to deliver fair presentation but not able to answer to the audiences	Deliver effective presentations but able to answer partially to the audience queries.	Deliver effective presentation and able to answer all queries of the audience.
9.3.1	Present results as a team, with smooth integration of contributions from all individual efforts – GA + IA	03	No Contribution from an individual to a team	Contributions from an individual to a team is minimal	Contributions from an individual to a team is moderate	A contribution from an individual to a team is good but not well groomed in team.	Contribution from an individual to a team is good and results in an integrated team presentation.

GA – Group Assessment   IA – Individual Assessment

AICTE COMMITTEE ON EXAMINATION REFORMS

Members of the Committee

1. **Prof. Ashok S. Shettar, Chairman**
   Vice Chancellor, KLE Technological University, Hubballi, Karnataka

2. **Prof. Rama Krishna Challa,**
   Prof and Head, Dept. of Computer Science and Engineering, NITTTR, Chandigarh

3. **Prof. Sanjay Agrawal**
   Professor, Dept. of Computer Engineering and Applications, NITTR, Bhopal (M.P)

4. **Prof. Upendra Pandel**
   Professor, Dept. of Metallurgical & Material Engineering, MNIT, Jaipur

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ALL INDIA COUNCIL FOR TECHNICAL EDUCATION
Nelson Mandela Marg, Vasant Kunj, New Delhi-110070

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AICTE Exam Reforms Policy- 2018 Workshop

4 March 2021

jayeshg1988@vjec.ac.in Switch account

Your email will be recorded when you submit this form

* Required

Faculty Name (This name will be seen as such in the certificate) *

Your answer

Designation *

Your answer

Department *

○ ASH

○ CE

○ ME

○ CSE

○ ECE

○ AEI

○ EEE

Workshop objectives where clearly stated and met *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

The workshop was well organized *

1	2	3	4	5
○	○	○	○	○

Workshop helped me to understand competencies *

1	2	3	4	5
○	○	○	○	○

Workshop helped me to understand Performance Index *

1	2	3	4	5
○	○	○	○	○

Your ability to do mapping a question with relevant PI *

1	2	3	4	5
○	○	○	○	○

The information presented were relevant and useful *

	1	2	3	4	5
	○	○	○	○	○

The presenters provided adequate time for questions and answered them satisfactorily *

	1	2	3	4	5
	○	○	○	○	○

The workshop increased my knowledge in AICTE Exam Reforms Policy *

	1	2	3	4	5
	○	○	○	○	○

Submit   Clear form

VimalJyothi Engineering College, Chemperi

INTERNAL QUALITY ASSURANCE CELL

Workshop on AICTE EXAM REFORM POLICY

4 March 2021, 10.00 Am to 3.00 PM

Feedback Response sheet

Timestamp	Email Address	Faculty Name (This name will be seen as such in the certificate)	Designation	Department	Workshop objectives where clearly stated and met	The workshop was well organized	Workshop helped me to understand competencies	Workshop helped me to understand Performance Index	Your ability to do mapping a question with relevant PI	The information presented were relevant and useful	The presenters provided adequate time for questions and answered them satisfactorily	The workshop increased my knowledge in AICTE Exam Reforms Policy
3/5/2021 13:58:55	adarshks@vjec.ac.in	Adarsh K S	Assistant Professor	ECE	3	3	3	3	3	3	3	3
3/5/2021 14:15:28	amruthamaria@vjec.ac.in	Amrutha Maria Mathew	Assistant Professor	EEE	5	5	5	5	4	5	4	5
3/5/2021 14:15:53	kcmanojkc@vjec.ac.in	MANOJ K C	Associate Professor	ECE	4	4	4	4	4	4	3	4
3/5/2021 14:18:32	glandeva@vjec.ac.in	Dr.G.Glan Devadhas	Professor	AEI	4	4	3	3	4	3	4	4
3/5/2021 14:19:17	agjustin@vjec.ac.in	Dr.G.Justin Sunil Dhas	Professor	EEE	5	5	5	5	5	5	5	5
3/5/2021 14:21:24	shinumm@vjec.ac.in	Shinu MM	Assistant Professor	AEI	5	5	5	5	5	5	5	5
3/5/2021 14:25:32	reemamathew@vjec.ac.in	REEMA MATHEW A	Associate Professor	ECE	4	4	4	4	3	3	4	4
3/5/2021 14:30:15	sigithomasj@vjec.ac.in	SIGI THOMAS	Asso.Prof.	CE	3	2	2	2	2	2	1	2
3/5/2021 14:33:23	shelmageorge@vjec.ac.in	SHELMA GEORGE	Assistant Professor	EEE	4	4	5	5	5	4	4	4
3/5/2021 14:39:01	johnypjoseph@vjec.ac.in	JOHNY P JOSEPH	ASSISTANT PROFES	ME	4	5	4	5	5	5	5	5
3/5/2021 14:43:29	ashababy@vjec.ac.in	Asha Baby	Assistant professor	CSE	3	4	3	4	3	5	5	4
3/5/2021 14:46:16	sridharanp@vjec.ac.in	Dr.P.Sridharan	Associate Professor	ME	5	5	5	5	5	5	5	5
3/5/2021 14:47:56	lalyjames@vjec.ac.in	LALY JAMES	Associate Professor	EEE	4	5	4	4	4	4	4	4
3/5/2021 15:09:50	annmathew@vjec.ac.in	Ann Mathew	Asst. Professor	ECE	3	3	4	4	3	4	3	3
3/5/2021 15:41:04	gokulnath@vjec.ac.in	GOKULNATH R	Assistant Professor	ME	4	4	4	4	4	4	5	4
3/5/2021 16:01:24	rajukk@vjec.ac.in	RAJU K KURIAKOSE	ASSOCIATE PROFES	ME	2	3	3	3	3	3	5	2
3/5/2021 16:14:02	anisha@vjec.ac.in	Anisha Joseph	Assistant Professor	CSE	3	4	4	4	3	3	4	4
3/5/2021 16:45:56	jerinsaji@vjec.ac.in	JERIN SAJI	Assistant Professor	ME	3	3	4	4	3	4	5	4
3/5/2021 16:46:12	midhunmukundan@vjec.ac.i	MIDHUN MUKUNDAN M	Assistant Professor	ME	5	5	5	5	4	4	5	4
3/5/2021 18:16:35	kmindulekha@vjec.ac.in	Indulekha K M	Assistant Professor	EEE	3	3	3	3	3	3	3	3
3/5/2021 21:00:16	bindujohn@vjec.ac.in	Ms. Bindu Sebastian	Associate Professor	ECE	5	5	4	4	4	5	5	5
3/5/2021 21:31:49	teenag@vjec.ac.in	Teena George	Assistant Professor	EEE	3	3	5	5	3	3	4	4
3/6/2021 9:07:26	dhanoj24@vjec.ac.in	Dhanoj M	Assistant Professor	AEI	4	4	4	4	4	4	4	4
3/6/2021 10:05:19	jerrinyomas@vjec.ac.in	Jerrin Yomas	Associate profesor	ECE	3	3	4	4	4	4	3	3
3/6/2021 10:16:04	reshmakv@vjec.ac.in	Reshma K V	Assistant Professor	AEI	3	2	3	4	3	3	3	3
3/6/2021 10:16:14	shamyasanthosh@vjec.ac.in	SHAMYA A	Assistant Professor	AEI	1	3	4	4	4	4	4	4
3/6/2021 12:38:57	binil@vjec.ac.in	Binil Kumar K	Assistant Professor	ECE	3	5	3	3	3	3	4	3
3/8/2021 10:02:36	jyothijoseph@vjec.ac.in	JYOTHI JOSEPH	ASSISTANT PROFES	EEE	3	3	3	3	3	3	3	3

VimalJyothi Engineering College, Chemperi

INTERNAL QUALITY ASSURANCE CELL

Workshop on AICTE EXAM REFORM POLICY

4 March 2021, 10.00 Am to 3.00 PM

Feedback Response sheet

Timestamp	Email Address	Faculty Name (This name will be seen as such in the certificate)	Designation	Department	Workshop objectives where clearly stated and met	The workshop was well organized	Workshop helped me to understand competencies	Workshop helped me to understand Performance Index	Your ability to do mapping a question with relevant PI	The information presented were relevant and useful	The presenters provided adequate time for questions and answered them satisfactorily	The workshop increased my knowledge in AICTE Exam Reforms Policy
3/8/2021 11:38:20	shajigc@vjec.ac.in	SHAJI GEORGE	Assistant Professor	ME	4	4	4	3	4	5	5	4
3/8/2021 14:29:31	arunlalmp@vjec.ac.in	ARUNLAL M P	Asst. Professor	ME	4	5	4	4	4	5	4	4
3/9/2021 8:39:04	mejofrancis@vjec.ac.in	Mejo M Francis	Assistant Professor	ME	4	4	4	4	4	4	4	4

VIMAL JYOTHI ENGINEERING COLLEGE
CHEMPERI, KANNUR

INTERNAL QUALITY ASSURANCE CELL

CERTIFICATE OF PARTICIPATION

Adarsh K S

Assistant Professor

has participated in the one day workshop on **AICTE Exam Reforms Policy 2018** on March 4, 2021, organized by Internal Quality Assurance Cell, Vimal Jyothi Engineering College, Kannur, Kerala.

Dr. Jayesh George M
IQAC Co-coordinator

Dr. D . Anto Sahaya Dhas
IQAC Coordinator

Dr. Benny Joseph
Principal

VIMAL JYOTHI ENGINEERING COLLEGE
CHEMPERI, KANNUR

INTERNAL QUALITY ASSURANCE CELL

CERTIFICATE OF PARTICIPATION

Dr.P.Sridharan

Associate Professor

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IQAC Co-coordinator

Dr. D . Anto Sahaya Dhas
IQAC Coordinator

Dr. Benny Joseph
Principal

VIMAL JYOTHI ENGINEERING COLLEGE
CHEMPERI, KANNUR

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CERTIFICATE OF PARTICIPATION

LALY JAMES

Associate Professor

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Dr. Jayesh George M
IQAC Co-coordinator

Dr. D . Anto Sahaya Dhas
IQAC Coordinator

Dr. Benny Joseph
Principal

Vimal Jyothi Engineering College, Chemperi

INTERNAL QUALITY ASSURANCE CELL

Workshop on AICTE EXAM REFORMS POLICY

4 March 2021, 10.00 Am to 3.00 PM

Report

IQAC of Vimal Jyothi Engineering College conducted a Workshop on AICTE EXAM REFORM POLICY on 4 March 2021, 10.00 AM to 3.00 PM. The workshop is started with the welcome address by the IQAC Coordinator Dr. Anto Sahaya Dhas. The schedule of the events as follows.

10.00 AM – AICTE Exam Reforms Policy and Overview

10.30 AM – POs, Competencies and PIs.

11.30 AM - Sample question papers based on new policy

2.00 PM- Discussion on the Question Papers prepared by Faculty

The above topics were handled by Dr. Benny Joseph (Principal), Dr Roshini TV (Dean Academics) and Dr. VR A Sathappan (Professor/CE). Workshop has been attended by 64 staff members from various departments. The workshop was concluded at 3.00 PM after the Vote of Thanks by Dr. Jayesh George, Assoc. Prof/ECE

Report Prepared by

Dr Jayesh George M

Workshop Coordinator
Associate Professor
ECE Dept, VJEC