

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME Phase II

Sub Component 1.1



**7th MEETING OF
THE BOARD OF GOVERNORS
DETAILED AGENDA NOTES**

Date: 05-05-2015

Time: 10.30 AM

Venue: Seminar Hall

**COLLEGE OF ENGINEERING CHERTHALA
PALLIPPURAM P.O., CHERTHALA-688 541, KERALA**

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The meeting of Board of Governors is convened to monitor the progress of TEQIP-II activities at CE Cherthala, under Sub component 1.1, with emphasis to procurement and academic activities, and to accord necessary approvals and clearances for the ongoing activities. The 7th meeting of the BOG is being convened on 5th of May 2015.

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PART 1

Procedural Items

1.1 Confirmation of the Minutes of the 6th Meeting of the Board of Governors of CE Cherthala held on 30-01-2015

The Minutes of the 6th Meeting of Board of Governors of TEQIP Phase II of CE Cherthala held on 30-01-2014 was sent to the Hon'ble Chairman for his approval. A copy of the Minutes is appended as **Annexure 1** for confirmation.

Action sought: BoG may consider the Minutes for approval.

1.2 Report on action taken/action pending on the pertinent decisions in the Minutes of the 6th Meeting of the Board of Governors of CE Cherthala held on 30-01-2015

The decisions taken by the Board as recorded in the Minutes of the 6th Meeting of the Board of Governors of CE Cherthala held on 30-1-2015 have been noted and actions have been initiated. A report on the action taken and actions pending is presented in the Table 1.2 given below

Sl no.	Decision Taken	Action Taken	Reason for Non-Compliance	Item Number in Minutes of Meeting
1	Mapping of ATR to item in Minutes of the BOG Meeting	Complied with.		1.1
2	Adding Procurement of goods in place of civil works in case no valid quotations were received for civil work packages	Not complied with	Date of submission of quotations extended to Last week of May 2015.	2.2
3	Submit GDP in proper format, taking into account the Governance Self Review performed	Complied with		3.4

Action sought: BoG may consider the ATR for approval.

PART 2
RATIFICATION & APPROVAL

2.1 A : STATUS OF PROCUREMENT OF GOODS

Out of 91 packages for procurement of goods (allotment of Rs. 5 Crore), 64 packages for a total amount of Rs. 44478059.00 (Rupees Four Crore Forty Four Lakh Seventy Eight Thousand and Fifty Nine only) have been completed. Out of these 64 packages, procurement of 4 packages were completed after the 6th BOG meeting dated 30.01.2015. The remaining 27 packages have been initiated and are at various stages of procurement. All the packages will be completed by the end of July 2015.

The procurement method for the package Telephone which was earlier “minor item”, was revised to “National Shopping” since M/s Zerone Technologies Private Ltd who supplied EPABX package is not supplying Telephones.

The following table indicates the procurement completed since the 6th BOG meeting.

Table 2.1

Completed Packages of Goods since the 6th BOG meeting					
Sl No:	Package Name	Package Code	FIRM	Budgeted Amount (Rs.)	Actual Amount (Rs.)
1	Voice and Data cabling	TEQIP-II/KL/KL1G19/92	Isyx Technologies India Pvt. Ltd	9,45,000.00	9,63,673.00
2	Fire & Safety Equipment	TEQIP-II/KL/KL1G19/111	J&A Associate, Cochi	3,00,000.00	2,90,258.00
3	Projector Screen & Metal Box	TEQIP-II/KL/KL1G19/105	Binary System	50,000.00	48,663.00
4	ASTM Journal	TEQIP-II/KL/KL1G19/128	Book Supply Bureau	71,170.00	72,050.00
TOTAL :					Rs 13,74,644.00/-

The following table indicates the procurement to be completed.

Table 2.2

Committed Payments under Procurement				
Sl.No	Package Name	Package Code	Budgeted Amount (Rs.)	Current Status
1	Audio System Smart Class Room & Auditorium	TEQIP-II/KL/KL1G19/106	4,40,000.00	Quotation Invited
2	Cabinet for keeping Lab Equipments	TEQIP-II/KL/KL1G19/104	3,00,000.00	Quotation Invited
3	Digital Multimeter	TEQIP-II/KL/KL1G19/125	1,50,000.00	Quotation Invited
4	E Books	TEQIP-II/KL/KL1G19/107	6,10,000.00	Quotation Invited
5	Fire Wall	TEQIP-II/KL/KL1G19/116	4,00,000.00	Quotation Invited
6	ID Card Printer	TEQIP-II/KL/KL1G19/109	1,00,000.00	Quotation Invited
7	Information Display system	TEQIP-II/KL/KL1G19/133	1,81,560.00	Quotation Invited
8	Label Printer	TEQIP-II/KL/KL1G19/110	5,000.00	Quotation Invited
9	LCD Monitor	TEQIP-II/KL/KL1G19/108	1,30,000.00	Quotation Invited
10	Lightning Arrester for Protection	TEQIP-II/KL/KL1G19/112	8,00,000.00	Quotation Invited
11	Microsoft Open value Education Solution	TEQIP-II/KL/KL1G19/132	1,68,709.00	Quotation Invited
12	Platform & Lectern	TEQIP-II/KL/KL1G19/114	5,20,000.25	Quotation Invited
13	Stabilizer for A/C	TEQIP-II/KL/KL1G19/101	75,000.00	Quotation Invited

14	Water Purifier System	TEQIP-II/KL/KL1G19/123	2,00,000.00	Quotation Invited
15	Vacuum Cleaner	TEQIP-II/KL/KL1G19/113	25,000.00	Initiated
16	N Video card for CUDA	TEQIP-II/KL/KL1G19/115	1,00,000.00	Initiated
17	Media Converter	TEQIP-II/KL/KL1G19/118	10,000.00	Initiated
18	Sensor Network Nodes	TEQIP-II/KL/KL1G19/119	75,000.00	Initiated
19	Electrical demonstrator & Trainer Module	TEQIP-II/KL/KL1G19/121	1,34,250.00	Initiated
20	Cut Sections of Machine	TEQIP-II/KL/KL1G19/122	80,085.00	Initiated
21	workshop tools	TEQIP-II/KL/KL1G19/124	22,600.00	Initiated
22	Campus Automation Software	TEQIP-II/KL/KL1G19/130	5,00,000.00	Initiated
23	MCGRAW- HILL'S ACCESS ENGINEERING	TEQIP-II/KL/KL1G19/131	1,52,750.00	Initiated
24	Interactive Visualizer	TEQIP-II/KL/KL1G19/134	1,36,987.00	Initiated
25	Surveillance system	TEQIP-II/KL/KL1G19/135	1,00,000.00	Initiated
26	Phone	TEQIP-II/KL/KL1G19/136	40,000.00	Initiated
27	20Mbps Internet Connection from BSNL	TEQIP-II/KL/KL1G19/137	65,000.00	Initiated
TOTAL			Rs 55,21,941.25/-	

The following table summarizes the budget, expenditure and planned procurement under procurement of goods.

Table 2.3

Summary	
Budgeted Amount	500,00,000.00
Completed Payment	444,78,059.00
Committed Payment	55,21,941.00

Action Sought:

The BOG may kindly

1. Note the procurement completed since the 6th BOG and the ratify expenditure incurred in this head.
2. Revise the procurement method for the package Telephones (TEQIP-II/KL/KL1G19/136) to National Shopping.

2.1 B: STATUS OF VARIOUS CIVIL WORK PACKAGES

Out of 9 Civil Works packages in the Procurement Plan, 6 packages are completed in all aspects. The other three civil works packages have been initiated. However till date, it was not possible to receive valid quotations from approved contractors. The Table below indicates the civil works packages to be completed. All packages have been initiated

Table 2.4

Initiated Civil Works Packages				
Sl.No	Package Name	Package Code	Method	Contract Value
1	MS Grill for Windows	TEQIP-II/KL/KL1G19/98	Minor item	49,999.00
2	Stair Case and Hand Railing	TEQIP-II/KL/KL1G19/99	Minor item	41,000.00
3	Roofing	TEQIP-II/KL/KL1G19/100	Minor item	19,500.00
Total Amount				1,10,499.00

The following table summarizes the budget, expenditure, planned civil works and balance amount available for civil works.

Summary

Table 2.9

HEAD	Amount in Rupees
Budgeted Amount	50,00,000/-
Completed Payment	48,52,514/-
Initiated Packages	1,10,499.00
Balance Amount available for Civil Works	36,987.00/-

Action Sought: The BOG may kindly note the status of civil works.

2.2 ACADEMIC PROGRAMMES CONDUCTED

2.2.1 Out- Station Programmes

The table below summarizes the outstation training programs and conferences attended by the faculty of the institute since the 6th BOG meeting.

Table 2.10:

Outstation Faculty Development Programmes attended by the faculty

Sl. No.	Name	Designation	Department & course No.	Host Institute	Programme Title	Duration & Date	Expenditure (Rs.)	Fee paid to SPFU (pedagogical Training)
1.	Dr. Vinu Thomas	ASP	EC-18	NITTTR Chandigarh	Blue Ocean Strategies for TVET	5 days 9-13 Feb-2015	39547	
2.	Sreekumar K.	AP	EC-19	NITTTR Chandigarh	Blue Ocean Strategies for TVET	5 days 9-13 Feb-2015	39547	
3.	Dr. Jobymol Jacob	ASP	EC-20	TLC, IIT Madras	Pedagogy	3 days 23-25 Feb-2015	9928	72186/-
4.	Sarakutty K.J.	ASP	AS-03	TLC, IIT Madras	Pedagogy	3 days 23-25 Feb-2015	9928	
5.	Devanand C.N.	AP	ME-07	TLC, IIT Madras	Pedagogy	3 days 23-25 Feb-2015	9928	
6.	Greeshma N. Gopal	AP	CS-13	TLC, IIT Madras	Pedagogy	3 days 26-28 Feb-2015	5260	
7.	Muhammed Illyas H.	AP	CS-14	TLC, IIT Madras	Pedagogy	3 days 26-28 Feb-	5260	

						2015			
8.	Elizwa Laiju	AP	EE-07	TLC, IIT Madras	Pedagogy	3 days 26-28 Feb-2015	5260		
9.	Dr. Vinu Thomas	ASP	EC-21	TLC, IIT Madras	Pedagogy	3 days 19-21 March 2015	9387		
10.	Manilal D. L.	ASP	CS-15	TLC, IIT Madras	Pedagogy	3 days 19-21 March 2015	9387		
11.	Sreenivas P.	AP	ME-08	TLC, IIT Madras	Pedagogy	3 days 19-21 March 2015	9387		
TOTAL AMOUNT PAID							Rs. 2,25,005/-		

2.2.2 Papers Presented

The following paper, co-authored by Dr Jobymol Jacob, was presented in the International Conference sponsored by IEEE at SVS College of Engg. Coimbatore during 05/03/2015 to 07/03/2015. The registration fee of Rs 5000/- that was paid, is proposed to be reimbursed.

Table 2.11

Sl. No.	Name of the faculty	Name of the Conference	Name of the paper	Institute	Department & Conf. No.	Duration & date	Registration fee
1.	Dr. Jobymol Jacob Associate Professor(EC)	IEEE ICECCT 2015	Analysis of Discrete Conduction Spectrum of Quantum Dots in Single Electron Transistors	SVS College of Engg. Coimbatore	EC-03	05/03/2015-07/03/2015	5000

Action Sought:

The BOG may kindly note and ratify expenditure incurred and permit to reimburse expenses in 2.2.2

2.3 PLANNED ACADEMIC PROGRAMMES

The Training Need Analysis conducted and the list of planned academic programmes are discussed in the revised Institutional Development Plan (IDP) pages 35-52 which is included as annexure 5. The academic activities planned for the next quarter is as follows.

Table 2.12

Faculty Development Programme – Inhouse -planned

Sl. No.	Title of the Programme	Department & course No.	Duration & date	No. of participants			Coordinator	Expected Expenditure (Rs.)
				Expected	Own Institute	Other Institutes (IRG)		
1.	Web Service	CS-02	4 days June 2015	35	5	40	Janu R.	1 lakh
2.	Applications of Computer Graphics and Multimedia Technologies	CS-05	4 days July 2015	35	5	40	Ilyas H.	1 lakh
3.	Advanced Signal Processing	EC-03	4 days July 2015	35	5	40	Jayadas C. K.	1 lakh
4.	CMOS VLSI Design	EC-05	4 days June 2015	35	5	40	Anupama A.	1 lakh
5.	Modeling of Electrical Machines	EE-01	5 days June 2015	35	5	40	Elizwa Laiju	1.2 lakh
6.	Discrete mathematics and linear algebra	AS-01	5 days July 2015	35	5	40	Radha Balakrishnan	1.2 lakh
7.	Optimization Techniques	AS-04	5 days June 2015	35	5	40	Pradeep M.	1.2 lakh

Table 2.13

Faculty Development Programme – Outstation –planned

Sl. No	Name	Designation	Department	Host Institute	Programme Title	Duration & Date	Expenditure (Rs.)
1	Janu R.	AP	CS	IIT Kharagpur	Knowledge Dissemination Programme on Wireless Sensor Networks and Internet of Things	May 11-15 2015	30000
2	Greeshma. N. Gopal	AP	CS	IIT Kharagpur	Short Term Course on Enabling Internet of Things with Cloud and Big Data Networking	May 25-Jan 7 2015	30000
3	Manilal D.L.	Associate Professor	CS	IIT Kharagpur	Executive Training Programme on Project Management	May15-17 2015	30000
4	Sony P.	AP	CS	IIT Kharagpur	Short Term course on C++ programming and Data Structures	June 23-July 4 2015	30000
5	Illyas H.	AP	CS	IIT Kharagpur	Short Term course on C++ programming and Data Structures	June 23-July 4 2015	30000
6	Anitha M. A.	AP	CS	IIT Kharagpur	Knowledge Dissemination Programme on Wireless Sensor Networks and Internet of Things	May 11-15 2015	30000
7	Dr. Ashok Kumar T	Associate Professor	EC	IIT Kharagpur	Advanced DSP Design Techniques	June 6-10 2015	35000
8	Dr. Vinu Thomas	Associate Professor	EC	IIT Kharagpur	Advanced DSP Design Techniques	June 6-10 2015	35000

9	JayadasC.K.	Associate Professor	EC	IIT Kharagpur	Advanced DSP Design Techniques	June 6-10 2015	35000
10	Jasleena C	AP	EC	IIT Kharagpur	Short Term Course on Design & Analysis of Efficient Antennas for Wireless Communication	May 25-30 2015	30000
11	IrshadAli T.K.	AP	EC	IIT Kharagpur	Short Term Course on Design & Analysis of Efficient Antennas for Wireless Communication	May 25-30 2015	30000
12	Anupama	AP	EC	IIT Kharagpur	Short Term Course on Design & Analysis of Efficient Antennas for Wireless Communication	May 25-30 2015	30000
13	Remya	AP	EC	IIT Kharagpur	Short Term Course on Design & Analysis of Efficient Antennas for Wireless Communication	May 25-30 2015	30000
14	Dr. Jobymol Jacob	Associate Professor	EC	IIT Kharagpur	STC on Data Analysis with SAS	July 1-4 2015	30000
15	Devanand C. N.	AP	ME	IIT Kharagpur	Advances in Numerical Simulation Techniques for Hydraulics	June 1-6 2015	35000
16	Sandhya P. Gopal	AP	ME	IIT Kharagpur	Advances in Numerical Simulation Techniques for Hydraulics	June 1-6 2015	35000

17	Sarakutty K J	Associate Professor	Mathematics	IIT Kharagpur	STC on Data with Analysis SAS	July 2015 1-4	30000
18	Radha Balakrishnan	AP	Mathematics	IIT Kharagpur	National Seminar on Educational Leadership	June 2015 1-3	30000

Action Sought:

The BOG may kindly approve the lists as above.

2.4 PLANNED INTERNATIONAL CONFERENCES

The college plans to organize the following international Conferences.

Table 2.14

No:	Title of The conference	Date
1	International Conference on Signal Processing and Communication	May 2016
2	International Conference on Micro Electronics and VLSI	June 2016
3	International Conference on Information Science	July 2016

The Conferences have been estimated at Rs 15 lakhs each. The detailed estimate is as follows:

Table 2.14

Sl. No.	Purpose	Estimate in Rupees
1	Conference kit	60000
2	Printing	90000

3	TA, Remuneration, Accomodation for external delegates	600000
7	Venue : inclusive of rent for auditoria, food for all delegates- (lunch, high tea, tea and cookies, mineral water for delegates), light and sound, multimedia projection facility, auditoria internal decorations, platforms, outside decorations	700000
8	Miscellaneous	50000
	TOTAL	Rs 1500000/- Rupees Fifteen Lakhs only

Total Planned Expenditure on Conferences: Rs 45 lakhs

Action Sought: The BOG may kindly approve the conduct of the conferences and the anticipated budget.

2.5 HIGH INTENSITY TRAINING PROGRAMMES PROPOSED

TEQIP-II envisages a High Intensity Training Programme (HIT) for the benefit of graduates who have successfully completed the training so that they may be recruited by industries. The HIT programme is also open to students of other colleges. No fee is to be collected from the students for this purpose.

It is understood on discussions with experts from industry that there will be requirement of Engineering Graduates who are skilled in 1) Optical Fibre Technology, 2) Embedded Systems and 3) Big Data and Hadoop. The College proposes to organize High Intensity Training Programmes in these areas. The Terms of References are shown as annexures 2, 3 and 4.

Action Sought: The BOG may kindly approve the HIT programmes proposed and the Terms of Reference for the same.

2.6 STATUS OF IRG ACCOUNTS

As of date, an amount of Rs.1163343/- has been deposited in the four Corpus Accounts for TEQIP-II of CE Cherthala. The split up is as below:

Corpus Fund	4,34,305/-
Maintenance Fund	2,43,532/-
Equipment Replacement Fund	2,43,531/-
Faculty Development Fund	2,43,531/-

Total Amount: Rs 11,64,899/-

In addition, 2 % of the recurring expenditure for 2014-15, i.e. Rs8, 96,906/- , will be deposited equally in the four accounts in the month of July 2015.

Action Sought: The BOG may kindly note.

2.7 REPORT ON FACULTY POSITION

The list of permanent faculty members is attached below.

Table 2.15

List of Permanent Faculty 2014 - 2015			
Sl. No	Name	Designation	Remarks
Electronics Engineering			
1	Dr. Rajesh M.V.	Associate Professor in Electronics Engg.	LWA
2	Dr. Vinu Thomas	Associate Professor in Electronics Engg.	
3	Dr. Jobymol Jacob	Associate Professor in Electronics Engg.	
4	Pradeep M.	Associate Professor in Electronics Engg.	On Leave
5	Jayadas C.K.	Associate Professor in Electronics Engg.	
6	Dr. Ashok Kumar T.	Associate Professor in Electronics Engg.	
7	Sreekumar K.	Assistant Professor in Electronics Engg.	
8	Irshad Ali T.K.	Assistant Professor in Electronics Engg.	
9	Jasleena C.	Assistant Professor in Electronics Engg.	
10	Anupama A.	Assistant Professor in Electronics Engg.	
11	Remya S.	Assistant Professor in Electronics Engg.	
Computer Science & Engineering			
12	Manilal D.L.	Associate Professor in Computer Engg.	
13	Rejin Joseph	Assistant Professor in Computer Engg.	LWA
14	Mohammed Illiyas H.	Assistant Professor in Computer Engg.	
15	Anitha M.A.	Assistant Professor in Computer Engg.	
16	Sony P.	Assistant Professor in Computer Engg.	
17	Greeshma N. Gopal	Assistant Professor in Computer Engg.	
18	Janu R. Panicker	Assistant Professor in Computer Engg.	
Electrical Engineering			
19	Rajeevan A.K.	Assistant Professor in Electrical Engg.	QIP
20	Elizwa Laiju	Assistant Professor in Electrical Engg.	
Mechanical Engineering			
21	Devanand C.N.	Assistant Professor in Mechanical Engg.	
22	Sreenivas P.	Assistant Professor in Mechanical Engg.	QIP
23	Sandhya P. Gopal	Assistant Professor in Mechanical Engg.	
Mathematics			
24	Sarakutty K.J.	Associate Professor in Mathematics	
25	Priyakumar T.N.	Associate Professor in Mathematics	
26	Radha Balakrishnan	Assistant Professor in Mathematics	

Action Sought: The BOG may kindly note the faculty position.

2.8 REPORT ON STATUS OF ACCREDITATION

The College has submitted the Self-Assessment Reviews (SARs) for the eligible programmes: B.Tech degree in Electronics & Communication and B.Tech degree in Computer & Information Science on 3rd May 2015. The scores obtained for the SARs that was submitted, are as follows:

Table 2.16

Criteria	ECE	CSE
1. Vision, Mission and Programme Educational Objectives(75)	65	62
2 Programme Outcomes (150)	127	126
3 Programme Curriculum (125)	95	100
4 Students' Performance (100)	68.26	61.1
5 Faculty Contributions (175)	82.83	58.73
6 Facilities and Technical Support (125)	117	105.5
7 Academic Support Units and Teaching-Learning Process (75)	59.57	58.57
8 Governance, Institutional Support and Financial Resources (75)	62	59
9 Continuous Improvement (100)	62	60.52
Total	738.66	691.42

Action Sought: The BOG may kindly note.

2.9 Summary of Expenditure

The following table indicates the summary of expenditure. The College has been sanctioned Rs 7.5 Crores by NPIU, out of which Rs 5.5 crores was released as TEQIP grant. In addition Rs 60 lakhs was released to the college as advance by the SPFU, bringing the total receipts to Rs 6.10 Crores. The total expenditure is Rs. 6.13 crores.

Table 2.17

TEQIP-II
Sub-Component 1.1
 Group Summary
 1-Apr-2013 to 5-May-2015

Page 1

	Closing Balance	
	Debit	Credit
Incremental Operating Cost	28,10,014.00	
Procurement	4,93,30,572.00	
Assistantships	31,23,114.00	
Capacity Development	1,77,626.00	
FSD	38,25,796.00	
III Cell	1,14,537.00	
R & D	6,000.00	
Reforms	8,98,880.00	
Student Support	10,28,892.00	
Grand Total	6,13,15,431.00	

Action Sought: The BOG may kindly note.

PART 3
DISCUSSIONS

3.1 Revised Institutional Development Proposal

The college submitted the revised Institutional Development Proposal (IDP) to the NPIU on 30.04.2015. The Consent of the Hon'ble Chairman was obtained for sending the IDP, subject to the approval in the next BOG meeting. The revised IDP includes action plan for utilizing the remaining part of the TEQIP-II grant. The revised IDP is shown as **Annexure V**.

Action Sought: The BOG may kindly discuss the revised IDP.

3.2 Report on the Governance Development Plan

The college submitted the Governance Development Plan (GDP) to the NPIU on 30.04.2015, based on the Governance Self review conducted and inputs received in the 7th Joint Review Mission of TEQIP organized by SPFU Kerala on 24th and 25th of April 2015. The Consent of the Hon'ble Chairman was obtained for sending the GDP, subject to the approval in the next BOG meeting. The GDP is shown as **Annexure VI**.

Action Sought: The BOG may kindly discuss the Governance Development Plan .

3.3 Statutory Audit Report

As Directed in the 6th meeting of the BOG, the statutory audit report conducted is attached as **Annexure VII**

Action Sought: The BOG may kindly discuss the Statutory Audit Report.

3.4 Fixing the tentative date for the VIIIth BOG meeting of CE Cherthala.

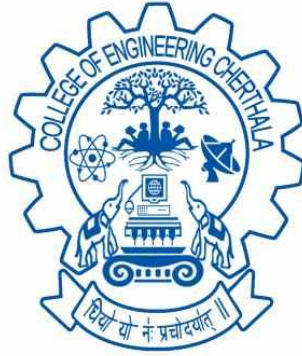
Action Sought: The BOG may kindly fix tentatively the dates for the VIIIth BOG meeting.

PART 4

**OTHER ITEMS WITH THE PERMISSION OF
THE CHAIR**

Annexure 1

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME Phase
II Sub Component I.1



6th MEETING OF
THE BOARD OF GOVERNORS

Approved Minutes

Date: 30-01-2015

Time: 11.30 am

Venue: Seminar Hall, College of Engineering Chertala

COLLEGE OF ENGINEERING CHERTHALA
PALLIPPURAM P.O., CHERTHALA-688 541, KERALA

Phone: +91 478 2553416

AGENDA

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Part 4-Other items

Members present

1. Dr C P Girijavallabhan, Hon. Chairman.
2. Shri. M Sherif , Addl. Sec. ,H. Edn, Government of Kerala (State Govt. Nominee)
3. Dr. Philip Kurien, (University Nominee)
4. Prof. Pradeep M, HOD, Electronics Engineering Dept.
5. Prof. Manilal D L, HOD, Computer Science and Engineering Dept.
6. Dr. P Suresh Kumar (Principal)

The following members of the BOG conveyed their inability to attend the meeting:

1. Dr VP Devassia , Principal Model Engineering College
2. Sri Jacob Mathew, Vice President, Idea Cellular
3. Shri Salim M K, MD, Assuretech, Technopark, Thiruvananthapuram
4. Shri James Joseph, Jt. Sec, Finance, Government of Kerala (State Govt. Nominee)

The following persons were specially invited to attend the BOG meeting

1. Dr P Pratapachandran Nair, Hon'ble Mentor of C.E Cherthala
2. Dr. V Gopakumar, Director, SPFU

Others present in the meeting,

1. Dr Vinu Thomas, TEQIP Coordinator
2. Dr. Jobymol Jacob, Academic Coordinator
3. Prof. Sarakutty K J, EAP Coordinator
4. Sri Sreekumar K, IIC Coordinator
5. Sri Irshad Ali T K, M&E Coordinator
6. Sri Muhammed Ilyas H, Asst. Professor in CS
7. Smt. Greeshma N Gopal, Asst. Professor in CS &Coordinator, Finishing School

The meeting started with silent prayer at 11.30 AM.

The Hon'ble Chairman brought the meeting to order. The Chairman in his introductory note welcomed the BOG members. He expressed satisfaction at the progress in TEQIP-II activities in the college. Thereafter, the Hon'ble Chairman invited the Principal to introduce the agenda for the 6th

BOG meeting. Principal Dr P Suresh Kumar thanked the Hon'ble Chairman and presented the agenda for the meeting.

1.1 Confirmation of the Minutes of the 5th Meeting of the Board of Governors held on 5-09-2014 at CE Cherthala

The BOG confirmed the approved minutes of 5th Meeting of Board of Governors of CE Cherthala held on 5-09-14.

1.2 Report on the action taken/action pending on the pertinent decisions in the Minutes of the 5th Meeting of the Board of Governors held on 25-02-2014 at College of Engineering Cherthala

Discussion:

The BOG took note of the Action Taken Reports and approved. The Director of SPFU advised that henceforth all BOG agendas should include details of Action to be taken, by whom and by when and it should be precisely mapped to the Minutes of the previous BOG meeting.

Decision:

- Action to be taken by Principal, by the next BOG meeting.

2.1 Status of Procurement of Goods

Discussion:

The Director of SPFU intimated that Rs 1.5 lakhs will be released to CE Cherthala shortly. The Principal requested for additional funds of RS 15 lakhs at least to take up Academic activities. Hon'ble Chairman observed that timely release of funds is not happening. SPFU Director informed that there are bottlenecks for timely release of funds at various stages, and that if funds are needed the College should write to SPFU for additional funds along with payment sanctions.

Decision:

- The BOG noted the procurement completed till date and ratified.

2.2 Status of Various Civil Work Packages

Discussion:

Sri M Sherif enquired why the new civil works packages have not been initiated. The Principal replied that since the contractual amount for the proposed new civil works were

low, contractors who are approved by Government are not interested in submitting quotations.

Decision:

- The completed civil works packages were noted.
- The new civil works packages were approved.
- The BOG advised to add new procurement packages in place of the civil works packages in case no valid quotations are received for the proposed civil works.

2.3 Proposed new packages in the Procurement Plan

Decision:

The proposed list of packages in the procurement plan were noted and approved.

2.4 Academic programmes conducted

Discussion:

The IRG for in house training programme “Research Trends in Semiconductor Device Modeling & Fabrication” was noted by the BOG and approved. The Hon’ble Chairman offered his help in organizing technical talks at the institute. The Principal thanked the Hon’ble Chairman for his generous offer. Dr P Pratapachandran Nair asked to organize training programmes for office staff.

- The Hon’ble Chairman enquired whether the remedial classes were conducted outside office hours. The Principal confirmed that the remedial classes were conducted before 9.30 AM and after 4.30 PM on week days, and on Saturdays and Sundays and no regular classes were affected. The Director of SPFU asked to follow up on the High Intensity training programme proposal on Java and Android submitted as QCBS. He opined that the college needed to improve visibility by obtaining NBA Accreditation and conduct of National level examinations. The Director enquired why the building construction was slow. The Principal reported that it was primarily due to administrative delay at the IHRD Head Quarters and that it took about two months to forward a routine expenditure statement to the NABARD. The BOG unanimously expressed concern at the culture of red-tapism in the IHRD Head Quarters, which is seriously affecting the growth prospects of College of Engineering Cherthala. The SPFU Director reminded that faculty members have to take up seed money projects and that financial requirements are to be properly studied before sanctioning seed money. Dr Philip Kurien asked to conduct motivation classes for students. The

Principal replied that this was already being done. The Director of SPFU appreciated the college to have conducted the employment eligibility test by Aspiring Minds.

Decision:

- The BOG noted the list of In House Academic programmes conducted and outstation programmes attended by faculty and ratified.
- The BOG noted the list of Academic programmes proposed for the next three months and approved.
- The BOG congratulated Dr Jobymol Jacob, Academic Coordinator and the coordinator of the in house training programme “Research Trends in Semiconductor Device Modeling & Fabrication” for its excellent conduction and the IRG generated.
- The remedial classes conducted were ratified and the list of classes proposed were approved.
- The EAP Coordinator to follow up on on HIT programme on Java and Android submitted under QCBS.
- The BOG expressed concern at the inefficiency of the IHRD Head Quarters which is seriously affecting the growth prospects of CE Cherthala.

2.5 Status of Four Fund Accounts

Discussion:

The Principal reported that as of date, an amount of Rs.1163343/- had been deposited in the four Corpus Accounts for TEQIP-II of CE Cherthala. The Director enquired whether 2 % of the annual recurring expenditure was deposited in the four funds, and the Principal replied in the affirmative.

Decision:

- The BOG noted the amounts in the four funds.

2.6 Report on Faculty Position

Decision:

The BOG expressed concern at the less than required faculty strength and poor cadre ratio.

2.7 Report on Expenditure incurred under various heads

Decision:

The BOG noted the summary of expenditure incurred under various heads and ratified expenditure.

2.8 Appointment of new personnel to the post of Data Entry Operator

Decision:

The BOG approved the appointment of Smt Remyamol V S to the post of Data Entry operator in place of Smt Joyal Michael who resigned.

3.1 Report on visit of Mentor

Decision:

The BOG noted the report of the third round of mentoring at CE Cherthala given by the Hon'ble mentor Dr P Pratapachandran Nair, and observed the improvements and continued short comings in faculty strength, cadre ratio and lack of civil infrastructure.

3.2 Report on the visit of the Performance Auditor

Decision:

The BOG noted the report of the second round of Performance Audit at CE Cherthala given by the Hon'ble Performance Auditor Dr S K Dhameja. The Hon'ble Chairman observed that the reports of the mentor as well as Performance Auditor talk about poor faculty strength, poor faculty cadre ratio and lack of civil infrastructure which will hamper the institution in its pursuit of accreditation by NBA.

3.3 Report on Accreditation

Decision:

The BOG unanimously opined that the IHRD had to rectify the short comings in faculty strength, faculty cadre ratio and civil infrastructure

3.4 Report on Governance Development Plan

Decision:

The SPFU Director noted that the format for Governance Development Plan was not proper, and should be updated in the templates provided in the NPIU website, taking into account the Governance Self review performed.

Decision:

It was decided to submit the GDP in the proper format.

3.5 Fixing the tentative date for the VIIth BOG meeting of CE Cherthala.

The date of the VIIth BOG meeting of CE Cherthala was tentatively fixed as 5/5/2015.

3.5 Fixing the tentative date for the VIIth BOG meeting of CE Cherthala.

Action Sought: The BOG may kindly fix tentatively the dates for the VIIth BOG meeting.

The Hon'ble Chairman in his concluding remarks appreciated the quality of the deliberations of the VIth BOG meeting. He thanked all the members for attending the meeting and contributing to it by their valuable suggestions and comments. He once again commended the Principal and the TEQIP Cell of CE Cherthala for their good work. He hoped that this good work would continue. The Hon'ble Chairman called the meeting to end at 2.30 PM.

Dr. C.P Girijavallabhan
Chairman

Dr. P Suresh Kumar
Principal

Annexure II

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME

Phase - II

Terms of Reference (ToR)

For

Selection of Certified Training Providers in Fiber Optic Technology

Under

Technical Education Quality Improvement Program - Phase-II

October 2013

College of Engineering Cherthala
Pallippuram P.O.

Terms of Reference (ToR) for Technical Selection of Training Providers in Fiber Optic Technology under Technical Education Quality Improvement Programme - Phase-II

1. BACKGROUND

The Ministry of Human Resource Development (MHRD), Government of India in the year 2002 conceived and designed the Technical Education Quality Improvement Programme (TEQIP) as a long term programme for implementation in 2 to 3 phases over duration of 10-12 years for systemic transformation of the technical education system. TEQIP Phase-I commenced in March 2003 and was successfully completed in March, 2009, covering 127 institutions. Encouraged by the highly significant achievements of Phase-I of the Programme, the Government of India has decided to implement Phase-II of the Programme through MHRD. A key component of the Phase-II Project is the support to weak students under Equity Action Plan. Under this plan, it is considered important that focused efforts be made by institutions to improve the academic performance of SC/ST/OBC academically weak students through innovative methods such as remedial teaching in professional subjects and soft skills development for increasing transition rate, pass rate and employability.

For increasing institutional focus on providing academic and guidance support to the SC/ST/OBC/ academically weak students, all project institutions are required to constitute a Finishing School with a senior faculty as coordinator. The key activities under the aegis of the Finishing School will be:

- a) Conducting remedial teaching throughout academic sessions for improving transition rate and pass rate of students,
- b) Conducting specialized soft skills and professional skills development training during semester-breaks and vacations (preferably starting from 5th Semester onwards) for increasing employability,
- c) Conducting high intensity training (of at least 4-weeks duration) for development of soft and professional skills in the students that graduate but fail to secure any employment, and
- d) Organizing campus interviews and making other efforts to secure employment for graduate engineers that complete the training under activity (c) above.

The Finishing School activities are to be conducted using the existing infrastructure, laboratories, workshops, computer centers, library and the existing faculty. Expertise from outside the institution and from employer organizations can also be used. There will be no course fee for students for either activity at (a) or (b) or (c). The benefit

of activity at (c) of the Finishing School can be extended to graduate-engineers from other institutions in the vicinity who fail to secure employment. All students attending training under activity (c) will be responsible for their boarding and lodging arrangements and expenditure.

The activities of the Finishing School will be regularly supervised and monitored by the respective SPFUs and the NPIU, especially in respect of the number of students participating in the 4-week training and the percentage of these participants securing employment within 6 months of completion of training.

2. OBJECTIVES OF HIGH INTENSITY TRAINING ON FIBER OPTIC TECHNOLOGY

The main objectives of TEQIP-II project are Strengthening Institutions to improve Learning Outcomes and Employability of Students. Many organizations visiting campuses for recruitment point out that the employability of students are not as expected due to poor communication and professional skills.

The broad objectives of high intensive training on “Fiber Optic Technology” are

Introduction to Fiber Optics
Fundamentals of Fiber Optics
Terminology
Advantages & disadvantages of Fiber Optics
Basic theory
Fiber composition
Singlemode & multimode systems
Introduction to fibers, cables and connectors
Fiber characteristics
Step index & graded index fibers
Plastic fibers
Fiber optic colour coding
Loose buffered & tight buffered cables

Distribution & breakout cables
Indoor & outdoor cables
Composite & hybrid cables
Connector types (SC,ST,LC,FC)
Termination techniques
Fiber optic connector polishes
Attenuators & terminators
Installation Practices
Fusion & mechanical splicing
Pigtail splicing
Wall mount & rack mount panels
Fiber distribution units
Splice closures
Fiber raceway systems
Cable trays and ducts
Cable installation products
Underground installation methods
Aerial installation methods
Cable pulling methods
Test Equipment, testing and safety
Optical loss test set
OTDR
Fiber identifiers
Tier 1 & tier 2 testing
One cord reference test method
Two cord reference test method
Safety & Restoration

Evaluation Criteria

DAY	NAME OF SESSION	THEORY (T) / PRACTICAL (P)	DURATION in days	OBJECTIVES	METHODOLOGY	TEACHING MATERIALS	TEACHING METHODOLOGY		RELATED PRACTICAL EXERCISE	OUTCOME
							THEORY	PRACTICAL		
1	Basic introduction and theory of fiber optics	T & P	2	To make trainees understand about the basics of fiber optics	Lecture, PPT, Videos	Manual	Audio & Video	Student hand book	Yes, practical exercises also associated	Trainees will be able to explain the basic theory of fiber optics
2	Introduction to fibers, cables and connectors	T & P	2	To make trainees understand about the different types of fibers, cables and connectors	Lecture, PPT, Videos	Manual	Audio & Video	Student hand book	Yes, practical exercises also associated	Trainees will be able to identify different types of cable and connectors
3	Installation Practices	T & P	5	To teach the trainees about the different installation practices which includes splicing and cable management	Lecture, PPT, Videos	Manual	Audio & Video	Student hand book	Yes, practical exercises also associated	Trainees can do the splicing, termination and cable preparation & understand various installation methods.

4	Test Equipments & Testing	T & P	3	To teach the trainees about different types of test equipments and testing along with safety practices	Lecture, PPT, Videos	Manual	Audio & Video	Student hand book	Yes, practical exercises also associated	Trainees will be able to perform testing using different test equipments
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3. SCOPE OF WORK

- a) The Project provides for hands on training of passed out students in Electronics Engineering, Electrical Engineering and Computer Science Engineering Streams.
- b) The training is to be imparted in-situ (at the institutions) through two sections: 120 hours training on Fiber Optic Technology and certification exam on Advanced Embedded Systems. The venue of the certification exam shall be arranged at CEC Cherthala, if feasible; or any other venue as suggested by the Provider.
- c) The details of the modules in terms of the elements of training; and the corresponding suggested modes of teaching & training, expected outcomes and duration are given at Annexure-1. The program aims to train 40 B.Tech. Passed out students from this Institution.
- d) Training is to be imparted at Government Engineering College Cherthala in one batch of 40 candidates.
- e) The training providers will need to ensure coverage of all the elements identified for the course.
- f) The training providers are free to add more elements in main module that will be covered during the training, provided that these additional elements and additions to the contents can be covered within the stipulated duration of the training. The additional elements and contents are to be declared in the proposal submitted.
- g) The training providers are also free to suggest alternates to the suggested modes of training of various elements.
- h) To qualify for being selected, a training provider will need to demonstrate capability for the training in Fiber Optic Technology and agree to provide the same at the institution and according to schedules as agreed with the College

- i) The training provider shall include the Fiber Optic Technology certified students from CEC Cherthala in the placement drives that are conducted or facilitated by them.
- j) The HIT programme should be certified by international certifying agency.

4. ELIGIBILITY AND CAPABILITY OF TRAINING PROVIDERS

1. Public and private training organizations are eligible to provide training.
2. The training provider should meet the following benchmarks:
 - ✓ Minimum 3 years' experience in providing 'Fiber Optic Technology 'training (please provide the copies of the credentials/ self-certificate for the last three years 2011-12, 2012-13, 2013-14; Ref. Annex-II,III).
 - ✓ In addition to this, the firm should have at least 2 experienced resource persons (full-time or otherwise) with at least a Bachelor's Degree. Brief experience profile of at least 5 of the resource persons in the format given at Annexure-III must be provided.
 - ✓ The training provider will need to demonstrate that it possesses the capacity to impart training to about 2 batches of students in a year.
 - ✓ An undertaking (self-certificate) is to be submitted that there has been no outstanding bankruptcy, judgment or pending legal action that could impair operating as a going concern.
 - ✓ An Undertaking (Self Certificate) is to be submitted that the organization hasn't being black listed by any Central/State Government Department/Central Government Funded Organizations/State Government Funded Organization/World Bank, or other World Bank Organizations (including the UN Organizations) and is not under investigation by Government or UN Member State Government.

5. SELECTION OF TRAINING PROVIDERS

A list of technically qualified Institutions will be finalized, following the procurement norms of TEQIP II. This process will involve short-listing all qualified institutions that responds to the Request for Expressions of Interest (EoI), inviting technical proposals from the short listed agencies, technical evaluation of proposals submitted by shortlisted agencies and final selection of agencies on the basis of technical competencies for the assignment.

6. PAYMENT TO TRAINING PROVIDERS

Training will take place at the institutions as per the schedule. The training of students will be followed by a feedback session and a post-training assessment. The aggregated results of these will be made available to the respondents, Head of Institution and the training provider.

The contracted cost for any training package will cover training in all the elements, contents and modes as quoted in the proposal submitted to the College. The payment of this cost will be made in two installments. The first installment will be 75% of the contracted cost which will be paid after the successful completion of all the training modules. The second installment (25%) will be paid after six months of completion of the training program under the condition that 25% of students undergone training gets placed within six months.

7. COPIES OF RESPONSE

Respondents must submit one hard copy and one soft copy in CD, of their response to this invitation to the designated point of contact by the date and time specified in the invitation.

8. ESTIMATED COST (NOT TO BE INCLUDED IN THE ToR)

Approximate cost per student for 120 hours is Rs.25000/- (Rupees Twenty Five Thousand Only) (Include course materials, mock interviews, placement assistants etc...)
Total estimated cost is Rs.10,00,000/- (Rupees Ten Lakhs Only)

9. DESIGNATED POINT OF CONTACT

Principal
College of Engineering, Cherthala,
Pallipuram P.O., Alappuzha-688541

ANNEXURE III

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME

Phase - II

Terms of Reference (ToR)

For

Selection of Training Providers in Certified Advanced Embedded Systems

Under

Technical Education Quality Improvement Program - Phase-II

October 2013

College of Engineering Cherthala
Pallippuram P.O.

Terms of Reference (ToR) for Technical Selection of Training Providers in Advanced Embedded Systems Under Technical Education Quality Improvement Programme - Phase-II

1. BACKGROUND

The Ministry of Human Resource Development (MHRD), Government of India in the year 2002 conceived and designed the Technical Education Quality Improvement Programme (TEQIP) as a long term programme for implementation in 2 to 3 phases over duration of 10-12 years for systemic transformation of the technical education system. TEQIP Phase-I commenced in March 2003 and was successfully completed in March, 2009, covering 127 institutions. Encouraged by the highly significant achievements of Phase-I of the Programme, the Government of India has decided to implement Phase-II of the Programme through MHRD. A key component of the Phase-II Project is the support to weak students under Equity Action Plan. Under this plan, it is considered important that focused efforts be made by institutions to improve the academic performance of SC/ST/OBC academically weak students through innovative methods such as remedial teaching in professional subjects and soft skills development for increasing transition rate, pass rate and employability.

For increasing institutional focus on providing academic and guidance support to the SC/ST/OBC/ academically weak students, all project institutions are required to constitute a Finishing School with a senior faculty as coordinator. The key activities under the aegis of the Finishing School will be:

- a) Conducting remedial teaching throughout academic sessions for improving transition rate and pass rate of students,
- b) Conducting specialized soft skills and professional skills development training during semester-breaks and vacations (preferably starting from 5th Semester onwards) for increasing employability,
- c) Conducting high intensity training (of at least 4-weeks duration) for development of soft and professional skills in the students that graduate but fail to secure any employment, and
- d) Organizing campus interviews and making other efforts to secure employment for graduate engineers that complete the training under activity (c) above.

The Finishing School activities are to be conducted using the existing infrastructure, laboratories, workshops, computer centers, library and the existing faculty. Expertise from outside the institution and from employer organizations can also be used. There will be no course fee for students for either activity at (a) or (b) or (c). The benefit

of activity at (c) of the Finishing School can be extended to graduate-engineers from other institutions in the vicinity who fail to secure employment. All students attending training under activity (c) will be responsible for their boarding and lodging arrangements and expenditure.

The activities of the Finishing School will be regularly supervised and monitored by the respective SPFUs and the NPIU, especially in respect of the number of students participating in the 4-week training and the percentage of these participants securing employment within 6 months of completion of training.

2. OBJECTIVES OF HIGH INTENSITY TRAINING ON ADVANCED EMBEDDED SYSTEMS

The main objectives of TEQIP-II project are Strengthening Institutions to improve Learning Outcomes and Employability of Students. Many organizations visiting campuses for recruitment point out that the employability of students are not as expected due to poor communication and professional skills.

The broad objectives of high intensive training on “Advanced Embedded Systems” are

- a. Embedded System Development Process, Development tools, Emulators and Simulators.
- b. Hardware Overview: Microprocessors and Microcontrollers, RISC and CISC concepts.
- c. Memory, External Device interfacing, decoding and memory mapping.
Peripherals like Timers, Interrupt Controllers, and Serial Communication devices.
- d. PIC Microcontrollers. Architecture of PIC Family of Microcontrollers.
Peripherals of PIC Microcontrollers, Programming in C with PIC compiler
- e. ARM Microcontrollers. The ARM7 Architecture, Different Modes and Exception Handling. ARM and Thumb Instruction Sets, Assembly Programming with ARM. ARM Cortex M3 architecture.
- f. Software Development for NXP Microcontroller LPC 2148
- g. Peripherals: I/O ports, UART, Timers, Interrupt Controller, ADC, and RTC.
- h. I2C, SPI serial standards. Programming with I2C, SPI controllers. Interfacing SD Memory Card with ARM.

- i. USB, CAN communication standards, Networking Standards and protocols, TCP/IP.

Programming with USB, CAN, Ethernet controller

- j. RTOS concepts. Programming with Keil RTX on ARM microcontroller.
- k. Porting open source RTOS ucOS on ARM microcontroller.

3. SCOPE OF WORK

- a) The Project provides for hands on training of passed out students in Electronics Engineering, Electrical Engineering and Computer Science Engineering Streams.
- b) The training is to be imparted in-situ (at the institutions) through two sections: 120 hours training on Advanced Embedded Systems and certification exam on Advanced Embedded Systems. The venue of the certification exam shall be arranged at CEC Cherthala, if feasible; or any other venue as suggested by the Provider.
- c) The details of the modules in terms of the elements of training; and the corresponding suggested modes of teaching & training, expected outcomes and duration are given at Annexure-1. The program aims to train 40 B.Tech. passed out students from this Institution.
- d) Training is to be imparted at Government Engineering College Cherthala in one batch of 40 candidates.
- e) The training providers will need to ensure coverage of all the elements identified for the course.
- f) The training providers are free to add more elements in main module that will be covered during the training, provided that these additional elements and additions to the contents can be covered within the stipulated duration of the training. The additional elements and contents are to be declared in the proposal submitted.
- g) The training providers are also free to suggest alternates to the suggested modes of training of various elements.
- h) To qualify for being selected, a training provider will need to demonstrate capability for the training in Advanced Embedded Systems and agree to provide the same at the institution and according to schedules as agreed with the College
- i) The training provider shall include the Advanced Embedded Systems certified students from CEC Cherthala in the placement drives that are conducted or facilitated by them.

4. ELIGIBILITY AND CAPABILITY OF TRAINING PROVIDERS

1. Public and private training organizations are eligible to provide training.
2. The training provider should meet the following benchmarks:
 - ✓ Minimum 3 years' experience in providing 'Advanced Embedded Systems' training (please provide the copies of the credentials/ self-certificate for the last three years 2011-12, 2012-13, 2013-14; Ref. Annex-II,III).
 - ✓ All the training personnel should be certified.
 - ✓ In addition to this, the firm should have at least 2 resource persons (full-time or otherwise) with at least a Bachelor's Degree having relevant experience. Brief experience profile of at least 5 of the resource persons in the format given at Annexure-III must be provided.
 - ✓ The training provider will need to demonstrate that it possesses the capacity to impart training to about 2 batches of students in a year.
 - ✓ An undertaking (self-certificate) is to be submitted that there has been no outstanding bankruptcy, judgment or pending legal action that could impair operating as a going concern.
 - ✓ An Undertaking (Self Certificate) is to be submitted that the organization hasn't been black listed by any Central/State Government Department/Central Government Funded Organizations/State Government Funded Organization/World Bank, or other World Bank Organizations (including the UN Organizations) and is not under investigation by Government or UN Member State Government.

5. SELECTION OF TRAINING PROVIDERS

A list of technically qualified Institutions will be finalized, following the procurement norms of TEQIP II. This process will involve short-listing all qualified institutions that responds to the Request for Expressions of Interest (EoI), inviting technical proposals from the short listed agencies, technical evaluation of proposals submitted by shortlisted agencies and final selection of agencies on the basis of technical competencies for the assignment.

6. PAYMENT TO TRAINING PROVIDERS

Training will take place at the institutions as per the schedule. The training of

students will be followed by a feedback session and a post-training assessment. The aggregated results of these will be made available to the respondents, Head of Institution and the training provider.

The contracted cost for any training package will cover training in all the elements, contents and modes as quoted in the proposal submitted to the College. The payment of this cost will be made in two installments. The first installment will be 75% of the contracted cost which will be paid after the successful completion of all the training modules. The second installment (25%) will be paid after six months of completion of the training program under the condition that 25% of students undergone training got placed within six months.

7. COPIES OF RESPONSE

Respondents must submit one hard copy and one soft copy in CD, of their response to this invitation to the designated point of contact by the date and time specified in the invitation.

8. ESTIMATED COST (NOT TO BE INCLUDED IN THE ToR)

Approximate cost per student for 120 hours is Rs.25000/- (Rupees Twenty Five Thousand Only) (Include course materials, mock interviews, placement assistants etc...)
Total estimated cost is Rs.10,00,000/- (Rupees Ten Lakhs Only)

8. DESIGNATED POINT OF CONTACT

Principal

College of Engineering Cherthala, Pallippuram P.O., Alappuzha

ANNEXURE IV

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME

Phase - II

Terms of Reference (ToR)

For

Selection of Training Providers in Certified Big Data And Hadoop

Under

Technical Education Quality Improvement Program -Phase-II

May 2015

College of Engineering Cherthala

Pallippuram P.O.

Terms of Reference (ToR) for

Technical Selection of Training Providers in Big Data and Hadoop

Under

Technical Education Quality Improvement Programme-Phase-II

1. BACKGROUND

The Ministry of Human Resource Development (MHRD), Government of India in the year 2002 conceived and designed the Technical Education Quality Improvement Programme (TEQIP) as a long term programme for implementation in 2 to 3 phases over duration of 10-12 years for systemic transformation of the technical education system. TEQIP Phase-I commenced in March 2003 and was successfully completed in March, 2009, covering 127 institutions. Encouraged by the highly significant achievements of Phase-I of the Programme, the Government of India has decided to implement Phase-II of the Programme through MHRD. A key component of the Phase-II Project is the support to weak students under Equity Action Plan. Under this plan, it is considered important that focused efforts be made by institutions to improve the academic performance of SC/ST/OBC academically weak students through innovative methods such as remedial teaching in professional subjects and soft skills development for increasing transition rate, pass rate and employability.

For increasing institutional focus on providing academic and guidance support to the SC/ST/OBC/ academically weak students, all project institutions are required to constitute a Finishing School with a senior faculty as coordinator. The key activities under the aegis of the Finishing School will be:

- a) Conducting remedial teaching throughout academic sessions for improving transition rate and pass rate of students,
- b) Conducting specialized soft skills and professional skills development training during semester-breaks and vacations (preferably starting from 5th Semester onwards) for increasing employability,
- c) Conducting high intensity training (of at least 4-weeks duration) for development of soft and professional skills in the students that graduate but fail to secure any employment, and
- d) Organizing campus interviews and making other efforts to secure employment for graduate engineers that complete the training under activity (c) above.

The Finishing School activities are to be conducted using the existing infrastructure, laboratories, workshops, computer centers, library and the existing faculty. Expertise from outside the institution and from employer organizations can also be used. There will be no course fee for students for either activity at (a) or (b) or (c). The benefit of activity at (c) of the Finishing School can be extended to graduate-engineers from other institutions in the vicinity who fail to secure employment. All students attending training under activity (c) will be responsible for their boarding and lodging arrangements and expenditure.

The activities of the Finishing School will be regularly supervised and monitored by the respective SPFUs and the NPIU, especially in respect of the number of students participating in the 4-week training and the percentage of these participants securing employment within 3 months of completion of training.

2. OBJECTIVES OF HIGH INTENSITY TRAINING ON Big Data and Hadoop

The main objectives of TEQIP-II project are Strengthening Institutions to improve Learning

Outcomes and Employability of Students. Many organizations visiting campuses for recruitment point out that the employability of students are not as expected due to poor communication and professional skills.

The broad objectives of high intensive training on “**Big Data and Hadoop**” are

- a) To efficiently work on projects in Big Data and Hadoop
- b) To assist the students for recognized certification in Big Data and Hadoop.
- c) To train the students in interview questions in this area there by providing placement assistance.

3. SCOPE OF WORK

a) The Project provides for hands on training of passed out students (B.Tech) in Electronics and Communication and Computer Science Engineering Streams.

b) The training is to be imparted in-situ (at the institutions) through two sections:

120 hours training on **Big Data and Hadoop** and certification exam on **Big Data and Hadoop**. The venue of the certification exam shall be arranged at CEC Cherthala, if feasible; or any other venue as suggested by the Provider.

c) The details of the modules in terms of the elements of training; and the corresponding suggested modes of teaching & training, expected outcomes and duration are given at Annexure-1. The program aims to train 40 B.Tech. passed out students from this Institution.

d) Training is to be imparted at Government Engineering College Cherthala in batches of 20 candidates.

e) The training providers will need to ensure coverage of all the elements identified for the course.

f) The training providers are free to add more elements in main module that will be covered during the training, provided that these additional elements and additions to the contents can be covered within the stipulated duration of the training. The additional elements and contents are to be declared in the proposal submitted.

g) The training providers are also free to suggest alternates to the suggested modes of training of various elements.

h) To qualify for being selected, a training provider will need to demonstrate capability for the training in ‘**Big Data and Hadoop**’ and agree to provide the same at the institution and according to schedules as agreed with the College

i) The training provider shall include the **Big Data and Hadoop** certified students from CEC Cherthala in the placement drives that are conducted or facilitated by them.

4. ELIGIBILITY AND CAPABILITY OF TRAINING PROVIDERS

1. Public and private training organizations are eligible to provide training.

2. The training provider should meet the following benchmarks:

- Should be an Authorized Training Centre (ATC) of EC-Council
- Minimum 3 years' experience in providing '**Big Data and Hadoop**' training (please provide the copies of the credentials/ self-certificate for the last three years 2012-13,2013-14,2014-15;Ref. Annex-II,III).
- All the training personnel should be **Big Data and Hadoop** certified.
- In addition to this, the firm should have at least 2 experienced resource persons (full-time or otherwise) with at least a Bachelor's Degree. Brief experience profile of at least 5 of the resource persons in the format given at Annexure-III must be provided.
- The training provider will need to demonstrate that it possesses the capacity to impart training to about 2 batches of students in a year.
- An undertaking (self-certificate) is to be submitted that there has been no outstanding bankruptcy, judgment or pending legal action that could impair operating as a going concern.
- An Undertaking (Self Certificate) is to be submitted that the organization hasn't being black listed by any Central/State Government Department/Central Government Funded Organizations/State Government Funded Organization/World Bank, or other World Bank Organizations (including the UN Organizations) and is not under investigation by Government or UN Member State Government.

5. SELECTION OF TRAINING PROVIDERS

A list of technically qualified Institutions will be finalized, following the procurement norms of TEQIP II. This process will involve short-listing all qualified institutions that responds to the Request for Expressions of Interest (EoI), inviting technical proposals from the short listed agencies, technical evaluation of proposals submitted by shortlisted agencies and final selection of agencies on the basis of technical competencies for the assignment.

6. PAYMENT TO TRAINING PROVIDERS

Training will take place at the institution as per the schedule. The training of students will be followed by a feedback session and a post-training assessment. The aggregated results of these will be made available to the respondents, Head of Institution and the training provider. The contracted cost for any training package will cover training in all the elements, contents and modes as quoted in the proposal submitted to the College. The payment of this cost will be made in two installments. The first installment will be 75% of the contracted cost which will be paid after the completion of all the training modules. The second installment (25%) will be paid after six months of completion of the training program under the condition that 25% of students undergone training got placed within three months.

7. COPIES OF RESPONSE

Respondents must submit one hard copy and one soft copy in CD, of their response to this invitation to the designated point of contact by the date and time specified in the invitation.

8. ESTIMATED COST (NOT TO BE INCLUDED IN THE ToR)

Approximate cost per student for 120 hours is Rs.25000/- (Rupees Twenty Five Thousand Only) (Include course materials, mock interviews, placement assistants etc...)

Total estimated cost is Rs.10,00,000/- (Rupees Ten Lakhs Only)

9. DESIGNATED POINT OF CONTACT

Principal

College of Engineering Cherthala, Pallippuram P.O.

Annexure I

Introduction to Bigdata

- Types of data and their significance
- Need for Bigdata Analytics.
- Why Bigdata with hadoop?
- History Of Hadoop.
- Node, Rack , Cluster.
- Architecture of Hadoop.
- Characteristics of Namenode.
- Significance of JobTracker and Tasktrackers.
- hase co-ordinatiaon with JobTracker.
- Scondary Namenode usage and workaround.
- Hadoop releases and their significance.
- Workaround with datanodes.
- YARN architecture.
- Significance of scalability of operation.
- Use cases where not to use Hadoop.
- Use cases where Hadoop Is used.
- Facebook, Twitter, Snapdeal, Flipkart.

Hadoop Java API

- Hadoop Classes, What is MapReduceBase?
- Mapper Class and its Methods.
- What is Partitioner and types.
- Hadoop specific datatypes
- Working on unstructured data analytics.
- What is an iterator and its usage techniques.
- Types of mappers and reducers.
- What is output collector and its significance.

- Workaround with Joining of datasets.
- Complications with mapreduce.
- Mapreduce anatomy.
- Anagram example, Teragen Example, Terasort Example
- WordCount Example
- Working with multiple mappers.
- Working with weather data on multiple datanodes in a Fullydistributed architecture.
- UseCases where mapreduce anatomy fails.
- Interview questions based on JAVA mapreduce

Working with Pig Latin - I

- Introduction to Pig Latin
- History and evolution of Pig latin
- Why Pig is used only with Bigdata
- Pig architecture and overview of Compiler and Execution Engine.
- Pig Release and significance with bugfixes.
- Pig Specific Datatypes
- Complex Datatypes
- Bags, Tuples, Fields
- Pig Specific Methods.
- Comparison Between Yahoo Pig & Facebook Hive.
- Working with Grunt Shell.
- Grunt commands(total 17)
- Pig Data input techniques for flatfiles(comma separated, tab delimited and fixed width).
Working with schemaless approach
- How to attach schema to a file/table in pig.
- Schema referencing for similar tables and files.
- Working with delimiters

Working with Pig Latin - II

- Working with BinaryStorage and Text Loader.
- Bigdata Operations and Read write analogy.
- Filtering Datasets
- Filtering rows with specific condition
- Filtering rows with multiple conditions
- Filtering rows with string based conditions
- Sorting DataSets
- Sorting rows with specific column or columns
- Multilevel Sort
- Analogy of a sort operation
- Grouping datasets and Co-grouping data
- Joining DataSets
- Types of Joins supported by Pig Latin

- Aggregate operations like average, sum, min, max, count
- Flatten operator
- Creating a UDF (USER DEFINED FUNCTION) using java
- Calling UDF from a pig script
- Data validation scripts.

Working with Hive

- Introduction
- Installation and Configuration
- Interacting HDFS using HIVE
- Map Reduce Programs through HIVE
- HIVE Commands
- Loading, Filtering, Grouping
- Data types, Operators
- Joins, Groups
- Sample programs in HIVE
- Alter and Delete in Hive.
- Partition in Hive.
- Indexing.
- Joins in Hive. Unions in Hive.
- Industry specific configuration of Hive parameters.
- Authentication & Authorization.
- Statistics with Hive.
- Archiving in Hive.
- Hands-on exercise

Hbase & Zookeeper

- Hbase Architectural point of view
- Region servers and their implementation
- Client APIs and their features
- How messaging system works
- Columns and column families
- Configuring hbase-site.xml
- Available Client
- Loading Hbase with semi-structured data
- Internal data storage in hbase
- Timestamps
- HBase Architecture
- Creating table with column families
- MapReduce Integration.
- HBase: Advanced Usage, Schema Design
- Load data from pig to hbase
- Sqoop architecture
- Data Import and export in SGOOP.
- Deploying quorum and configuration throughout the cluster.

Yarn Architecture

- Introduction to YARN and MR2 daemons.
- Active and Standby Namenodes
- Resource Manager and Application Master
- Node Manager
- Container Objects and Container
- Namenode Federation
- Cloudera Manager and Impala
- Load balancing in cluster with namenode federation
- Architectural differences between Hadoop 1.0 and 2.0

Hadoop on Amazon Cloud

- Introduction to cloud infrastructure.
- Amazon SaaS, Paas and IaaS.
- Creating EC2 instance for processing.
- Creating S3 buckets
- Deploying data on to the cloud.
- Choosing size of our instance.
- Configuration of EMR instance
- Creating a virtual cluster on amazon
- Deploying project and getting stats.

Annexure-II

Format for providing details of experience and resources of training provider

1. Name :
2. Address and Contact details:
3. Relevant Work Experience (experience related to providing Training on Big Data And Hadoop)

Sl No	Requirement	Please provide the relevant information summary in this format
1	No. of years in providing training in Big Data and Hadoop	
2	No. of engineers trained so far and in how many batches	
3	No. of trainers engaged along with their CVs	

4. An undertaking (self certificate) is to be submitted that there has been no outstanding bankruptcy, judgment or pending legal action that could impair operating as a going concern.

5. An Undertaking (Self Certificate) is to be submitted that the organization has not been black listed by any Central/State Government Department/Central Government Funded Organizations/State Government Funded Organization/World Bank, or other World Bank Organizations (including the UN Organizations) and is not under investigation by Government or UN Member State Government.

Annexure III

Format for experience profile of resource persons on the training provider's team

1. Name:

2. Address and contact details:

3. Educational Qualifications:

4. Present Employment, if any:

5. Past Employment record (employer, period of service, designation of the post occupied)

6. Relevant Work Experience (experience related to providing training in Big Data And Hadoop to be given in the tabular format given below)

Sl. No.	Duration	No. of students	No. of students trained certified

Annexure IV

Format for the list of firms which recruited trainees of Big Data And Hadoop and details of trainees who were placed.

Sl No.	Name of the Employee	Name of the Firm	Address of the Employee	Position in the Firm	Approximate Salary

ANNEXURE V

PROPOSAL UNDER

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME

PHASE II (SUBCOMPONENT 1.1)

30TH APRIL 2015-31ST OCTOBER 2016

INSTITUTIONAL DEVELOPMENT PROPOSAL



COLLEGE OF ENGINEERING, CHERTHALA

(Managed by IHRD, Established by Govt. of Kerala)

PALLIPPURAM, CHERTHALA

ALAPPUZHA - 688541, KERALA, INDIA.

CERTIFICATE

I, Dr C P Girijavallabhan, Chairman, Board of Governors (BoG) of College of Engineering Cherthala, hereby approve the Institutional Development Proposal for TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME- Phase II: Subcomponent 1.1, submitted by College of Engineering Cherthala, Pallippuram, Cherthala, Alappuzha (Dist), Kerala

Chairman
BoG

Date : 30/4/2015



COLLEGE OF ENGINEERING, CHERTHALA
(Managed by IHRD, Established by Govt. of Kerala)
ALAPPUZHA – 688541, KERALA, INDIA.

Date: 30/04/2015

CERTIFICATE

This is to certify that all the information provided in Institutional Development Proposal of
for TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME- Phase II:
Subcomponent 1.1 , submitted by College of Engineering, Cherthala are factually correct.

Principal

College of Engineering Cherthala

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1 INSTITUTIONAL DEVELOPMENT PROPOSAL (IDP)

1.1 EXECUTIVE SUMMARY OF THE IDP

Government of Kerala established the College of Engineering Cherthala (CEC) under the aegis of the Institute of Human Resources Development (IHRD), in the year 2004. The college offers UG level programs in Computer Science & Engineering, Electronics & Communication Engineering and Electrical & Electronics Engineering and PG programme in Signal Processing under the Department of Electronics Engineering and PG programme in Computer and information Science under the department of Computer Science

The institute proposes to upgrade facilities and improve faculty competencies by way of continued grant under the TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME- Phase II: Subcomponent 1.1. The procurement plan proposed earlier was revised on the fly to suit the institutional needs and has almost reached the completion stage. The remaining equipments and services are to be completed in two months. The core competencies of the faculty needs to be further strengthened by exposing the faculty to latest developments and industrial practices, by way of updation programmes and enhanced interaction with the industry. New faculty needs to be inducted and existing faculty given refresher programmes by organizing pedagogical training. Management Capacity building is to be carried out for senior level faculty holding administrative charges. A strong research culture needs to be established in the institute. An Equity Action Plan has been formulated with the aim of empowering students from the weaker sections to compete, which should result in improved pass percentage & first year transition, as well as improved placements. A finishing school is also proposed to improve the communication skills and employability of the graduates of the institute. After achieving these strengths, the Institute proposes to achieve autonomy so that proper institutional reforms may be implemented. The Strategic Development Plan of the Institute that has been prepared, keeping the above in mind, sets out realistic strategic proposals and goals to be implemented and achieved over the next five years, with the spirit of its core values of Equity, Innovation, Transparency, Efficiency and Team work.

The strategic plan given in this proposal is strongly linked to the specific Strengths, Weakness, Opportunities and Threats of CEC derived by a systematic SWOT analysis.

1.1.1 THE PARTICIPATION OF DEPARTMENTS/ FACULTY IN THE IDP PREPARATION

For proposal preparation and implementation of the project a core committee was constituted with the Head of Institution as the chairman and two or three faculty members from each Department.

The preparation of project report is the initial part of the successful implementation of any project. In fact, it can be regarded as a preparatory phase of the project. The project report preparation lays emphasis on team work and the report is a written document indicating the various activities to be carried out during the project period. It is also a quantitative statement of the resources set aside for carrying out planned activities over given periods of time. As such, the report can be used as a means for planning and controlling activities at every stage of the project. The project report also establishes clear and unambiguous standards of performance for a set time period. At stated intervals during that time period, actual performance will be compared directly with the preset target and deviations can be detected quickly and acted upon.

The project report itself is one of the major means of coordinating the activities of the institution. The interaction between the members of faculty and staff that takes place during the project development process will help define and integrate the activities of the members of the institution. The project report preparation involved active participation of all departments, faculty and staff members in spite of having their regular workloads. In order to ensure division of work load for faculty members various committees were constituted which were headed by Nodal Officers. Necessary directions and inputs were given to the Nodal Officers by the Head of the Institution, in addition to the periodic review and monitoring. Committees were constituted for preparing different objectives of the report as detailed below.

1.1.2 COMMITTEES FOR IDP PREPARATION

Sl.No	Committee	Members Involved	Department
1	Institutional information including academic and staff information	Irshad Ali T K Greeshma N Gopal Rajesh N A	Electronics Engineering Computer Engineering Junior Superintendent
2	SWOT Analysis	Devanand C N Dr. Vinu Thomas Sreenivas P Sreekumar K Irshad Ali T K	Mechanical Engineering Electronics Engineering Mechanical Engineering Electronics Engineering Electronics Engineering
3	Scaling up post graduate education	Manilal D L Pradeep M RadhaBalakrishnan Sandhya P Gopal Greeshma G Gopal	Computer Engineering Electronics Engineering Applied Science Mechanical Engineering Computer Engineering

4	Collaboration with industry	Sreekumar K	Electronics Engineering
		Greeshma N Gopal	Computer Engineering
5	Improving research activity	Jayadas C K	Electronics Engineering
		Dr Jobymol Jacob	Electronics Engineering
		Sony P	Computer Engineering
		Dr Ashok Kumar T	Electronics Engineering
		Greeshma G Gopal	Computer Engineering
6	Training Need Analysis for faculty	Dr Jobymol Jacob	Electronics Engineering
		Irshad Ali T.K	Electronics Engineering
7	Training Need Analysis for technical and other staff	Sarakutty K J	Applied Science
		Devanand C N	Mechanical Engineering
		Jasleena C	Electronics Engineering
8	Coherence with State Plan	Priyakumar T N	Applied science
		Devanand C N	Mechanical Engineering
		Jasleena C	Electronics Engineering
9	Budget	Pradeep M	Electronics Engineering
		Manilal D L	Computer Engineering
10	Procurement	Pradeep M	Electronics Engineering
		Manilal D L	Computer Engineering
11	Information related to Academic Achievement	Priyakumar T N	Applied Science
		Sony P	Computer Engineering

1.2 DETAILS OF SWOT ANALYSIS

The college realizes the need for strengthening its activities to improve the learning ambience, the teaching learning process, improved interaction with industry, research by faculty and employability of the students. This proposal has been prepared with the objective of elimination of its weakness while further consolidating its strength based on a SWOT exercise. Following the SWOT exercise, an action plan was formulated, keeping in view the TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME- Phase II: Subcomponent 1.1. framework. The SWOT analysis undertaken earlier has been suitably updated keeping in mind two years of TEQIP-II activities at the institute.

PROCEDURE

The SWOT analysis involved strategic sampling from a domain of all stake holders, viz. students, faculty and staff as well as parents. A technical analysis of the data thus collected was conducted for

identifying the internal factors, viz. strengths as well as weaknesses and for pinpointing the external factors, viz. opportunities available for exploitation and threats that were to be addressed by the institution. A workshop on SWOT was conducted where all faculty, representatives from support staff and student representatives from each class participated. Subsequently a brain storming session for SWOT analysis was conducted in each department, with a facilitator in each group. The institutional BOG members took the lead in the deliberations. The reports were consolidated into a single statement.

The salient features derived from the SWOT analysis are summarized below:

Table: Salient Features of SWOT Exercise

STRENGTH		WEAKNESS	
1	Dedicated faculty having relatively good experience with potential to grow, with five PhD holders (20 % of regular faculty)	1	Insufficient funds for Infrastructure Development.
2	Availability of vast area to develop new infrastructure facilities	2	Number of permanent faculty is insufficient (44.83%)
3	Integrity in Appointments of Faculty and Staff.	3	Relative degradation in input quality as measured by entrance rank
4	Effective and remedial teaching with personalized interaction with students.	4	Less number of consultancy and R&D work
5	State of the art laboratory equipment, good library facilities, smart class rooms.	5	Relative lesser campus placements
6	Presence of active bodies like IEEE, CSI, NSS, PTA, Alumni etc.	6	Inordinate delay in decision making at Government level

OPPORTUNITY		THREAT	
1	Potential to grow as a research centre in Electronics Engineering	1	Insufficient funds for starting innovative and need based programs.
2	Located near to Infopark Cherthala, which is expected to grow tremendously in the short term, and proximity to the industrial hub of Kerala: Kochi	2	Inadequacy in resources to retain the faculty by addressing their intellectual needs
3	Potential to provide quality engineering education in cost effective manner	3	Disproportionate increase in no. of engineering seats
4	Availability of standards and accreditation processes for Quality Assurance and opportunity to obtain Autonomy	4	Growing number of Private Institutions, with better civil infrastructure facilities in the vicinity, who also attract better input quality at lower tuition fees for deserving students
5	Opportunity for improving faculty/staff competencies	5	Lack of academic flexibility as institution is not autonomous

The features in each category (Strength, Weaknesses, Opportunities and Threats) were noted, collected and abridged. Strategies were developed based on four combinations

1. Strength and Opportunities
2. Strengths and Threats
3. Weakness and Opportunities
4. Weakness and Threats

These strategies were considered as a guideline for the preparation of action plan for the development of the institution. The strategic plan for the development of the institution is derived from the following observations in the SWOT analysis.

College of Engineering Cherthala is equipped with human resources for project planning and implementation. It is having well experienced, motivated and young faculty and relatively good students are obtained as input. Its laboratory facilities are being utilized well and the institution has been able to procure state of the art equipment in the various laboratories by way of procurement under TEQIP-II. However, lack of funds has been a major hindrance for civil infrastructure development. The remaining equipments and services in the procurement plan need to be completed in two months. Additional civil infrastructure needs to be put in place in view of the increased intake of students and additional courses that have been sanctioned. . Vacancies in the top management at the level of Professors and Associate Professors and entry cadre at the level of Assistant Professors need to be filled up by promotion of eligible faculty and recruitment. Limited interaction with industry and lack of research activities and consultancy services are also regarded as weakness. Therefore faculty need to be exposed to current practices in the Industry and their core competencies need to be enhanced, and research culture established by means of training programmes. The remedial coaching and soft skill training programmes being given to weaker sections among the students need to be continued.

The SO strategy, WO strategy, ST strategy and WT strategy – were developed for the institution and are summarized in the following section.

	Strength	Weakness
Opportunity	S-O Strategies	W-O Strategies
	<ol style="list-style-type: none"> 1. Quality up gradation of faculty/ staff through QIP and FSDP 2. Explore possibility of sourcing experts from Industry for handling industry relevant subjects and guiding projects 3. Establish Research Centre in Electronics Engineering to promote research culture 4. Organize International and National level seminars and conferences under the aegis of IEEE etc. in collaboration with industry, to improve visibility of institution and to promote research 5. Permit the use of state of the art laboratory equipment purchased for industry and startups at nominal cost to improve IRG and to take up joint projects. 	<ol style="list-style-type: none"> 1. Seek more Plan fund allocation from the Govt. and apply for NABARD grants for infrastructure development and better learning ambience 2. Obtain NBA and APACC Accreditation, ISO Certification, Attain autonomy 3. Sign meaningful MOUs with industries to promote R&D
Threat	S-T Strategies	W-T Strategies
	<ol style="list-style-type: none"> 1. Generate IRG by taking up Consultancy work 2. Incentive for faculty doing research and consultancy 3. Ensuring professional growth by better interaction with Professional Societies 4. Start UG programmes in Civil and Mechanical Engineering branches and PG programmes in high demand areas 5. Conduct refresher training programmes for Industry 	<ol style="list-style-type: none"> 1. Provide Scholarships to meritorious Undergraduate students to attract better input 2. Ensure file movement, sensitize administrative staff, strict monitoring of file movement 3. Eliminate mind-set of students towards wage employment and orient them towards entrepreneurship.

1.2.1 STRATEGIC PLAN

Following the SWOT analysis, the institution has acquired the capability to monitor the micro and macro environmental factors that could affect its functioning. SWOT analysis is a subjective approach and now that it has been undertaken, the institution has moved onto specific “Goal Formulation” for the development of a strategic plan. The Goals have been formulated following a specific hierarchy, from the most important to the least important. Care has been taken to ensure that the Goals are realistic. These Goals, derived from the subjective portion of the SWOT analysis are statements of direction of effort towards achieving the Mission and the long term Vision. It is observed from the SWOT analysis that the institution has the opportunity for the enhancement of research activity, development of faculty & staff and starting of new PG & UG programmes which will help in attaining its long term vision of becoming a centre of excellence in knowledge and technology. Insufficient funds for starting innovative and need-based programmes, obsolescence of lab equipment, lack of civil infrastructure including hostel facility, canteen, play grounds, lesser number of class rooms etc are perceived as major threats. An important factor is the demand for more research facilities in Engineering and technology in the state and country to bridge the gap between supply and demand of Engineering Post Graduates and Ph.Ds. As the institution is having a pool of well-qualified and experienced faculty, the same may be tapped to equip the institution with courses and research opportunities in most demanding areas.

Once the Goals were formulated, they were mapped on to specific precise and tangible Objectives, milestones that are to be realized in order to achieve the Goals. Care was taken to ensure that the Objectives so framed were specific, measurable, attainable, relevant and time bound. The Strategies were formulated by listing out the Goals, mapping them onto specific and tangible objectives and by listing out the strategies for achieving the goals. The Goals were broadly grouped into essential categories concerning the following:

-  Educational Processes
-  Human Resources
-  Financial Resources
-  Physical Resources
-  Relationship building
-  Governance

The Goals in the category Educational Process were identified as below,

- 1.Improving Academic Performance
- 2.Improving the teaching learning process

3. Enhancing research and consultancy
4. Scaling up of existing PG Programmes and starting new PG programmes in high demand areas

The Goals in the category Human Resources were identified as below,

1. Improving the input quality of the institute
2. Training for faculty and staff
3. Improving Employability of the Graduates
4. Improving morale and motivation of Faculty and Support Staff
5. Recruitment of faculty and support staff

The Goals in the category Financial Resources were identified as below,

1. Consultancy work by Faculty
2. Undertaking sponsored research projects from funding agencies
3. Increasing intake of students to improve revenue
4. Continuing Education Programmes for students and practising Engineers to improve revenue

The Goals in the category Physical Resources were identified as below,

1. Improving Civil Infrastructure facilities required for the teaching learning process
2. Improving student amenities
3. Improving the facilities for faculty and staff

The Goals in the category Relationship Building were identified as below,

1. Improving industry interaction
2. Improving interaction with Reputed Academic Institutions
3. Alumni for leveraging their contributions to their Alma Mater

The Goal in the category Governance were identified as below,

1. Achieve Autonomy

These Goals, mapped onto tangible objectives and strategies to achieve the objectives, were devised after deliberations among the various stake holders, viz. the Board of Governors, Faculty and Support Staff, Student Representatives and Representatives of the parents. This mapping is illustrated in the following tables. The strategic plan has been formulated taking into account the holistic vision for the development of the institute.

1.2.1.1 EDUCATIONAL PROCESSES

GOALS	OBJECTIVES	STRATEGIES	Key Performance Indicators
1.Improving Academic Performance	Avoid loss of contact hours by compensating for classes lost due to unforeseen circumstances	Compensate for lost working days by working on the following Saturday	Pass percentage improved by 5 % per year and 10 % in two years
	Reduce Absenteeism in the class by 50%	Effective staff advisory system for interacting with students and parents, campus automation software to convey daily attendance of students	
	Improve pass percentage by 5 % in two years	Remedial coaching for weaker students	
		Conduct Scholar classes by Expert Academicians and Scientists as introductory sessions for analytical subjects in the curriculum	

2.Improving the teaching learning process	Use of Simulation software (especially Open Source) to be promoted among faculty and students and at least 50% of Engineering faculty to use such tools for lectures	Faculty and Students to be given extensive training on such software	Student Feedback indicating improved imparting of knowledge in class room.
	Promote the use of learning platforms such as Moodle	Provide a Moodle server and encourage faculty and students to develop e-content	
3. Enhancing research and consultancy	All faculty with MTech registering for PhD within two years	Increase number of faculty deputations for research	All regular faculty acquiring PhD in 7 years
	All senior faculty to undertake one industrial consultancy/sponsored research project from funding agencies	Allocate points for such activities while awarding grade promotions	All senior faculty at the level of Associate Professor or above undertaking at least one consultancy work/sponsored project
	All faculty to attend in house and external IIC workshops		

4. Scaling up of PG Programmes	Curriculum revision of current PG programmes	Achieving Academic Autonomy	The curriculum for the current PG programmes being revised in two years.
		In the short run (before Academic Autonomy is achieved) the college is to be affiliated to Kerala Technological University where it will provide inputs for revision of curriculum in consultation with experts from Industry.	
	Start PG Programmes in thrust areas	Submit proposal to State Govt., Affiliating University and AICTE for necessary administrative sanctions	The new PG Programmes commencing in two years.

1.2.1.2 HUMAN RESOURCES

GOALS	OBJECTIVES	STRATEGIES	Key Performance Indicators
1. Improving the input quality of the institute	All students admitted on general merit to have entrance rank better than 10000, in five years	providing hostels, improved transport and recreational facilities	Improved results and placements
2. Training for faculty and staff	All faculty to undergo basic and advanced pedagogical training in two years	Utilize the training programmes conducted by IITs and NITTRs	Improved teaching as reflected in student satisfaction survey
	All faculty to undergo subject domain training every year	Utilize the training programmes organized by IITs and other reputed Institutes	
3. Improving Employability of the Graduates	Setting up of Finishing school to provide soft skill training to all students	<ul style="list-style-type: none"> • Conduct diagnostic tests to identify students who require greater attention to improve their soft skills. • Procure services of a reputed trainer to provide soft skill training 	Improved placements

	Every student in the final and pre-final year to undertake Industrial visits .Conduct Industry Interaction programmes for all students to make them aware of Industrial practices and requirements	Make Internships in Industry mandatory for the final and pre-final students	Improved placements
4. Improving morale and motivation of Faculty and Support Staff	Timely award of service benefits	Modify service rules appropriately, Convene meetings of the Department Promotion Council for award of benefits to eligible faculty and staff	Improvement in faculty/staff satisfaction survey
	Avoiding red tape-ism in the administrative setup	Ensure file movement, sensitize administrative staff, strict monitoring of file movement	
5. Recruitment of faculty and support staff	Ensure timely recruitment process once autonomy is achieved	Complete formalities for achieving academic autonomy	At least 70 % of faculty positions to be filled by regular faculty in 5 years
	In the interim, fill vacant positions on one year contract basis	Represent the parent body for the same	

1.2.1.3 FINANCIAL RESOURCES

GOALS	OBJECTIVES	STRATEGIES	Key Performance Indicators
1. Consultancy work by Faculty	All regular faculty to undertake consultancy work	Give service incentives by way of points for awarding grade promotion, and allow the concerned faculty to retain 20% of the fund generated through consultancy	Number of consultancies undertaken
2. Undertaking sponsored research projects from funding agencies	All faculty with Doctoral Degrees to undertake sponsored research from funding agencies	Provide seed money to conduct initial studies, utilize student projects at PG level, submit to funding agencies for approval of a larger project proposal	Number of Sponsored research projects and revenue generated
3. Increasing intake of students to improve revenue	Start additional batch of 60 students in BTech Electrical Engineering, and increase intake of students in BTech Computer Science from 90 to 120 in next academic year	Submit proposal to Govt of Kerala, CUSAT and AICTE	Increased revenue
4. Continuing Education Programmes for students and practising Engineers to improve revenue	All Departments to conduct at least one Add on Certification Programme, open to students of other colleges and practicing Engineers	Advertise in Leading state dailies	Number of programmes and revenue generated

1.2.1.4 PHYSICAL RESOURCES

GOALS	OBJECTIVES	STRATEGIES	Key Performance Indicators
1. Improving Civil Infrastructure facility	Providing Hostel ,Canteen facility for students and staff	<ul style="list-style-type: none"> Seek financial assistance from Government 	<ul style="list-style-type: none"> Feedback from stake holders, especially students and faculty/staff indicating better facilities Better quality in the intake of students
	Providing Additional Built up space for Computer Centre , Graphics Hall, Class rooms, Auditorium and Toilet Block		
	Improving the recreational facilities including playground and Amphitheatre facility		
	Improve the ambience of the class rooms, faculty rooms		

1.2.1.5 RELATIONSHIP BUILDING

GOALS	OBJECTIVES	STRATEGIES	Key Performance Indicators
1. Improving industry interaction	Joint projects with Industry in all Departments	Explore possibilities for associating with Info Park Chertala and Info Park Kochi, and neighbouring industries	Number of joint projects, Number of training programmes conducted for local industry, Number of

	Internships for final year and pre-final year students in Industry		student projects in association with local industry, Number of talks delivered by Experts from Industry
	At least five Major and Mini Projects will be carried out in collaboration with industry		
	Special training programs in relevant areas shall be conducted for the benefit of local industry		
	Invited talks by experts from Industry		
	Industrial visits for all final year and pre-final year students		
2. Improving interaction with Reputed Academic Institutions	Invited talks by Experts from Academia	Explore possibilities for associating with IITs, IISc etc. for mentoring CE Cherthala	Number of talks conducted

	Joint Research with reputed Academic Institutions		Number of joint research publications
3. Alumni for leveraging their contributions to their Alma Mater	Conduct Alumni meet every December	Utilize social media to connect with Alumni and activate the Alumni Chapter	Alumni meet conducted every year
	Invite Distinguished Alumni to deliver lectures		Number of talks conducted by distinguished Alumni

1.2.1.6 GOVERNANCE

GOALS	OBJECTIVES	STRATEGIES	Key Performance Indicators
1.All Courses to be accredited	Achieve Accredied status from NBA in the next academic year for eligible programmes	<p>Delegate Additional Financial powers to the Principal and Head of Departments.</p> <p>Train all senior faculty in Institutional Governance by deputing to Management Capacity Development Programs at IIMs and other reputed Institutions</p>	<ul style="list-style-type: none"> • Obtain 12B and 2F status of UGC • Obtain Autonomous Status

2. Achieve Autonomy	Achieve Managerial, Financial, Academic and Administrative Autonomy in two years	Prepare Self Assessment Reports and upload on NBA Portal, rectify shortcomings in Faculty positions. All eligible Programmes to be accredited.	Obtain Accredited Status from NBA and APACC (Asia Pacific Accreditation Council)
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1.2.2 SUMMARY

The strategic plan developed here will be suitably updated to take into account the changes that might occur in the environment, through short term and long term adaptation. It was developed following a brain storming session in which representatives of all the stake holders participated. The plan will be suitably updated to take into account the changes that might occur in the environment, through short term and long term adaptation.

1.2.3 LINKING SWOT WITH KEY ACTIVITIES

The strategic plan developed above has brought out the short term as well as long term plans to be carried out by the institution. This will eliminate most of the threats and weakness of the institution identified through SWOT analysis by making use of the available opportunities as well as the strength of the institution.

Strategy based on	1. Educational Processes
	Key Activities <ul style="list-style-type: none">• Complete procurement activities planned for teaching learning process• Establish Faculty/Staff Development Unit and conduct TNA periodically• Depute faculty and staff for training• Monitor training activities• Scholar Classes and Remedial Classes• Visits by eminent faculty and experts from industry
SO 1- 5 ST 3,4 WO 2 WT 1,3	

Strategy based on	2. Human Resources
	<p style="text-align: center;">Key Activities</p> <ul style="list-style-type: none"> • Improved Input Quality of students • Improved Faculty retention and quality • Improving Employability of the Graduates through finishing schools and soft skill training programmes • Improving morale and motivation of Faculty and Support Staff • Recruitment of faculty and support staff • Orient Students towards Entrepreneurship
SO 1-5 ST 1-3 WO 3 WT 1-3	

Strategy based on	3. Financial Resources
	<p style="text-align: center;">Key Activities</p> <ul style="list-style-type: none"> • Obtaining Funds for Development from Government Schemes • Consultancy work by Faculty • Undertaking sponsored research projects from funding agencies • Increasing intake of students to improve revenue • Continuing Education Programmes for students and practising Engineers to improve revenue
SO 5 ST 1,2,4,5 WO 1 WT 1	

Strategy based on	4. Physical Resources
	<p style="text-align: center;">Key Activities</p> <ul style="list-style-type: none"> • Improved ambience of class rooms to promote better learning • Establishment of a Central Computing Centre • Upgradation of Student Amenities • Improving Laboratory facilities • Improving Campus networking • Improving Faculty rooms and facilities for staff • Improving Library facilities through procurement of books and e-journals
SO – 3 ST-4 WO - 1	

Strategy based on	5. Relationship Building
	<p style="text-align: center;">Key Activities</p> <ul style="list-style-type: none"> • Building relationships with academic institutions and academicians of repute nationally and internationally • Provide psychological support and professional counselling • Improving industry interaction • Improving interaction with Reputed Academic Institutions • Alumni for leveraging their contributions to their Alma Mater • Mentoring system utilizing senior students
SO 2-5 ST 3,5 WO 2,3 WT 3	

Strategy based on	6. Governance
	<p style="text-align: center;">Key Activities</p> <ul style="list-style-type: none"> • Obtain Accredited Status of NBA in the next academic year for the UG Programmes in Electronics & Communication and Computer Science & Engineering. • Obtain I2B and 2F status of UGC • Obtain Autonomous status.
ST 2 WO 2 WT 2	

The specific objectives, expected results at the end of the TEQIP-II project, current status (as on 30.4.2015) and Action Plan are detailed below.

1. Start New PG Programs	
Specific Objectives	<ul style="list-style-type: none"> • Start new PG programs in high demand areas • Offer teaching assistantship to non-GATE/non sponsored PG students • Modernization of existing lab facilities
Expected Results	<ul style="list-style-type: none"> • Number of PG to be produced per year: 84 • Number of International Journal to be produced:20
Current Status	<ul style="list-style-type: none"> • New PG Programmes not started due to policy change of AICTE • Assistantships being given for students of existing PG Programs • Lab Facilities improved • Total International Journal Publications in CAY : 37
Action Plan	<ul style="list-style-type: none"> • Steps being taken to obtain NBA Accreditation to start new academic programmes • Expedite construction of new Academic block

2. Improve quality and relevance of UG programs	
Specific Objectives	<ul style="list-style-type: none"> • Start UG programmes in core subjects • Conduct of remedial classes • Internship in relevant industry
Expected Results	<ul style="list-style-type: none"> • Enhancement in employability of students • Improvement in technical competency of students • Increase in placement of students
Current Status	<ul style="list-style-type: none"> • New UG programmes not started due to policy change of AICTE (Accreditation is mandatory) • Improved pass percentage and placements • Increased participation by students in inter collegiate tech fests
Action Plan	<ul style="list-style-type: none"> • Steps being taken to obtain NBA Accreditation to start new academic programmes • Expedite construction of new Academic block • Make Internships in Industry mandatory for the final and pre-final students

3 Enhance Quality and Relevance of Masters Programs	
Specific Objectives	<ul style="list-style-type: none"> • Faculty development for effective teaching and research Competence • Restructuring of curriculum aligning with industry expectations • Collaborative M Tech programmes with other Institutions/R & D organization
Expected Results	<ul style="list-style-type: none"> • Increased employability of students • Increased number of research papers in journals • Increased number of research projects.
Current Status	<ul style="list-style-type: none"> • Faculty Competencies improved through FDPs, Capacity Building and Pedagogical Training • Steps being taken to update Curriculum. • Research Publications increased.
Action Plan	<ul style="list-style-type: none"> • Basic Pedagogical training for new faculty and Refresher/Advanced pedagogical training for experienced faculty • Conduct workshops on Research Methodology and Research Ethics • Restructure Curriculum in tune with Industrial needs by seeking participation of Industry in framing the curriculum for PG, under the newly started Kerala Technological University (KTU), to which CE Cherthala will be re-affiliated from this academic year onwards

4.Enhance Demand Driven and Industry Applied Research and Innovation	
Specific Objectives	<ul style="list-style-type: none"> • Internship in industry • Sandwich course with industrial collaboration
Expected Results	<ul style="list-style-type: none"> • Innovative R&D and consultancy projects • Increased IRG • Increased number of patents •
Current Status	<ul style="list-style-type: none"> • Internships have improved. • Research culture needs to be inculcated even though there are competent faculty (5 PhD holders in Electronics). Two faculty are research guides in CUSAT, but as per CUSAT norms, they are not permitted to accept scholars as Institute is not a research centre. • IRG by way of consultancy and research needs to be generated • No patents
Action Plan	<ul style="list-style-type: none"> • More number of MOUs with industry: include clauses for

	<p>student internships.</p> <ul style="list-style-type: none"> • Conduct workshop for awareness on Patent laws and Procedures • Establish Research Centre of the newly started Kerala Technological University, to which CE Cherthala will be re-affiliated from this academic year onwards. •
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5. Improve Faculty Morale	
Specific Objectives	<ul style="list-style-type: none"> • Incentive for publications, obtaining patents • Empowering faculty for taking up research-consultancy projects.
Expected Results	<ul style="list-style-type: none"> • More number of research papers • More number of research projects • Increase in IRG
Current Status	<ul style="list-style-type: none"> • Number of Publications improved • No Incentives for consultancy or R&D at present • One funded Research Project being undertaken
Action Plan	<ul style="list-style-type: none"> • Represent Govt. of Kerala to link research publications and consultancy work to service benefits, (once autonomy is achieved, the Institute will be in a position to take up this by itself) • Represent Govt. of Kerala to award service benefits and promotions on time to improve morale of faculty • Achieve accreditation and autonomy

6. Assuring Equity	
Specific Objectives	<ul style="list-style-type: none"> • Conduct of remedial classes • Conduct of personality improvement, soft skills development programmes • Strengthening counseling cell • Provide Finance assistance/scholarship for non-GATE students
Expected Results	<ul style="list-style-type: none"> • Overall personality development of students • Increase in pass percentage and placement of students
Current Status	<ul style="list-style-type: none"> • Pass percentage improved by conduct of Remedial Classes for weaker students • Placements improved significantly, Employment Eligibility Test conducted.

	<ul style="list-style-type: none"> Professional Counselling provided for needy students utilizing TEQIP Funds Non GATE scholarship instituted using TEQIP funds.
Action Plan	<ul style="list-style-type: none"> Practices followed will be continued. Faculty will be trained in aspects of counselling.

1.4 ACTION PLAN

1.4.a ACTION PLAN FOR IMPROVING EMPLOYABILITY OF GRADUATES

The present issues facing the employability of the students are

- (i) Lack of adequate professional competence in the respective field of study
- (ii) Lack of awareness on potential employer and their industrial requirements
- (iii) Poor interpersonal skills and communication abilities
- (iv) Poor perception of career planning and motivation

The major hurdle the institution faces during the campus placement programme is the lack of professional competence of the students and their poor communication skills. Most of the recruiting companies have suggested for opening a finishing school to equip the students to the needs of the corporate demand. The poor communication skills have prevented large number of academically good students to get a good job offer during this process. The measures that have been implemented for improving the employability of students are as follows:

❖ Equipping language learning lab

There is noticeable improvement in English language skills. This was achieved by putting the students through series of language learning skills. The practice will be continued.

❖ Forming a finishing school and career guidance cell

Training programmes are being regularly conducted. Services of experts to train students in interview, group discussion and screening tests conducted by recruiters are regularly conducted. Technical training is regularly imparted to students. Students are given wider exposure about different Career opportunities. A senior faculty member serves as the coordinator for these activities. Employment Eligibility test was conducted for all students in the final year. This practice will be continued.

❖ **Conducting Diagnostic test**

Diagnostic tests are conducted for the students in the first year itself to assess their skills in Mathematics, English, presentation skills and analytical ability. Bridge courses are conducted for students who secure less than pass marks for these tests. This practice will be continued.

❖ **Improving the entrepreneurship cell**

An e-cell has been established with a senior faculty member in charge and a student coordinator, with the aim to promote the spirit of entrepreneurship as opposed to seek wage employment. The activities of the e-cell will be strengthened.

1.4.b

ACTION PLAN FOR INCREASED LEARNING OUTCOME OF STUDENTS

The learning outcome of the student is influenced by the scheme and syllabus of a particular course. Many a times the end of the course assessments show a dismal picture of incomplete learning undergone by majority of the students. Efforts to improve the learning outcome need to be evolved for the large cross section of student community. The specific interventions proposed to improve the learning outcomes of the students are:

❖ **Modernizing curriculum**

The curricula need to be modified considering the demand of technological advancements, industry requirements and social commitments. ICT based learning and e learning techniques are to be included. New techniques like peer learning, group learning, and peer assessment can increase the learning outcomes.

The institution will determine its own curricula, course content, curricula implementation and methods of training once autonomy is achieved. The institution will be able to effectively revamp the curricula once it becomes affiliated to the proposed Kerala Technological University.

❖ **Infrastructure improvement**

While restructuring of curricula, modernization of existing laboratories and establishment of new labs becomes essential. This has been mostly achieved as a result of TEQIP-II activities in the past two years. Smart digital class rooms have been developed. Campus connectivity has been improved. E learning and ICT based learning practices have been emphasized. Funds for improving civil infrastructure will be sought from the Govt. of Kerala.

❖ Training for faculty

Many Faculty have been trained for pedagogy at the Teaching Learning Centre of IIT Madras. It is expected that all faculty will be trained in pedagogy by the year end. All Faculty who attended pedagogical training at the Teaching Learning Centre of IIT Madras, have been made aware of new learning techniques like Bloom's Taxonomy, self-learning, participatory learning and group learning. All regular faculty and most of the contract faculty have undergone atleast on training programme in their area of interest/ specialization. Senior faculty holding administrative positions have also been trained in Capacity Development Programmes. The practice will be continued.

❖ Innovation workshops for students

As the students are subjective to conventional classroom learning environment, the teacher plays a critical role in their learning process. Using the innovation workshops, the students would be able to develop skills for critical thinking and evolving innovative self-learning exercises to make the engineering education more purposeful. This will be given a new impetus.

2.4.c

ACTION PLAN FOR OBTAINING AUTONOMOUS STATUS WITHIN 2 YEARS

College of Engineering Cherthala is coming under the aegis of Institute of Human Resources Development (IHRD), an autonomous body fully owned and controlled by the Government of Kerala. Currently the institute is affiliated to Cochin University of Science and Technology. From the next year onwards, the college will be affiliated to the newly proposed Kerala Technological University. However to obtain academic flexibility to improve the learning outcome it is planned to achieve autonomous status. To obtain academic autonomy, a Board of Governing Body is already been constituted as per the guidelines stipulated by UGC. The college has already submitted a proposal to the UGC for obtaining autonomy.

The four autonomies to be obtained for the implementation of the project are as follows

(i) Managerial Autonomy:

The BoG will delegate suitable Academic, Financial and Administrative powers to the various committees already formed to streamline the running of the institution and frame rules and procedures for accountability at each level. All academic, administrative, financial procedures and decisions shall be taken with the participation of stakeholders (faculty, staff, students, parents of students, industry, etc.) with transparency

(ii) Administrative Autonomy:

- a) All actions of the head of the institution in connection with continuing education programmes, faculty consultancy, faculty development programmes, Industrial consultancy, organisation of seminars and conferences shall be reported to the BoG.
- b) BOG will evolve the norms for the deputation of the faculty for attending seminars, conferences, and training programmes
- c) Directors will delegate some of his/her administrative powers to the Deans, Heads of Department and Professors.

(iii) Financial Autonomy:

For day-to-day functioning adequate financial powers to the Director and other functionaries will be delegated by the BoG.

(iv) Academic Autonomy:

Granting academic autonomy to the institution is a policy decision to be taken by the University and the Govt. of Kerala. The institute will carry out activities that will satisfy all statutory requirements of the University to get autonomy. The Board of governors will be the broad policy making body of the institute. In addition to the Board of Governors, the following bodies will be constituted once academic autonomy is granted.

a. *Board of studies*

The body will contain senior faculty as well as representative from the parent University, industry and R&D organizations. The primary aim of the body would be to frame the curriculum, make rules and regulations etc.

b. *Office of the Controller of Examination*

Primary aim of this body is to oversee, not only the written examination but the entire evaluation process

c. *Academic Council*

An academic council will be constituted as per the requirement of the UGC

The committees comprising of senior faculty in various departments of the institution have been already constituted for formulating the following activities in connection with acquiring academic autonomy.

- Formation of own curricula, course content, curricula implementation and methods of training
- Introduction flexibility in the curriculum with choice of electives
- Add value addition courses as per market demand
- Develop an effective system for faculty evaluation by students

- Start new courses, new programmes and re-orient and restructure or delete existing Programmes
- Depute faculty for academic advancement
- Admission of students based on merit as per the Government Policy.

Committees were also constituted to

- Determine own curricula and to restructure and redesign the courses to suit local needs.
- To prescribe rules for admission in consonance with the reservation policy of state government.
- To evolve methods of assessment of students performance, the conduct of examination and notification of results
- To use modern tools of education technology to achieve higher standards and promote healthy practices such as community service, project for the benefit of the society, neighbourhood programs etc.
- Accreditation by the National Board of Accreditation (NBA) is a prerequisite for attaining autonomy.

2.4.d ACTION PLAN FOR ACHIEVING THE TARGET FOR ACCREDITATION

The action plan for obtaining accreditation by NBA is as follows.

UG programmes	Year planned to get accreditation
B. Tech. in Electronics and Communication Engineering	2015-16
B. Tech. in Computer Science and Engineering	2015-16
B. Tech. in Electrical and Electronics Engineering	2019-20
M Tech in Signal Processing	2019-20
M Tech in Computer and Information Science	2019-20

Obtaining accreditation from National and International Agencies.

Steps are to be initiated for getting all the programmes accredited by the National Board of Accreditation (NBA). At present the fees for Accreditation has been remitted for the two eligible UG programmes in Electronics & Communication Engineering and Computer Science & Engineering. The College has done the ground work by formulating institutional vision and mission, departmental vision and mission, Programme Educational Objectives and Programme and Course Outcomes. The Self Assessment reports have been prepared and are due to be uploaded soon. Once Accreditation by NBA is obtained, the college also plans to undergo the Accreditation process of the Asia Pacific Accreditation Council (APACC) to improve its visibility.

2.4.e

ACTION PLAN FOR IMPLEMENTATION OF ACADEMIC AND NON ACADEMIC REFORMS

Formation of Board of Governors

A Board of Governors (BoG) is constituted.

Functions of BoG:

- Take all policy decisions with regard to smooth, cost effective and timely implementation of the institutional sub project,
- Supervise and guide various committees required for project implementation and internal project monitoring,
- Ensure overall faculty development,
- Enable implementation of all academic and nonacademic institutional reforms,
- Ensure proper utilization of project fund and timely submission of Financial Management Reports (FMR) and Utilization Certificates,
- Ensure compliance with the agreed procedures for procurement of goods, works and services and financial management ,
- Ensure compliance with other fiduciary requirements under the project such as Equity Assurance Plan (EAP), Environment Management Framework (EMF) and Disclosure Management Framework (DMF) , and
- Monitor progress in the carrying out of all the proposed project activities, resolve bottlenecks, and enable the institution to achieve targets for all key indicators.

Academic reforms

Academic reforms include

- Curriculum reforms

At present CEC is affiliated to Cochin University of Science and Technology where the syllabus and Curriculum are revised with updating in every four years in consultation with Experts from affiliated institutions and Industry. From the next year onwards the college will be affiliated to the Kerala Technological University, which has been newly constituted. It is expected that curricular revision will take place in KTU periodically, with inputs from the Academia and Industry. The institution has the ultimate goal of obtaining full academic autonomy with UGC approval to improve the design and development as well as on the fly adaptation of the curriculum.

- Improve student's performance evaluation

Regular evaluation is in practice through staff advisory system supported by internal assignments, class tests, project work and continuous monitoring and periodic evaluation, with the participation of parents,

- Performance appraisal of faculty by students

Regular evaluations in three stages are in practice.

- 1st stage – at the completion of 10% of the portion.
- 2nd stage – at the completion of 50% of the portion.
- 3rd stage – at the completion of the portion.

Feedback obtained in the 1st and 2nd stages are used as to complete the course.

The formats for evaluation shall include the appraisal for the use of teaching aids, course file, types of class tests, and efforts beyond the syllabus and accessibility to the faculty.

The faculty shall be motivated to utilize the evaluation results for self-improvement. Conclusions of evaluation shall be shared with HODs only and they are entrusted to improve the faculty performance and motivate the faculty.

- Faculty incentives for continuing education

Incentives are provided for the faculty for continuing education under QIP scheme of AICTE and sponsorship scheme of IHRD, However PDP aims at providing incentives for the faculty for attending technical seminars, workshops, and other approved faculty development programs.

- Accreditation of UG & PG programs

It is planned to acquire accreditation for eligible UG programs at the end of two years.

Revenue generation

Revenue generation activities include consultancy projects, sponsored research projects and continuing education programmes.

2.4.f ACTION PLAN FOR IMPROVING COLLABORATION WITH INDUSTRY

Interaction with the industry is coordinated by the Industry Institute Interaction Cell (IIIC). The activities under IIIC will be streamlined to achieve the following:

- Formation of industrial consortium
- Joint activities with industry
- Industrial Training of duration one week shall be conducted during the semester breaks of third and fourth year of UG program (Total 2 week's duration).
- Industrial visits shall be conducted during third and fourth year (Minimum four industries)
- Mini projects, if possible, shall be carried out in collaboration with local industries
- Invited talks from Industrial persons shall be conducted for UG program (one talk / semester)
- Special training programs in relevant areas shall be conducted for the benefit of local industry and to generate revenue for the institution.

2.4.g ACTION PLAN FOR ENHANCEMENT OF RESEARCH AND CONSULTANCY ACTIVITIES

The research and consultancy activities among staff and students have increased since the beginning of the TEQIP-II project at the institute. This will be further enhanced through the following steps

- Facilitate submission of projects to funding agencies
- Permitting students to carry out PG thesis in the research area of faculty
- Financial support / assistantship shall be given for selected research projects of students / faculty
- Financial support / assistantship and incentives shall be given for patenting innovative product / idea / concept
- Financial support / assistantship shall be given for the development of ideas, concepts and strategies to increase production and productivity.
- Financial support / assistantship shall be given for attending short term / long term training programs in India and abroad
- Seed Money will be granted to faculty for taking up R&D.

2.4.h ACTION PLAN FOR ORGANIZING A FINISHING SCHOOL

Finishing school is mainly meant to develop soft/technical skill and thus to improve the employability of students. Along with this endeavor, academically weak students are also to be

specially taken care of. In this regard, remedial classes for these students are proposed in addition to skill development programmes. The finishing school is being organized in union with Career Guidance and placement Cell (CGPC) activities.

2.4.i ACTION PLAN FOR STRENGTHENING OF P.G PROGRAMME AND STARTING OF NEW P.G. PROGRAMMES

Strengthening of existing PG Programs

The PG programme at College of Engineering Cherthala as of now, comprises the programmes in two disciplines namely M. Tech in Signal Processing and M Tech in Computer and Information Science. Before starting the new PG Programs, it is bound to impart new strength to the existing programme.

Action Plan	
To improve the Physical Infrastructure	<ol style="list-style-type: none"> 1. Improve student amenities like hostel, College Bus service, Canteen etc 2. Provide more built up space for class rooms 3. Starting new advanced labs for the proposed courses
To improve the Intellectual Infrastructure	<ol style="list-style-type: none"> 1. Encourage the faculty to do more research. 2. Improve the quality of faculty members. 3. Provide teaching and research assistance-ship to attract more good quality students to join the course

Starting new PG Programs

The Institute is planning to start two more PG Courses areas of high demand. As per the new AICTE guidelines, it is mandatory to obtain NBA Accreditation for this purpose. The Institute has already paid the fees for Accreditation and is about to upload the Self Assessment Report on the NBA portal.

1.5 FACULTY DEVELOPMENT PLAN BASED ON TRAINING NEED ANALYSIS

The current concern of the institution is to significantly increase enrollment in post graduate education and enhance engineering research and development and innovation. It also aims in improving the quality and relevance of the PG programmes, attracting more and better qualified UG students, improving faculty qualification and enhancing effective governance of the institution.

1.5.1 OBJECTIVES

The objectives of TNA are to formulate a Faculty Development Plan for the period from May 2015 to October 2016, to achieve improved competency based on analysis in the following areas.

- Basic and advanced pedagogical training.
- Up-gradation of management capacity.
- Subject / domain knowledge enhancement.
- Introducing the new avenues of technological advancements.
- Improvement in faculty qualification.
- Improving research capabilities.

1.5.2 TNA METHODOLOGY

The training requirements from each individual (Principal, Head of the Departments, Faculty, Technical and administrative supporting staff) was collected, consolidated and departmental & Institutional Training/Development Plan was prepared. Each faculty and staff member was asked to analyze their current knowledge & skills, and the desired knowledge & skills for effective performance of the current job profile as well as perceived future/prospective job profile. To take up the exercise of TNA, staff and faculty were suggested to use TNA proforma indicating training needs along with their development objectives and submit it to the HODs. Personal interviews have been conducted for all staff members to identify their strengths, weaknesses and areas for improvement. The interview script consisted of open-ended questions designed to probe into areas like convenient date, training agency and the outcome offered by the training programme etc.

HODs reviewed the department's individual TNA proforma, aligned the individual development aspirations with the department's objectives and priorities, and consolidated it to a Departmental Training/Development Plan. Principal reviewed all departments development plans, aligned it with the institution's objectives and priorities, and consolidated into an Institutional Training/Development Plan. The tables below show the possible areas of training.

Sl. No.	Faculty Category	Possible Areas of Training/Development
1	Faculty (including Contractual)	Qualification up gradation, Student psychology and management, Learning resources development, entrepreneurship development Effective teaching – learning (modern pedagogy) processes, Advanced subject knowledge, R&D activities, Setting of new lab, Curriculum development, Quality management, Consultancy.
2	HODs	R&D activities, Quality management, Attachment to industry and premiere R&D organizations, Consultancy, Planning & Implementation, Budgeting & Financial management, Management capacity development, Curriculum Development , Departmental/Institutional management, Sustainability strategy.
3	Principal.	Institutional development & management, Quality management, Management capacity development, Planning & Implementation, Budgeting & Financial management, Exposure to premiere institutions/centers of excellence (national and international), Sustainability strategy.

1.5.3 AREAS OF TRAINING IDENTIFIED FOR FACULTY

The major areas categorized for faculty training are technology, pedagogy, research enhancement and management capacity development.

(i) Technology

- Microelectronics & VLSI Technology
- Signal & Image processing
- Nano Technology
- Wireless Technology & Communication Systems
- Microwave and Antenna Engineering
- Embedded System Design
- Power System & Control Engineering
- Intelligent Systems
- Software Engineering
- Computer Forensics
- Cloud Computing

- Production Management
- Non Conventional Energy Systems

(ii) Enhancement of Teaching Learning skills and Enhancement of research

The Heads of Departments recommended training programmes in the following areas also for the overall development of the faculty members.

- Basic and Advanced Pedagogy
- Soft Skill Development.
- Technical Writing.
- Total Quality Management.
- Planning and Preparation of Project Proposal for Consultancy/Research
- Research Methodology
- Intellectual Property Rights

(iii) Management capacity development

To improve managerial skills in the middle and top management level of the institution, training programmes are required in the areas of budgeting and financial management, institutional management and human resource management.

(iv) Qualification Up gradation

Deputation / sponsorship programme for pursuing Ph.D and PG in technology and management will implement qualification up gradation. The above training objectives if satisfied would enable the institution to achieve the mission and vision and will place the institution in coherence with the thrust areas identified in the state/ national /industrial /economic development plan.

ACTION PLAN FOR FACULTY TRAINING (MAY 2015- OCTOBER 2016)

Sl. No	Department	Name of suitable faculty for training/development	Area of Training/development	Duration (Days)	Tentative date of training/development programme	Trainer Organization
1	Principal	Dr P Sureshkumar	Intellectual Property Rights	7	Dec 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Financial Management	7	Mar 2016	NIFM, Delhi
2	Electronics Engineering	Pradeep M	Financial Management	7	Oct 2015	NIFM ,Delhi/IIM /MDI
			Wireless Technology	15	Mar 2016	Inter National Institution/University or IITs/NITs/National level institutions
			Digital Signal Processing	15	May 2016	Inter National Institution/University or IITs/NITs/National level institutions
3	Electronics Engineering	Dr. Vinu Thomas	Artificial Neural Networks	7	Dec 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Digital Image Processing	15	Feb2016	Inter National Institution/University or IITs/NITs/National level institutions
			Digital Signal Processing	15	May 2016	Inter National Institution/University or IITs/NITs/National level institutions
4	Electronics Engineering	Dr. Jobymol Jacob	VLSI design	15	Dec 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Nano Technology	15	Feb 2016	Inter National Institution/University or IITs/NITs/National level institutions
			Management Capacity training	7	Mar 2016	IIM, MDI

5	Electronics Engineering	Dr.Ashok Kumar T.	Product Design & Development	7	Oct 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Embedded Systems	15	Jan 2016	Inter National Institution/University or IITs/NITs/National level institutions
			DigitalSignal Processing	15	Mar 2016	IITs/NITs/National level institutions
66	Electronics Engineering	Sreekumar.K	Advanced Pedagogy	7	Oct 2015	IIT/NITTTR
			Microwave Design and Applications	15	Dec 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Research methodologies	15	Oct 2015	IITs/NITs/National level institutions
			Signal Processing	15	Feb 2016	In house programme
7	Electronics Engineering	Irshad Ali T.K	Advanced Pedagogy	7	Oct 2015	IIT/NITTTR
			Wireless Technology	15	Mar 2016	Inter National Institution/University or IITs/NITs/National level institutions
			Research Methodologies	15	Jun 2016	IITs/NITs/National level institutions
			Signal Processing	15	Dec 2015	In house programme
8	Electronics Engineering	Jasleena C	Advanced Pedagogy	7	Oct 2015	IIT/NITTTR
			Embedded System Design	15	Nov 2015	CDAC
			Research methodologies	15	Dec 2015	IITs/NITs/National level institutions
			Signal Processing	15	May 2016	In house programme
9	Electronics Engineering	Remya S.	Advanced Pedagogy	7	Oct 2015	IIT/NITTTR
			Embedded System Design	15	Oct 2015	CDAC
			Research methodologies	15	Dec 2015	IITs/NITs/National level institutions

			Signal Processing	15	Feb 2016	In house programme
10	Electronics Engineering	Anupama A.	Advanced Pedagogy	7	Nov 2015	IIT/NITTTR
			Embedded System Design	15	Oct 2015	CDAC
			Research methodologies	15	Dec 2015	IITs/NITs/National level institutions
			Signal Processing	15	Jan 2016	In house programme
11	Electronics Engineering	Abdul Kareem V.	Basic Pedagogy	7	Oct 2015	In house programme
			Signal Processing	7	Mar 2016	National Level Institutes
12	Electronics Engineering	Ajay Nath S.A.	Basic Pedagogy	7	Nov 2015	In house programme
			Signal Processing	7	Mar 2016	National Level Institutes
13	Electronics Engineering	Midhun C	Basic Pedagogy	7	Dec 2015	In house programme
			Analog IC Design	7	Mar 2016	National Level Institutes
14	Electronics Engineering	Vishnu Pradeep K.	Basic Pedagogy	7	Dec 2015	In house programme
			Advanced Communication Systems	7	Mar 2016	National Level Institutes
15	Electronics Engineering	Anjali R.	Basic Pedagogy	7	Dec 2015	In house programme
			Analog IC Design	7	Mar 2016	National Level Institutes
16	Electronics Engineering	Anaswara V Nath	Basic Pedagogy	7	Dec 2015	In house programme
			Digital System Design	7	Jul 2015	National Level Institutes
17	Electronic	Sreedhu T. Sasi	Basic Pedagogy	7	Dec 2015	In house programme

			Image Processing & Applications	7	Mar 2016	National Level Institutes
18	Electronics Engineering	Archana V R	Basic Pedagogy	7	Dec 2015	In house programme
			Optical Communication	7	Mar 2016	National Level Institutes
19	Electronics	Teffi Francis	Basic Pedagogy	7	Dec 2015	In house programme
			Embedded Systems	7	Mar 2016	National Level Institutes
20	Electronics Engineering	Ashitha T.S	Basic Pedagogy	7	Dec 2015	In house programme
			Audio Video Systems	7	Mar 2016	National Level Institutes
21	Electronics Engineering	Rijimol Mathew	Basic Pedagogy	7	Dec 2015	In house programme
			Modern Communication Systems	7	Feb 2016	National Level Institutes
22	Computer Engineering	Manilal D.L.	Cloud Computing	15	May 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Intellectual Property Rights	7	Aug 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Management Capacity training	7	Jan 2016	NIFM, Delhi,IIM, MDI
23	Computer Engineering	Rejin Joseph	Advanced Pedagogy	7	Dec 2015	IIT /NITTTR
			Cloud Computing	15	Mar 2016	IITs/NITs/National level institutions
			Management	7	Jan 2016	IIMs
24	Computer Engineering	Mohammed Illyas H.	Algorithms and Computations	7	Oct 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Research methodologies	15	Jan 2016	IITs/NITs/National level institutions
			Wireless Sensor Networking	7	Dec 2015	In house programme

			Pedagogy	7	December 2015	National level institutions
25	Computer Engineering	Sony P.	Project Management	7	Jul 2015	KINFRA
			Cloud Computing	15	Aug 2015	IITs/NITs/National level institutions
			Research methodologies	15	Jan 2016	IITs/NITs/National level institutions
			Computational Linguistics	7	Dec 2015	In house programme
26	Computer Engineering	Greeshma N. Gopal	Project Management	7	Jul 2015	KINFRA
			Linguistics	15	Sep 2015	IITs/NITs/National level institutions
			Cloud Computing	15	Aug 2015	IITs/NITs/National level institutions
			Research methodologies	15	Jan 2016	Inter National Institution/University or IITs/NITs/National level institutions
27	Computer Engineering	Janu R. Panicker	Networking	7	Aug 2015	In house programme
			Information Science	7	December 2015	In house programme
			Research methodologies	15	Jun 2016	IITs/NITs/National level institutions
28	Computer Engineering	Lomin Joy V.	Basic Pedagogy	7	Dec 2015	In house programme
			Computer Communication	7	Mar 2016	National level institutions
29	Computer Engineering	Pramod Mathew Jacob	Basic Pedagogy	7	Dec 2015	In house programme
			Software Engineering	7	Mar 2016	National level institutions
30	Computer Engineering	Aswathy V. Shaji	Basic Pedagogy	7	Dec 2015	In house programme
			Theory of Computation	7	Mar 2016	National level institutions
31	Computer	Fathima N.	Basic Pedagogy	7	Dec 2015	In house programme

			Object Oriented Programming	7	Mar 2016	National level institutions
32	Computer Engineering	Athira S Kumar	Basic Pedagogy	7	Dec 2015	In house programme
			Software Testing	7	Mar 2016	National level institutions
33	Computer Engineering	Josna Jose	Basic Pedagogy	7	Dec 2015	In house programme
			Networking	7	Mar 2016	National level institutions
34	Computer Engineering	Joyce Jose	Basic Pedagogy	7	Dec 2015	In house programme
			Networking	7	Mar 2016	National level institutions
35	Computer Engineering	Judy Ann Joy	Basic Pedagogy	7	Dec 2015	In house programme
			Multimedia	7	Mar 2016	National level institutions
36	Computer Engineering	Meenu Mathew	Basic Pedagogy	7	Dec 2015	In house programme
			Software Engineering	7	Mar 2016	National level institutions
37	Computer Engineering	Rohini T.M.	Basic Pedagogy	7	Dec 2015	In house programme
			Information Management	7	Mar 2016	National level institutions
38	Computer Engineering	Suman Elizabeth Daniel	Basic Pedagogy	7	Dec 2015	In house programme
			Security in Computing	7	Mar 2016	National level institutions
39	Computer Engineering	Asha Thomas	Basic Pedagogy	7	Dec 2015	In house programme
			Design Analysis & Algorithm	7	Mar 2016	National level institutions
40	Co m	Meera M.	Basic Pedagogy	7	Dec 2015	In house programme

			Information Science	7	Mar 2016	National level institutions
41	General Engineering	Sreenivas P.	Software Engineering	7	Oct 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Pedagogy	7	Dec2015	In house programme
			Production Management	15	Mar 2016	Inter National Institution/University or IITs/NITs/National level institutions
42	General Engineering	Devanand C.N.	Heat Transfer	7	Sep 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Pedagogy	7	Dec 2015	In house programme
			Non Conventional Energy Systems	15	Jan 2016	Inter National Institution/University or IITs/NITs/National level institutions
43	General Engineering	Sandhya P. Gopal	Research methodologies	15	Nov 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Pedagogy	7	Dec 2015	In house programme
			Environmental Studies	15	Mar 2016	Inter National Institution/University or IITs/NITs/National level institutions
44	General Engineering	Faizal K.	Basic Pedagogy	7	Dec 2015	In house programme
			Industrial Engineering	7	Mar 2016	National Level Institutes
45	General Engineering	Prakash Sam Thomas	Basic Pedagogy	7	Dec 2015	In house programme
			Machine Design	7	Mar 2016	In National Level Institutes

46	General Engineering	ElizwaLaiju	Manufacturing Excellence Through Quality Assurance	7	Jan 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Research methodologies	15	Jan 2015	IITs/NITs/National level institutions
			Pedagogy	7	Dec 2015	IIT/NITTTR
			Advanced Control System	15	Mar 2015	Inter National Institution/University or IITs/NITs/National level institutions
47	Electrical Engineering	Rajeevan A K	Power Systems	7	Mar 2015	National Level Institutes
			Advanced Control System	15	Jan 2015	Inter National Institution/University or IITs/NITs/National level institutions
48	Electrical Engineering	Joymon Emmanuel	Basic Pedagogy	7	Dec 2015	In house programme
			Power Systems	7	Jul 2016	National Level Institutes
49	Electrical Engineering	Veena Mathew	Basic Pedagogy	7	Dec 2015	In house programme
			Electric Drives	7	Jun 2016	National Level Institutes
50	Electrical Engineering	Meera E	Basic Pedagogy	7	Dec 2015	In house programme
			Power Systems	7	Mar 2016	National Level Institutes
51	Applied Science	Sarakutty K.J.	Research methodologies	15	Dec 2015	Inter National Institution/University or IITs/NITs/National level institutions
			Power Systems	7	Mar2016	In house programme
			Pedagogy	7	Dec 2015	In house programme
			Operation research	15	Mar 2016	Inter National Institution/University or IITs/NITs/National level

						institutions
52	Applied Science	Priyakumar T.N.	Research methodologies	15	Jan 2016	Inter National Institution/University or IITs/NITs/National level institutions
			Pedagogy	7	Dec 2015	In house programme
			Stochastic Process	15	Mar 2016	Inter National Institution/University or IITs/NITs/National level institutions
53	Applied Science	Radha Balakrishnan	Research methodologies	15	Jan 2016	IITs/NITs/National level institutions
			Pedagogy	7	Dec 2015	In house programme
			Applied Mathematics	15	Mar 2016	UGC Refresher Course Centres (UGC RCCs)
			Stochastic Process	15	Mar 2016	Inter National Institution/University or IITs/NITs/National level institutions

1.5.5

IMPROVEMENT IN FACULTY QUALIFICATIONS

Sl. No	Department /Section	Name of suitable faculty for training/ development	Area of Training/ development	Duration (Years)	Tentative date of joining for the programme	Institute of Study
1	Electronics Engineering	Sreekumar.K	P hD	3 Years	June 2016	IITs/NITs /Other reputed Universities which are offering programmes in the area
2		Irshad Ali T.K	M Tech in Signal Processing	2 Years	June 2015	
3		Jasleena C	M Tech in Communication Systems	2 Years	Sep 2015	
4		Anupama A	M Tech in Applied Electronics	2 Years	Sep 2015	

5		Remya A	M Tech in Embedded Systems	2 Years	Sep 2015	
6		Mohammed Illiyas H.	P hD	3 Years	July 2015	
7		Rejin Joseph	M Tech in Computer Science	2 Years	July 2015	
8		Sony P.	P hD	3 Years	July 2016	
9		Greeshma N. Gopal	P hD	3 Years	July 2016	
10		Janu R. Panicker	PhD	3 Years	July 2016	
11	General Engineering	Devanand C.N.	P hD	3 Years	July 2016	IITs/NITs /Other reputed Universities which are offering programmes in the area
12		Sandhya P. Gopal	P hD	3 Years	July 2016	
13	Electrical Engineering	ElizwaLaiju	P hD	3 Years	July 2016	IITs/NITs /Other reputed which are offering programmes in the area
14	Applied Science	Sarakutty K.J.	P hD	3 Years	July 2016	IITs/NITs /Other reputed which are offering programmes in the area
15		Priyakumar T.N.	P hD	3 Years	July 2016	
16		Radha Balakrishnan	P hD	3 Years	July 2016	

1.5.6 IN HOUSE TRAINING PROGRAMMES

In house programmes catering to the training needs for faculty of this institution as well as technical institutions nearby are also planned.

Area	Training agency	Duration
STTP on Signal Processing	By Faculties from IITs/NITs/Other reputed universities	5 Days
STTP on Advanced Power System	By Faculties from IITs/NITs/Other reputed universities	5 Days
Workshop on Image Processing	Cranes Software International Ltd	7 days
Workshop on Cyber Forensics resource	Centre For Cyber Forensics (RCCF)	7 days
STTP on VLSI Design	By Faculties from IITs/NITs/Other reputed universities	5 Days
STTP on Linear Algebra and its Applications in Engineering	By Faculties from IITs/NITs/Other reputed universities	5 Days

1.5.7 ACTION PLAN FOR TRAINING TECHNICAL AND SUPPORT STAFF IN FUNCTIONAL AREAS

A survey was being conducted among the staff members to understand the current skill set and to identify the degree and type of training required, as a first step towards manpower development. Training programs should focus not only on new methods and techniques for the development of technological knowledge and skills, but also on relevant management skills to ensure the best use of technologies. Training should be provided at all levels of the organization. But the type of training required at different levels will vary depending upon the nature of work as well the responsibilities handled.

ACTION PLAN

i) Technical Staff

Sl No	Department	Name of suitable staff member for training/development	Area of Training/development	Duration (Days)	Tentative date of training/development program	Trainer organization
1		Lekshmi V.R	PSPICE,VHDL,MATLAB,PCB design	5	Aug 2015	NITTTR Chennai
			optical fiber communication	5	Oct 2015	National level institutions
			Personality Development	5	Jan 2016	IHRD Finishing school
2		Geroge C Karamel	IC design techniques,	5	Aug 2015	National level institutions
			PLC&SCADA	5	Sep 2015	National level institutions
			Personality Development	5	Oct 2015	IHRD Finishing school
3	Computer Engineering	S.P. Madhusudhanakurup	CCNA,CCNP,RHCE,MCSC., NET,SQL, C#	5	Aug 2015	National level institutions
			Personality Development	5	Sep 2016	IHRD Finishing school
4		Suresh.T.K	CCNA,CCNP,RHCE,MCSC., NET,SQL, C#	5	Aug 2015	National level institutions
			Personality Development	5	Sep 2015	IHRD Finishing school
5		Sundareshan V L	AutoCAD, CAD, CAM, CNC, Fluid Mechanics	5	Feb 2015	National level institutions
			Personality Development	5	Sep 2015	IHRD Finishing school
6		Radhakrishnan N.S	AutoCAD, CAD, CAM, CNC, Fluid Mechanics	5	Jan 2016	National level institutions

ii) Library Staff

Sl No	Department	Name of suitable staff member for training/development	Area of Training/development	Duration (Days)	Tentative date of training/development program	Trainer organization
1	Library	Ancy Paul	Library Automation using Koha, Digital library & content management software	5	Aug 2016	National level institutions
2		Raji R Nair	Library Automation using Koha, Digital library & content management software	5	Aug 2016	National level institutions
3		Seenamol P.M	Library Automation using Koha, Digital library & content management software	5	Nov 2015	National level institutions
4		Prema T.P	Communication Skill	5	Nov 2015	In house Programme
			Personality Development	5	Jan 2016	IHRD Finishing school
5	Joseph K X	Communication Skill	5	Nov 2015	In house Programme	
		Personality Development	5	Jan 2016	IHRD Finishing school	

iii) Administrative Staff

Sl.No	Department	Name of suitable staff member for training/development	Area of Training/development	Duration (Days)	Tentative date of training/development program	Trainer organization
1	Office	Rajesh N A	Office Automation, Linux training	5	Aug 2015	Faculty from Computer Engineering
			Personality	5	Dec 2015	IHRD

			Development			Finishing school
2	Asha Madhavan S	Office Automation, Linux training	5	Aug 2015	Faculty from Computer Engineering	
		Personality Development	5	Dec 2015	IHRD Finishing school	
3	Rejilakumari R	Office Automation, Linux training	5	Aug 2015	Faculty from Computer Engineering	
		Personality Development	5	Dec 2015	IHRD Finishing school	
4	Smitha U	Office Automation, Linux training	5	Aug 2015	Faculty from Computer Engineering	
		Personality Development	5	Dec 2015	IHRD Finishing school	
5	Rajesh C D	Office Automation, Linux training	5	Aug 2015	Faculty from Computer Engineering	
		Personality Development	5	Dec 2015	IHRD Finishing school	

iv) Administrative Support Staff

Sl. No	Department	Name of suitable staff member for training/development	Area of Training/development	Duration (Days)	Tentative date of training/development program	Trainer organization
1	Office	Dhananjayan P.V.	Communication Skill	5	Aug 2015	In house Programme
			Personality Development	5	Dec 2015	IHRD Finishing school
2		Dhanya S.	Communication Skill	5	Aug 2015	In house Programme
			Personality Development	5	Dec 2015	IHRD Finishing school
3		Viswanadhan N.	Communication Skill	5	Aug 2015	In house Programme
			Personality Development	5	Dec 2015	IHRD Finishing

						school
4	Suja M.	Communication Skill	5	Aug 2015	In house Programme	
		Personality Development	5	Dec 2015	IHRD Finishing school	
5	Mohanan P.C.	Communication Skill	5	Aug 2015	In house Programme	
		Personality Development	5	Dec 2015	IHRD Finishing school	

1.6 TARGETS AGAINST THE DELIVERABLES

Sl. No	Deliverables	Base-Line		Targets to be achieved		Status as on today
		2010-11	2011-12	At the end of 2 years of joining the Project	By project closing (revised)	
1	Number of students registered for					
	a) Masters in Engineering programme	Nil	18	48	84	48
	a) Doctoral programme in Engineering	Nil	Nil	Nil	5	Nil
2	Revenue from externally funded R&D projects and consultancies in total revenue (Rs. in lakh)	Nil	Nil	Nil	Rs 30 lakhs	Nil
3	Number of publications in refereed journals					
	a) National	2	Nil	8	10	0
	a) International	6	Nil	7	10	16
4	IRG as % of total annual recurring expenditure	100	100	110	125	121

5	Number of co-authored publications in refereed journals					
	a)National	Nil	Nil	10	15	--
	b)International	Nil	Nil	5	15	22
6	Student credentials					
	campus placement for eligible candidates					
	UG students	30	29	60	80	40
	PG students	-	-	20	35	8
	b) average annual salary of placement (Rs. in lakh)					
	• UG students	3.0	3.5	4.0	4.5	3.0
	• PG students	Nil	Nil	4.5	5.0	3.0
7	Number of collaborative programmes with Industry	Nil	Nil	2	4	0
8	Accreditation status (obtained plus applied for)	Nil	Nil	75	100	100 (Applied for, SAR to be uploaded by May 3rd 2015)
9	Faculty position filled	95%	95%	97%	99%	79% Required Faculty Positions UG: 72 PG: 8 Sanctioned : 58 Actual available : 63
10	Percentage of regular faculty having a Masters Degree or a Doctorate Degree in Engineering disciplines	M.Tech: 66%	M.Tech: 66%	Increased by 20% and 10%respectively over base line	Increased by 40% and 20% respectively over base line	M.Tech: 79 % (PhD: 21%) (24 regular Engineering Faculty, 5 faculty with PhD, 14 with M.Tech)

11	Transit rate from 1st to 2nd year for the following:					
	• All Students	48.63	43.67	60	65	47.12
	• SC and ST Students	25	11.1	40	50	Disadvantaged sections: 44.72%
	• OBC Students	44.7	32.9	50	60	
	• Women Students	48.14	51.72	60	65	
12	Autonomy status			To be obtained		Applied for
13	Enrolment of faculty with only Bachelor Degree for qualification up-gradation	2 faculty	Nil	At least 75% of the Engineering faculty with only Bachelor degree at baseline to join for PG	All Faculty to have joined for PG	5 faculty (4 in EC and 1 in CS) having B.Tech Degree. All 4 faculty in EC department joining for PG in 2015-16

1.7 INSTITUTIONAL PROJECT BUDGET

Sl. No.	Activities	Total Allocation (in lakhs)	Amount spent as on 31/03/15 (in lakhs)	Expenditure in pipeline	Amount to be utilised in remaining months
1	Infrastructure improvement for teaching, Training & Learning	550	493.31	56.69	56.69*
2	Providing Teaching and Research Assistantships	100	31.23		51.84
3	Enhancement of R&D and institutional consultancy Activities	20	0.06		24.94
4	Faculty and Staff Development	100	38.07		112.86
5	Enhanced Interaction with Industry	40	1.15		8.85
6	Institutional Management Capacity Enhancement	30	1.78		9.22
7	Implementation of Institutional Reforms	20	8.99		1.01
8	Academic Support for Weak Students	40	10.29		49.71
9	Incremental Operating Cost	100	27.58		72.42
	Total	1000	612.46		387.54

*This amount is in pipeline and expected to be completed by July 2015
Amount Received till date : Rs 5.5 Crore
Expenditure till date: Rs 6.125 Crore

Procurement Plan for Works and Goods* for Sub-Component I.1
Name of the institution with location:-College of Engineering, Cherthala.

Package No.	Sl No.	Activities	Description of works/goods	Estimated Cost(Rs) Lakhs	Method of Procurement	Design/ Investigation Completion/Specificatio n Finalisation(Date)	Estimate Sanctioned (Date and Value)	Preparation of Bid Document(Date)	Receipt of Bank's No Objection to Bidding Document (Date)**	Invitation(Date)	Opening(Date)	Contract Award	Date of completion of contract
106	1	Improvement in teaching, training and learning facilities(Modernization and strengthening of Laboratories)	Audio System Smart Class Room & Auditorium	4.40	NS	April -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
107	2		E Books	6.10	DC	April -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
108	3		LCD Monitor	1.30	NS	April -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
109	4		ID Card Printer	1.00	NS	April -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
110	5		Label Printer	0.05	DC	April -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15

112	6	lightning Arrester for Protection	8.00	NS	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
113	7	Vacuum Cleaner	0.25	DC	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
115	8	NVIDIA card for CUDA	1.00	NS	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
118	9	Media Converter	0.10	DC	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
119	10	Sensor Network Nodes	0.75	NS	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
121	11	Electrical demonstrator & Trainer Module	1.34	NS	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15

122	12	Improvement in teaching, training and learning facilities	Cut Sections of Machine	0.80	NS	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
123	13		Water Purifier System	2.00	NS	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
124	14		workshop tools	0.22	DC	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
125	15		Digital Multimeter	1.50	NS	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
130	16		Campus Automation Software	5.00	NS	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15

131	17	Improvement in teaching, training and learning facilities	MCGRAW- HILL'S ACCESS ENGINEERING	1.52	D C	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
132	18		Microsoft Open value Education Solution	1.68	N S	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
133	19		Informaton Display system	1.81	N S	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
104	20		Cabinet for keeping Lab Equipments	3.00	N S	March -15	March -15	March -15	March -15	March -15	March -15	April -15	May -15	July -15
114	21		Platform & Lectern	5.2	N S	April -15	May -15	May -15	May -15	May -15	May -15	May -15	May -15	July -15
101	22		stabilizer for A/C	0.75	N S	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15

116	23	Improvement in teaching, training and learning facilities	Fire wall	4.27	S	Z	March -15	March -15	March -15	March -15	March -15	March -15	April -15	May -15	June -15
134	24		Interactive Visualizer	1.00	S	Z	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15
135	25		Surveillance system	2.5	S	Z	April -15	May -15	May -15	May -15	May -15	May -15	June -15	June -15	July -15

			TOTAL	55.59 lakhs
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MINOR CIVIL WORKS

Package No.	Sl No.	Activities	Description of works/goods	Estimated Cost(Rs) Lakhs	Method of Procurement	Completion/Specification	Estimate Sanctioned (Date and Value)	Preparation of Bid Document(Date)	Receipt of Bank's No Objection to Bidding Document (Date)**	Invitation(Date)	Opening(Date)	Contract Award	Date of completion of contract
98	1	Improvement in teaching, training and learning facilities	MS Grill for windows opening	0.49	DC	Oct14	Oct14	Oct-14	N.A.	Oct-14	Nov-14	Nov-14	FEB-15
99	2		Staircase and hand railing	0.41	DC	Oct14	Oct14	Oct-14	N.A.	Oct-14	Nov-14	Nov-14	FEB-15

100	3		Roofing	0.19	DC	Oct14	Oct14	Oct-14	N.A.	Oct-14	Nov-14	Nov-14	Feb-15
			TOTAL	1.10 lakhs									

Total Procurement (including goods and services): Rs 56.69 lakhs

Activities	Sub-Activities	May-July 2015		Aug-Oct 2015		Nov 2015-Jan 2016		Feb-April 2016		May-July 2016		Aug-Oct 2016		Total
		Physical Target (Nos.)	Financial Estimate (Rs. Lakh)	Physical Target (Nos.)	Financial Estimate (Rs. Lakh)	Physical Target (Nos.)	Financial Estimate (Rs. Lakh)	Physical Target (Nos.)	Financial Estimate (Rs. Lakh)	Physical Target (Nos.)	Financial Estimate (Rs. Lakh)	Physical Target (Nos.)	Financial Estimate (Rs. Lakh)	Financial Estimate (Rs. Lakh)
Assistantships	Masters students enrolled with TEQIP teaching assistantship	48	8.64	48	8.64	48	8.64	48	8.64	48	8.64	48	8.64	51.84
	PhD students enrolled with TEQIP research assistantship	0	0	0	0	0	0	0	0	0	0	0	0	0
	Others	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sub-total													51.84
R&D	Research projects taken by UG /PG students	1	0.1	3	0.2	6	0.6	3	0.5	2	0.34	2	0.2	1.94
	Seed grants for research by faculty	0	0	3	3	6	6	3	3	2	2	1	1	15
	Research publications in engineering in refereed journals	0	0	2	2	2	2	1	1	2	2	1	1	8
	Organising conferences on R&D topics	0	0	0	0	0	0	0	0	0	0	0	0	0
	Patenting of technologies	0	0	0	0	0	0	0	0	0	0	0	0	0

	Others	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sub-total													24.94
FSD	Enrollment of faculty with BTech for MTech degree	4	1.8	0	0	0	0	0	0	4	1.8	0	0	3.6
	Enrollment of faculty with MTech for PhD degree	0	0	0	0	0	0	0	0	2	0.5	0	0	0.5
	Faculty training in subject domain	3	1.26	4	1.5	4	1.5	4	1.5	5	2.5	5	3	11.26
	Faculty training in pedagogy	3	0.75	3	0.75	3	0.75	3	0.75	3	0.75	3	0.75	4.5
	Organising inhouse training workshops in teaching/research subjects	7	7.8	3	3.5	6	6.8	3	3.8	2	2.5	3	3.6	28
	Participation of faculty in outstation seminar/conferences/workshops etc	1	0.2	1	1.2	5	3.5	2	1.5	4	3.6	1	1	11
	Training/Development of technical/support staff	0	0	1	1.5	2	2	3	2.5	3	3	0	0	9
	Others (Conferences)	0	0	0	0	0	0	1	15	2	30	0	0	45
	Sub-total													112.86
Industry Institute Interactions	Collaborative academic programs: BTech/MTech/PhD with industry	0	0	0	0	0	0	0	0	0	0	0	0	0
	Short term workshops with industry	0	0	1	0.5	2	1	2	1	1	0.5	0	0	3
	Academic networking with industry/research	0	0	2	0.85	2	0.5	2	.5	2	0.8	1	0.2	2.85

	institutions including industry-exposure to teachers and students													
	Campus placements of graduates (UG & PG)	0	0	0	0	2	0.5	2	0.5	0	0	0	0	1
	Students internship at industry	4	0.2	0	0	0	0	0	0	10	0.3	0	0	0.5
	Joint activities with industry	0	0	0	0	0	0	0	0	0	0	0	0	0
	Others (Industrila visit, training)	0	0	6	0.5	0	0	6	0.5	0	0	6	0.5	1.5
	Sub-total													8.85
Capacity development	Exposure/Training of senior teaching/non-teaching members in management capacity development	2	1.22	3	1.5	4	2	3	1.5	3	1.5	3	1.5	9.22
	Others (In-house training)	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sub-total													9.22
Reforms	Fee for NBA accreditation													
	Activities / Innovations aiming at improvement in quality of education													

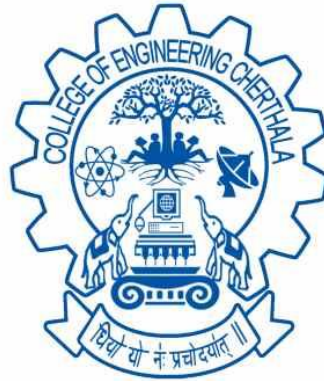
	Others(ISO Certificatio, Activities connected with obtaining autonomous status, curricula revision, evaluation etc)													
	Sub-total													1.01
Academic support for weak students	Support to academically weak students to enhancement their knowledge and skills		1.71		2.2		2.8		3.1		2.9		2	14.71
	Others (High Intensity programmes, Placement training)	1	7	1	7	0	0	0	0	2	14	1	7	35
	Sub-total													49.71
Incremental operating cost	IOC													72.42
	GRAND TOTAL	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	387.54

1.10 Committed Expenditure

Completed / Committed Expenditure			
	Completed	Committed	Total
Procurement	Rs.493.31 Lakhs	Rs.56.69 Lakhs	Rs.550 Lakhs
Academic	Rs.137.54 Lakhs	Rs.96.84Lakhs	Rs.234.38 Lakhs
Total			Rs.784.38 Lakhs

ANNEXURE VI

GOVERNANCE DEVELOPMENT PLAN



COLLEGE OF ENGINEERING, CHERTHALA

(Managed by IHRD, Established by Govt. of Kerala)

PALLIPPURAM, CHERTHALA

ALAPPUZHA – 688541, KERALA, INDIA.

The administration is overseen by the Board of Governors (BOG). The BOG meets at least four times in a year. The BOG has in place several sub-committees in addition to statutory & other committees to continuously monitor the academic & administrative activities of the Institution. The governance committees in place are shown in table below:

- a. Board of Governors
- b. Academic Council
- c. HODs Council
- d. Finance Committee
- e. Board of studies.
- f. Office of the Controller of Examination.
- g. Central Procurement Committee
- h. Monitoring and Evaluation Committee

- i. Library Committee
- j. Grievance Redressal Committee
- k. Sports & Cultural Committee
- l. Women Cell
- m. Departmental Academic Committees
- n. Hostel Committee
- o. Anti-Ragging Review Committee
- p. Civil works Committee
- q. Accreditation Committee

A. OPENNESS & TRANSPERENCY IN THE OPERATION OF GOVERNING BODIES:

	GOVERNANCE SELF-REVIEW QUESTIONS	GRADE	SUPPORTING EVIDENCE	DEVELOPMENT PLAN	EXPECTED DELIVERY TIME FRAME
1	Has the Governing Body approved the institutional strategic vision,	2	<ul style="list-style-type: none"> • Vision, Mission and strategic plan are evolved by institute faculty through extensive deliberations. Vision & Mission have been displayed on college website. • These are discussed in the Governing Body as part of information agenda presented by the Principal. However approval was not documented formally as part of the minutes of the meeting. 	<ul style="list-style-type: none"> • The Strategic Plan is being implemented with the support of all the stake holders. The BOG periodically reviews the status of implementation of the plan. • Approval of the strategic vision will be formally documented 	2015 June

2	<p>Has the Governing Body ensured the establishment and monitoring of proper, effective and efficient systems of control and accountability to ensure financial sustainability (including financial and operational controls, risk Management, clear procedures for managing physical and human resources.)?</p>	3	<ul style="list-style-type: none"> Annual Budget: A proper system for the financial management and control by way of both internal and external audits is in place. The budget is prepared by the Head of the Departments and central heads and Principal. The BOG inspects the Annual Budget. However it is not formally discussed in the information agenda. Four funds (Corpus Fund, Staff development fund, Maintenance Fund, Equipment replacement fund) are established to ensure financial sustainability <p><u>Evidence:</u></p> <ul style="list-style-type: none"> Four funds (Corpus Fund, Staff development fund, Maintenance Fund, Equipment replacement fund) have been established on the directions of the BOG 	<ul style="list-style-type: none"> Annual Budget will be formally approved for this financial year. Efforts are on to make the accounting system fully automated for better and effective control 	<p>2015 July</p> <p>2016 July</p>
3	<p>Is the Governing Body monitoring institutional performance and quality assurance arrangements? Are these benchmarked against other institutions (including accreditation, and alignment with national and international quality assurance systems) to show that they are broadly keeping pace with the institutions they would regard as their peers or competitors to ensure and enhance institutional</p>	3	<ul style="list-style-type: none"> Institution is planning to undergo NBA Accreditation process by March 2016. Already application for the same has been submitted. Self-Assessment Reports for the eligible programmes have been prepared. Benchmarking with national/international institutions has not been carried out so far, and is proposed to be conducted at the earliest. <p><u>Evidence:</u></p> <ul style="list-style-type: none"> The BOG reviews progress of Accreditation activities periodically in the meetings. 	<ul style="list-style-type: none"> Accreditation Committee for internal quality assessment has been constituted. Self-Assessment Reviews for the UG Programmes in Electronics & Communication Engineering and Computer Science & Engineering will be uploaded on to the NBA portal by May 3, 2015. To enhance the quality, the Institution is also embarking on modern processes such as blended learning such as MOOCs to supplement regular teaching 	<p>NA</p> <p>2016-17</p>

	reputation?			<ul style="list-style-type: none"> After obtaining Accreditation from NBA, the Institute will also undergo Accreditation Process of APACC (Asia Pacific Accreditation Council), to improve institutional visibility and attract better quality input 	2016-17
4	Has the Governing Body put in place suitable arrangements for monitoring the head of the institution's performance?	3	<ul style="list-style-type: none"> Formal arrangement for monitoring does not exist, however his performance is reviewed in an informal way in the BOG. 	<ul style="list-style-type: none"> Feedback from faculty/staff, students and BOG and monitoring of Institutional Performance will be considered for devising a formal evaluation process. 	2015 Dec

B OPENNESS AND TRANSPARENCY IN THE OPERATION OF GOVERNING BODIES					
	GOVERNANCE SELF-REVIEW QUESTIONS	GRADE	SUPPORTING EVIDENCE	DEVELOPMENT PLAN	EXPECTED DELIVERY TIME FRAME
1	Does the Governing Body publish an annual report on institutional Performance?	3	The Annual report has not been published till date.	The Annual Report will be published in the current Academic year.	July 2015

2	Does the Governing Body maintain, and publicly disclose, a register of interests of members of its governing body?	3	Register of Interest of BoG members not maintained at present.	The register of Interests of BOG members will be published at the earliest.	July 2015
3	Is the Governing Body conducted in an open manner, and does it provide as much information as possible to students, faculty, the general public and potential employers on all aspects of institutional activity related to academic performance, finance management?	2	<ul style="list-style-type: none"> • Governing body is conducted in an open manner. Faculty representatives are invited to participate in the proceedings of the BOG. The Agenda and minutes of the Meeting are also published on the College website (cectl.ac.in). • The relevant information is shared with HODs, faculty and staff through various meetings/circulars. • Information relating to academic performance and placement details are discussed in BOG meetings and published on the institutional website. • Details regarding Tenders and Quotations are published on the College website. 	Student Representatives will be invited to air their views on relevant matters.	July 2015

C KEY ATTRIBUTES OF GOVERNING BODIES					
	GOVERNANCE SELF-REVIEW QUESTIONS	GRADE	SUPPORTING EVIDENCE	DEVELOPMENT PLAN	EXPECTED DELIVERY TIME FRAME
1	Are the size, skills, competences and experiences of the Governing Body, such that it is able to carry out its primary accountabilities effectively and efficiently and ensure the confidence of its stakeholders and constituents?	2	<ul style="list-style-type: none"> The BOG of CE Cherthala has been constituted as per the UGC guidelines by the Govt. of Kerala. 	At present the institute is not empowered to revise the constitution of its BOG. Acquiring autonomy will solve the above problem.	2016-17
2	Are the recruitment processes and procedures for governing body members rigorous and transparent? Does the Governing Body have actively involved independent members and is the institution free from direct political interference to ensure academic freedom and focus on long-term educational objectives?	1	<ul style="list-style-type: none"> The Governing Body was suggested by the institute and approved by the Govt. of Kerala after due procedure. The Governing Body includes representatives from Industry and Eminent Academicians and State Govt. nominees. The institutional decisions are not influenced by external influences. Members are actively involved in furtherance of institutional objectives 	--	N.A

3	Are the role and responsibilities of the Chair of the Governing Body, the Head of the Institution and the Member Secretary serving the governing body clearly stated?	1	<ul style="list-style-type: none"> The BOG is constituted as per prevailing UGC guidelines. The role and responsibilities of the Chairman, Head of the Institution and Members serving the governing body is clearly identified and as per guidelines. 	--	N.A
4	Does the Governing Body meet regularly? Is there clear evidence that members of the governing body attend regularly and participate actively?	1	<ul style="list-style-type: none"> The BOG meets regularly four times in an academic year. The members of BOG participate regularly and make active contributions for academic growth and development. The Chairman of the BOG spends quality time to encourage the faculty, staff and students. <p><i>Evidence: Agenda notes and Minutes published on the website.</i></p>	--	NA

D EFFECTIVENESS AND PERFORMANCE REVIEW OF THE GOVERNING BODY					
	GOVERNANCE SELF-REVIEW QUESTIONS	GRADE	SUPPORTING EVIDENCE	DEVELOPMENT PLAN	EXPECTED DELIVERY TIME FRAME
1	Does the Governing Body keep their effectiveness under regular review and in reviewing its performance, reflect on the performance of the institution as a whole in meeting its long term strategic objectives and its short term indicators of performance/success?	2	The BOG monitors the strategic plan, both short term goals and long term goals, through periodical reviews of the implementation of strategic plan.	The frequency of review of performance indicators, to update the strategic plan is to be increased to once every quarter.	2015-16
2	Does the Governing Body ensure that new members are properly inducted, and existing members receive opportunities for further development as deemed necessary	2	<ul style="list-style-type: none"> At Present, the BOG does not have powers to recruit new members. Formal Induction process for New BOG members to be devised, anticipating granting of autonomy, when new members can be recruited. 	<ul style="list-style-type: none"> Achieve autonomy. In anticipation of autonomy, a search committee will be constituted to recruit/nominate independent members to the BOG A workshop on good governance will be conducted for BOG members. The previous meeting resolved to take steps to include Director of IHRD in the BOG 	2016-17 2016-17 2015-16 2015-16

E REGULATORY COMPLIANCE					
	GOVERNANCE SELF-REVIEW QUESTIONS	GRADE	SUPPORTING EVIDENCE	DEVELOPMENT PLAN	EXPECTED DELIVERY TIME FRAME
1	Does the Governing Body ensure regulatory compliance* and, subject to this, take all final decisions on matter of fundamental concern to the institution.	2	<ul style="list-style-type: none"> The BOG ensures compliance to various regulatory bodies like AICTE, CUSAT and State Government on regular basis. 	<ul style="list-style-type: none"> Current Practices will be continued. 	NA
2	Does the regulatory compliance include demonstrating compliance with the 'not-for-profit' purpose of education institutions	1	<ul style="list-style-type: none"> Yes 	////	////
3	Have there been accreditation and/or external quality assurance by a national or professional body? If so, give details: name, status of current accreditation etc.	3	<ul style="list-style-type: none"> The Institution has applied for Accreditation by NBA. No programmes accredited at present 	<ul style="list-style-type: none"> Obtain Accreditation from NBA Obtain Accreditation from APACC 	2015-16 2016-17

Dr. C.P Girijavallabhan
Chairman

Dr. P Suresh Kumar
Principal

ANNEXURE VII

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME PHASE II

STATUTORY AUDIT 2013-2014

OBSERVATIONS

1. COLLEGE OF ENGINEERING CHERTHALA , ALLAPUZHA

SL NO	OBSERVATIONS	MANAGEMENT REPLY														
I	PROCUREMENT															
1	Video Conferencing Equipment purchased for Rs.5,52,985 for CS department is used in Principal's office. It was purchased for use in CS Lab, and Fixed asset Register shows the asset location as CS Lab.	The Video Conferencing Equipment has been issued to the Principal's room from the CS lab, as the Board room for Conferences has been setup there after the purchase of the equipment. The same has been intimated in the Stock register of the Department of Computer Science. The location of the equipment has been corrected in the Fixed Assets Register.														
II	ACADEMIC SUPPORT FOR WEAKER STUDENTS															
1	<p>In Academic Support For Weak Students, Principal's authorizations were not available on submissions for 6 programmes (Total expense Rs. 90,395/-) conducted during the year 2013. Details of which are as follows :</p> <table border="1"><thead><tr><th>Date of Accounting</th><th>Amount</th></tr></thead><tbody><tr><td>28.09.2013</td><td>29,790/-</td></tr><tr><td>28.09.2013</td><td>20,106/-</td></tr><tr><td>30.08.2013</td><td>10,674/-</td></tr><tr><td>31.08.2013</td><td>10,413/-</td></tr><tr><td>28.09.2013</td><td>9,976/-</td></tr><tr><td>28.09.2013</td><td>9,976/-</td></tr></tbody></table>	Date of Accounting	Amount	28.09.2013	29,790/-	28.09.2013	20,106/-	30.08.2013	10,674/-	31.08.2013	10,413/-	28.09.2013	9,976/-	28.09.2013	9,976/-	The Principal's authorization is affixed on all submissions.
Date of Accounting	Amount															
28.09.2013	29,790/-															
28.09.2013	20,106/-															
30.08.2013	10,674/-															
31.08.2013	10,413/-															
28.09.2013	9,976/-															
28.09.2013	9,976/-															
III	INCREMENTAL OPERATING COST															
1	Consumables purchased for Exam cell Rs. 9,608/-and Library Rs. 4,494/- were booked under Consumables. These were purchased not for TEQIP office use. <i>Since the items are not purchased for TEQIP office it will result in disallowance of Rs 14,102/-.</i>	The said consumables were purchased for conducting remedial tests for students under the Equity Action Programme and for taking printouts of question papers for diagnostic tests,														

		etc for the library.
2	During the year Principal, Teqip coordinator and III Cell coordinator went to Bangalore for attending project review workshop of TEQIP-II. Rs 61,599/- (Rs 20,533/- each) incurred as expense and accounted it under this head. No submission received from the participants and no order issued for the sanction of payment. After the programme, they submitted a statement of expense only and approved the payment based on that statement. Only statement of expense was available and no other supporting documents were available for our verification. <i>Since the expenditures are not supported by valid supporting documents Rs 61,599/- seems to be non permissible.</i>	The Programme attended is the TEQIP review meeting organized by the NPIU, at Bangalore, in which the Principal, TEQIP Coordinator and IIC Coordinator had to mandatorily participate as per the directions. Official intimation letter from the NPIU was submitted as proof in the concerned files. The same was intimated to the audit team. Original Submissions from the participants received at the College office and proceedings for payment, have been included in the concerned file. So this observation maybe dropped.
3	The Submission for a programme attended by Teqip coordinator was not available. Only the reimbursement of expenses of Rs. 28,106/- dated 29/11/2013 was filed.	The NPIU had asked TEQIP Coordinators of all institutions to mandatorily attend QEEE awareness programme at New Delhi in October. The official intimation letter from NPIU is already filed as also the submission from the TEQIP Coordinator to attend the same . So this observation maybe dropped.
IV GENERAL		
1	Proceedings were not available for programmes conducted during the year 2013-14 under the following activities : a. Capacity development b. Faculty and staff development c. III cell d. Institutional Reforms	Proceedings are now being issued for the same.
2	<u>Establishment of four Funds:</u> i. Creation and establishment of Four Funds is a Project requirement that is to be complied with by all institutions. ii. These Funds should not be used during the Project period as funds for various activities are available under the Project. iii. Each project institution is to build these Funds with annual contribution into each Fund equal to at least 0.5% (total 2%) of annual total recurring expenditure of the institution.	The same has now been accounted in Tally.

	During the course of audit it was observed that the college not accounted these bank accounts in tally.	
3	As per section 194 J of The Income Tax Act 1961 “ Every person who is responsible for paying to a resident any sum by way of fees for professional services in excess of Rs 30,000/- shall deduct Tax @ 10% from such payment”. During the year the college paid Professional charges to MIS Officer without deducting TDS.	The MIS Officer has been recruited as a contract employee and not as professional service. Therefore 194 J of the IT Act is not applicable in this case.