

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME

Phase II

Sub Component 1.1

**9th MEETING OF
THE BOARD OF GOVERNORS**

DETAILED AGENDA NOTES

Date: 09-05-2014 Time: 03.00 pm

Venue: Government Engineering College Kozhikode

GOVERNMENT ENGINEERING COLLEGE Kozhikode

Westhill., Kozhikode-673 005 KERALA

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Background:

The 9th meeting of the Board of Governors is being convened on 9th of May, 2014 focussing Governance plan formulation and institutional reforms.

Also, the meeting of Board of Governors is convened regularly to monitor the progress of implementation of TEQIP-II activities at GEC Kozhikode, under Sub component 1.1, and to accord the necessary approvals and clearance for the on-going activities as required in the implementation guidelines of the scheme.

The agenda items are given below:

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A1. Confirmation of the Minutes of the 8th Meeting of the Board of Governors held on 06-03-2014 at GEC Kozhikode

The Minutes of the 8th Meeting of Board of Governors of TEQIP Phase II of GEC Kozhikode held on 06-03-14 at GEC Kozhikode was sent to the Chairman and upon his consent copies were circulated among the other members of the BoG. A copy of the Minutes is appended as **Appendix I** for confirmation.

A2. Report on the action taken/action pending on the pertinent decisions in the Minutes of the 8th Meeting of the Board of Governors held on 06-03-2014 at GEC Kozhikode

The decisions taken by the Board as recorded in the Minutes of the 8th Meeting of the Board of Governors of TEQIP Phase II held on 06-03-2014 have been noted and actions have been initiated. A report on the action taken and actions pending is presented in the Table A2.I given below.

Table A2.I

Sl. No	Decision Item	Action Taken
1	National Conference on Emerging Trends in Engineering	Progressing and scheduled in August 2014.
2	National workshop on Instrumental Methods of Analysis	Progressing
3	Pedagogy training on “Teaching – a multi-tasking service”	Completed, 17 th to 21 st March 2014
4	IIIC program on Design of Pressure vessels as per ASME code, Section- VIII, Division-1	Progressing
5	IIIC program on Pneumatic Control System Training at PSG Tech. Coimbatore	Progressing
6	IIIC program on Industry Institute Meet	Progressing

Part B
B1. Fund Position as on 30-04-2014

Sl. No	Head of Activity/Category of Expenditure	Amount Spent Lakhs
1	Improvement in teaching, training and learning facilities	404.75
2	Providing Assistantship for increased enrolment in existing and new PG	19.09
3	Enhancement of R&D and Institutional Consultancy activities	1.454
4	Faculty and Staff Development (FSD)	37.625
5	Enhanced Interaction with Industry	8.71
6	Institutional Management Capacity Enhancement	5.21
7	Implementation of Institutional Reforms	10.77
8	Academic Support for weak students	6.10
9	Incremental Operating Cost	14.33
TOTAL		508.04

B2. Status of Faculty position as on 30.04.2014

Electrical and Electronics Department				
	Sanctioned Nos.	Available Nos.	Vacancy Nos.	Qualification
Associate Professor	1	1	0	1 Ph.D.
Assistant Professor	2	1	1	1 M. Tech
Contract Faculty		1		1 M. Tech
Applied Electronics Department				
	Sanctioned Nos.	Available Nos.	Vacancy Nos.	Qualification
Professor	1	1	0	1 Ph.D.
Associate Professor	3	2	1	2 M. Tech
Assistant Professor	9	8	1	7 M. Tech, 1 B. Tech
Contract Faculty		6		6 M. Tech
Chemical Engineering Department				
	Sanctioned Nos.	Available Nos.	Vacancy Nos.	Qualification
Professor	2	1	1	1 Ph.D.
Associate Professor	4	2	2	1 Ph.D., 1 M. Tech
Assistant Professor	9	10	0	1 Ph.D., 8 M. Tech 1 B. Tech
Contract Faculty		2		2 M. Tech
Mechanical Engineering Department				
	Sanctioned Nos.	Available Nos.	Vacancy Nos.	Qualification
Professor	1	1	0	1 M. Tech
Associate Professor	4	3	1	3 Ph.D.
Assistant Professor	9	9	0	1 Ph.D. 7 M. Tech, 1 B. Tech
Contract Faculty		5		1 M. Tech, 4 B. Tech
Civil Engineering Department				
	Sanctioned Nos.	Available Nos.	Vacancy Nos.	Qualification
Professor	1	1	0	1 M. Tech
Associate Professor	3	1	2	1 M. Tech
Assistant Professor	9	5	4	1 Ph. D., 4 M. Tech
Contract Faculty		6		2 M. Tech, 4 B. Tech
Applied Science Department				
	Sanctioned Nos.	Available Nos.	Vacancy Nos.	Qualification
Assistant Professor	8	8	0	4 Ph.D., 4 M. Sc.

Part C

CI. Status of Procurement

CI. 1. Progress report of procurement activities

Procurement Details as on 30/04/2014			
Department	Total No. of Packages	No. of completed Packages	Amount, Rs.
AEI	35	30	1,12,40,755
A Sc	5	5	8,02,392
Ch.E	20	15	69,47,919
CE	22	22	1,11,83,119
ME	26	20	1,03,00,766
Total	108	92	4,04,74,951

CI. 2. Ratification of the cancelled/modified procurement package

S. No	Package No. & Name	Items in the package	Quantity (Total)	Total estimated amount, Rs	Reason for Cancellation/ modification
1	147 – Server Computer	Server Computer	1	8,00,000	Being purchased under State Govt. fund
2	146 – Online UPS 3kVA	Online UPS- 3kVA	1	2,00,000	

Decision needed: The board may kindly ratify.

CI. 3. Ratification of newly created procurement packages

S. No	Name of the Package	Items in the package	Quantity (Total)	Total Package amount, Rs.	Department	Name of the laboratory for which items procured
1	165 – Portable NDIR Analyser	Portable NDIR Analyser for HC, CO, CO ₂ , O ₂ , NO	1	2,65,000	ME	Heat Engines Lab

Decision needed: The board may kindly ratify.

CII. Discussions and Considerations of activities under Research and Development and institutional consultancy

Under the guidance of **Prof. L.M. Patnaik**, the Senior Research Advisor (SRA) and Research Guidance Committee of the institute, following research activities are going on.

S.No.	Name of the faculty	Research Title
1	Mr. Abdu Rahiman V. AE & I	Pattern Recognition System for Smart Class Rooms
2	Mr. B.S. Shajee Mohan AE & I	Content based Image Retrieval System for Biological Images
3	Dr. Muhammed Arif M. Applied Science Department	Accelerated Curing of Urea-Formaldehyde-Melamine resin for the manufacture of rubber wood boards
4	Dr. Muhammed Arif M. Applied Science Department	Construction and design of plastic and solid waste incinerator.
5	Mrs. Sindhu N, Chemical Engg. Department	Microwave Assisted Pyrolysis of Plastic Wastes
6	Dr. Anirudhan P., Dept. of Mechanical Engineering	Wear behavior of Titanium on steel
7	Dr. Anirudhan P., Dept. of Mechanical Engineering	Vegetable Oil based Metal Working Fluids
8	Dr. Anirudhan P., Dept. of Mechanical Engineering	Green Boundary Lubricants
9	Mr. Pradeep V Dept. of Mechanical Engineering	Characterization of fuel sprays of low pressure solenoid injectors for spark ignition engines
10	Dr. Sajith P.P. Dept. of Mechanical Engineering	Design and fabrication of passive Cooling System for Heat Generating devices & Equipment
11	Dr. Sreejith B. Dept. of Mechanical Engineering	Savonius wind turbine with guide blades
12	Jaseela S. Dept. of Mechanical Engineering	Estimation of liquid film thickness during flow boiling in rectangular mini/micro channels

The **second** screening committee meeting for new research proposals and review meeting of the on-going projects is scheduled in June 2014.

Testing and consultancy facility created under TEQIP II

Institution is marketing their services to the Industry. The faculty who have expertise are encouraged to take up consultancy assignments, which would directly and indirectly benefit the institution, faculty and students. Internal Revenue Generation (**IRG**) would receive a boost, and the norms approved by the BoG.

The following list gives the testing rate of equipment purchased under TEQIP II proposed by Dr. Ushakumary, Chemical Engineering department for the consideration of BoG.

Sl. No	Name of Equipment	Name of Test/Product	Rate per Test/Sample(Rs.)
1	Research Grade Analyser	pH	200
		BOD	500
		TDS	400
		Dissolved Oxygen	500
		Calcium	500
		Sodium	500
		Cyanide	500
		Nitrite	500
		Fluoride	500
		Chloride	500
		Salinity	400
		Conductivity	400
		Resistivity	400
2	IR-Spectroscopy	FTIR Spectra Recording	1000
3	COD Titrator/Digester	COD	500
4	Atomic Absorption Spectrometer	Zinc	1000
		Copper	1000
		Cadmium	1000
		Lead	1000
		Mercury	1000
		Arsenic	1000
5	HPLC High Pressure Liquid Chromatography	Aromatic Hydrocarbons	5000
6	GC/MS Gas Chromatography Mass spectroscopy	Gas compositions	5000

Organized R&D expert class program on

1. “Wind energy and its utilization. Wind turbine dynamics with DC and AC generators and Power electronics converter and inverter interfaces for wind energy utilization system”.

Dr. Vanitha V.

Dept. of Electrical & Electronics Engineering

Amrita Vishwa Vidyapeetham University Coimbatore

2. “Smart materials” by Dr.Manju Unnikrishnan-Senior Scientist, CSIR- Central Glass and ceramic Research institute Kolkata.

Decision needed: The board may kindly ratify the above programs.

New Research and Consultancy laboratory

A unique lab called *EL Square* (Equipment Life Enhancement Laboratory, ELEL) under Mechanical Engineering department giving solutions for thermal failure of costly equipment. This new initiative is in association with **Dr. C.B. Sobhan**, NIT Calicut.

Scheduled Program in June 2014.

Expert talk by **Prof. Vittal Rao**, IISc. Bangalore

CIII. Discussions and Considerations of activities under Implementation of Institution Reforms.

1. Accreditation process.

Uploaded SAR of eligible programs. The board may discuss the following points

- a. Identify the area in improvements can be done
- b. Identify the action plan for the improvement
- c. Identify the internal as well as external requirements to run the action plan
- d. Any other points

2. ISO 9001:2008 certification for the institution towards Total management quality.

3. Strategic Governance Plan. The board may discuss and consider the institution's strategic plan to achieve the primary objectives of teaching, learning and research.

The draft plan for 2015-20 is given below for discussion

Overview

Government Engineering College, Kozhikode (GECK) started in the year 1999, is one among the nine prestigious institutions run by Government of Kerala. The institute is located in Kozhikode city, well connected by a network of road, rail and airport. This institute, being a Government engineering college, provides affordable technical education and is a best choice amongst the brilliant students from the nearby backward and rural districts. Currently it has five undergraduate (UG) programs (Annual intake of 300 Students) in Applied Electronics & Instrumentation Engineering, Electronics and Communication Engineering, Chemical Engineering, Civil Engineering and Mechanical Engineering and three PG programs (Annual intake of 54 students) in Computer aided process design, Energy systems-Analysis and Design and Signal Processing.

Our 2015–2020 Strategic Plan sets out for the Institution to squeeze opportunities. Delivering this Plan will require us to be more responsive to shifts in our work culture and alert in our approach. Our priorities for delivery over the next five years are planned by our commitments to social and good governance. The choice of key performance indicators (KPIs) and the targets in the Plan exhibit our commitment to achieve our vision. The level of engagement and enthusiasm shown by our faculty members, students, and supporting staff members gives us the confidence that together we will achieve our ambitions for the future. Our commitment to Strategic Plan is collective and the entire Institution is responsible for its delivery and achievement. We monitor the progress against our KPIs and targets regularly.

The objectives for each of the goals will remain fundamentally the same, with the strategies, KPIs and targets being modified in response to changes in our operating situation.

Goal	
Produce Graduates with Professional Brilliance and Ethical values	
Objectives	Strategies
<ul style="list-style-type: none"> ✓ Develop a climate in which teaching is highly valued. ✓ Develop student’s capacity to learn. ✓ Impart Professional traits and employability in curricula, and equip students to compete in the global marketplace. 	<ul style="list-style-type: none"> ➤ Faculty tutor approach to guide student’s academic plan and educational progress, and supporting them to plan for their future career. ➤ Motivating students to gain work experience as part of their degree, through vacation industrial training. ➤ Training students on emotional competence and learning capabilities. ➤ Expert lecture from Industry persons, association of professional bodies, and alumni interaction to ensure degree programs are responsive, producing graduates with socially and economically valuable qualities and expertise. ➤ Faculty enrichment to hold new technologies as part of enhancing the learning experience

Key Performance Indicators

- ❖ Successive improvements in placement rate
- ❖ Successive improvements in admission to premier institution for higher studies
- ❖ Number of quality industrial trainings during vacation
- ❖ Number of Alumni interactions
- ❖ Employer feedbacks
- ❖ Improvement in institution ranking for students' admission option
- ❖ Industry projects

Goal

Excellence in Research, Consultancy and Innovation

Objectives	Strategies
<ul style="list-style-type: none"> ✓ Realize the full potential of the faculty research base ✓ Pioneer new and emerging areas of research ✓ Faculty publications in reputed journals ✓ Stimulate innovation and novel applications 	<ul style="list-style-type: none"> ➤ Encouraging inter disciplinary research. ➤ Strategic association with Premier institutions like IISc./IITs/NITs. ➤ Maximize externally funded research projects ➤ Publicize the profile of research activity, facilities and expertise. ➤ Faculty motivation and research incentives ➤ Knowledge exchange with industries and public meetings. ➤ Publicize institute as a Testing and Certification center. ➤ New post graduate programs in emerging areas ➤ Inspiring students acquire and use their entrepreneurial skills ➤ Promote TBIs

Key Performance Indicators

- ❖ Publications in referred journals
- ❖ Collaborative IISc./IITs/NITs
- ❖ Number of TBIs
- ❖ Number of Research projects
- ❖ Number of Faculty incentives
- ❖ New PG programs
- ❖ Number of industrial consultancy

Goal

High Competencies for Faculty and Staff

Objectives	Strategies
<ul style="list-style-type: none"> ✓ Attract and retain best faculty and supporting staff ✓ Develop knowledge and competencies of the people ✓ Maintain the principles of dignity, respect and equality. ✓ Maintain adequate staff based on needs. 	<ul style="list-style-type: none"> ➤ Develop a culture of high performance by excellent and effective leadership and employee engagement. ➤ Supporting professional and career development. ➤ Rewarding excellence and success. ➤ Promote interdisciplinary activities and team work. ➤ Develop tolerance, empathy and ethics through effective employee engagement and transparency and proper communications. ➤ Basic and advanced pedagogical training. ➤ Promote training programs in functional and management area. ➤ Support publications in journals and reputed conferences.

Key Performance Indicators

- ❖ Faculty contributions in Co-curricular activities
- ❖ Number of Faculty rewards
- ❖ New training programs
- ❖ Staff satisfaction survey index
- ❖ Number of qualification up gradations
- ❖ Participation in conferences and workshops
- ❖ Number of conflicts

Goal

Provide modern learning and working environment

Objectives	Strategies
<ul style="list-style-type: none"> ✓ Optimum usage of space ✓ Quality library, laboratory and Information Technology infrastructure ✓ Maintain infrastructure assets. ✓ Common amenities and residential facilities. 	<ul style="list-style-type: none"> ➤ Effective communication emphasizing the importance of good space management. ➤ Explore the possibilities of getting funds for infrastructure improvements. ➤ Departmental budgeting and efficient utilization. ➤ Systematic approach towards acquiring and storing information resources. ➤ Develop Systematic maintenance plan for variety of assets. ➤ Provide information and communication technology for easy access to resources. ➤ Land acquisition for residential facility for students and staff. ➤ Identify future technology advancements and develop laboratories. ➤ Internal revenue generation for equipment replacement and assets maintenance.

Key Performance Indicators

- ❖ **Number of new facilities created by space management**
- ❖ **Fund received from various sources**
- ❖ **Improvements in library facility in terms of titles, journals, etc.**
- ❖ **Campus connectivity**
- ❖ **E journal access statistics**
- ❖ **Number of new laboratories**
- ❖ **New hostels and staff apartments**
- ❖ **Improvement in IRG in terms of annual recurring expenditure**

CIV. Equity Action Plan

Action plan for the academic year **2014-15** is given below. The board may discuss and suggest activities for improving the academic performance of the students.

Objective
Improving academic performance of weak students
Action Plan
<ul style="list-style-type: none">✓ Identify the tough subjects and conduct remedial classes throughout the academic sessions for improving the pass rate of students.✓ Soft skill and professional skill training programs starting from 3rd year onwards.✓ Motivational and confidence building classes from first year onwards.✓ After one month of first year admission, conduct a basic test for Mathematics, Engineering Mechanics, English, Engineering graphics and Computer programming for identifying the weak students. Arrange bridge classes for weak students.✓ Strengthening the counseling center of the institution.✓ High intensity training program for passed out graduates who fail to secure any employment.

The details of the programs conducted during the academic year 2013-14 are given in the **Appendix II**.

CV. Faculty and Staff Development Program

Training program attended by faculty and Staff members (February – April 2014)

Sl. No	Name	Training provider	Duration and date	Name of program
1	Abdul Hameed K.M. Professor ECE Dept.	IIT Bombay	24-26 Feb 2014	National Workshop on GPU Programming & Applications
2	Abdu Rahiman V. Asst. Professor ECE Dept.	IIT Bombay	24-26 Feb 2014	National Workshop on GPU Programming & Applications
3	Dr. Byjubai T.P. Principal	CET School of Management	17-18 March 2014	Making TEQIP Institutions more effective: strategic planning and good governance
4	Dr. Sajith P.P. Professor ME Dept.	CET School of Management	17-18 March 2014	Making TEQIP Institutions more effective: strategic planning and good governance
5	Abdul Hameed K.M. Professor ECE Dept.	CET School of Management	17-18 March 2014	Making TEQIP Institutions more effective: strategic planning and good governance
Technical Staff				
1	Sujith E.	IIT Bombay	08-09 March 2014	Azeotropy workshop
2	Ali Akbar E.T.	IIT Bombay	08-09 March 2014	Azeotropy workshop

Decision needed: The board may kindly ratify the above programs.

DI. Other Items with the permission of Chairman