FACULTY DEVELOPMENT PROGRAMME
ON
OUTCOME BASED EDUCATION FOR NBA ACCREDITATION

Organized by
Department of Computer Science & Information Technology
AND
Department of Mechanical Engineering

Sponsored by TEQIP II

10th – 12th October 2019

Technical Report

Coordinators

Sowmya K.S        Remya.R        Shamnadh        Hareesh
Day 1: 10/10/2019 (Thursday)
09.00-10.00 : Inauguration

All Participants registered for the Programme. It started with a silent prayer. Dr. Dileeplal, HOD ME, delivered the Welcome Speech. Dr. Bindhu Prakash, HOD EEE, delivered the presidential address. The programme was inaugurated by lightning the lamp by Prof. Dr. Sasikumaran S, Managing Director, AACHA and preside an inaugural address. The function was over by Vote of thanks given by Dr. Bejoy Abraham, HOD CS/IT Dept.

First Session: Introduction to OBE/NBA, Prof Dr. Sasikumaran S, Managing Director, AACHA

The objective of the NBA is to assess and accredit professional programmes offered at various levels by the technical institutions on the basis of norms prescribed by the NBA.

Next Session on Programme Criteria and SAR preparation Concepts:

Prof. Dr. Sukesh Kumar A (Director/AACHA)
Explained the different criteria and the sub criteria as specified in the evaluation guidelines of SAR. Completed Criteria 1 & 2. He also specified the corresponding documents to be kept for each sub criterion. He cleared all the doubts raised by the participants to prepare efficient SAR.
Institutional Strategy: Mission and Vision

- The **mission, vision, values and goals** collectively form a vital part of Institutional strategy
- Several companies have elaborate mission and vision statements that describe:
  - **Strategy for the future**
  - **How they are achieving their goals**
  - **How can they serve the world**
- Mission and Vision statements can be separate or merged
- The University, the College and each Department must have matching vision, mission statements
**Why Vision, Mission and Values**

- Help the organization focus on what is really important
- Provides a snapshot view of the organization
- People can learn about the Institute from the statement itself (*Always a reliable ride*)
- Bring together like minded Institutions or people with similar views and thoughts
- Create and develop a sense of belong among the people and look at the Institutions as “theirs.”

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**How to Formulate Vision Statement**

1) Team work involving all stakeholders
2) Discussions, Brain Storming
3) Gap analysis and/or SWOT analysis
4) Identify the immediate and long term goals
5) Evolve vision, mission statements based on these discussions
6) Strategic plan

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**Importance of a Mission Statement**

An **effective organization** will have a clear sense of **direction**

The entire institution as a system comprising of faculty, organizational policies and practices, the community around, and the government have a potential impact on the curriculum and the learning of students.

A curriculum will have integrity, if the institutional priorities, policies and the resource allocations harmoniously support the most important goals of undergraduate education.

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Next Session: Programme Criteria and SAR Preparation – Continued:
Prof Dr Sukesh Kumar.A explained the different criteria and the sub criteria as specified in the evaluation guidelines of SAR. Completed Criteria 3.

**Day2: 11/10/2019 (Friday)**

**Fore Noont Session on PEOs-Department Program Mission Mappings** Prof Dr Shoukath Ali

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### Frame Work of PEOs, POs and COs

- **Program Educational Objectives**
- **Program Outcomes**
- **Curriculum, Teaching Learning, Assessment, and Evaluation**

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### Developing the PEOs

- **Institutional Vision & Mission**
- **College Vision & Mission**
- **Department Vision & Mission**
- **Graduate Attributes**

- **Students**
- **Parents**
- **Faculty**
- **Industry**
- **Alumni**
- **Professional Bodies**
- **Data on Future**

- **Program Coordinator Collects Views**
- **Department Advisory Board**

If REDEFINING required
Consistency of PEOs with Mission

<table>
<thead>
<tr>
<th>Department Mission Components</th>
<th>Program Educational Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge, skills, attitude and teamwork (emerging technologies)</td>
<td><img src="%E2%88%9A" alt=" " /> <img src="%E2%88%9A" alt=" " /> <img src="%E2%88%9A" alt=" " /></td>
</tr>
<tr>
<td>Brilliant career/entrepreneurship sustainable competitive edge</td>
<td><img src="%E2%88%9A" alt=" " /> <img src="%E2%88%9A" alt=" " /> <img src="%E2%88%9A" alt=" " /> <img src="%E2%88%9A" alt=" " /> <img src="%E2%88%9A" alt=" " /></td>
</tr>
<tr>
<td>Competent and empowered (teaching learning process and R&amp;D environment)</td>
<td><img src="%E2%88%9A" alt=" " /> <img src="%E2%88%9A" alt=" " /> <img src="%E2%88%9A" alt=" " /> <img src="%E2%88%9A" alt=" " /> <img src="%E2%88%9A" alt=" " /></td>
</tr>
</tbody>
</table>

Next Session on CO/PO/PSOs Mapping: Prof Dr Sasikumaran S

Managing Director, AACHA

- COs are stated in the Curriculum in SAR
- COs could be embedded in a PO or a part of it
- How well do the CO statements match with the PO statements?
- COs can be around
- Reason out on the degree of match between COs and POs
- Answer to this question could be in terms of degree of match such as:
  
  - Excellent 4, Good 3, Fair 2, Little 1

**CO to PO Mapping**

<table>
<thead>
<tr>
<th>CO FOR EACH COURSE</th>
<th>PROGRAM OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>![ CO1 ](S M S S M)</td>
<td>PO1 90</td>
</tr>
<tr>
<td>![ CO2 ](S M S S M)</td>
<td>PO2 85</td>
</tr>
<tr>
<td>![ CO3 ](S S M)</td>
<td>PO3 92</td>
</tr>
<tr>
<td>![ CO4 ](S M S)</td>
<td>PO4 90</td>
</tr>
</tbody>
</table>

| Weightage (%) | 85 90 94 89 90 89 92 95 88 93 90 89 |
CO Attainment

- The assessments should be in alignment with the COs
- Question paper should be so set to assess all COs
- The average marks obtained in assessments against items for each CO will indicate the CO attainment
- Instructors can set targets for each CO of his/her Course
- Attainment gaps can therefore be identified
- Instructor can plan to reduce the attainment gaps or enhance attainment targets

Afternoon Session on Programme Criteria and SAR Preparation – Continued: Prof Dr Sukesh Kumar.A

Explained the different criteria and the sub criteria as specified in the evaluation guidelines of SAR. Completed Criteria 4, 5 & 6.

Next Session on Attainment Computations: Prof Dr Sasikumaran.S

Sample CO Attainment Calculation

<table>
<thead>
<tr>
<th>Name</th>
<th>T1-Q3</th>
<th>T1-Q4</th>
<th>T2-Q3</th>
<th>T2-Q4</th>
<th>TOTAL OBTAINED</th>
<th>TOTAL MARKS ATTEMPTED</th>
<th>PERCENT, %</th>
<th>SCORES OR GRADING BASED ON SCALE OF 3</th>
<th>Target ≥ 60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>N. Madhukar (VTU)</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>25</td>
<td>37.5</td>
<td>66.67%</td>
<td>3</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Bickey Gurung</td>
<td>7</td>
<td>12</td>
<td>12</td>
<td>31</td>
<td>37.5</td>
<td>82.67%</td>
<td>3</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Mustafa Rashid</td>
<td>10</td>
<td>12</td>
<td>12</td>
<td>34</td>
<td>37.5</td>
<td>90.67%</td>
<td>3</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Adarsh P Nayak</td>
<td>6</td>
<td>12</td>
<td>12</td>
<td>30</td>
<td>37.5</td>
<td>80.00%</td>
<td>3</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Naveen Kumar (VTU)</td>
<td>10</td>
<td>9</td>
<td>10</td>
<td>29</td>
<td>37.5</td>
<td>77.33%</td>
<td>3</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Vijay Kumar (VTU)</td>
<td>1</td>
<td>12</td>
<td>12</td>
<td>26</td>
<td>30</td>
<td>52.00%</td>
<td>2</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Akash Koppa</td>
<td>9</td>
<td>8</td>
<td>10</td>
<td>37</td>
<td>50</td>
<td>74.00%</td>
<td>3</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Amush K C</td>
<td>9</td>
<td>9</td>
<td>11</td>
<td>40</td>
<td>50</td>
<td>80.00%</td>
<td>3</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>
Day3: 12/10/2019(Saturday)

Fore Noon Session is on Programme Criteria and SAR Preparation –Continued : Prof Dr Sukesh Kumar.A

Explained the different criteria and the sub criteria as specified in the evaluation guidelines of SAR. Completed Criteria 8,9,10.

Next Session is on Attainment Computations : Prof Dr Sasikumaran.S

PO Attainment Calculation
<table>
<thead>
<tr>
<th>Course Name</th>
<th>COs</th>
<th>COs Attainment, %</th>
<th>CO Result</th>
<th>PO1</th>
<th>PO2</th>
<th>PO3</th>
<th>PO4</th>
<th>PO5</th>
<th>PO6</th>
<th>PO7</th>
<th>PO8</th>
<th>PO9</th>
<th>PO10</th>
<th>PO11</th>
<th>PO12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality Surveying and Costing</td>
<td>CO1</td>
<td>95.00%</td>
<td>YES</td>
<td>95%</td>
<td>95%</td>
<td>-</td>
<td>32%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>CO2</td>
<td>35.00%</td>
<td>NO</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>CO3</td>
<td>89.00%</td>
<td>YES</td>
<td>85%</td>
<td>85%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>CO4</td>
<td>24.00%</td>
<td>NO</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>Alternate Building Materials &amp; Technology</td>
<td>CO1</td>
<td>75.00%</td>
<td>YES</td>
<td>50%</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>75%</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>25%</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>CO2</td>
<td>75.00%</td>
<td>YES</td>
<td>50%</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>75%</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>CO3</td>
<td>75.00%</td>
<td>YES</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>50%</td>
<td>-</td>
<td>75%</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>CO4</td>
<td>75.00%</td>
<td>YES</td>
<td>75%</td>
<td>75%</td>
<td>75%</td>
<td>50%</td>
<td>75%</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Major Project Phase - II</td>
<td>CO1</td>
<td>100.00%</td>
<td>YES</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<td>-</td>
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<td>-</td>
</tr>
<tr>
<td></td>
<td>CO2</td>
<td>100.00%</td>
<td>YES</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>100%</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>CO3</td>
<td>100.00%</td>
<td>YES</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>100%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>CO4</td>
<td>100.00%</td>
<td>YES</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>100%</td>
<td>100%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**CO PO Attainment calculation**

**EXIT SURVEY DATA ANALYSIS**

<table>
<thead>
<tr>
<th>PO No.</th>
<th>PO Description</th>
<th>Exist Survey Questions</th>
<th>Ratings</th>
<th>Weighted Average</th>
<th>Percentage Attainment</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO1</td>
<td>An ability to apply the knowledge of mathematics, science, and engineering fundamentals to the solution of Civil Engineering problems. To what level you are able to apply science and engineering concepts to problem solving. To what extent you are able to support technical problem solving.</td>
<td>0 0 2 3 14 6 25 3.96 76%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PO2</td>
<td>An ability to identify and analyse Civil Engineering problems for meaningful solutions to form the basis for design of Civil Engineering system components. To what extent you are able to analyse Civil Engineering problems.</td>
<td>0 0 2 3 14 4 25 3.64 76%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PO3</td>
<td>An ability to design solutions for Civil Engineering problems and design system components. To what extent you are able to design Civil Engineering components. To what extent you are able to design Civil Engineering systems (such as buildings, structures, roads etc.).</td>
<td>0 1 4 7 10 3 25 3.4 68%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PO4</td>
<td>An ability to conduct experiments, analyse and interpret data to provide valid conclusions. To what extent you are able to analyse and interpret data.</td>
<td>0 1 1 4 13 6 25 3.88 78%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PO5</td>
<td>An ability to apply appropriate techniques and. To what extent you are able to use state of art tools for.</td>
<td>0 0 5 5 11 4 25 3.56 71%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PO Attainment Calculation**
After this session, Mock team is formed to evaluate Computer Science and Mechanical Department

**Afternoon : Mock visits to Departments & Campus**

**Incharge**

**MECH (Prof Shoukath ali)**

**CSE (Prof Dr Sasikumaran.S)**

**Campus (Prof Dr Sukesh kumar)**

At the end, Strength and weakness of each department and Campus is discussed.

**Feedback: Concluding Sessions**

Feedback from the participants are collected and Some of the participants gave feedback of the programme. The certificates are distributed to all participants in the concluding sessions.