

**COUNCIL FOR THE REGULATION  
OF ENGINEERING IN NIGERIA**



**Engineering Accreditation Committee  
(EAC)**

**PROGRAMME EVALUATORS GUIDELINES**

**March, 2023**

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# FOREWORD

In many Engineering fora such as the annual Engineering Assembly of the Council for the Regulation of Engineering in Nigeria (COREN) and Conference of the Nigerian Society of Engineers (NSE), the need for improving the quality of the Engineering graduates has been well discussed. As a member of COREN Council (2013 – 2019) and now as the President of COREN, it has been my fervent desire to find ways to improve the quality of engineering graduates. The mandate of COREN is to regulate the practice of Engineering in all aspects and ramifications. At the education level, this is achievable through the regulation of academic curriculum standards and accreditation of programmes. As such, COREN's regulatory functions and its accreditation activities are important procedures of engaging other stakeholders towards improving the process of knowledge acquisition and value-addition in transforming students admitted into engineering programmes.

In the realization of the above, COREN is determined to be an active participant in the rapid pace of globalization and emerging technologies, and for all Nigerian engineering graduates to meet the local employers' and international job market requirements in the Engineering and Technology sectors. It was in light of this, that in November, 2015, COREN applied to become a member of the Federation of Engineering Institutions of Asia and the Pacific (FEIAP) and was accepted in 2016. In 2018, COREN began the process of the application for the Provisional Signatory Status of the Washington Accord (WA) under the International Engineering Alliance (IEA). Based on this, the Council set up a committee to develop the framework for Outcome-Based Education (OBE) in Nigerian Engineering Programmes. The Committee developed these guidelines, which outline policies, course of actions and tools to complete the accreditation process in an efficient and desired manner.

COREN is ready to give necessary support and clarify any gray-area(s) to any engineering programme and Programme Evaluators towards implementing the OBE

system. Henceforth, during accreditation visits, COREN's trained and certified evaluators will be expected to identify evidences of the judicious implementation of OBE accreditation procedure and this Programme Evaluators' Guidelines. The COREN accreditation manual and Programme Evaluators' Guidelines make it very easy to evaluate compliance with the accreditation criteria, policies and procedures in order to assess the state of compliance as either Full accreditation, or flag the programme as Interim accreditation with deficiencies or Interim accreditation with weaknesses. As you must agree with me, COREN cannot ignore lapses in any of its accredited programmes.

As I read through this Programme Evaluators' guidelines, I am convinced that it seeks to provide basic understanding in assessment and evaluation of Engineering Programmes based on OBE and the specific attributes such as knowledge, skills and attitudes acquired by the graduates. It helps to ascertain whether engineering programmes meet the minimum standards stipulated in the COREN BMAS for the accreditation of their existing or newly proposed programmes. Based on the forgoing, I strongly invite you to go through this manual, understand its contents and apply them in assessment and evaluation of Programmes in Nigerian engineering faculties. Finally, COREN remains extremely grateful to her nominators - Board of Engineers Malaysia (BEM) and Pakistan Engineering Council (PEC) for their valuable feedback and useful guidance without which, this venture would have been much more difficult or impossible. We look forward to continuous mutually-beneficial interactions with all stakeholders.

Engr. Ali A. Rabi, FNSE, F.ASCE, FAEng, MFR  
The President,  
Council for the Regulation of Engineering in Nigeria  
29 January, 2022

## PREFACE FOR 2022 EDITION

The Council for the Regulation of Engineering in Nigeria (COREN), among other functions; determines the academic standards of courses and accredit programmes to be offered by institutions training Engineering Personnel. The accreditation process of COREN has been in existence since 1972. The objective has been to commend existing practices or recommend ways for improvement of value-addition in transforming students admitted into Engineering Programmes into capable engineering professionals with sound knowledge of the fundamentals, an acceptable level of professional skills and personal competence for ready employability in the national economy. Base on this and in quest to imbibe the best practices, COREN decided to become a signatory to Washington Accord. The accord was originally signed in 1989 as a multi-lateral agreement between bodies (such as COREN) responsible for accreditation or recognition of tertiary-level engineering qualifications within their jurisdictions and has chosen to work collectively to assist the mobility of professional engineers.

Therefore, it is necessary to have competent and reliable evaluators who would ensure that engineering programmes substantially comply with the COREN accreditation criteria and other requirements as indicated in *COREN Accreditation Manual*. In the manual, every aspect of accreditation process has been streamlined to enhance the credibility of the evaluation. The credibility of an accreditation exercise depends directly on the programmes Evaluators who are the most important link between COREN and engineering programmes. During accreditation visits, the conduct and decision making of the Evaluators are of prime importance and crucial to the overall process and acceptability of the evaluation decisions. To achieve these goals, these guidelines have been prepared for the Evaluators which should be treated as an integral part of the *COREN Accreditation Manual* of 2019. The main objective of this document is to make the evaluation process and decision making **consistent, impartial and defensible** across the board.

Therefore, this publication, *Programme Evaluator Guidelines*, is a part of the Evaluators Package, which provides the evaluators with basic guidelines, policies, course of actions and tools to complete the accreditation process in an efficient and desired manner. In addition to these guidelines, the package includes *Code of Ethics for Evaluators*, the same should be filled by each member of the evaluation team before engaging him/herself into the conduct of the visit. The package also includes a *Programme Evaluation Worksheet* that is to be filled by the Programme Evaluator and submitted along with the *Programme Evaluator Summary* report. To maintain the fairness of the process; the document also contains two forms - *Programme Feedback* regarding the visitation team and *Peer Evaluation*; these forms will be filled by each host Programme and other Evaluators respectively. The forms shall be received by COREN directly through its staff on the accreditation team.

These guidelines are organized into different sections: a) how to prepare for the accreditation visit; b) a typical schedule of the visit; c) how to prepare the Programme Evaluator Summary Report and d) how each criterion and sub-criterion of the Evaluator Worksheet should be assessed. It should be noted that these guidelines, also include examples of the performance indicators and the evidence to be sought by the Evaluator against each defined attribute. At the end, *Programme Evaluation Worksheet Rubrics* is also provided, which is helpful to the Evaluators to interpret the three compliance levels, namely, *Deficiency*, *Weakness*, and *Concern*, against each criterion and sub-criterion. There are a number of assessment attributes against each of the ten main criteria defined in the COREN *Accreditation Manual 2019* and also in Evaluator Worksheet. Naturally, all these assessment attributes do not carry equal weightage towards the bigger picture that has to be drawn by the Evaluation Panel, while arriving at the final decision about the accreditation of a specific programme. The *Programme Evaluation Worksheet Rubrics* not only defines the compliance level against each assessment attributes; it also emphasizes on the importance of each assessment attributes (Concern, Opportunity for Improvement, Weakness, and Deficiency) and

assigned a colour code that is indicative of the overall compliance level of the main criterion. Contrary to the earlier practice, it should be noted that there is no quantitative measure of compliance for use in the final decision making. Therefore, Programme must substantially comply with the requirements in all areas of evaluation.

Based on guidance of the Council, this manual is a result of the cumulative efforts of an initial ad-hoc Committee on OBE accreditation guideline and was later expanded to Council Committee on Engineering Accreditation Board Implementation consisting of the following: Chairman: Engr. Prof. Sadiq Z. Abubakar, Members: Engr. Prof. Emmanuel Aluyor, Engr. Prof. Stephen J. Mallo, Engr. Prof. Joseph O. Odigure, Engr. Prof. Baba J. El-Yakubu, Engr. Dr. Eyitayo A. Afolabi, Engr. Oladipupo Mabogaje, Mrs. Dooshima Asa and Engr. Precious Onuoha.

I sincerely appreciate the concerted effort of Engr. Zhidaya Jude, Mrs Ngozi Blessed Umeh and all those who worked tirelessly to ensure the achievement of this goal within such a constrained time limit.

**Engr. Prof. Joseph O. Odigure**  
**Registrar,**  
**Council for the Regulation of Engineering in Nigeria**  
**29 January, 2022**

## **PREFACE FOR THE 2023 EDITION**

The establishment of the Engineering Accreditation Committee by Council, in line with international best practices, has made it necessary to review the Programme Evaluator Guidelines. Also, following the principle of Continuous Quality Improvement (CQI), improvements have been made where necessary in this edition to the earlier published Programme Evaluator Guidelines. This current edition has been made fully OBE compliant by removing any aspect of the traditional accreditation system found in the earlier edition.

The contributions made in the review of this edition by the Chairman of EAC, Engr. Prof J A Olorunmaiye; the Vice-Chairman of EAC, Engr. Prof Baba Jibril El-Yakubu; and a member of EAC, Engr. Prof N M Musa are highly appreciated.

It is hoped that this revision of the Programme Evaluator Guidelines will make it easier for programme evaluators and accreditation Team Leaders to carry out their assignments well.

**Engr. Prof. Adisa, Ademola Bello, FNSE, FAEng**  
**Registrar,**  
**Council for the Regulation of Engineering in Nigeria**  
**March, 2023**



## **ACKNOWLEDGEMENT**

The Council for the Regulation of Engineering in Nigeria (COREN) wish to acknowledge its Washington Accord Mentors Pakistan Engineering Council (PEC) and Board of Engineers, Malaysia (BEM) for their immense input in the development of these guidelines. Some of these guidelines were adopted from PEC's Guidelines for Programme Evaluators and developed in conjunction with the COREN Accreditation Manual for Engineering Programmes in Nigerian Universities.

## **1.0 INTRODUCTION**

This document serves as a guide to all Programme Evaluators who are appointed by the Engineering Accreditation Committee (EAC) of COREN, on their responsibilities and conduct during an accreditation visitation. It must be adhered to strictly in order to ensure consistency amongst various accreditation Team Members in terms of evaluation and final recommendations.

## **2. PREPARATION FOR ACCREDITATION VISIT**

The Programme Evaluation Team needs to be acquainted with the EAC policies on accreditation as detailed in the COREN Accreditation Manual-2019. The Evaluation Team Members shall carefully read the Self Study Report (SSR) submitted by the accrediting Programme, in order to ensure that it provides the necessary information sought by EAC in the prescribed template.

The Evaluation Team will assess and carry out an evaluation based on all the accreditation Criteria 1 to 10 as required in Section 3 of COREN Accreditation Manual. The assessment includes the auditing and confirmation of documents submitted by the institution. If the documents submitted are not complete, the Evaluation Team shall request for the additional information through the EAC.

The purpose of these Guidelines for Programme Evaluators is to ensure that every criterion for accrediting a degree programme and its delivery are assessed and reported. However, it is worthy to note that the aim of accreditation is to determine whether or not a degree programme meets the basic Outcome-Based Education (OBE) requirements as specified by EAC.

The Evaluation Team Leader and Team Members, either together or separately, should prepare a list of questions for each section of the criteria so as to ensure that all aspects are properly addressed. If the institution/programme does not provide sufficient information, EAC should be notified and asked to request for additional information from the institution/programme. When the information is received, it should be forwarded to the Programme Evaluation Team.

### 3.0 ACTIVITIES DURING ACCREDITATION VISIT

The success and credibility of an accreditation visit depend mostly on:

- a. the professionalism and *prior preparation* of the Evaluation team;
- b. the rigor and objectivity of on-site enquiries and the report;
- c. the quality of feedback provided to the institution by the Evaluation Team and
- d. timeliness of report to the EAC.

The visit schedule should allow time for group discussion among all Evaluation Team Members for preliminary feedback and discussion of issues with the Dean and/or Head of Department alongside staff of the Programme and Faculty/School/College.

| DAY 1  |   |
|--------|---|
|        | Arrival, Accreditation Team check into accommodation  |
| 7:00PM | Dinner and pre-accreditation meeting. This is to enable them discuss and identify shortcomings in the accreditation documents submitted, and plan on how to execute the accreditation exercise. Any further information required from the programme should be communicated to the HOD/Dean through the Team Leader. |

| DAY 2   |   |
|---------|---|
| 7.00 AM | Breakfast   |
| 8.00 AM | Opening meeting with the Dean and Head of Departments   |
| 9.00 AM | Courtesy call on Vice Chancellor accompanied by Dean and Head of Department   |
| 10.00AM | Team visits common facilities used by the faculty - Library, Workshop, Laboratories, Design studios, General Environment, etc |
| 1.00 PM | Lunch   |
| 2.00 PM | Presentation by the Head of Department of the programme being evaluated and ensuing discussions.                              |
| 3.00 PM | Meeting with staff members  |

|         |  |
|---------|--|
| 4.00 PM | Teams tours Departmental facilities – classrooms, offices, laboratories, workshops, etc. |
| 5.30 PM | Team retires to discuss preliminary report   |
| 7.00 PM | Dinner and Review Meeting by Programme Evaluators.                                       |

| <b>DAY 3</b> |  |
|--------------|--|
| 7.00 AM      | Breakfast  |
| 8.00 AM      | Inspection of relevant supporting documents  |
| 9.00 AM      | Team meets with students.  |
| 10.00AM      | Meeting with external stakeholders such as alumni, employers, and industry advisors  |
| 12.00 PM     | Meeting with HOD, Lecturers, Workshops & Laboratories staff to discuss observation(s).   |
| 1.00 PM      | Lunch  |
| 2.00 PM      | Inspection of relevant documents and interaction with Stakeholders continues   |
| 4.00 PM      | Inspection of relevant documents and interaction with stakeholders concluded.  |
| 5.00 PM      | Team prepares Final Report on the Programme and makes final assessment. Completed questionnaires and final assessments are submitted to the Team Leader. |
| 7.00 PM      | Dinner   |

| <b>DAY 4</b> |  |
|--------------|--|
| 7.00 AM      | Breakfast  |
| 9:00 AM      | Team visits Vice Chancellor for preliminary report /Exit meeting |
| 10;00 AM     | Departure  |

#### **4.0 GENERAL CONDUCT AND SCRUTINY OF DOCUMENTS**

Throughout the discussions with the administrators, academic staff, students, and support staff, the Evaluation Team should confirm that an outcome-based approach to education is progressively being implemented by the Institution. It is expected that all

Institutions will strive to achieve and maintain the minimum standards. The Evaluation Team is to evaluate the submitted documents and check the relevant sections according to the following Checklist of Documents for Accreditation and Relevant Information as defined by COREN:

1. A copy of latest prospectus/handbook.
2. Admission details/policies for the concerned Engineering Programmes.
3. Programme curriculum, evidence of benchmarking, regular review and consistency with COREN guidelines and adoption of Outcome Based Education (OBE) System.
4. Course files, Laboratory Manuals and students' feedback for the courses offered in the programme.
5. PEOs and POs assessment and attainment folders indicating complete process.
6. Random check of students' work, examination question papers and answer sheets and student attendance record.
7. Proof/evidence that assignments, tests, examinations etc. are properly graded.
8. Evidence of exposure to Complex Engineering Problems (CEPs) and activities, Problem based learning, design projects and open ended Labs.
9. Availability of training aids for imparting quality education.
10. Record for Student Industrial Work Experience Scheme (SIWES)/student internship and employer feedback.
11. Evidence for Continuous Quality Improvement (CQI) of the programme and implementation plan.
12. Record of minutes of meeting; policy documents, staff profile; syllabi; research publication; project reports, Industrial Advisory Board/Committee and other such documents

required as evidences.

13. Record of Final Year Projects and sample reports.
14. Validity of COREN Registration and practicing license for all Engineering Staff.
15. Details pertaining to faculty/departmental staff members to verify their requisite qualifications, publications, R&D projects and research funding.
16. Continuing Professional Development (CPD) and other training for departmental staff members.
17. Proof/evidence of staff workload.
18. Details of laboratories with equipment, its supporting staff and laboratory manuals.
19. Evidence for provision of best practice in health, safety and environment (HSE).
20. A copy of approved budget (previous and current years) for the university and concerned Engineering Programme to be evaluated. This may include current endowment fund status, if any.
21. Details of self-generated financial resources through consulting. This may include field/lab testing etc. and their distribution if any.
22. Details of conference, seminars, CPD courses and colloquia held by the department/institution.
23. Academics Officer, Bursar, Registrar, concerned faculty members, alumni, employers or students should be available to the Accreditation Team along with relevant records.
24. Actions taken by the institution/programme on deficiencies/ weaknesses and concerns pointed out in the last accreditation visit report (if applicable).
25. Other additional document(s) required in support of the programme.

The evaluation team must ensure that the following qualifying requirements have been met by the programme before proceeding with the accreditation visit during which a thorough evaluation of the criteria shall be carried out:

- a. A minimum of 160 credit hours of which 85 credit units must be core engineering courses offered over a period of five (5) years.
- b. Final year project (minimum of 6 credit hours)

- c. Industrial training (SIWES) and Student Work Experience Programme (SWEP)
- d. Full-time Engineering staff (minimum of 6)
- e. Teaching staff: student ratio of 1:15 minimum
- f. External Examiners' Report (based on COREN template)
- g. Programme Educational Objectives (PEOs)
- h. Programme Outcomes (POs)

If any of the requirements above is or are not complied with, the application for accreditation shall be deemed rejected

## 5.0 EVALUATION TEAM REPORT

The Evaluation Team is expected to prepare a report based on the assessment of the programme. This includes auditing and confirmation of the documents submitted by the programme using appropriate comments and remarks.

The Evaluation Report shall:

- (a) State whether the programme meets EAC requirements.
- (b) Where appropriate, provide constructive feedback (weaknesses and concerns) and note positive elements (strengths). Suggestion on opportunities for improvement should be given in the report.
- (c) In the event of adverse comments, provide a judgement as to the seriousness, any remedial action proposed or required, the time frame for the remedial action, and whether accreditation should be recommended, or interim.
- (d) Make clear and unequivocal recommendations to the EAC.

**The Evaluation Report should be given to EAC representative at the end of Accreditation visit.**

For full accreditation of five years, there should not be any deficiency or weakness for any of 10 compliance criteria defined in Chapter 3 of COREN Accreditation Manual.

Programmes that do not meet substantially the accreditation requirements will be awarded Interim accreditation due to either Weakness or Deficiency.

A programme awarded Interim accreditation will be required to submit progress report and on-site visit verification will be conducted by EAC in order to evaluate the remedial actions taken by the institution/programme. Interim accreditation due to Weakness or Deficiency will be given a typical remedial duration of not more than 1 or 2 years respectively.

If the report submitted and site-visit conducted are adjudged satisfactory, the EAC shall then extend the accreditation status to a typical duration of five years (inclusive of the interim accreditation period).



Otherwise, the programme gets a Failed Accreditation status and is asked to stop admitting new students, as graduates of such an unaccredited programme shall not be registered by COREN.

## 6.0 ASSESSMENT AND EVALUATION

The following guidelines may be helpful to the Evaluation Team for evaluating against each criterion and sub-criterion as defined in the Programme Evaluators worksheet. The performance indicators and the examples of evidences which are to be sought against each criterion and sub- criterion are defined. In addition to the following guidelines, the Programme Evaluators should also peruse through the “Programme Evaluation Worksheet Rubrics”, which define the compliance levels, i.e. *Deficiency*, *Weakness*, and *Concern* against each of the criteria.

| CRITERION 1 - PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)   |   |
|---|---|
| ASSESSMENT ATTRIBUTE  | GUIDE FOR EVALUATION  |
| <p><b>Well-defined and published Institute Vision and Mission</b></p> <p><b>PEOs are defined, consistent with the Vision/Mission, and well publicized</b></p> | <p>An Institution seeking accreditation for its Engineering Programme shall have well defined and published Vision and Mission. The Programme may have its own Mission statement or follows the Institution Mission.</p> <p>An Engineering Programme seeking accreditation shall have published and publicized PEOs that are consistent with the mission and vision of the institution, and are responsive to the expressed interests of various groups of programme stakeholders.</p> <p><b>Performance Indicators:</b></p> <ol style="list-style-type: none"> <li>a. Defined, measurable and achievable</li> <li>b. Linked to Programme Outcomes and have own niche</li> <li>c. Well-documented</li> <li>d. Published and publicized</li> <li>e. Consistent and linked to Mission and Vision of the institution</li> </ol> <p><b>Examples of Related Evidences:</b></p> <ol style="list-style-type: none"> <li>a. Mapping of PEOs with key words in Vision and Mission statements</li> <li>b. University publications such as prospectus, website and display boards</li> </ol> |
| <p><b>Involvement of stakeholders in formulation / review of PEOs</b></p>   | <p>The institution shall provide evidence of stakeholders’ involvements in the programme with regard to Sections 3.2.1 of the COREN Accreditation Manual.</p> <p><b>Performance Indicators:</b></p>   |

- a. High degree of stakeholders' involvements in defining Programme Educational Objective statements
- b. Reviewed and updated with involvements of stakeholders
- c. High degree of involvements in assessing the achievement of Programme Educational Objectives
- d. High degree of involvement in the review process of PEOs
- e. High degree of involvement in assessing Continuous Quality Improvement (CQI) cycles
- f. Involvement in strategic partnership

**A process in place to evaluate the attainment of PEOs**

**Examples of Related Evidences:**

- a. Minutes of meetings showing involvement of stakeholders such as Employers, Industry Representatives and Alumni
- b. Evidence of actions taken by the institution on stakeholders' recommendations

The programme shall have instituted a process of formulating PEOs and the process of assessing and evaluating the achievement of PEOs with documented results. The evaluation results are used in the CQI of the programme.

**Performance Indicators:**

- a. Established process for formulating PEOs
- b. Established process for assessing achievement of PEOs
- c. Established process for evaluating achievement of PEOs
- d. Performance targets of the PEOs are achieved

**Examples of Related Evidences:**

- a. Documents defining PEOs' assessment and evaluation processes
- b. Data used for PEO evaluation such as Survey forms and Minutes
- c. KPIs defined in the evaluation process and their justification
- d. Summary of the results of attainment of PEOs

An Engineering Programme seeking accreditation shall have Established CQI Process for Review of PEOs as well as improvement of the Programme as a result of PEO evaluation.

**Performance Indicators:**

- a. Established Process for Reviewing and updating PEOs
- b. Evaluation results are used in the CQI of the programme

**Examples of Related Evidences:**

- a. Documents showing analysis of results of PEO evaluation and recommendations for improvement of Programme
- b. Evidence related to actions taken on these recommendations

**Evaluation results used for continuous improvement of the programme**

**CRITERION 2 – PROGRAMME OUTCOMES (POs)**

**ASSESSMENT ATTRIBUTE**

**GUIDE FOR EVALUATION**

**POs are well-defined and publicized.**

The programme shall have well-defined and publicized Programme Outcomes known and understood by the students and staff.

**POs are appropriately linked to PEOs**

**Performance Indicators:**

- a. Well-defined POs
- b. POs publicized and known to students and staff
- c. POs formulation is done through a formal process (if applicable)

**Examples of Related Evidences:**

- a. University publications such as prospectus, website and display Boards
- b. Knowledge and understanding of POs can be judged through interactions with students and staff

An Engineering Programme seeking accreditation shall ensure that the POs are linked with the PEOs defined for the programme.

**Examples of Related Evidences:**

- a. A mapping of POs against PEOs with appropriate justification
- b. POs encompass all the required Graduate Attributes as defined in COREN Accreditation Manual

An Engineering Programme seeking accreditation shall ensure that all the required Graduate Attributes (GAs) as defined in the COREN Manual are included and encompassed in the defined POs.

**Performance Indicators:**

- a. All 12 GAs defined in COREN Manual (Section 3.2.2) are encompassed in POs
- b. All related POs are assessed to ensure attainment of these attributes

**Examples of Related Evidences:**

- a. A mapping of POs against GAs
- b. Course files and class assessment
- c. Separate assessment of all POs

**Mapping of Courses to POs**

An Engineering Programme seeking accreditation shall ensure that the courses defined in the curriculum contribute towards attainment of the defined POs. Therefore, a mapping of courses to the defined POs shall be provided to the team to show the contribution of individual courses towards attainment of specific POs.

**Examples of Related Evidence:**

- a. Well defined mapping of courses against POs in place and followed for attainment and assessment of POs
- b. Detailed evidence of contribution of each course as defined in the mapping is given through course files, level of learning and assessment methods adopted in the course

**Teaching-learning and assessment methods appropriate and supportive to the attainment of POs**

The programme shall ensure attainment of POs through appropriate and supportive assessment methods. All learning domains must be covered in the assessment methodologies in order to attain all graduate attributes

**Quality of assessment process to evaluate the attainment of POs by the students as well as cohort levels through well- defined KPIs**

**Performance Indicators:**

- a. Problem-based learning methods are incorporated throughout the duration of engineering education.
- b. All types of assessments including written, oral, behavioral and indirect methods are incorporated to assess achievement of POs.
- c. Assessment results are evaluated to improve assessment methods.

**Examples of Related Evidences:**

- a. Theory and Laboratory Course files and class assessments
- b. Separate assessments of each PO
- c. Analysis of PO attainment results of individual courses and overall programme

The programme shall establish a process of measuring, assessing and evaluating the degree of achievements of POs by the students. The results of this assessment process shall be applied for continuous improvement of the programme.

**Performance Indicators:**

- a. Processes for assessment of all elements of criteria are well-defined
- b. Process of evaluation in place at Student level, Course level and Programme level for every PO of the programme
- c. Systematic evaluation and process improvement in place
- d. CQI involved support areas from relevant departments/units
- e. Key Performance Indicators (KPIs) are well defined with reasonable justification
- f. Processes are deployed throughout the programme, faculty, and institutions
- g. Sustainable processes for CQI
- h. Results obtained through systematic approach

**Examples of Related Evidences:**

- a. PO assessment and its analysis at student, course and programme levels
- b. Corrective actions taken in response to the assessment results at all three levels
- c. Evidence of systematic involvements of all related units such as Quality Assurance and Productivities, Academic Planning Unit, Departmental office and Counselors

Process in place by which assessment results are applied to further refine the assessment mechanism and/or redefine the POs, thus leading to continuous improvement of the programme

The programme shall also establish a process of refinement of POs assessment mechanisms, updating KPIs and review POs. The results of this assessment process shall be applied for continuous improvement of the PO evaluation process.

**Performance Indicators:**

- a. A sustainable systematic process for updating PO assessment methods and mechanism in place
- b. Assessment data from various sources are gathered to update the processes
- c. A methodical analysis of previous data is done in order to improve the assessment methodologies and mechanism

**Examples of Related Evidences:**

- a. Evaluation of assessment results and evidence of improvement in assessment methodologies and assessment
- b. Documents defining process of updating the defined KPIs and evaluation process
- c. Analysis of evaluation results and actions taken to improve evaluation processes

**CRITERION 3 – COURSE LEARNING OUTCOMES (CLOs)**

**ASSESSMENT ATTRIBUTE**

**GUIDE FOR EVALUATION**

CLOs are well-defined and publicized.

The programme shall have well-defined and publicized Course Learning Outcomes known and understood by the students and staff

**Performance Indicators:**

- a. Well-defined CLOs
- b. CLOs publicized properly and known to students and staff
- c. CLOs formulation is done through a formal process

**Examples of Related Evidences:**

- a. University publications such as prospectus, website and display Boards
- b. Knowledge of CLOs can be judged through interactions with students and staff

CLOs are defined, consistent with the POs, and well publicized

An Engineering Programme seeking accreditation shall have published CLOs that are consistent with the POs.

**Performance Indicators:**

- a. Defined, measurable and achievable
- b. Linked to Programme Outcomes and have own niche
- c. Well-documented
- d. Published and publicized

**Examples of Related Evidences:**

- a. Course files
- b. Website and display board

**Mapping of CLOs to POs**

An Engineering Programme seeking accreditation shall ensure that the CLOs defined in the curriculum contribute towards attainment of the defined POs. Therefore, a mapping of CLOs to the defined POs shall be provided to the team to show the contribution of individual CLOs towards attainment of specific POs.

**Examples of Related Evidences:**

- a. Well-defined mapping of CLOs against POs in place and followed for attainment and assessment of POs
- b. Detailed evidence of contribution of each CLOs as defined in the mapping is given through course files about the level of learning and assessment methods adopted in the course

**CRITERION 4 - CURRICULUM AND LEARNING PROCESS**

**ASSESSMENT ATTRIBUTE**

**GUIDE FOR EVALUATION**

**Curriculum covers required breadth, depth and distribution of the programme courses according to programme specific (COREN and NUC curriculum) guidelines**

The academic curriculum shall be appropriate to support the attainment of POs.

**Performance Indicators:**

- a. The curriculum follows the guidelines of COREN Benchmark Minimum Academic Standards (BMAS) regarding the knowledge profile, required breadth and depth in the curriculum, and the distribution of programme courses as publicized by COREN and National Universities Commission (NUC)
- b. Emphasis on the understanding and acquisition of basic principles and skills of the discipline, rather than memorization of facts and details
- c. The programme structure covers the essential fundamental principles at the initial stages, leading to integrated studies in the final year of the programme
- d. The curriculum provides students with ample opportunities for analytical, critical, constructive, and creative thinking

**Examples of Related Evidences:**

- a. Course-files and examination papers
- b. Laboratory reports and semester projects
- c. Final-year project reports

**Curriculum provides balanced coverage of engineering and non-engineering contents in-line with COREN BMAS**

**Adequate exposure to Complex Engineering Problems (CEPs) and Activities**

The curriculum of the programme seeking accreditation shall have balanced coverage of both engineering and non-engineering knowledge and skills.

**Performance Indicators**

- a. The curriculum develops ability of scientific & quantitative reasoning, critical analysis, system design and creativity
- b. Additionally, the curriculum also enables graduates to demonstrate competence in oral logical thinking, written and oral communication, and capacity for life-long learning
- c. An amalgamation of well thought and carefully selected non-technical components in the curriculum is ensured
- d. The general framework pertaining to the balance between engineering and non-engineering courses (i.e. Course in Mathematics, Natural Sciences, Humanities and Management Science) should be as per COREN BMAS guidelines

**Examples of Related Evidences:**

- a. Handbook, prospectus and other documentation related to curriculum
- b. Benchmarking of the curriculum with COREN BMAS guidelines
- c. Mapping of courses against POs for the curriculum
- d. Course files and class assessments for engineering as well as non-engineering courses
- e. Interaction with staff (especially of non-engineering courses)

The curriculum should ensure that the students get enough exposure to various attributes of complex engineering problems and activities.

**Performance Indicators:**

- a. The research assignments, design projects, open-ended laboratory exercises, and even examination questions include attributes of CEPs
- b. The students are systematically trained on CEPs by giving them tasks that have no obvious solution and require abstract thinking, originality in analysis, and/or involve wide-ranging or conflicting technical, engineering and other issues
- c. The design projects target high level problems which include:
  - i. many components, parts or sub-problems, infrequently encountered issues
  - ii. use diverse resources such as equipment, materials, information and technologies, etc.
  - iii. require resolution of significant problems arising from interactions between several conflicting or wide-ranging issues

**Examples of Related Evidence:**

- a. Assessment and reports related to Course projects, Design projects, Laboratory projects and Semester projects
- b. Interactions with staff and students



**Availability of programme specific well-equipped laboratories to supplement theoretical knowledge/class room learning**

**Laboratory work supporting the attainment of the required skills and its assessment mechanism**

**CLOs defined for all courses with appropriate Learning-Levels (the ones defined in Bloom's Taxonomy) and their mapping to relevant POs**

The programme shall be supported by well-equipped laboratories and the curriculum shall be designed to impart required practical knowledge and skills in the students.

**Performance Indicators:**

- a. The teaching and learning in each core engineering subject are supported with sufficient practical works in the laboratories
- b. Each student is given ample exposure to practical aspects of the subject/course
- c. The existence and availability of all the requisite laboratories for the programme
- d. The laboratories are well-equipped with adequate number and variety of workstations, i.e. equipment/machines, basic components, modules, measuring instruments, etc.
- e. Each laboratory has formal laboratory manuals containing all the experiments to be conducted for each laboratory course

**Examples of Related Evidences:**

- a. Laboratories and operational status of equipment
- b. Related documentation including laboratory manual, equipment list, assessment records, procurement and maintenance records, laboratory store records

Students shall receive sufficient laboratory work to complement engineering theory that is learnt through lectures.

**Performance Indicators:**

- a. Laboratory exercises are relevant, adequate, illustrative, and promote development of instrumentation skills
- b. The laboratory exercises and activities help the students develop skills and competence in executing experimental work
- c. There is proper laboratory supervision by adequate number of qualified staff members
- d. Either working in a group or individually, there are proofs that students are getting enough hands-on experience to develop the desired skills for the practical work

**Examples of Related Evidences:**

- a. Laboratory reports shall be evaluated to check that their assessment have been done through a systematic manner.
- b. These reports should also reveal that the required outcomes have been achieved.

Each course of the curriculum shall have well-defined CLOs with their mapping to relevant POs.

**Performance Indicators:**

- a. Learning Outcomes for each course have been defined and also mapped to appropriate taxonomy levels
- b. The action verbs used commensurate with the indicated taxonomy levels
- c. The contribution and emphasis level of each CLO to respective POs has been clearly documented
- d. The appropriateness of these mappings are evaluated through

**Benchmarking of curriculum carried out with National / International best practices – Washington Accord (WA) recognized programmes**

**Formal involvement of Stakeholders in curriculum development / revision**

**Employment of other aspects of student learning methods such as tutorial system and seminar / workshops, etc. to enhance student learning, in addition to regular classroom interaction and laboratory experimentation**

the review of course materials, i.e. course syllabi, assignments/quizzes, exam papers, projects, lab. reports, etc.

- e. The teaching plan, CLO-PO mapping and assessment methodologies are made known to the students in the first week of the semester.

**Examples of Related Evidences:**

- a. Course files containing course plans, assessments, CLO-PO mapping, learning levels, CLO /PO evaluation and analyses.

Benchmarking is deemed essential to ensure the curriculum structure and course coverage meet or is compatible with the best practices in established universities and hence meet international standards.

**Performance Indicators:**

- a. Benchmarking of curriculum has been carried out through an in-depth evaluation of the course syllabi / topics in relation to other renowned national / international universities offering same/similar programme.

**Examples of Related Evidences:**

- a. The documentary evidence of the extent of benchmarking carried out and its analysis / outcome.

The involvement of stakeholders should be of prime importance for the programme. Programme Evaluators shall examine the relationship established between the programme and the intended stakeholders by going through the documentary evidences.

**Performance Indicators:**

- a. A formal mechanism is in place, and also is practiced regularly, to seek inputs from all the stakeholders, especially from the industry
- b. Feedbacks from stakeholders are used in developing curriculum contents so as to keep the curriculum aligned with the PEOs and POs

**Examples of Related Evidences:**

- a. Evidence of Stakeholders involvement in development and review of curriculum
- b. Evidence of changes incorporated in the curriculum due the Feedbacks

A programme seeking accreditation should ensure that other methods of teaching-learning (delivery) modes are used alongside the traditional methods such as regular classroom lecture, laboratory experimentation and staff consultation to enhance students learning.

**Performance Indicators:**

- a. Other aspects of student learning such as tutorial system, seminar / workshops, independent research assignments and exposure to industrial practices form an integral part of curriculum.

**Exposure to relevant skills through supervised Industrial training programme with formal feedback from the employer**

- b. Assessment and evaluation methods are designed, planned and incorporated within the curriculum to enable students to effectively develop the range of intellectual and practical skills, as well as positive attitudes required in the POs
- c. Co-curricular activities are designed to enrich student experiences, foster personal development and prepare them for responsible leadership

Exposure to professional engineering practices in the form of an industrial training scheme should be ensured by a programme seeking accreditation.

**Performance Indicators:**

- a. The industrial training is an integral part of the curriculum to make the students familiar with the common engineering processes at a practical level
- b. Efforts are made to assist all students in gaining placements at suitable quality facilities in industry
- c. The programme facilitates and promotes cooperative learning through supervised internship programme of at-least continuous 4-6 weeks duration in an engineering environment/organization
- d. The training programme has been planned and agreed upon by the institution and the host organization
- e. The institution receives report about each trainee indicating the training details, interest shown by the student, his/her work habits and punctuality

**Examples of Related Evidences:**

- a. Student Work Experience Programme (SWEP) and Student Industrial Working Experience Scheme (SIWES) internship records

**Sufficient opportunities to invoke intuitiveness and originality of thought through Problem-Based Learning (PBL), Design Projects and Open-Ended Laboratories**

To invoke intuitiveness, originality of thought and to challenge their intellect, offering of problem-based learning, open-ended laboratories and design projects in various semester courses should be formalized and made an integral part of the curriculum.

**Assessment of various learning outcomes (POs/CLOs) employing appropriate direct / indirect methods**

**Performance Indicators**

- a. A Final Year Project focuses on literature search, problem analysis, and design of components/systems/processes integrating core areas and meeting specified needs targets with appropriate consideration for public health and safety, cultural, societal, and environmental factors
- b. Project topics are appropriate in relation to the degree programme, and encompass key attributes of complex engineering problems and activities.

**Examples of Related Evidences:**

- a. Assessment and reports related Course projects, Laboratory projects and Semester projects
- b. Final year project reports (it is suggested that at least 9 reports should be examined including 3 each from the high, medium and low groups
- c. Interactions with Staff and students

Assessment of various learning outcomes should be carried out by employing direct / indirect methods appropriate for that outcome.

**Performance Indicators:**

- a. Assessment is not confined to cognitive domain only, but is exercised in psychomotor and affective domains as well
- b. Complex outcomes which are not easily quantifiable, e.g. communication skills (oral / written), critical thinking, etc. are assessed through rubrics
- c. Quality of Rubrics and assessment methods are at acceptable levels
- d. Appropriate assessment methods (e.g. distributions of CLOs and POs with respect to the course topics, complexity and difficulty levels of examination questions in relation to the taxonomy levels, quality of rubrics, etc.) are employed throughout
- e. The levels of achievements against the targeted outcomes are evaluated and documented

**CRITERION 5 - STUDENTS**

**ASSESSMENT ATTRIBUTE**

**GUIDE FOR EVALUATION**

**Admission Criteria meets / exceeds minimum eligibility criteria prescribed by COREN Regulations.**

Annual intake is in-line with the maximum intake allowed by COREN for the programme.

The programme shall ensure that students admitted have the minimum qualifications in-line with the COREN Regulations. COREN has set the following minimum requirements for admission into any Engineering Programme:

- a. Admission through UME: 5

Well documented policy on transfer of students only from other accredited programme restricting transfer of less than 50% of Cr. Hrs required.

Efforts made to provide off-class academic teaching and counseling such as through engaging RAs/TAs/GAs holding scheduled tutorials, problem solving sessions etc. Regular office hours announced by staff is the minimum expectation

Availability of designated student counselors to advise / counsel students regarding academic / career matters and provide assistance in managing their health, financial, stress, emotional and spiritual problems.

credits at Secondary School Certificate Examination (SSCE) such as WASSCE, NECO, NABTEB, etc., or its equivalence at not more than 2 sittings and which must include English Language, Mathematics, Chemistry, Physics and any other related subject.

- b. Admission by Direct Entry: Holders of National Diploma (ND) and Higher National Diploma (HND) with upper credit level in addition to 5 credits at SSCE/NECO are eligible to be admitted into 200 and 300 levels respectively

**Examples of Related Evidences:**

- a. Admission details of last few intakes including total applicants, qualifying applicants, merit criteria and related details

The annual intake in the programme is in-line with the staff: student ratio of 1:15 allowed by COREN for the said programme.

**Examples of Related Evidence:**

- a. Admission details as well as current registration records for all students enrolled in the programme

The institution must have a well-documented policy on transfer of students from other institutions.

**Performance Indicators:**

- a. A well-documented students transfer policy is followed
- b. Transfer is allowed from other accredited programmes only

**Performance Indicators:**

- a. The institution has system to provide off-class academic teaching and counseling such as through engaging RAs/TAs/GAs holding scheduled tutorials, problem solving sessions etc
- b. Regular office hours announced by staff is the minimum expectation
- c. Academic progress of each student should be monitored and corrective measures should be taken on regular intervals

**Performance Indicators:**

- a. The institution has an established counseling system through which designated students' counselors advise students regarding academic matters by reviewing his/her progress.
- b. Additional counseling is also provided related to career matters, assistance in managing their health, financial, stress, emotional and spiritual problems

**Manageable class-size (around 40-50 for theory classes) and lab groups (4-5 students per workstation for hands-on type experiments, larger groups may be manageable for demonstration type)**

**Manageable semester academic load (i.e. 16-24 Cr. Hrs)**

The institution should have a manageable class-size. For engineering subjects, average class size should be limited to 40-50 students per section. For non-engineering subjects, a bigger class size of 70-80 students may be allowed.

For laboratory sessions, the number of students per workstation should be limited to 4-5 students per workstation for hands-on type experiments. Larger groups may be considered reasonable for demonstration type labs. Adequate number of lab engineers / staff should be available.

**Examples of Related Evidences:**

- a. Class and laboratory attendance reports
- b. Utilization plan of laboratory equipment and laboratory schedule showing group wise breakup

Students should not be over-burdened with workload. The Credit hours per semester must be limited to maximum of 24 Credit hours.

**Examples of Related Evidences:**

- a. Course registration form in the students' file.

**Completion of courses as evident from course-files and through student feedback**

The programme should show that the course outlines completion is ensured and achieved.

**Examples of Related Evidence:**

Course folders containing the following information about the delivery of the course;

- a. Course description including course contents, recommended text books, lecture breakdown, office hours for students, CLOs with taxonomy levels and their mapping to POs, assessment tools and their weightage, grading policy, etc
- b. Schedule of sessional / mid-term tests and final examination
- c. Samples of best, worst and average answer booklets, along with the question paper and model solutions of each sessional / midterm / quizzes / assignments and final examinations
- d. Record of make-up classes for any un-scheduled holiday.
- e. Breakdown of laboratory experiments pertaining to the course and record of its conduct.
- f. Record of CLOs assessments and attainments
- g. Course feedbacks by the lecturers and students
- h. Recommendations and suggestions related to the course for the next session

**Students' participation in national / international engineering exhibitions and / or competitions, and facilitation by programme for such participations**

**Performance indicators:**

- a. The institution ensures students' participation in national /international engineering exhibitions and/or competitions, and facilitation by the programme for such participations
- b. Programme encourages and facilitates participations in in engineering exhibitions and competitions
- c. The teaching-learning environment is conducive to ensure that students are always enthusiastic and motivated

**Examples of Related Evidences:**

- a. Documentary record of student's participation in mentioned events
- b. Awards, prizes, winner certificates and other certificates showing participations of students

**Quality of process to evaluate students' performance and suggest/take corrective measures**

**Performance indicators:**

- a. A Quality Management system is in place to evaluate student performance and suggest/take corrective measures
- b. Assessment methods, student evaluation and level of problems given to students are of sufficient quality to ensure achievement of all Graduate attributes as defined by COREN
- c. The number and variety of assessment tools and their coverage of subject topic is ensured through appropriate assessment of students

**Examples of Related Evidences:**

- a. Class assignments, quizzes, project reports, examinations as well as laboratory projects and viva-voce
- b. Assessment results of CLOs and POs through these assessment methods

**CRITERION 6 - CONTINUOUS QUALITY IMPROVEMENT**

**ASSESSMENT ATTRIBUTE      GUIDE FOR EVALUATION**

**CQI process is well documented and institutionalized at all levels (CLOs, POs and PEOs)**

**Actions taken / implementation plans worked out to address the concerns/ weaknesses identified in the last accreditation visit report.**

**Improvement in Staff Strength / Qualifications since last accreditation visit**

**Adherence or Improvement in Staff-Student Ratio since last accreditation visit**

**Continuation of Staff Publications, R&D and Consultancy activities**

**Performance indicators:**

- a. The institution has a well-established and active Quality Management System (QMS) with well documented CQI processes for all the accreditation criteria
- b. CQI processes for CLOs, POs and PEOs are also properly documented and practiced

**Examples of Related Evidence:**

- a. Documentary evidence of effectiveness of CQI Processes including corrective actions as a result of evaluation at different levels

The institutions should take every measure to address all the concerns/weaknesses/deficiencies identified in the last accreditation visit report.

**Examples of Related Evidence:**

- a. Documentation and evidence showing actions taken by the programme / institution to address the concerns / weaknesses identified in the last accreditation visit report
- b. Implementation plans for corrections of concerns, weaknesses and deficiencies identified in the last accreditation visit but not yet addressed (allowed only for minor ones)

Various measures must be taken by the institution / programme for its staff development and improvement of their qualifications. The outcome of these measures in terms of staff strength, i.e., improvement in qualifications, experience, diversity of specializations, trainings; and/or increased number of staff members in each area of specializations being offered in the programme must be evident.

**Examples of Related Evidence:**

- a. Tabulated comparison of staff qualifications showing the present and former status during the last accreditation visit

This aspect is very critical to provide better interaction and consultation / guidance to students, and must show adherence or improvement, especially if this ratio was on the higher side during the last accreditation visit.

The programme should ensure that their staffs are motivated and striving to contribute to their field of expertise.



**Addition of any new facilities and infrastructure to assist in the attainment of PEOs /POs, since last accreditation visit**

**New initiative(s) taken since last accreditation visit (including but not limited to OBE implementation, content delivery, assessment, evaluation processes, etc.)**

**Performance indicators:**

An active and competent programme staff evident from:

- a. Continuity of staff research publications,
- b. Successful pursuit of R&D activities with external donor agencies
- c. Engagement in providing consultancy services to local/ international industry

The institution / programme management's must show commitment to strive for continuous quality improvement of the programme.

**Performance indicators:**

An active and competent programme staff evident from:

- a. Continuity of staff research publications,
- b. Successful pursuit of R&D activities with external donor agencies
- c. Engagement in providing consultancy services to local/ international industry

Any new initiative(s) taken since the last accreditation visit (including but not limited to OBE implementation, content delivery, assessment, evaluation processes, etc.) should also be sighted by the Programme Evaluators as they may also help to improve the quality of the programme. The institution / programme management's must show commitment to strive for continuous quality improvement of the programme.

**Performance indicators:**

- a. Addition of any new facilities and infrastructure. i.e. laboratory equipment, teaching aids, etc. since the last accreditation visit, to assist in the attainment of PEOs and POs

## CRITERION 7 – STAFFING

### ASSESSMENT ATTRIBUTE      GUIDE FOR EVALUATION

**Sufficient Academic Staff Strength for providing effective staff-student interaction (staff-student ratio should be as per COREN guidelines, i.e. minimum of 1:15)**

**Balanced academic staff with up-to-date practicing license and appropriate qualifications (min. of 80% holding PhD degrees) to cover all areas of programme curriculum**

**Formal mechanism for academic staff training and mentoring on pedagogical skills including OBE concepts and implementation methodologies**

Staff-Student ratio must be less than or equal to **1:15** as per COREN guidelines. The Programme Evaluators evaluating the programme should count the number of Full- Time Dedicated Academic staff, Shared Staff, and TAs/ RAs as defined in COREN Accreditation Manual for calculation of this ratio.

**Examples of Related Evidences:**

- a. Academic Staff workload of last few semesters and their profiles
- b. Staff files

The institution should have balanced academic staff with up-to-date practicing license and appropriate qualifications (minimum postgraduate with a minimum of 80% holding PhD degrees) to cover all areas of programme curriculum. Minimum of 2 academic staff should be available in each core area of the programme. Each programme must define at least 4 core areas. Any academic staff who is not COREN registered should not advance beyond the position of Lecturer I.

**Examples of Related Evidences:**

- a. Academic staff workload of last few semesters and their profiles
- b. Staff files

**Performance indicators:**

- a. There is a systematic plan of activities for the training of newly inducted / young academic staff members.
- b. There is a strategy to conduct workshops/seminars for new and existing staff
- c. Staff members are trained on Outcome-Based Education system with emphasis on the following:
  - i. PEOs and POs
  - ii. Outcome-based assessment cycle and its implementation.
  - iii. General aspects of lecture delivery
  - iv. Modes and means of effective student-staff interactions
  - v. Using tests (quizzes), assignments / exams / projects / viva etc. as effective assessment tools

**Effectiveness of staff development programme to ensure their professional growth and retention**

**Reasonable staff workload (as per COREN BMAS guidelines) including facilitation to young staff pursuing higher studies**

**Continuation of staff research, publications and sponsored projects from industry/donor agencies, etc.**

**The programme should be headed by a COREN registered engineer with an up-to-date practicing license and must be a PhD senior academic staff in relevant discipline.**

- vi. Evaluation of assessment results to gauge level of attainment of CLOs
- vii. Preparing and maintaining course files

**Performance indicators:**

- a. Effective plan for academic and professional developments is in place.
- b. A systematic performance appraisal mechanism is in place.
- c. Adequate provision for scholarships leading to M Eng; PhD, training, mentoring, sabbatical leave and Post-doc research is provided

The staff workload should be as per the COREN BMAS guidelines, with an average not to exceed 6-9 hours per week. Workload of young academic staff enrolled in postgraduate programs should be reduced.

**Examples of Related Evidences:**

- a. Staff loading of last few semesters and their profiles

**Performance indicators:**

- a. The institution makes provisions in the budget for allocations to participate and organize workshops, conferences, colloquia, etc.
- b. Policies for sabbatical leaves and short/summer leaves for the staff to engage in post-doctoral research assignments at other national / international institutions / organizations are made.
- c. The efforts of staff members, who secure Research and Development (R&D) funds from industry/donors, are acknowledged in the form of reduced workload and/or financial incentives.
- d. Staff members, especially those holding PhDs degrees, contribute actively in research, and are publishing research papers each year in reputed national and international ISI indexed journals

**Examples of Related Evidences:**

- a. Departmental budget showing research budget allocations
- b. Record of Research spending in last few semesters
- c. List of research publications by members of staff

The programme should be headed by a **COREN registered engineer** with an **up-to-date practicing license** and must be a **PhD senior academic staff** in relevant discipline.

Reasonable mix of Senior and Junior qualified staff should also be ensured.

**Examples of Related Evidence:**

- a. Staff files

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**CRITERION 8 – PHYSICAL FACILITIES AND INFRASTRUCTURES**

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**ASSESSMENT ATTRIBUTE      GUIDE FOR EVALUATION**

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**Adequacy of teaching and learning facilities, e.g. classroom environment and availability of various teaching aids, etc.**

The programme seeking accreditation should have ample teaching and learning facilities including modern facilities to aid classroom teaching.

**Examples of Related Evidence:**

- a. Availability of sufficient number of classrooms with modern equipment such as multimedia and adequate size
- b. Other facilities to conduct trainings, workshops, conferences and other co-curricular activities

**Provision of programme specific laboratories (as per curriculum), workshops, and associated laboratory equipment for complementing the class /theory works**

This is the most important criterion when evaluating the facilities of an institution. The institution must have sufficient programme specific laboratory facilities with sufficient equipment and workstations to run the programme according to allowed student number.

**Examples of Related Evidence:**

- a. Laboratories of sufficient sizes, exhibition of laboratory equipment and workstations
- b. Lists of equipment, procurement and maintenance records
- c. Time scheduling and equipment utilization plan according to students registrations showing group breakup per workstation

**Adequacy of library resources and facilities**

Library is an integral part of higher education and the programme seeking accreditation must have adequate library resources including engineering and non-engineering books required for the programme seeking accreditation.

**Performance indicators:**

- a. The library contains at least 1000 engineering book titles in hard and/or e-copies related to the programme seeking accreditation
- b. The library has automated management systems which enable students as well as staff to search and issue books in an easy way
- c. Sufficient research journals related to core areas of the Programme are also provided in terms of hard copies and/or soft subscriptions

**Provision of sufficient computing facilities and internet access / resources allocated for the programme**

The programme must have ample computing facilities to enable its students to use internet and IT related facilities for modern learning.

**Performance indicators:**

- a. Sufficient internet facilities including fast internet connections considering the institution size
- b. Availability of these computing and internet facilities to all students and staff
- c. Other facilities such as printing and photocopying facilities are available to students

**Provision and effectiveness of consulting and career placement services provided to the students**

**Adequacy of support facilities such as hostels, sports and recreational centers, health care centers, student centers, and transport facilities**

**Adequacy of arrangements made / measures taken to ensure work-place safety (HSE concerns) in general, and while performing experiments in the laboratories in particular**

The institution seeking accreditation should provide facilities related to non-academic counseling and career counseling to its students. A dedicated office is desirable for such activities that keeps records of the students and helps them in their placement.

**Performance indicators:**

- a. A dedicated fully functional Placement Office exists
- b. A thorough system exists for career counseling
- c. Records of students' placements are available

An institution seeking accreditation should provide adequate support facilities such as hostels, sports grounds/courts, healthcare centers, recreational centers and transport.

**Performance indicators:**

- a. Sufficient sport facilities such as grounds, courts, swimming pools, are readily available to students
- b. Adequate hostel facilities are readily available within the premises or surroundings
- c. Sufficient transport facilities
- d. Additional facilities like recreational centers, student centers and common rooms are available

The institution must ensure that all facilities are maintained and adhered to best practices related to Health, Safety and Environment (HSE).

**Performance indicators:**

- a. An effective Institute policy on HSE
- b. It is ensured that all students, staff, contractors, temporary workers and visitors are made aware of their individual responsibilities.
- c. Safety is observed and being practiced. Ensuring that:
  - i. there is a functional safety management system put in place
  - ii. safety signages are visible
  - iii. safety markings are clear and according to standards
  - iv. fire extinguishers meet the intended function
  - v. safety items (eye wash, shower, hazardous disposal place/containers, ventilation, etc. are available and maintained
  - vii. exits are accessible with grilles unlocked during learning sessions.

**CRITERION 9 – INDUSTRIAL LINKAGE AND COMMUNITY SERVICES**

**ASSESSMENT ATTRIBUTE    GUIDE FOR EVALUATION**

**Existence of active Industrial Advisory Board/Committee**

**Performance indicators:**

- a. The institution/programme has an active Industrial Advisory Board. Meetings of the board are held at regular intervals
- b. Minutes of the meetings where issued and mechanism of implementation is presented

**Examples of Related Evidence:**

- a. Previous Meeting minutes of Industrial Advisory Board

**Formal mechanism for seeking feedback from Industry and its analysis for the attainment of PEOs**

**Performance indicators:**

- a. A mechanism for collection of feedback from industry is in place and this feedback is an essential part of curriculum review process
- b. Industry feedback is used to determine the attainment of Programme Educational Objectives and a mechanism is in place to update such feedback

**Opportunities for students to acquire industrial experience via SIWES/SWEP and existence of Industry-Liaison office**

**Performance indicators:**

- a. SWEP and SIWES are part of the curriculum
- b. Industrial Liaison Office is functional and taking part in arranging internships for students
- c. A formal mechanism for the evaluation of learning during SIWES and SWEP is in place

**Design projects sponsored / supervised jointly by Industry Professionals and staff members**

**Performance indicators:**

- a. Students are encouraged to have design projects with the involvement / sponsorship / supervision of industry
- b. Professionals from industry are included in supervision and/or assessment of design projects

**Staff members involved in design / supervision / consultancy role with the industry in the execution of industrial projects**

**Performance indicators:**

- a. Sufficient industrial collaborations exist and staff are involved in industrial and R&D projects
- b. Staff members are encouraged to get involved in training / design / supervision / consultancy roles with industries

**CRITERION 10 – INSTITUTIONAL SUPPORT AND FUNDING**

| ASSESSMENT ATTRIBUTE   | GUIDE FOR EVALUATION  |
|--|---|
| <p><b>Adequacy of institutional financial resources to ensure programme’s sustainability and meeting of recurring as well as developmental requirements.</b></p> | <p>The institution seeking accreditation must have adequate financial resources for sustaining the programme.</p> <p><b>Performance indicators:</b></p> <ol style="list-style-type: none"> <li>Availability of sufficient financial resources and their proficient management</li> <li>Evidence of continuous financial commitment in addition to creating conducive environment</li> <li>Sufficient resources for hiring and retaining qualified staff members in sufficient numbers</li> <li>Sufficient resources for the provision of infrastructure in terms of classrooms, well-equipped laboratories and well stocked library</li> </ol>  |
| <p><b>Evidence of continuous financial commitment in the form of increasing endowment and recurring /development budget since last accreditation visit</b></p>   | <p><b>Examples of Related Evidences:</b></p> <ol style="list-style-type: none"> <li>Income and expenditure details which can be extracted from the approved budgets for the current as well as two previous, but consecutive, financial years</li> <li>In case of new programs, only one or two budgetary figures will suffice</li> <li>Copies of the approved budgets and previous year audited accounts</li> </ol> <p>The institution should be forward looking and must be viewing and planning for upgrading and future enhancements in its facilities.</p> <p><b>Examples of Related Evidence:</b></p> <ol style="list-style-type: none"> <li>Developmental allocation and expenditure details which can be extracted from the approved budgets for the current as well as two previous, consecutive, financial years</li> <li>Copies of the approved budgets for at least 3 consecutive years</li> <li>Evidence of actual expenditures by the programme for at least 3 consecutive years</li> </ol> |
| <p><b>Provision of funding for R&amp;D pursuits and presentations/publication of research papers</b></p>   | <p>The programme must show evidence of successful R&amp;D pursuits to enable students and staff transform their innovative and original thinking into practice.</p> <p><b>Examples of Related Evidence:</b></p> <ol style="list-style-type: none"> <li>Approved budgets and application of current and previous years R&amp;D budgetary allocations and spending</li> </ol>   |

**Design projects sponsored / supervised jointly by Industry Professionals and staff members**

**Staff members involved in design / supervision / consultancy role with the industry in the execution of industrial projects**

**Policy for retention of staff is available and implemented with retention index  $\geq 0.7$**

**Performance indicators:**

- a. Students are encouraged to have design projects with the
- b. involvement / sponsorship / supervision of industry Professionals from industry are included in supervision and/or assessment of design projects

**Performance indicators:**

- a. Sufficient industrial collaborations exist and staff are involved in industrial and R&D projects
- b. Staff members are encouraged to get involved in training / design / supervision / consultancy roles with industries

Policy for retention of staff is available and implemented with retention index  $\geq 0.7$

**Performance indicators:**

- a. Total number of staff that serviced the Programme/institution for the past 5 years divided by total number of staff serving the programme

**Examples of Related Evidence:**

- a. Staff files
  - b. Self-Study Report
-



# **APPENDICES**



# ENGINEERING ACCREDITATION COMMITTEE

## PROGRAMME EVALUATION REPORT FOR PRE-ACCREDITATION AND ACCREDITATION

### RUBRICS DEFINING DEFICIENCY (D), WEAKNESS (W), CONCERN (C), OPPORTUNITY FOR IMPROVEMENT (OFI) AND SATISFACTORY (S) FOR PROGRAMME EVALUATION WORKSHEET

**General Notice for Qualitative Assessment of Components of the Ten Criteria:**

#### **Criterion 1: Programme Educational Objectives (PEOs)**

The Programme Educational Objectives (PEOs) describe the achievement expected of graduates of the programme three to five years after their graduation.

##### **i. Formulation of the PEOs**

The formulation of the PEOs may be guided by vision and mission of the university, global, national and local needs, and long term goals. Lecturers for the programme must work continuously with other stake holders such as local employers, industries, the alumni, parents, etc., to define the PEOs.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | The PEOs are formulated, published and consistent with institutions vision, mission statements and meet the needs of stakeholders.                       | S or OFI                |
| b   | The PEOs are formulated, published and only fairly consistent with institutions vision and mission statements and fairly meets the needs of stakeholders | C                       |
| c   | PEOs are not formulated nor published for the programme  | D                       |

##### **ii. Utilization and Periodic review of the PEOs**

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | PEOs are documented and systematically utilized and there is effective process involving at least five (5) stakeholders for their periodic review. | S or OFI                |
| b   | PEOs are documented and systematically utilized and there is a process involving inadequate number of stakeholders for their periodic review.      | C                       |
| c   | PEOs are documented and systematically utilized but no process for periodic review.  | W                       |
| d   | PEOs are documented but not systematically utilized.   | D                       |

**iii. The utilization of the evidence obtained from the evaluation of PEOs to improve the effectiveness of the programme are:**

| Levels of meeting requirement of component of criterion |                 | Quantitative Assessment |
|---|-----------------|-------------------------|
| a   | Adequate        | S or OFI                |
| b   | Fairly adequate | W                       |
| c   | Inadequate      | D                       |

**iv. Utilization of PEOs achievement results for CQI for the programme**

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | PEOs achievement results by graduates are well discussed and thoroughly used for CQI of the programme | S or OFI                |
| b   | PEOs achievement results by graduates are fairly well discussed and poorly used for CQI               | W                       |
| c   | PEOs achievement results not discussed and not used for CQI   | D                       |

Comment by the evaluator

## Criterion 2: Programme Outcomes (POs)

Programme Outcomes (POs) are statements of the knowledge, skills and behaviour that students are expected to have by the time they graduate.

### i. Adequacy of Programme Outcomes

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Programme has adequately documented and publicized POs that prepare graduates to attain the PEOs | S or OFI                |
| b   | Programme has adequately documented but not well publicized POs                                  | W or C                  |
| b   | Programme has no documented POs to prepare graduates to attain the PEOs                          | D                       |

### ii. Mapping of Programme Outcomes to Programme Educational Objectives

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | The POs are well mapped to the PEOs showing clearly how the POs contribute to the attainment of the PEOs.        | S                       |
| b   | The POs are fairly well mapped to the PEOs showing clearly how the POs contribute to the attainment of the PEOs. | C                       |
| c   | The POs are poorly mapped to the PEOs.   | w                       |
| d   | The POs are not mapped to the PEOs   | D                       |

### iii. Description of the relationship between Programme Outcomes and Program Educational Objectives

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Description of the relationship between POs and PEOs is adequate        | S                       |
| b   | Description of the relationship between POs and PEOs is fairly adequate | W                       |
| c   | No description of the relationship between POs and PEOs.                | D                       |

### iv. Mapping of Courses to POs

| Levels of meeting requirement of component of criterion |                                       | Quantitative Assessment |
|---|---------------------------------------|-------------------------|
| a   | All courses are well mapped to POs    | S                       |
| b   | Most courses are well mapped to POs   | C                       |
| c   | Many courses are poorly mapped to POs | W                       |
| d   | No mapping of courses to POs          | D                       |

### v. Supporting of Attainment of POs by Teaching and Assessment Methods

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
|---|--|-------------------------|

|   |   |          |
|---|---|----------|
| a | Teaching and assessment methods used by Lecturers are very good for the attainment of POs                   | S or OFI |
| b | Teaching and assessment methods used by Lecturers are fairly good for the attainment of POs                 | C        |
| c | Teaching and assessment methods used by Lecturers are inadequate for the attainment of POs                  | W        |
| d | Teaching and assessment methods used by Lecturers are very poor and so cannot help in the attainment of POs | D        |

#### vi. Evaluation of the Attainment of POs at the Individual and Cohort Levels

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | There exists high quality assessment process for evaluating the level of attainment of POs by individual students as well as the whole class          | S or OFI                |
| b   | There exists a fairly good quality assessment process for evaluating the level of attainment of POs by individual students as well as the whole class | C                       |
| c   | There is very poor quality assessment process for evaluating the level of attainment of POs by individual students as well as the whole class         | W                       |
| d   | There is no assessment process for evaluating the level of attainment of POs by individual students as well as the whole class                        | D                       |

#### vii. Applying Assessment Results for CQI

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | There is a very good process in place by which assessment results are applied for CQI of the programme   | S or OFI                |
| b   | There is a fairly good process in place by which assessment results are applied for CQI of the programme | C                       |
| c   | There is a poor process in place by which assessment results are applied for CQI of the programme        | W                       |
| d   | There is no process in place by which assessment results are applied for CQI of the programme            | D                       |

Comment by the evaluator

### Criterion 3: Course Learning Outcomes (CLOs)

Course Learning Outcomes (CLOs) are statements of knowledge, skills and change in behaviour that students are to have by the end of each course they take. The Course Learning Outcomes should be well mapped to POs to show clearly the set of courses contributing to the attainment of each of the POs. The CLOs are drawn from the Programme Outcomes stated in Part A of the Outcome Based COREN BMAS.

#### i. Adequacy and Documentation of Course Learning Outcomes

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Course Learning Outcomes are documented, adequate and well publicized               | S or OFI                |
| b   | Course Learning Outcomes are documented, fairly adequate and fairly well publicized | C                       |
| c   | Course Learning Outcomes are poorly formulated and inadequate                       | W                       |
| d   | There are no Course Learning Outcomes   | D                       |

#### ii. Mapping of Course Learning Outcomes to Programme Outcomes

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Course Learning Outcomes are well mapped to POs        | S                       |
| b   | Course Learning Outcomes are fairly well mapped to POs | OFI or C                |
| c   | Course Learning Outcomes not well mapped to POs        | W                       |
| d   | Course Learning Outcomes are not mapped to POs         | D                       |

#### iii. Description of the relationship between Course Learning Outcomes and Programme Outcomes

Describe how the curriculum and its associated prerequisite structure support the attainment of the Programme Outcomes.

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Description of the relationship between CLOs and POs is adequate        | S                       |
| b   | Description of the relationship between CLOs and POs is fairly adequate | OFI or C                |
| c   | Description of the relationship between CLOs and POs is inadequate      | W                       |

Comment by the evaluator

## Criterion 4: Curriculum and Learning Process

The curriculum of the programme/sub-discipline /discipline is the totality of the experience that is offered by the institution to achieve the philosophy, goal and objectives of the type and level of education. The curriculum should give the student total education that enables and equips him/her with knowledge and professional skills to be able to practice in his/her chosen field at the appropriate level. The curriculum and structure of the programme should be assessed against the stipulations showing the course code, course title, structure and content in the Benchmark Minimum Academic Standards.

### i. Courses Available to Students

The courses available for students to take and their contents are:

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Very good for the degree programme and therefore, adequately prepare the students for the chosen profession/discipline.       | S or OFI                |
| b   | Fairly good for the degree programme but somewhat inadequate for preparing the students for the chosen profession/discipline. | W                       |
| c   | Poor for the degree programme and grossly inadequate for preparing the students for the chosen profession/discipline.         | D                       |

### ii. Engineering and Non-engineering Content in the Curriculum

The courses available for students to take and their contents are:

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | The curriculum provides balanced coverage of engineering and non-engineering content in line with COREN BMAS.         | S or OFI                |
| b   | The curriculum does not provide balanced coverage of engineering and non-engineering content in line with COREN BMAS. | C, W or D               |

### iii. Complex Engineering Problems and Activities

The courses available for students to take and their contents are:

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | The curriculum provides adequate exposure of students to complex engineering problems and activities. | S or OFI                |

|   |   |   |
|---|---|---|
| b | The curriculum provides fairly adequate exposure of students to complex engineering problems and activities.    | C |
| c | The curriculum provides grossly inadequate exposure of students to complex engineering problems and activities. | W |
| d | The curriculum provides no exposure of students to complex engineering problems and activities.                 | D |

#### iv. Laboratory Experiment and Workshop Practice

The laboratory experiment and workshop practice topics for each course at all levels (where required) should be listed. Level of coverage of the experiment and workshop practice for each course should be clearly stated. Practical works should be clearly recorded in logbooks which should be made available to panel members. It is expected that students will do not less than ten (10) experiments in a semester.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | The laboratories are well equipped and 100% of all practical/workshop topics specified for each course at all levels are covered           | S, OFI                  |
| b   | The laboratories are fairly well equipped and 80-99% of all practical/workshop topics specified for each course at all levels are covered. | OFI                     |
| c   | The laboratories are not so well equipped and 50-79% of all practical/workshop topics are covered  | W                       |
| d   | The laboratories are poorly equipped and less than 50% of all Practical/workshop topics are covered.                                       | D                       |

#### v. Involvement of Engineers from Industries in Development and Review of the Curriculum

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Engineers from Industries are well involved in developing and reviewing the curriculum for the degree programme        | S, OFI                  |
| b   | Engineers from Industries are fairly well involved in developing and reviewing the curriculum for the degree programme | C                       |
| c   | Engineers from Industries are not involved in developing   | D                       |



|  |   |  |
|--|---|--|
|  | and reviewing the curriculum for the degree programme |  |
|--|---|--|

**vi. Employment of Other Methods in Teaching the Students to Learn**

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Apart from regular classroom interaction and lab sessions, other methods by which students can learn are employed (e.g. tutorials, seminars, videos, etc.) | S or OFI                |
| b   | Other methods are used but not enough  | C                       |
| c   | No other method is used apart from lectures and laboratory sessions  | W or D                  |

**vii. Exposure to skill Acquisition through Industrial Training**

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Students are well exposed to relevant skill acquisition through well supervised industrial training programme | S or OFI                |
| b   | The exposure during industrial training is inadequate and supervision is poor                                 | C or W                  |
| c   | There is no exposure to skill acquisition through industrial training   | D                       |

**viii. Opportunity for Intuition and Originality of Thought**

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Students are given adequate opportunities for intuition and originality of thought (e.g. through problem-based learning, design project and open-ended labs) | S or OFI                |
| b   | Students are given inadequate opportunities for intuition and originality of thought   | W                       |
| c   | Students are hardly given opportunities for intuition and originality of thought   | D                       |

**ix. Assessment of Attainment of POs and CLOs**

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | The attainment of POs/CLOs by students are well assessed using appropriate methods | S or OFI                |
| b   | The attainment of POs/CLOs by students are poorly assessed                         | W                       |
| c   | The attainment of POs/CLOs by students are not assessed                            | D                       |

**x. Summative Assessment for Graduating Students for Determining Graduates Attributes Attainment**

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Summative assessment of attainment of graduate attributes for graduating students are well carried out        | S or OFI                |
| b   | Summative assessment of attainment of graduate attributes for graduating students are fairly well carried out | C                       |
| c   | Summative assessment of attainment of graduate attributes for graduating students are not done                | W                       |

**i. External Examination System**

The use of external examiners is necessary to help the University obtain external input on how well the University is meeting the national standards laid down for the level of certification.

External examiners should therefore be qualified persons who can make judgment on the standard of work having regard to the type and level of manpower to be produced. External examiners should therefore be used at least within the final year of the degree programme to assess final year courses and projects and to certify the overall performance of the graduating students as well as the quality of facilities and teaching.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a.  | External examination system exists and meets the requirements stated in the external examiners' template         | S or OFI                |
| b.  | External examination system exists and does not meet the requirements stated in the external examiners' template | C or W                  |
| c   | External Examination system does not exist   | D                       |

**Comments:**

Panel members should comment on the quality of the external examiners and their report vis-a-vis their general impressions of standard of work and of instruction.

## Criterion 5: Students

### i. Compliance with Guidelines for Admissions

All students admitted into engineering programmes should have Five (5) O' Level credits at not more than 2 sittings in Mathematics, Physics, Chemistry and English Language. The fifth credit may be in any other subject. However, for engineering disciplines such as Biological Engineering, Biomedical Engineering, Agricultural and Bio-Resources Engineering and Chemical Engineering, the fifth credit could be in Biology. For all engineering disciplines, the UTME subjects shall be Mathematics, Physics, Chemistry and the Use of English.

Minimum admission requirements into the programme in any institution should be as stipulated in these COREN minimum requirements for admission into undergraduate degree programmes.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | All students enrolled in the programme to be accredited meet the degree admission requirements.          | S                       |
| b   | Most students enrolled in the programme to be accredited meet the degree admission requirements.         | C                       |
| b   | Many students enrolled in the programme to be accredited did not meet the degree admission requirements. | D                       |

### ii. Number of Students Admitted

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | The number of students admitted at 100, 200 and 300 levels does not make the class size to exceed the maximum number prescribed  | S                       |
| b   | The number of students admitted at 100, 200 and 300 levels makes the class size to exceed the number prescribed slightly         | C                       |
| b   | The number of students admitted at 100, 200 and 300 levels makes the class size to exceed the number prescribed by a wide margin | D                       |

### iii. Policy on Inter University Transfer

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | There is a well-documented policy on transfer of students only from another institution running accredited programme | S                       |
| b   | There is no well documented policy on transfer of students   | C                       |

**iv. Availability of Counsellors to Advice Student**

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Adequate number of counsellors are available to advice students on academic, career, health, finances, Stress, emotional and spiritual problems   | S or OFI                |
| b   | Inadequate number of counsellors are available to advice students on academic, career, health, finances, Stress, emotional and spiritual problems | C                       |
| c   | No counsellors are available to advice students on academic, career, health, finances, Stress, emotional and spiritual problems                   | D                       |

**v. Class Size and Laboratory Group Size**

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | The students staff ratio of 15:1 is not exceeded and laboratory group sizes are conducive for hands-on type of experiment (4 – 5 students per work station) | S or OFI                |
| b   | The students staff ratio of 15:1 is not exceeded and laboratory group sizes are not conducive for hands-on type of experiment                               | W                       |
| c   | The students staff ratio of 15:1 is exceeded and laboratory group sizes are not conducive for hands-on type of experiment                                   | D                       |

**vi. Course Content and Coverage of the Syllabus**

For an effective evaluation of the teaching/learning processes in the university, it is necessary for the student to assess:

- a. The relevance and adequacy of the course of their chosen profession/discipline;
- b. The delivery of the content in terms of lecture/tutorial/practical;
- c. The adequacy of available learning materials, e.g. books, journals, equipment, consumables, etc.; and,
- d. The adequacy of physical facilities, e.g. classroom space, lecture theatre, laboratories, clinics, studios, etc.

The panel members should go through evidence provided in the Students’ Evaluation Form. In addition, they should interact with a sample of students in order to ascertain the true opinion of the students.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Students are satisfied with the course content, learning | S                       |

|   |   |        |
|---|---|--------|
|   | materials and course delivery. They consider the coverage relevant and adequate for course of their chosen discipline. Learning materials are readily available |        |
| b | The course content, learning materials, course delivery, are relevant but inadequate for the course of their chosen discipline.                                 | C or W |
| c | The course content, learning materials, course delivery, are not relevant or very inadequate  | D      |

**Comments:**

The panel members should comment on the deficiencies and inadequacies highlighted by the students.

**vii. Participation of Students in Industrial Excursion, Engineering Conference/Exhibition, etc.**

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | There is evidence that students participate well in industrial excursion, national and international conferences/exhibitions, competition, etc.        | S or OFI                |
| b   | There is evidence that students participate fairly well in industrial excursion, national and international conferences/exhibitions, competition, etc. | C                       |
| C   | There is evidence that students hardly participate in industrial excursion, national and international conferences/exhibitions, competition, etc.      | W                       |

**viii. Standard of Tests and Examinations**

The tests and examinations must comply with the minimum standards set by COREN. There should be a full examination on each course at the end of every semester. Examination questions should cover all areas of the courses as contained in the syllabus. Tests should be adequately administered to cover the course content. A well-developed marking scheme should be available for each examination/test and should be well applied. There should be samples of past questions, marking schemes and model answers for the various levels of the programme.

Tests and examinations are of:

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| A   | Good standard and quality and adequately cover syllabus.       | S or OFI                |
| B   | Fairly good standard and quality and fairly cover the syllabus | C                       |

|   |   |        |
|---|---|--------|
| C | Below average in standard and do not adequately cover the syllabus. | W or D |
|---|---|--------|

**Comment:**

Assessment should be based on review of past examinations and tests, continuous assessment and panel's opinion on clarity of questions set for degree examinations for the past three years, syllabus coverage at the appropriate level, the quality of students' answer scripts and a reflection of Nigerian milieu. Highlight factors that may improve the quality of student's performance. (See external examiners' report guideline as shown in Annex O).

## Criterion 6: Continuous Quality Improvement (CQI)

There should be regular use of appropriate, documented processes for assessing and evaluating the extent to which the Programme Outcomes are being attained. These can be carried out by the following:

- (i) State and describe the assessment processes used for data collection for the purpose of evaluation of each Programme Outcome. Assessment processes such as tutorials, examination, assignments, quizzes, laboratory reports, SIWES reports, SWEP reports, seminars, models, industrial advisory committee meetings.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| <b>a</b>  | Assessment processes are stated and described as listed above, exist for determining the extent of attainment of PEOs POs and CLOs | S or OFI                |
| <b>b</b>  | Assessment processes are stated and described as listed above are weak.  | C or W                  |
| <b>c</b>  | Assessment processes are stated and described as listed above, do not exist.   | D                       |

- (ii) State the frequency of conducting the assessment processes and the expected level of attainment for each of the Programme Outcomes. Give summaries of the results of the evaluation process and an analysis illustrating the extent to which each of the Programme Outcomes is being attained. Indicate the method of results documentation and storage.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| <b>a</b>  | PO evaluation is adequate for PEOs attainment.   | S or OFI                |
| <b>b</b>  | PO evaluation is inadequate for PEOs attainment. | W or C                  |

- (iii) The results of evaluations of POs should be systematically utilized as input for the Continuous Quality Improvement (CQI) of the programme.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Results of POs evaluation are utilized in CQI analysis and CLOs development.             | S or OFI                |
| b   | Results of POs evaluation are fairly well utilized in CQI analysis and CLOs development. | W or C                  |
| c   | Results of POs evaluation are not utilized in CQI analysis and CLOs development.         | D                       |

(iv) Evidence of the implementation plan based on the observations of the last accreditation visit and the remedial actions taken are:

| Levels of meeting requirement of component of criterion |                                       | Quantitative Assessment |
|---|---------------------------------------|-------------------------|
| a   | Available and implemented.            | S or OFI                |
| b   | Available and fairly well implemented | C                       |
| c   | Not available                         | D                       |

## Criterion 7: Staffing

### Academic Staff

The adequacy of teaching staff may be determined by the extent to which they meet the following provisions in respect of:

- a) The student/Lecturer ratio,
- b) The staff mix by rank,
- c) Qualifications of the teaching staff,
- d) Professional registration status of the academic staff

#### i. Student /Lecturer Ratio

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | The actual student/staff ratio complies with the student/staff ratio of 15:1       | S                       |
| b   | The ratio provides for less than 70% but more than 50% of the teaching staff need. | C                       |
| c   | The ratio provides for less than 50% of the teaching staff need.                   | W or D                  |

#### Comments:

1. For the purpose of determining the student/staff ratio, only the population of students from 200 - 500 Level in that programme and only Lecturer II and above should be used to determine the ratio.
2. The institution should provide a table stating the name of staff, COREN Registration status, Rank/Designation, courses taught by the lecturer and his contact hours per

week (specifying lectures, tutorial and practical) and detailed curriculum vitae of each academic staff.

3. Adjunct/Associate/ Assistant Lecturers should be counted as half mark as compared to full time Lecturers.

## ii. Staff Mix

The academic staff in the department are expected to be specialist in different areas of Specialization of the discipline. At least two (2) staff per area of specialization, one of which must be at professorial cadre.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | The lecturers cover well all the areas of specialization of the degree programme.        | S or OFI                |
| b   | The lecturers cover fairly well all the areas of specialization of the degree programme. | C                       |
| c   | The lecturers cover only a few areas of specialization of the degree programme.          | W                       |

## iii. Qualifications of the Teaching Staff

The qualifications of the existing teaching staff is:

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | 80% or more have PhD degree in Engineering   | S                       |
| b   | 50%-80% have PhD degree in Engineering.      | C                       |
| c   | Less than 50% have PhD degree in Engineering | W                       |

## iv. Non-Teaching Staff (Technical)

These are support staff who are indispensable in the proper running of the workshops, laboratories, clinics/studio etc. Panel members should assess the quality and number of the staff in relation to their adequacy in providing the needed support. All laboratories/clinics/studio etc., should have technicians/technical officers/technologists to run these in addition to the lower cadre of technical staff.

Technical/Academic Staff minimum ratio of 1:3 subject to each laboratory having at least one technologist, one other technical staff. Each workshop should have adequate staff to run all the sections and units properly. For the programme for which accreditation is sought, the non-teaching staff (technical) should be assessed against the following guidelines:



**Technical Staff:**

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Attainment of 1:3 of Technical/Academic Staff ratio has been achieved and more than 70% registered with COREN with up-to-date license.        | S or OFI                |
| b   | Attainment of 1:3 of Technical/Academic Staff ratio has not been achieved and/or less than 70% registered with COREN with up-to-date license. | C or W                  |

- Adequate in number in terms of Technical/Academic Staff minimum ratio of 1:3
- Quality of Technical Staff can be measured in terms of academic qualifications, ability to operate and explain how the hardware and/or software function.

**v. Administrative Support Staff**

Each Head of Department should have a minimum of One Confidential Secretary and a clerical officer.

**Administrative staff:**

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Attained the number and quality of professionals required for the programme          | S or OFI                |
| b   | Did not attain the number and/or quality of professionals required for the programme | C or W                  |

**Comments**

Panel members should confirm the number of non-teaching staff on ground with those listed in the self-study document. List additional staff required, if necessary and their qualifications and indicate redundant/superfluous staff, if any.

**vi. Staff Development Programme/Continuing Professional Development**

Staff development programmes are intended to upgrade and update staff competences. This is achieved through their attendance of seminars, professional conferences (e.g. COREN Assembly), and industrial attachments, acquisition of diplomas/first degree, and higher degrees. The institution is required to have a functional staff development programme. The Head of Department should give details of the programme, including the beneficiaries in the last 5 years. The need for staff training on regular basis may be based on the outcome of evaluation by students, HOD or as recommended by stakeholders.

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Evidence that staff development policy exists and all members of staff of the department have benefited from it in the past five years. | S or OFI                |
| b   | Evidence that staff development policy exists and not all members of staff of the department have benefited from                        | C or W                  |

|                            |  |
|----------------------------|--|
| it in the past five years. |  |
|----------------------------|--|

**Comments:**

The Head of Department should list names of staff of the department that have benefited from staff development policy in the past five years. He should also recommend the type(s) of staff development programme(s) available that the staff can undergo to make them more productive.

**vii. Staff Contact Hours**

It is expected that Time table, Courseware and Course contact are uploaded on the university website for all Undergraduate Courses taught in the programme. There should be adequate contact between lecturers and students. Method of delivery of lectures to students, including number of hours, teaching aids to be used, recommended text books, tutorials etc., should be well stated.

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Evidence of lecture timetable, course distribution and lecturers exist. There is evidence of availability and access of these materials on the programme website.           | S or OFI                |
| b   | Evidence of lecture timetable, course distribution and lecturers do not exist. There is no evidence of availability and access of these materials on the programme website. | C or W                  |

**viii. Recognized Staff Publications**

It is expected that Academic staff should make their presence visible online (e.g. on Google Scholar, etc.) through publications in ISI-Indexed journals.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | More than 70% of the lecturers each has at least 3 publications in 5 years | S or OFI                |
| b   | 50 - 70% of the Lecturers each has at least 3 publications in 5 years      | C                       |
| c   | Less than 50% of the Lecturers each has at least 3 publications in 5 years | W                       |

**ix. Staff Contribution to Engineering and Industry**

Members of Staff are expected to have contributed to the development of their immediate community and the nation through publications, community service, projects within the University, public lectures, etc.

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | There is evidence that more than 70% of the Staff have contributed to the development of their community and the nation in the last five years. | S or OFI                |
| b   | There is evidence that 50-70% of the Staff have contributed to the development of their community and   | C                       |

|   |   |   |
|---|---|---|
|   | the nation in the last five years.  |   |
| c | There is evidence that less than 49% of the Staff have contributed to the development of their community and the nation in the last five years. | W |

**x. Professional Status of the Teaching Staff**

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | 80% or more are registered with COREN and have up-to-date license                         | S or OFI                |
| b   | Less than 80%, but greater than 60% are registered with COREN and have up-to-date license | C                       |
| c   | Less than or equals to 60% are registered with COREN and have up-to-date license          | W or D                  |

**xi. Guidance and Counselling Staff**

There should be an Adviser for Engineering students at each level of an Engineering programme. Apart from these, a Faculty of Engineering should have at least one Guidance Counsellor who must be registered with the relevant professional body.

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | A Guidance Counsellor who must be registered with the relevant professional body in addition to level adviser is available. | S or OFI                |
| b   | The staff responsible for Counselling is not registered with the relevant professional body.                                | C or D                  |

**xii Overall Management of the Programme**

In assessing the administration of the Department, it should be noted that a good head performs his leadership role with mutual concern with policies affecting the staff and students in the Department. He should be a specialist in the field and should have considerable experience in educational administration. Some of his responsibilities include the maintenance of the facilities for staff and students, administration, conducting examinations, scheduling of staff and interpretation of the department's regulations to members of the profession and the public.

The administration of the Department is:

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Run by a Professor/Reader/Senior Lecturer registered with COREN and very effective and efficient. | S or OFI                |
| b   | Run not by a Professor/Reader/Senior Lecturer registered with COREN.                              | C                       |
| C   | Run by a Professor/Reader/Senior Lecturer who is not  | D                       |

|                        |  |
|------------------------|--|
| registered with COREN. |  |
|------------------------|--|

**Comments:**

Panel members should give their impression on *esprit de corps* (feelings of pride, care and support) among staff and the effectiveness of the administrative and academic leadership.

## Criterion 8: Physical Facilities & Infrastructure

### (i) Laboratories and Workshops.

Professional skills necessary to practice the professional discipline can be acquired first and foremost from the training using institutional facilities that are designed and equipped to stimulate the practice of the profession. It should therefore be adequate in size, well equipped with suitable machinery, tools and equipment, safe, well maintained and suitably laid out.

The minimum size of the facilities should not be less than those provided for in Part A of the BMAS.

#### A. Space

The spaces in the existing laboratories:

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Meet the provision of the BMAS on space requirements.         | S or OFI                |
| b   | Did not meet the provision of the BMAS on space requirements. | C, W or D               |

Comment by the evaluator

Panel members are to confirm the actual spaces available in the laboratories/clinics/studios with those prescribed in Part A of the 2017 revised OBE BMAS.

#### B. Equipment

The laboratory equipment inspected:

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Meets the BMAS specification for the programme.        | S or OFI                |
| b   | Did not meet the BMAS specification for the programme. | C, W or D               |

Comment by the evaluator

Panel members are to confirm the actual equipment available in the workshop/laboratories/clinics/studios and compare with those listed in the Self-Study form, their use for teaching the programme, safety and management. Also, panel members should list the additional equipment not available which are required to teach the programme.

### (ii) Classrooms

There should be minimum space required for lecture theatres and classrooms for each programme as specified in the BMAS for 300-500 levels.

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | The classrooms space meets the BMAS specification       | S or OFI                |
| b   | The classrooms space do not meet the BMAS specification | C, W or D               |

**(iii) Office Accommodation**

Lecturers require adequate offices where they counsel students and prepare materials for teaching students. Such office should be furnished with basic items of furniture and storage. They should be well air conditioned, ventilated and lit. Staff should have adequate office/research laboratory space.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | The office and laboratory space meet the BMAS specification        | S or OFI                |
| b   | The office and laboratory space do not meet the BMAS specification | C, W or D               |

**Comments:**

Panel members are to indicate their general impression on office accommodation and the adequacy for the number of staff in the department, including Professorial Offices, in addition to standard furnishing like air conditioners, refrigerators, file cabinets. There should be a secretary and a research laboratory.

**(iv) Safety and Environmental Sanitation of Teaching Facilities**

A good institution should have a clean environment, and buildings should be safe and comply with Federal, State and Local Government Laws relating to safety, fire hazards, etc. All buildings should have functional fire-extinguishers, fire buckets with sand, and water source/reservoir and all staff and students should have some knowledge on how to operate all fire equipment. Panel members should check to ascertain that these requirements are being complied with. Adequate and clean restrooms should be available for staff and students.

Teaching facilities for the Programme and the environment are:

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Safe, comply with all Federal, State and Local Government Laws relating to fire and environmental sanitation | S or OFI                |
| b   | Unsafe, violate Federal, State and Local Government Laws relating to fire and environmental sanitation       | D                       |

Comment by the evaluator

Panel members are to comment on the adequacy of general safety and environmental sanitation of the College/School/Faculty/Department offering the programme to be accredited

**(v) Drawing Office and Equipment**

There should be space and furniture in the graphics room for at least 20% of the students in 200 level in the faculty to be able to carryout their drawings at the same time, in line with the BMAS specification. All students are expected to own portable drawing boards, instruments and T-

Square. There should be provision for computer-aided graphics.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | The graphics rooms meet the BMAS specification.        | S or OFI                |
| b   | The graphics rooms do not meet the BMAS specification. | C or D                  |

#### (vi) Teaching Aids

Each programme should have adequate numbers of projectors installed in the classrooms. There should be good white boards and public address systems for large lecture rooms. Modern facilities such as interactive magic boards are expected in the lecture rooms. Each student is expected to have access to and use a Computer/Laptop.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Teaching aids are available in quality/quantity and accessible | S or OFI                |
| b   | Teaching aids are either not available or inaccessible         | C or W                  |

#### (vii) Virtual Laboratory, Simulation Systems and Models

To aid effective delivery and impartation of knowledge and skill, it is expected that the programme should have the following lecture delivery technique and tools including virtual laboratory facilities, audio-visual recording studio, models, and simulation computer software packages.

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Lecture delivery technique and tools are available, accessible and the required skills to use them are available       | S or OFI                |
| b   | Lecture delivery technique and tools are unavailable, inaccessible and the required skills to use them are unavailable | C, W or D               |

#### (viii) Library

##### (A) University/Central Library

Hard and/or Soft Resources:

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Meet the BMAS specification in number, spread, currency and quality        | S or OFI                |
| b   | Do not meet the BMAS specification in number, spread, currency and quality | C, W or D               |

##### (B) Faculty/Departmental Electronic Library

The Departmental Library should subscribe to some on-line databases relevant to the engineering degree programme, as specified in the BMAS. Where the university e-library is readily accessible, then, this may not be required.

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Evidence of subscription to engineering database, accessibility and skills to use the facilities    | S or OFI                |
| b   | No evidence of subscription to engineering database, accessibility and skills to use the facilities | C, W or D               |

Comment by the evaluator

Panel members are to confirm the functionality, accessibility and utilization of the electronic library resources from staff and students.

### (C) Faculty/Departmental Library

A faculty or departmental library should be available for the use of staff and students. Current, local, national and international journals relevant to that discipline should be available e.g. past students' projects and thesis, COREN Engineering Assembly proceedings, Nigerian Society of Engineers' Technical transactions, relevant codes and standards should also be available.

Books and other resources in the Faculty/Departmental Library:

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Meet the BMAS specification in number, spread, currency and quality        | S or OFI                |
| b   | Do not meet the BMAS specification in number, spread, currency and quality | C, W or D               |

(ix) Infrastructure – Road network & Transportation system, Health, Sanitation and Water supply services, Power & Internet Services, Recreational & Sport Services and Student Hostel and Fire/Security services.

#### A. Road network & Transportation system are:

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Available, accessible and functional to the University community         | S or OFI                |
| b   | Unavailable, inaccessible and non-functional to the University community | C, W or D               |

#### B. Health, Sanitation and Water supply services are:

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Available, accessible and functional to the University community         | S or OFI                |
| b   | Unavailable, inaccessible and non-functional to the University community | D                       |

#### C. Power & Internet Services are:

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Available, accessible and functional to the University community         | S or OFI                |
| b   | Unavailable, inaccessible and non-functional to the University community | C or W                  |

**D. Recreational & Sport Services are:**

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Available, accessible and functional to the University community         | S or OFI                |
| b   | Unavailable, inaccessible and non-functional to the University community | C or W                  |

**E. Student Hostel and Fire/Security services are:**

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Available, accessible and functional to the University community         | S or OFI                |
| b   | Fairly adequate  | C                       |
| c   | Unavailable, inaccessible and non-functional to the University community | W or D                  |

Comment by the evaluator

## Criterion 9: Industrial Linkages & Community Service

The programme should engage with relevant industries. In addition to teaching and research, a programme should render services to the community. Students should be involved in community service since participation in such activities helps them to develop soft skills.

**(i) Fora for Professional Practice/Exposure (Seminars, conferences, Engineering assembly, workshops, industrial visits, etc.):**

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Evidence of attendance and certification are available. | S or OFI                |
| b   | No evidence of attendance and certification.            | C or W                  |

**(ii) Collaborative Projects/Research:**

Evidence of progress or completion of relevant and functional collaborative project and research works/grants (such as: project reports, minutes of joint meetings, commercialization of projects, etc.) by staff per annum are:



| Levels of meeting requirement of component of criterion |             | Quantitative Assessment |
|---|-------------|-------------------------|
| a   | Available   | S or OFI                |
| b   | Unavailable | C or W                  |

- (iii) **Leadership:** Evidence of students' activities and involvement in student organizations that provide experience in management and governance, representation in education and related matters and social activities are:

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | At least one (1) engineering programme student elected/nominated into the student bodies or competitions per annum | S or OFI                |
| b   | No engineering programme student elected/nominated into the student bodies or competitions per annum               | C or W                  |

- (iv) **Currency on impact on immediate community (social responsibility)**

There should be evidence of annual projects or services to the community by the students not domiciled within the University.

| Levels of meeting requirement of component of criterion |   | Quantitative Assessment |
|---|---|-------------------------|
| a   | Evidence of at least 2 projects or services to the community by the students in the last 3 years. | S or OFI                |
| b   | Evidence of at least 1 project or service to the community by the students in the last 3 years.   | C                       |
| c   | No evidence   | W or D                  |

Comment by the evaluator

## Criterion 10: Institutional Support & Funding

### Staff Employment and Retention

The documented policies used for the employment and retention of staff as provided in Annex J are:

| Levels of meeting requirement of component of criterion |  | Quantitative Assessment |
|---|--|-------------------------|
| a   | Available, implemented with retention index $\geq 0.7$     | S or OFI                |
| b   | Available, implemented with retention index lower than 0.7 | C, W or D               |

Funding of the programme is very important. First, in establishing the programme. Second, in meeting its annual recurrent expenditure such as payment of staff salaries, maintaining the facilities and for the purchase of consumable materials for use in workshops, laboratories and classrooms.

If funding is evaluated on the basis of student population in the programme, then at least ₦250,000 per student per year can be considered adequate for operational expenses and equipment consumables, exclusive of emoluments.

Financing of operational consumables for the programme for which accreditation is required is:

| Levels of meeting requirement of component of criterion |                       | Quantitative Assessment |
|---|-----------------------|-------------------------|
| a   | Higher than ₦ 250,000 | S or OFI                |
| b   | Lower than ₦ 250,000  | C, W or D               |

Comment by the evaluator

Confirm that the direct funds allocated to the programme in the past three years are as shown in the Self -Study Form.



# ENGINEERING ACCREDITATION COMMITTEE

## Programme Evaluation Report (Resource Verification, Pre-Accreditation, Accreditation & Re-accreditation)

### PROGRAMME EVALUATION WORKSHEET

<Institution Name>

<Programme>

<Date of Visit>

- 1) In the column for “Compliance Level”, the findings for each component of an accreditation criterion shall be recorded as “S” for Satisfactory, “OFI” for Opportunity For Improvement, “C” for Concern, “W” for Weakness, and “D” for Deficiency.
- 2) In each case for which an entry different from “S” is recorded in the “Compliance Level” column, justification must be provided in the same row in the column for “Observations and Remarks on Non-compliance”.
- 3) In the case of Resource Verification or Pre-Accreditation visitation, “NA” should be recorded in the column for “Compliance Level” for components of a criterion that are not applicable.

| S/N   | Criteria   | Compliance Level | Observations and Remarks For Non-Compliance |
|---|--|------------------|---|
| <b>Criterion-1: Programme Educational Objectives (PEOs)</b> |  |                  |   |
| i   | The VISION and MISSION of the institution are clearly stated and well published. |                  |   |
| ii  | PEOs are formulated, published and   |                  |   |

| S/N  | Criteria  | Compliance Level | Observations and Remarks For Non-Compliance |
|--|---|------------------|---|
|  | consistent with the vision and mission of the institution; they also meet the needs of stakeholders.  |                  |   |
| iii  | PEOs are utilised and there is effective process involving at least five stakeholders in their formulation and periodic review.   |                  |   |
| iv   | Summary of the results of evaluation of the attainment of PEOs following the process put in place is prepared periodically.   |                  |   |
|  |   |                  |   |
| v  | PEOs achievement results by graduates / alumni are discussed and the evaluation results are used for continuous quality improvement of the programme                      |                  |   |
|  |   |                  |   |
| <b>Criterion-2: Programme Outcomes (POs)</b> |   |                  |   |
| i  | The programme has adequate documented and well publicised POs.  |                  |   |
| ii   | The POs for the programme are well mapped to the PEOs.  |                  |   |
| iii  | POs encompass all the required Graduate Attributes as defined in COREN Accreditation Manual   |                  |   |
| iv   | All the courses are well mapped to POs.   |                  |   |
| v  | The attainment of POs is well supported by the teaching/learning and assessment methods used by the lecturers.  |                  |   |
| vi   | There exists high quality assessment process to evaluate the attainment of POs at student as well as cohort levels through well-defined Key Performance Indicators (KPIs) |                  |   |

| S/N | Criteria  | Compliance Level | Observations and Remarks For Non-Compliance |
|-----|---|------------------|---|
| vii | A process is in place by which assessment results are applied to further refine the assessment mechanism and/or redefine the programme outcomes (based on stakeholders feedback), thus leading to continuous improvement of the programme |                  |   |

| S/N   | Criteria                                       | Compliance Level | Observations and Remarks For Non-Compliance |
|---|--|------------------|---|
| <b>Criterion-3: Course Learning Outcomes (CLOs)</b> |  |                  |   |
| i   | CLOs are adequate, well-defined and published. |                  |   |
| ii  | The CLOs are well mapped to POs.               |                  |   |
|   |  |                  |   |

| S/N   | Criteria   | Compliance Level | Observations and Remarks For Non-Compliance |
|---|--|------------------|---|
| <b>Criterion-4: Curriculum and Learning Process</b> |  |                  |   |
| i   | The distribution of courses and the breadth and depth of knowledge in the courses meet the requirements of COREN BMASS and NUC guidelines for that degree programme. |                  |   |
| ii  | The curriculum provides balanced coverage of engineering and non-engineering contents in line with COREN Benchmark Minimum Academic Standard (BMAS)                  |                  |   |
| iii   | The curriculum provides adequate exposure to Complex Engineering Problems (CEPs) and Activities  |                  |   |

|      |   |  |  |
|------|---|--|--|
| iv   | Well-equipped laboratories to complement theoretical knowledge of the topics covered in the classroom appropriate for that engineering degree programme are available.  |  |  |
| v    | The work done in workshops and laboratories are adequate for students to acquire required skills by the time they graduate; assessment mechanism is in place for this. (At least 10 lab sessions per semester or 4 semesters)   |  |  |
| vi   | CLOs are defined for all courses with appropriate learning-levels, e.g. the ones defined in Bloom's Taxonomy, and their mapping to relevant POs   |  |  |
| vii  | Engineers from industry are formally involved in developing and reviewing the curriculum for the engineering degree programme.  |  |  |
| viii | In addition to regular classroom interaction and lab sessions, other methods by which students can learn are employed such as tutorials, seminars, workshops, watching videos online, etc. Office hours announced at the beginning of each course for students to interact with lecturers are maintained. |  |  |
| ix   | Students are exposed to relevant skill acquisition through supervised Industrial training programme with formal feedback from the employer  |  |  |
| x    | Students are given adequate opportunities for intuition and originality of thought through Problem Based Learning (PBL), Design Projects and Open- Ended laboratories.  |  |  |
| xi   | Attainment of POs/CLOs by students are assessed using appropriate direct / indirect methods.  |  |  |
| xii  | There is summative assessment for graduating students to determine the  |  |  |

|      |  |  |  |
|------|--|--|--|
|      | level of attainment of the graduate attributes in the three domains (KSA).                                       |  |  |
| xiii | External examination system exists and meets the requirements stated in the external examiner report template    |  |  |
| xiv  | Students are expected to do at least 10 Engineering drawing assignments or exercises per semester for a session. |  |  |

| S/N                          | Criteria  | Compliance Level | Observation and Remarks For Non-Compliance |
|------------------------------|---|------------------|--|
| <b>Criterion-5: Students</b> |   |                  |  |
| i                            | The students admitted meet the criteria for admission into the degree programme as prescribed by the Institution, National Universities Commission and COREN BMAS.                      |                  |  |
| ii                           | The number of students admitted into the degree programme at 100, 200 or 300 levels does not make the class size at any level exceed the maximum number prescribed by the EAC of COREN. |                  |  |
| iii                          | There is well documented policy on transfer of students only from another institution running accredited engineering programme restricting transfer to 200 or 300 level.                |                  |  |
| iv                           | Availability of designated student counsellors to advise / counsel students regarding academic / career matters and provide assistance in managing their health, financial,             |                  |  |

|      |   |  |  |
|------|---|--|--|
|      | stress, emotional and spiritual problems.   |  |  |
| v    | Manageable class-size (according to stipulated staff: students ratio of 1:15) and lab groups (4-5 students per workstation for hands-on type experiments, larger groups may be manageable for demonstration type).  |  |  |
| vi   | The total number of credit hours taken per semester is between 15-24 except for spill over students who may take less than 15   |  |  |
| vii  | Courses are well taught and course content adequately covered as evident from course-files and through student feedback   |  |  |
| viii | There is evidence of Students' participation in industrial excursion, national / international engineering exhibitions /meetings and / or competitions, and facilitation by the institution for such participations |  |  |
| ix   | There is a high quality process for evaluating student performance and taking corrective measures   |  |  |

| S/N  | Criteria   | Compliance Level | Observations and Remarks For Non-Compliance |
|--|--|------------------|---|
| <b>Criterion-6: Continuous Quality Improvement (CQI)</b> |  |                  |   |
| i  | There is regular use of appropriate documented processes for assessing the extent to which PEOs, POs and CLOs are being attained.  |                  |   |
| ii   | Necessary actions are taken to address all the issues identified as concerns or weaknesses in the last accreditation visit report. |                  |   |
| iii  | There is noticeable improvement in the number or quality of lecturers and laboratory/ workshop members                             |                  |   |



|     |  |  |  |
|-----|--|--|--|
|     | of staff since the last accreditation visit.   |  |  |
| iv  | There is adherence to approved Student-Teacher Ratio since last accreditation visit  |  |  |
| v   | There is evidence that lecturers have continued to engage in R&D and Consultancy activities as well as publishing in highly-rated journals.  |  |  |
| vi  | There is evidence of addition of new infrastructural facilities or laboratory/workshop equipment or teaching aids, etc. to improve teaching and learning and the attainment of POs after the last accreditation visit. |  |  |
| vii | There is improvement in any of the other areas not covered above, such as OBE implementation, content delivery, assessment and evaluation processes, etc., after the last accreditation visit.                         |  |  |

| S/N                          | Criteria   | Compliance Level | Observations and Remarks For Non-Compliance |
|------------------------------|--|------------------|---|
| <b>Criterion-7: Staffing</b> |  |                  |   |
| i                            | The student-lecturer ratio is higher than or equal to 1:15 which is specified in NUC and COREN guidelines so that effective student-teacher interaction is maintained.         |                  |   |
| ii                           | Members of staff having appropriate qualifications ( with a reasonable percentage holding PhD) to cover all areas of specialization of the programme curriculum are available. |                  |   |
| iii                          | The institution has put in place a formal system for training and mentoring lecturers on pedagogical   |                  |   |

|      |   |  |  |
|------|---|--|--|
|      | skills including OBE concepts and implementation methodologies.   |  |  |
| iv   | There is provision for staff development to motivate them and ensure their professional growth and retention.   |  |  |
| v    | The workloads of lecturers are reasonable (equivalent of 6-9 hours/week).   |  |  |
| vi   | Course Files prepared according to guidelines in COREN Accreditation Manual are available.  |  |  |
| vii  | Continuation of staff research, publications and sponsored projects from industry/donor agencies, etc.  |  |  |
| viii | The programme is headed by a Ph. D holder not below the rank of Senior Lecturer who is a COREN- registered engineer in that engineering discipline with an up-to-date practising licence. Reasonable mix of lecturers and other members of staff of various ranks are expected. |  |  |
| ix.  | Lecturers, technologists, technicians and craftsmen who are members of staff in the department are registered with COREN and have up-to-date practising licence.  |  |  |
| x.   | The Programme has adequate number of technical and supporting staff.  |  |  |

| S/N   | Criteria   | Compliance Level | Observations and Remarks For Non-Compliance |
|---|--|------------------|---|
| <b>Criterion-8: Physical Facilities and Infrastructures</b> |  |                  |   |
| i   | The teaching and learning facilities such as classrooms, lecture theatres, drawing studio, and teaching aids are adequate. |                  |   |

|      |   |  |  |
|------|---|--|--|
| ii   | Programme specific laboratories, workshops, and relevant pieces of equipment for complementing the class / theory work are adequate.  |  |  |
| iii  | There are adequate number of printed books and electronic books in the Libraries (Central Library, Faculty Library and Departmental Library).   |  |  |
| iv   | There are adequate number of journals and professional magazines in printed and electronic forms in the libraries.  |  |  |
| v    | (a) There are adequate spaces in the library for storage of books and materials, and for reading.<br><br>(b) There are good ICT facilities in the Library and there is good internet access to Library resources.   |  |  |
| vi   | There are sufficient computing software and internet access / resources allocated for the programme.  |  |  |
| vii  | Provision and effectiveness of consulting and career placement services provided to the students.   |  |  |
| viii | Hostels, sports and recreational centres, health care centres, student centres, transport facilities and other support facilities are adequate.   |  |  |
| ix   | (a) There are adequate functional exit signs in the Libraries, Auditoriums, Lecture rooms, etc.<br><br>(b) The fire extinguishers and other for fighting equipment are certified to be functional by appropriate municipal or state regulatory authority.<br><br>(c) The environment is kept clean and lawns are well mowed, etc. |  |  |
| x    | Adequate measures are taken to ensure work-place safety in laboratories and workshops; there no uneven floors, necessary guards are in place, etc.  |  |  |

| S/N  | Criteria  | Compliance Level | Observations and Remarks For Non-Compliance |
|--|---|------------------|---|
| <b>Criterion-9: Industrial Linkage and Community Service</b> |   |                  |   |
| i.   | Industrial Advisory Board/Committee has been put in place for the engineering programme and meetings are held as expected. (Documentary evidences of meetings held are required).   |                  |   |
| ii.  | Arrangement has been put in place to get feedback from Industry and it is analysed to determine the extent of attainment of PEOs (See provided Template in Annex O, COREN Accreditation Manual).  |                  |   |
| iii.   | There are opportunities for students to acquire industrial experience during long vacations and the office of industrial coordinator for engineering programmes is functional.  |                  |   |
| iv.  | There is provision for some design projects given to engineering students to be sponsored and jointly supervised by Industry Professionals and lecturers.   |                  |   |
| v.   | Members of Staff are expected to have contributed to the development of their immediate community and the nation through community service projects within the University, public lectures, etc. (A minimum of 2 developmental projects or community service work and public lectures per year for two session will be required). |                  |   |
| vi.  | Members of staff are encouraged to attend Fora for Professional Practice/Exposure (Seminars, conferences, Engineering assembly, workshops, industrial visits, etc.)   |                  |   |
| S/N  | Criteria  | Compliance Level | Observations and Remarks For Non-Compliance |
| <b>Criterion-10: Institutional Support and Funding</b>       |   |                  |   |

|     |  |  |  |
|-----|--|--|--|
| i   | There are adequate institutional financial resources made available for meeting recurrent expenditure and developmental projects for the sustainability of the degree programme. |  |  |
| ii  | There is evidence of financial commitment by the institution or donor agencies for recurrent /developmental project since last accreditation visit.                              |  |  |
| iii | There is provision for funding R&D activities, attendance of conferences, and publication in learned journals.   |  |  |
| iv  | Retention of staff is encouraged to avoid high turnover.   |  |  |

**RECOMMENDATION BY THE ACCREDITATION TEAM**

<Name of institution> has applied for accreditation for its <Name of Engineering Programme> under the new OBE Accreditation system. Based on the OBE system of accreditation, the programme was evaluated for its compliance to the ten (10) accreditation criteria. Some deficiencies/weaknesses/concerns/opportunity for improvement (*delete whichever is not applicable*) primarily related to the compliance of << List of Criteria >> were found.

As a result, the team recommends to EAC that the programme may be granted {full accreditation for a period of <\_\_\_\_\_> years} {interim accreditation for a period of < \_\_\_\_\_> years. {*Delete whichever is not applicable*}

Signatures:

\_\_\_\_\_

<Name of Programme Evaluator>

Expert in <Name of Engineering Programme >

\_\_\_\_\_

<Name of Programme Evaluator>

Expert in <Name of Engineering Programme >

\_\_\_\_\_

<Name of Team Leader>

Expert in <Name of Engineering Programme >

\_\_\_\_\_

<Name of COREN staff>

Rank of COREN staff

Date: \_\_\_\_\_

# TEMPLATE

**Engineering Accreditation Committee**

**(Accreditation/Re-accreditation)**

**Programme Evaluator Report Template**

**<Name of Institution>**

**<Name of the Programme>**

**<Type of Accreditation Visit>**

**<Date>**

## 1. OVERVIEW

The visitation team appointed by Engineering Accreditation Committee of Council for the Regulation of Engineering in Nigeria (COREN) conducted a three-day accreditation visit to **<Name of Institution >**, to evaluate the Undergraduate **<Name of engineering programme>** programme from **< starting date>** to **<ending date>**. A **pre-accreditation visit** meeting was held on **<date>** to exchange findings of the Programme Evaluation with the programme members/leadership based on the review of Self-Study Report (SSR) of the programme submitted by the institution and previous evaluation report of the last accreditation visitation team. During the pre-accreditation visit meeting, a list of queries was consolidated to seek further clarification and understanding on the programme. Also based on the study of SSR, **<some aspects related specifically to OBE and CQI implementations were identified as requiring detailed study of the related documents for evidences>**. Subsequently, specific documents/evidences to be examined during the visit were also indicated. Based on these discussions, the schedule of activities for the conduct of second-day visit was slightly modified and communicated to **<name>**, the focal person appointed by the Institution for the conduct of the accreditation.

The accreditation team met with **<head of the institution>**. Briefing on the institution and the programme was given by the **<name>**. The programme evaluators also visited several facilities for the programme, such as **classrooms, conference room, laboratories, library, auditorium, offices and various sports facilities**. Apart from comprehensive review of documents and evidences pertaining to various accreditation criteria, the team also held meetings and interviews with stakeholders such as students, staff members, and alumni.

The following are highlights of the findings by the Programme Evaluation Team, based on detailed visit of the facilities and thorough review of the documents/evidences about the programme:

- (a) The depth and breadth required in the curriculum is available as far as the contents and its delivery is concerned. Evaluation of students' academic performances is also at an adequate level but the assessment methodologies for POs attainments are limited in nature and scope. A couple of concerns / weaknesses related to the exposure of students to laboratory work and for the inclusion of course and staff strength related to **<areas of specialization of the degree Programme >** have been identified.
- (b) Quality Management System is in place and is centrally administered by **< Name of the Institution>**.
- (c) Procedures and policies for implementing CQI at course and curriculum levels are in place and being practiced. However, there are weaknesses in defining and implementing CQI at programme level.
- (d) The programme has recently started its shift towards OBE, and is in process of defining and refining various aspects related to OBE design and its implementation. Hence, a number of weaknesses have been found in various aspects of implementing Outcome-Based Education (OBE).

Overall, the Programme Evaluation team found no deficiency as far as compliance to all ten accreditation criteria is concerned. However, there are a number of deficiencies and (or) weaknesses related primarily to non/partial compliance with a number of main criteria, these are

more pronounced specifically in Criterion-1: Programme Educational Objectives (PEOs), Criterion-2: Programme Outcomes (POs) and Criterion-6: Continuous Quality Improvement (CQI).

## 2. GENERAL INFORMATION

<Institution > was established in <year>. The main function of the institution is to produce graduate <field of engineering, such as Mechanical, Civil, etc> Engineers for both local and international employments. <Brief history of the Institution>.

<Name of programme> has a long history of accreditation by COREN and has so far graduated <number of graduates> Engineers. The last accreditation visit was conducted by COREN in <date>, and the programme was subsequently re-accredited for <number> years.

The programme is offered as a full-time programme with students admitted through the Joint Admission and Matriculation Board (JAMB) and is in compliance with the minimum admission requirements at UTME and Direct Entry in accordance with COREN BMAS and NUC guidelines.

A summary of total application and enrolment of students for the Programme is given below:

| Session                                 | Applicants |              |       | Total Student Admitted |              |       |
|---|------------|--------------|-------|------------------------|--------------|-------|
|   | UTME       | Direct Entry | Total | UTME                   | Direct Entry | Total |
| First session after last accreditation  | 326        | 77           | 403   | 145                    | 17           | 162   |
| Second session after last accreditation | 942        | 102          | 1044  | 160                    | 19           | 179   |
| Third session after last accreditation  | 875        | 87           | 962   | 139                    | 14           | 153   |
| Fourth session after last accreditation | 491        | 85           | 576   | 151                    | 14           | 165   |

Note: Student Data as per Table --- on Page --- of SSR.

|                             | Permanent Academic staff |        |               | Visiting Academic staff |       |
|-----------------------------|--------------------------|--------|---------------|-------------------------|-------|
|                             | Ph.D                     | M.Eng. | B Eng/B. Tech | Ph.D                    | M.Eng |
| Core Engineering Subjects   |                          |        |               |                         |       |
| Shared Engineering Subjects |                          |        |               |                         |       |

Note: Academic staff List as per Tables --- on Page --- of SSR

The department has been increasing its student intake for the past 3-4 years with (out) it affecting the staff: student ratio of 1:15.

### **Computation of Staff: Student Ratio:**

1) Considering Present Student Strength:

Present Student Strength = A



Engineering Academic staff: **B**

Staff: Student Ratio = A/B = 1: -----

(as per guidelines of Sec 3.2.5.2 of COREN Accreditation Manual, 2019)

For the purpose of determining the student/staff ratio, only the population of students from 200 - 500 Levels in that programme should be used to determine the ratio.

### **3. GENERAL OBSERVATIONS**

#### ***Criterion-1: Programme Educational Objectives (PEOs)***

<Institution > has well-defined vision and mission statements. <Institution > has also defined a mission statement for its <Name of Programme > programme. In addition, the department has articulated PEOs for its <Name of Programme > programme, which has been publicized to some extent within the department through posters and postings on department notice-boards. However, the statements of these PEOs are more like restatements of Programme Outcomes (POs), indicating a general lack of understanding in the meaning of PEOs and COREN's requirements in this regard. Thus, there is a need to revise these PEOs appropriately, in consistency with the programme mission, so that they should reflect the targeted professional and career accomplishments of the programme graduates after 4 to 5 years of graduation.

The process of formulating PEOs should involve both internal as well as external stakeholders, and should incorporate their formal feedback. There is little evidence of all stakeholders' involvement in defining PEOs. It is recommended that all the stakeholders should be involved in developing PEOs.

As for the formal process for assessing and evaluating the attainment of PEOs, at present there is no well-defined process and support administrative setup for the <Name of Programme > programme. The visitation team was informed that the Alumni and Employer Surveys currently being conducted by the <institution> are used to measure PEOs attainment. However, the format of these Survey Forms is quite generic and not programme specific, so these cannot provide useful information about the attainment of PEOs in an objective manner. Key-Performance Indicators (KPIs) for the assessment and evaluation of PEOs are also yet to be defined. <Institution> needs to rationally define KPIs and also develop Questionnaire / Survey Forms to objectively assess these specific performance indicators.

<Institution> has only recently started the shift towards OBE and has made some reasonable efforts in this regard. However, in the evaluation of Criterion-1 being one of the prime focuses of OBE, the team has found a number of weaknesses in compliance to this criterion.

#### ***Criterion-2: Programme Outcomes (POs)***

<Institution> has adopted all the 12 graduate attributes outlined in COREN's Accreditation Manual as the Programme Outcomes for its <-----> Engineering programme. The POs have been locally publicized within the department through posters and notice-boards. However, they

need to be well publicized, e.g. through <Institution> website, prospectus, etc. The mapping of these POs to PEOs has also been carried out reasonably.

POs mapping on curriculum courses has been carried out. However, there are weaknesses in these courses <---> POs mappings in terms of POs contributions of courses and the extent of coverage for higher taxonomy levels in some POs, which call for a critical review of these assignments.

As for a formal process of assessment and evaluation of POs being in place, there are evidences that parts of it are being practiced. However, it does not provide comprehensive coverage of all facets of OBE. In particular, although KPIs are defined for cohort level attainment of CLOs and POs, there is lack of clarity about KPIs used for assessing attainment of POs for individual student at course level as well as at programme level. The assessment of POs attainment for the course is neither yet covered nor was the departmental staff/management has good understanding about the policy and the process. The use of Rubrics for the assessment of complex outcomes which are not easily quantifiable, e.g. communication skills, teamwork, lifelong learning, etc. is not well understood by the staff and calls for more rounds of training. Similarly, more clarity is needed in the design and use of indirect tools for assessment of POs - <

As the evaluation of Criterion-2 is a major focus of outcomes-based education system, the evaluation team has determined that the programme has a number of weaknesses in demonstrating compliance to this criterion.

### **Criterion-3: Course Learning Outcomes (CLOs)**

The <Programme > has well-defined Course Learning Outcomes for all courses offered. The CLOs have been locally publicized within the department through posters and notice-boards. However, they need to be well publicized, e.g. through <Institution> website, prospectus, etc. The mapping of these CLOs to POs has also been carried out reasonably.

A closer look at the CLOs defined for various courses shows inconsistency in the use of appropriate action verbs commensurate with the targeted Bloom's taxonomy levels. Therefore, the programme couldn't prove beyond reasonable doubt that each student has achieved all POs to acceptable level through assessment of CLOs. The appropriateness of the assessment methods along with the level of achievement against the targeted outcomes was not properly evaluated.

Similarly, more clarity is needed in the design and use of indirect tools for assessment of CLOs. Course instructors were asked to write out CLOs for their respective courses and also suggest the mapping of these CLOs to the appropriate POs. These mappings were discussed in the Departmental meeting and then finalized. However, the staff members interviewed during the accreditation visit were found not being well acquainted with OBE concepts, especially in terms of defining CLOs with appropriate taxonomy levels, the range of direct-vs-indirect assessment tools appropriate for their courses, use of Rubrics and the assessment methodologies for Psychomotor and Affective domains, and defining/formulating a complex problem in light of COREN Accreditation manual, 2019 guidelines. Staff members still require more training in the implementation of OBE system. There is a need to put together an effective and comprehensive mechanism to assess the attainment of the CLOs and the POs using formative/ summative

approaches. The process of evaluation to determine the attainment of CLOs through quality of assessment mechanism for achievement level of each CLO by every student is not properly shown. Thus, the mechanism for further refining and redefining the CLOs is seriously lacking.

#### ***Criterion-4: Curriculum and Learning Process***

<Institution> being one of the oldest <----> Engineering Programmes in the country has well developed --- Engineering Curriculum. The curriculum is bench marked with COREN BMAS and NUC curriculum guideline, and is found to be at or above the approved minimum standard for ---- Engineering programme at <Institution>. About ---- % of courses are related to allied subjects, while about ---- % are related to core field (---- engineering). However, visitation team suggests that the courses of <----> should be made part of compulsory curriculum, or it should be offered on regular basis. Similarly, important topics like <---> should be made a part of a compulsory subject, rather than that of an elective course.

CLOs for each subject have been formulated and mapped with the POs. Mechanism of CLO & PO accomplishment for individual student, and for cohort need to be further improved. Complex engineering problems are being defined by individual faculty member for his/her relevant subject, however, understanding of complex engineering problem and complex activity need to be further strengthened in light of guidelines provided in COREN's manual of accreditation. Use of rubrics for the assessment is quite limited, and that too needs improvement. Specifically, rubrics for the assessment of final year projects though have been drafted but have some basic flaws that need to be rectified.

As for the availability of laboratories is concerned, sufficient numbers of spacious laboratories are present covering all branches of <----> Engineering, including <---->, <---->, <---->, and <---->. Need for up-gradation / modernization of laboratory equipment was highlighted in the previous visit report, and has yet to be completely met. There is a need to modernize all the laboratories by adding new equipment and replacing the out of order/outdated/obsolete ones.

One of the prominent features of laboratory facilities is the Display Centre housing samples of various <----> engineering materials. It has plumbing fixtures, steel reinforcement (in caged form), various types of timber (wood), glass, artificial wood (MDF, ply boards, laminations), ceramic tiles, marble tiles, bathrooms fittings, doors, windows, etc. Visit of this display centre provides first-hand knowledge to young engineers with the properties and characteristic of various building materials to be encountered in the field.

The team has observed no deficiency in the curriculum; however, there are a few minor weaknesses and a few concerns which need to be addressed. In addition, observations have been made for further improvement of the programme.

#### ***Criterion-5: Students***

Student admission has been in line with the basic criteria laid down by COREN and NUC (i.e. Students admitted through UMTE obtained Five (5) credits at 'O' Level in not more than two sittings, which must include English Language, Mathematics, Physics and Chemistry and any other

science subject) and must have scored a minimum score or above at the UTME examination. For direct entry, Students with National Diploma (ND) or Higher National Diploma (HND) are admitted to 200 and 300 levels respectively after they have met the minimum admission requirements.

However, the programme intake has been increasing over the past few years, with the latest enrolment comprising of <----> students, resulting in staff: student ratio exceeding the maximum limit set by COREN. This has resulted into larger class sizes and laboratory group of up -to 10 students per group. Proportionate increase in the number of work stations in the laboratories has not been made.

Interaction with the students showed that they are generally satisfied with the facilities and the availability of instructors for off-class guidance. The team has observed a reasonable degree of compliance to this criterion; however, there are few minor weaknesses which need to be addressed.

#### **Criterion-6: Continuous Quality Improvement**

Department has made visible efforts to address the concerns / weaknesses raised during the last accreditation visit, as a result of which there are noticeable improvements in certain areas identified as weaknesses / concerns in the previous visit report. However, not much has been done to address the weaknesses found in terms of the number of workstations in the labs and the number of Laboratory staff engaged to supervise these laboratories.

Academic staff in the Department has been further strengthened by the induction of qualified PhD staff; but at the same time the continuous increase in student intake over the past few years has led to a quite high value of staff: student ratio, i.e. more than the maximum set by COREN accreditation Manual-2019 <----> suggesting that the increase in departmental academic staff has not been proportionate to the increase in student intake.

As far as the academics staff qualifications and number of publications by staff members since last accreditation visit, there has been substantial increase in the number of staff publications and the number of PhD academic staff has also increased; there is also a significant increase in the number of industrial projects / consultancies undertaken by the departmental staff members.

The department must take immediate actions to remove the pending weakness identified / raised during the last accreditation visit, and also in the refinement of its formal processes and their implementation for ensuring closure of the CQI loop.

The visitation team has found a few weaknesses in compliance to this particular criterion.

#### **Criterion-7: Staffing**

Departmental academic staff members are well qualified covering all the major areas of the curriculum. Most of them have expertise in various areas of specializations within <----> Engineering being offered at the department; however, PhD academic staff in the area of <----> should also be inducted to provide adequate coverage to this important area of <---->

Engineering as well. A concern was raised in the last visit report about the shortage of laboratory technologists, which persists to date. The number of laboratory technologists does not match with Technical/Academic Staff minimum ratio of 1:3 and the number of laboratories in the department which is a serious weakness as per COREN guidelines, i.e. each laboratory being supervised by a laboratory Technologist and having adequate supporting technical staff. Though each laboratory has its dedicated support staff but even to date each laboratory does not have a laboratory technologist supervising the laboratory. This lingering issue must be addressed at priority and compliance to this must be reported to EAC within 3-months.

Academic staff retention is also an area of concern. Since last visit of EAC, more than <----> academic staff members have left the <Name of Programme & Institution >, although new academic staff members have been inducted to replace them. This is primarily attributed to the fact that most of the academic staff members are contract staff without pension. However, for the consistency and continuation of programme policies, a certain percentage of academic staff should be ensured on permanent basis in the department.

Due to continuous increase in the induction of students during the last 3-4 years, staff: student ratio has increased from its value of <----> during the last visit in <Year > to <----> at present. It is further going to deteriorate if last-year intake of around <----> students is allowed for future intakes too. As such the number of academic staff members relative to the total student population is of serious concern with the future expected intakes.

<Institution> has well laid down policies for the training of newly inducted academic staff members. In addition, newly inducted academic staff members are also guided / trained through on job mentoring by senior colleagues. Seminars on OBE trainings have been conducted and administration has planned more training sessions in the near future. The team has found the programme to be generally in compliance to this criterion, except for the weakness in terms of staff: student ratio, which would become severe if increased student intake in allowed to continue without first inducting more qualified academic staff, to bring this ratio consistent with EAC "s requirements.

### ***Criterion-8: Physical Facilities and Infrastructure***

Laboratory facilities are available in sufficient numbers. <----> Laboratories may be included in future plans. Concern about old equipment needs to be addressed by the administration on priority.

With the gradual increase in student intake, the library space and library resources should also be enhanced proportionately. Sufficient number of computer facility with internet service is available on campus. Allied facilities such as sports grounds, swimming pool, cafeteria, medical, etc. are kept in good condition, and are being utilized efficiently.

Student's counselling for job hunting is not provided through events like job fairs and open houses. There are ample opportunities for extracurricular activities, which are organized quite regularly. During the visit of EAC team had the opportunity to see the students and staff of <Institution> participating in "Annual Vice Chancellor Cup Competition", which was organized among staff and students within and around the campus.

The team has found the programme to be in full compliance to this criterion with few concerns.

### ***Criterion-9: Industrial Linkage and Community Services***

The involvement of industry in curriculum development though there but can only be termed as being minimal. This is because there is no formal mechanism in place for receiving inputs from practicing engineers and local industry in the curriculum development. However, the department has in place a formal mechanism for seeking feedback from the employers in Industry for the assessment of attainment level of PEOs. The questionnaire being used to seek feedback is though not very appropriate for comprehensive evaluation of the attainment of PEOs and needs to be revised.

There is a need for a separate office with adequate staff for establishing liaison with the industry in order to create opportunities for the students to acquire industrial experience via SIWES and SWEP and design projects / ideas addressing the local industry needs / problems. There are no Practicing -Engineers working in the industry who are supervising any student groups in their Final-Year projects. In addition, there is no departmental academic staff member with industrial experience playing any important role in establishing such industry linkages.

The department must take immediate actions to remove the weaknesses /concerns raised in compliance to this criterion through formal involvement of industry in the curriculum review process.

The visitation team did find deficiency or weakness in compliance to this particular criterion; which are raised in this regard.

### ***Criterion-10: Institutional Support and Funding***

<Institution> being a public sector institute has been supported by Government through <----> and <---->, in addition to fee from self-sponsored students. Financial commitments from these sources should be clearly segregated and spelled out.

Self-generated (e.g. through testing/consultancy services) financial resources are limited. Need is there to enhance this financial resource as well.

Laboratories modernization is pending for quite some time, despite concerns raised by the last accreditation visitation team. Development allocations from <Institution> must be enhanced, specifically to cater for the requirements of acquiring additional laboratory equipment in the wake of increased student intake over past few years.

Although student intake has been increasing over past 3-4 years, the recurring budget has been reduced, e.g. from <----> for <Session> to <----> <Session>.

Budget for R&D pursuits and presentations/publication is quite minimal, i.e. <Amount> for <Session> and <Amount> for <Session>, and only <Amount> for <Session> spent to date. R&D allocation must also be enhanced. These concerns identified by the visitation team should be addressed on priority.

#### 4. PROGRAMME EVALUATION FORM

The observations of the COREN Evaluation team while evaluating the B Eng./B.Tech. <----> Engineering programme of <Institution> for compliance to various accreditation criteria are attached as “Programme Evaluation Report Form”.

#### 5. RECOMMENDATIONS BY PROGRAMME EVALUATION TEAM

The institute had applied for accreditation under the COREN Accreditation Manual, i.e. as an institution practicing Outcome-Based Education system. Based on the OBA system of accreditation, the team evaluated the programme of <----> Engineering for its compliance to the Ten (10) accreditation criteria and found a number of deficiencies/ weaknesses primarily related to the compliance of **Criteria-1: Programme Educational Objectives (PEOs), Criterion-2: Programme Outcomes (POs) and Criterion-8: Continuous Quality Improvement (CQI)**.

As a result, the team recommends to EAC that the programme **may be awarded <----> Accreditation status for a period of two (2) years, i.e. For < Session---- & ----->.**

In addition, the programme resources were also evaluated for the possible increase in take requested by the institute. Based on the prevailing state of programme resources, especially the academic staff strength, the laboratory equipment and staff, and other allied facilities, **the programme should not be allowed to increase its intake beyond <-----> students per year and that too if additional academic staff is immediately hired to bring the staff : student ratio below the limit set by EAC.**

Keeping in view that the programme has already been gradually increasing its intake over the past 3-4 years without seeking COREN’s approval, it is strongly suggested that EAC should ensure that the department **MUST** take immediate actions to address the concern and limit its annual intake as would be prescribed the COREN.

#### ACKNOWLEDGEMENT

The COREN Accreditation visitation team would like to thank the entire staff of <Institution> in general, and the <head of Programme >, the Dean <----> and the focal person <----> in particular, for their hospitality and cooperation for a smooth conduct of evaluation.



## Engineering Accreditation Committee

### University Feedback regarding Accreditation Visitation Team

The following four criteria should be considered for evaluation of the evaluators on a scale of 1 to 5, how would you evaluate the evaluation process by the visitation team?

1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree

|  | 1                        | 2                        | 3                        | 4                        | 5                        |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Only necessary documents were requested.                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. The documents and data were given due time for evaluation.                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. The evaluation team was well versed and professional.                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. The queries raised by the team were specific to job being evaluated.      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. The evaluation team managed its time judiciously.                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. The evaluation team trusted what was presented to them.                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. The team was responsive.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. The team provided adequate time for answering queries.                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. The people being evaluated were given due respect by the evaluation team. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Integrity of individual was respected.                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. The organizational system and people were not criticized.                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. The evaluation was in a friendly and professional manner.                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |





## Engineering Accreditation Committee

### Peer Evaluation Form of Evaluator

Write the name of each of your group members in a separate column. For each person, indicate the extent to which you agree with the statement on the left, using a scale of 1-4 (1=strongly disagree; 2=disagree; 3=agree; 4=strongly agree).

| Evaluation Criteria                                    | Team Member:             |                          |                          |                          | Team Member:             |                          |                          |                          | Team Member:             |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|  | 1                        | 2                        | 3                        | 4                        | 1                        | 2                        | 3                        | 4                        | 1                        | 2                        | 3                        | 4                        |
| 1. Well-versed with COREN Accreditation manual.        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Maintained aplomb and decorum of the visit.         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Completed in depth preparation of SSR.              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Attended evaluation Team's meetings regularly.      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Contributed meaningfully to group discussions.      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Completed assigned tasks in time.                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Prepared his part of work in a befitting manner.    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Demonstrated a cooperative and supportive attitude. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| Evaluation Criteria   | Team Member:             |                          |                          |                          |                          | Team Member:             |                          |                          |                          |                          | Team Member:             |                          |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|   | 1                        | 2                        | 3                        | 4                        |                          | 1                        | 2                        | 3                        | 4                        |                          | 1                        | 2                        | 3                        | 4                        |                          |
| 9. Contributed significantly to the success of the evaluation.        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Met with the host institution's management in a courteous manner. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Focused only on relevant questions and documents.                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Submitted his part of report in time.                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Demanded additional favors from host institution.                 | Yes                      |                          | No                       |                          |                          | Yes                      |                          | No                       |                          |                          | Yes                      |                          | No                       |                          |                          |



## Evaluation Form of COREN Staff by Institution and Evaluators

Write the name of the COREN Staff/ Representative(s) and indicate the extent to which you agree with the statement on the left, using a scale of 1-4

(1=strongly disagree; 2=disagree; 3=agree; 4=strongly agree).

| Evaluation Criteria                                    | COREN Staff:             |                          |                          |                          | COREN Staff:             |                          |                          |                          | COREN Staff:             |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|  | 1                        | 2                        | 3                        | 4                        | 1                        | 2                        | 3                        | 4                        | 1                        | 2                        | 3                        | 4                        |
| 1. Well-versed with COREN Accreditation manual.        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Maintained aplomb and decorum of the visit.         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Completed in depth preparation of SSR.              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Attended evaluation Team's meetings regularly.      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Contributed meaningfully to group discussions.      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Completed assigned tasks in time.                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Prepared his part of work in a befitting manner.    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Demonstrated a cooperative and supportive attitude. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| Evaluation Criteria   | COREN Staff:             |                          |                          |                          | COREN Staff:             |                          |                          |                          | COREN Staff:             |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|   | 1                        | 2                        | 3                        | 4                        | 1                        | 2                        | 3                        | 4                        | 1                        | 2                        | 3                        | 4                        |
| 9. Contributed significantly to the success of the evaluation.        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Met with the host institution's management in a courteous manner. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Focused only on relevant questions and documents.                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Submitted his part of report in time.                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Demanded additional favors from host institution.                 | Yes                      |                          | No                       |                          | Yes                      |                          | No                       |                          | Yes                      |                          | No                       |                          |



## ENGINEERING ACCREDITATION COMMITTEE CONFLICT OF INTEREST FORM

I,.....  
*(Name of Programme Evaluator or Team Leader)*

declare with respect to the accreditation visit scheduled for .....*(Date)*  
to.....  
*(Name of Higher Educational Institution)*, that:

- I am not a present or former academic or non-academic member of staff of the institution;
- I have not applied to the institution for employment in the past;
- I am not a present or past member of any Committee involved with the institution;
- I have no current or past involvement in any for-profit activity in the institution;
- My spouse is not studying or working in any capacity at the institution;
- I am not a current or former student of the institution;
- No child or close relative of mine is a present or past student or employee of the institution.
- There is no conflict of interest whatsoever that should hinder me from accepting to serve as a Programme Evaluator or Team Leader in the accreditation team visiting this institution.

Signature:.....

Date:.....