

**MUTUAL RECOGNITION AGREEMENT**

**BETWEEN**

**COMPETENT AUTHORITIES**

**OF**

**ENGINEERING PROFESSIONS**

**IN THE EAST AFRICAN COMMUNITY**



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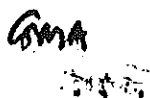


**MUTUAL RECOGNITION AGREEMENT FOR PROFESSIONAL QUALIFICATIONS**

**ARRANGEMENT OF ARTICLES**

**PREAMBLE**

<b>ARTICLE</b>	<b>TITLE</b>
ARTICLE 1.0	PARTIES
ARTICLE 2.0	PURPOSE
ARTICLE 3.0	SCOPE OF AGREEMENT
ARTICLE 4.0	INTERPRETATION
ARTICLE 5.0	OBJECTIVES
ARTICLE 6.0	INSTITUTIONS
ARTICLE 7.0	ELIGIBILITY, QUALIFICATIONS, AND RECOGNITION
ARTICLE 8.0	SCOPE OF PRACTICE
ARTICLE 9.0	AMENDMENTS
ARTICLE 10	DISPUTE SETTLEMENT
ARTICLE 11	FINAL PROVISIONS



## PREAMBLE

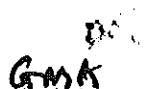
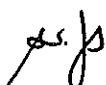
**PURSUANT TO THE PROVISIONS OF ARTICLE 10, ARTICLE 11.1a, ARTICLE 13 AND ARTICLE 16 OF THE PROTOCOL ON THE ESTABLISHMENT OF THE EAST AFRICAN COMMUNITY COMMON MARKET, AND ANNEX II AND V OF THE SAID PROTOCOL THIS AGREEMENT HEREBY SET FORTH AS HEREUNDER:**

WHEREAS the Republic of Burundi, the Republic of Kenya, the Republic of Rwanda, the United Republic of Tanzania and the Republic of Uganda (hereinafter referred to as “the Partner States”) are Parties to the Protocol on the establishment of the East African Community Common Market (hereinafter referred to as “the Protocol”);

AND WHEREAS by the provisions of Articles 10 and 16 and Annex II and V of the Protocol, the Partner States undertook specific commitments to liberalize professional engineering services;

AND WHEREAS the Competent Authorities of the Republic of Kenya, the United Republic of Tanzania and Republic of Uganda have carried out conformity assessments of their engineering professions and are satisfied that they meet satisfactory levels of equivalence;

AND WHEREAS the Competent Authorities of the Republic of Burundi and Republic of Rwanda on the one hand; and the Competent Authorities of Republic of Kenya, United Republic of Tanzania and the Republic of Uganda on the other have not carried out conformity assessments of their engineering professions;



**MINDFUL** of the difference in the education, training, examination, experience requirements, the required body of knowledge, standards of professional practice, accreditation, certification and licensing requirements in the Engineering Professions in the Republic of Burundi and Republic of Rwanda; and those of Republic of Kenya, the United Republic of Tanzania and Republic of Uganda;

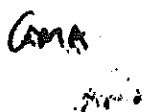
**MINDFUL** of the importance of carrying out conformity assessment in the recognition of academic and professional qualifications in a mutual recognition agreement;

**RECOGNISING** the objectives of the Protocol and the provisions of Part D and F of the Protocol on Free Movement of Persons and Labour, and Free Movement of Services;

**NOTING** that under Article 10 of the Protocol on the Free Movement of Workers, Partner States agree to guarantee the Free Movement of Workers;

**NOTING** that under Article 11 of the Protocol on Harmonization and Mutual Recognition of Academic and Professional Qualifications, Partner States undertake to mutually recognize the academic and professional qualifications granted, experience obtained, requirements met, licenses or certifications granted in other Partner States;

**NOTING** that under Article 13 and annex III of the Protocol on the Right of Establishment, Partner States undertake to mutually recognize the relevant experience obtained, requirements met, licenses and certifications granted to a company, firm or individual in other Partner States;



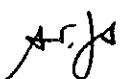
**NOTING** that under Article 16 of the Protocol on the Free Movement of Services, free movement of services shall cover the supply of services from the territory of a Partner State into the territory of another Partner State; in the territory of a Partner State to service consumers in that Partner State; by a service supplier of a Partner State, through commercial presence of the service supplier in the territory of another Partner State; and by the presence of a service supplier who is a national of a Partner State in the territory of another Partner State;

**NOTING** that the annex on Mutual Recognition of Academic and Professional Qualifications provide for negotiation of Mutual Recognition Agreements, hereinafter referred to as “MRAs” or singularly as “MRA” to facilitate free movement of professional engineering services, works and service providers in the East African Community (EAC);

**DESIRING** to enhance cooperation in professional engineering services amongst the EAC Partner States in order to improve the efficiency and competitiveness, diversify production capacity and supply and distribution of services and their service suppliers within the Partner States;

**RECOGNISING** the participation of the Republic of Burundi and Republic of Rwanda in the negotiation and entering into this Agreement;

**THE** Republic of Burundi and Republic of Rwanda are as yet, not parties to this Agreement until conformity assessment is carried out between the Competent Authorities of the Republic of Burundi and Republic of Rwanda on the one hand and that of the Republic of Kenya, the United Republic of Tanzania and Republic of Uganda on the other; national stakeholder workshops are held and the necessary legal and institutional framework for the engineering professions are established.



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**HAVE AGREED** to enter into this Mutual Recognition Agreement on professional engineering qualifications, hereinafter referred to as “the Agreement”:

## **ARTICLE 1.0**

### **PARTIES**

The Parties to this Agreement are the Competent Authorities of The Republic of Kenya, United Republic of Tanzania and the Republic of Uganda named as hereunder;

- i) Engineers Board of Kenya
- ii) Engineers Registration Board of the United Republic of Tanzania and
- iii) Engineers Registration Board of the Republic of Uganda.

## **ARTICLE 2.0**

### **PURPOSE**

The purpose of this Agreement is to establish the conditions under which an engineer in a Partner State may have his or her qualifications recognized and be eligible to practice in another Partner State that is a Party to this Agreement pursuant to the provisions of the Protocol and its Annexes.

## **ARTICLE 3.0**

### **SCOPE OF AGREEMENT**

This Agreement shall apply to professional engineering qualifications and service suppliers in accordance with commitments made by Partner States in the Protocol.

## **ARTICLE 4.0**

### **INTERPRETATION**

4.1. In this Agreement:

“*Accreditation*” refers to accreditation of structured graduate engineering programs in a Partner State and includes quality assurance.



*“Assessment or Evaluation”* refers to particular processes for reporting or comparison of achievement against criteria, standards, or a benchmark;

*“Benchmark”* refers to an agreed level by which others can be measured;

*“Certification”* refers to the issuance of a certificate or licence to those who have met specified requirements for practice;

*“Code of ethics”* refers to the sets of standards for engineer’s obligations to the public, their clients, employers and the profession encompassing right conduct, in a Partner State;

*“Consulting engineer”* refers to an engineer registered as such in a Partner State;

*“Consulting engineering services”* includes consultancy and advisory services relating to independent professional engineering works, services or goods and selling or supplying for gain or reward any plan, sketch, drawing, design, specification or other documents relating to any professional engineering work, service or good with a liability to be sued;

*“Competent Authority”* refers to the professional regulatory authority in charge of regulating the practice of engineering in a Partner State;

Partner States may have different nomenclatures for this term.

*“Country of Origin”* refers to the Partner State where an engineer has an existing license or registration to practice engineering;



*“Criteria or Standards”* refers to a specification of qualities required to be met;

*“Engineer”* (also known as a Practitioner) refers to a natural person who holds the nationality of a Partner State registered under the law of a Partner State as an engineer or consulting engineer and holds a valid and current registration or license issued by a Competent Authority and is assessed by a Competent Authority of any Partner State as being technically, morally and legally qualified to undertake independent professional engineering practice;

Partner States may have different nomenclatures and requirements for this term.

*“Engineering”* refers to the creative application of scientific principles to design or develop structures, machines, apparatus or manufacturing processes or works utilizing them singly or in combination or to construct or operate the same with full cognizance of their design or to forecast their behavior under specific operating conditions or aspects of intended functions, economics of operation and safety to life and property;

*“Engineering Organization”* refers to an organization whose functions involve the planning, designing, processing and the delivery of engineering products and services in a Partner State;

*“Engineering Consulting Firm”* refers to an engineering consulting firm registered under the respective laws of a Partner State that offers consultancy and advisory services relating to independent professional engineering works, services or goods and selling or supplying for gain or reward any plan, sketch, drawing, design, specification or other documents relating to any professional engineering work, service or good with a liability to be sued;

*“General Agreement on Trade in Services (GATS)”* refers to the General Agreement on Trade in Services of The World Trade Organization;

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*“Graduate Engineer”* refers to a natural person who is a national of a Partner State and has satisfactorily completed an accredited under graduate engineering program or equivalent from a tertiary institution undergoing internship;

*“Host Country”* refers to the Partner State where the engineer applies to practice engineering;


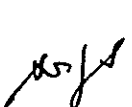
*“Internship”* refers to training done after obtaining recognized academic qualification and carried out under supervision of a registered and or licensed practicing engineer;

*“License”* where applicable refers to a valid and current practicing license issued by a Competent Authority in a Partner State;

*“Partner States”* refers to the Republic of Burundi, the Republic of Kenya, the Republic of Rwanda, the United Republic of Tanzania, the Republic of Uganda and any other country granted membership to the Community under Article 3 of the Treaty;

*“Professional Association”* refers to any professional membership association of engineers recognized by the Competent Authority in a Partner State;

*“Professional Engineering Services”* refers to engineering services and advice in connection with any feasibility study, planning, survey, design, sketch, drawing, specifications, construction, commissioning, operation, maintenance, supply of specialized engineering equipment, management of engineering works or projects and training of core engineering subjects and includes any other engineering services approved by the Competent Authority of the Partner State;



*“Professional Engineering Works”* includes professional service, consultation, investigation, evaluation, planning, designing or responsibility for supervision of construction or operation and maintenance in connection with any public or privately owned public utilities, building, machines equipment, processes works or projects that require application of engineering principles and data;

*“Protocol”* refers to the Protocol on the establishment of the East African Community Common Market;

*“Register”* refers to the Register of registered engineers and engineering consulting firms kept by the Competent Authority in a Partner State according to the law of that Partner State;

*“Registrar”* refers to the Registrar of the Competent Authority in a Partner State;

*“Recognition”* refers to acceptance by the Competent Authority in a Partner State of professional qualifications on demonstration of compliance with requirements and issuance of a registration certificate;

*“Registration”* refers to the process of placing on a Register and issuance of a registration certificate to those who meet the specified requirements within a Partner State;

4.2. In this Agreement, reference to a law or Protocol shall be construed as reference to the law or Protocol as from time to time amended, added to or repealed.

4.3. Words in singular shall include plural and vice versa.

## ARTICLE 5.0

### OBJECTIVES

The objectives of this Agreement are;

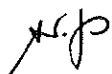
- 5.1. To facilitate mobility of engineers and professional engineering services to enable the realization of commitments made by Partner States for liberalization of trade in professional engineering services across the East African Community in accordance with the Protocol;
- 5.2. To encourage, facilitate and establish mutual recognition of engineers qualifications and set up standards of education and practice and commitment to professional development in the engineering profession in the EAC Partner States.
- 5.3. To facilitate the exchange of information in order to promote adoption of best practices on standards of engineering education, professional qualifications and professional practice and ethics.

## ARTICLE 6.0

### INSTITUTIONS

#### 6.1 Competent Authorities

- 6.1.1 Professional Regulatory Authority for engineers in each Partner State shall be the Competent Authority to undertake regulation, registration, licensing, certification, accreditation and assessment for the engineering profession in the Partner State.



## 6.2 Undertakings by Competent Authorities

Competent Authorities undertake to;

- 6.2.1. Advocate for the elimination of restrictions in their laws, regulations, practices and procedures to facilitate the implementation of the provisions of the Protocol and of this Agreement;
- 6.2.2. Assess individual applications for recognition from applicants from another Partner State;
- 6.2.3. Seek verification from the Competent Authority of the applicant's Country of Origin that the applicant is in good standing with the Competent Authority;
- 6.2.4. Provide such verification on a timely basis;
- 6.2.5. Register an applicant within 30 working days upon receipt of a complete, valid and acceptable application for registration meeting the criteria laid down in the national laws of the Partner State and in this Agreement.
- 6.2.6. Notify an applicant in writing within 30 working days from the date of receipt of the application, the acceptance or rejection of the application giving reasons in case of rejection.
- 6.2.7. Issue an applicant with a registration certificate in the event of acceptance.
- 6.2.8. Exchange information on a timely basis on continuous professional development programs.



### **6.3. Discipline**

- 6.3.1. The Competent Authority of a Host Country shall take appropriate disciplinary action against an engineer who violates its code of ethics or regulations of professional practice within its territory.
- 6.3.2. The Competent Authority that takes disciplinary action against an engineer shall within 7 days notify the Competent Authorities of the other Partner States of the action taken.
- 6.3.3. The Competent Authority notified of the disciplinary action taken against an engineer shall within 7 days of receipt of the notification take steps to enforce the disciplinary sanction.

### **6.4. Appeal**


- 6.4.1. A Competent Authority of the Host Country shall provide for the appeal of any disciplinary action in its procedures.

### **6.5 Review**

- 6.5.1. A Competent Authority of the Host Country shall provide for review of any cross border disciplinary action in its procedures.

### **6.6. Coordination Committee**

- 6.6.1. A Coordinating Committee to be known as The East African Community Engineers Competent Authorities Coordination Committee shall be established.
- 6.6.2. Membership of the committee shall comprise of Registrars of the Competent Authorities



of the engineering profession in the Partner States.

6.6.3. The Coordination Committee shall determine its own procedure including that for convening its meetings, for the conduct of business thereto and at other times, and for the rotation of the office of chairperson among its members.

6.6.4. A chairperson shall hold office for a period of one year.

6.6.5. The committee shall have the power, from time to time to co-opt any person as a member of the committee as it may deem necessary.

6.6.6. The functions of the Coordination Committee shall include;

- (a) Overseeing the implementation and administration of this Agreement.
- (b) Reviewing the implementation, administration and effectiveness of this Agreement and recommend action where necessary.
- (c) Carrying out peer reviews of the accreditation, certification and quality assurance of the training and practice of engineering in a Partner State.
- (d) Develop, monitor, maintain and promote mutually acceptable standards and criteria for facilitating the practice of engineering by engineers throughout the East African Community.
- (e) Seek to gain greater understanding of existing barriers to such practice and to develop and promote strategies to help Partner States and licensing authorities to reduce those barriers and manage their processes in an effective and non-discriminatory manner;
- (f) Identify and encourage the implementation of best practice for the preparation and

assessment of engineers intending to practice at the professional level: and

- (g) Continue mutual monitoring and information exchange by whatever means that are considered most appropriate, including but not limited to:
  - (i) regular communication and sharing of information concerning assessment procedures, criteria, systems, manuals, publications and lists of recognized practitioners;
  - (ii) informing all Competent Authorities when it has been notified that an engineer in a Partner State is no longer qualified to undertake independent professional engineering practice in the Country of Origin, or has not complied with the Continuing Professional Development (CPD) policy of the Country of Origin at a satisfactory level, or has seriously violated technical, professional or ethical standards either in the Country of Origin or the Host Country, whereby such violations have led to deregistration or suspension from practice or withdrawal from the register.

## **6.7. Professional Associations**

### **6.7.1. Membership in Professional Association.**

6.7.1.2. An applicant with membership in an association of engineers recognized by the Competent Authority in his or her Country of Origin shall be eligible for membership in an association of engineers in the Host Country.

6.7.1.3. An applicant from a Country of Origin shall fulfill similar requirements for membership and enjoy the same rights duties and obligations as engineers in the Host Country.

6.7.1.4. The professional association of the Host Country shall advise an applicant for membership of the professional regulatory requirements associated with becoming a member of that association.

## 6.8. Training Institutions

6.8.1. Any institution in a Partner State for the time being accredited by the Competent Authority of a Partner State for training of students in engineering shall be recognized by the Competent Authority of the other Partner States.

The recognized engineering training institutions and programs are listed in appendix I and shall be updated from time to time by the Competent Authority.

6.8.2. All training institutions offering structured engineering programs which qualify graduate engineers shall acquire at least a national accreditation or evaluation through a system to be put in place by the Competent Authority of the Partner State.

## ARTICLE 7.0

### QUALIFICATIONS, ELIGIBILITY, AND RECOGNITION

#### 7.1. Qualifications

An engineer who possesses the following qualifications:

7.1.1. Possesses a current and valid professional registration or licensing certificate to practice engineering in the Country of Origin issued by the Competent Authority of the Partner State and in accordance with its policy on registration or licensing or certification of the practice of engineering;

7.1.2. Obtained certification from the Competent Authority of the Country of Origin with no



record of serious violation of technical, professional or ethical standards, local, regional and international for the practice of engineering;

Is eligible to apply to the Competent Authority of a Host Country to be registered as an engineer.

## **7.2. Eligibility to practice in a Host Country**

7.2.1. A registered and or licensed engineer shall be eligible to apply to the Competent Authority of a Host Country to be registered as an engineer.

7.2.2. The applicant shall submit with his application;

(a) a list of all the Partner States in which the applicant is registered and or licensed to practice engineering.

(b) a declaration stating whether the applicant has been punished for violating any technical, professional or ethical standard in the Partner State where the applicant is registered and or licensed to practice.


7.2.3. An application under this Article shall be made in the prescribed manner and form. The application form is appended in this Agreement in appendix II.

## **7.3. Graduate Engineer**

A graduate engineer who possess the following qualifications;

7.3.1. Completed an accredited engineering degree course recognized by the Competent Authority in a Partner State or assessed and recognized as having the equivalent of such a degree.

7.3.2. Acquired practical and diversified experience after graduation of which part of the



experience shall be in responsible charge of significant engineering work;  
Partner States may have different requirements for the duration of experience.

7.3.3. Undergone an approved internship program

Shall be recognized.

The criteria for assessing the academic and professional qualifications of a graduate engineer is appended in this Agreement in appendix III.

**ARTICLE 8.0**

**SCOPE OF PRACTICE**

Engineers from a Country of Origin shall practice in accordance with the domestic laws and regulations of the Host Country.

**ARTICLE 9.0**

**AMENDMENTS**

- 9.1. Any Competent Authority of a Partner State may request in writing any amendment to this Agreement.
- 9.2. The provisions of the Protocol on amendment shall apply to a request for amendment under this Agreement.

**ARTICLE 10**

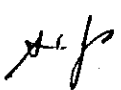
**DISPUTE SETTLEMENT**

The provisions of the Protocol on Dispute Settlement shall apply to disputes concerning the

interpretation, implementation, and or application of any of the provisions under this Agreement.

**ARTICLE 11**  
**FINAL PROVISIONS**

- 11.1. The terms and definitions and other provisions of the Protocol and GATS shall be referred to and shall apply to matters arising under this Agreement for which no specific provision has been made.
- 11.2. This Agreement shall enter into force on the date of signature by all Competent Authorities.
- 11.3. After this Agreement enters into force, any Competent Authority not a party to it, wishes to accede to this Agreement shall notify the EAC Secretary General in writing of its desire to accede and the EAC Secretary General shall notify the rest of the Partner States.
- 11.4 This Agreement shall be deposited with the EAC Secretary-General who shall promptly furnish a certified copy thereof to each Partner State.



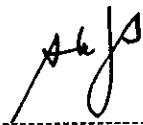


IN WITNESS WHEREOF, the undersigned, being duly authorized thereto by their respective governments, have signed this EAC Mutual Recognition Agreement on Engineering Services.



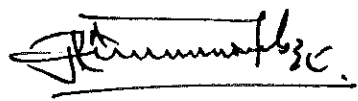
DONE at Arusha, United Republic of Tanzania this ..... day of ..... in the Year Two Thousand and Twelve, in a single copy in the English Language.

IN FAITH WHEREOF the undersigned have appended their signatures hereto;

SIGNED on the 7th day of December Two Thousand and Twelve by the respective Registrars from the Engineers Registration Boards of Partner States as hereunder

		
<p>Eng. Gilbert Arasa REGISTRAR</p>	<p>Eng. Steven Mlote REGISTRAR</p>	<p>Eng. James Okiror REGISTRAR</p>
<p>ENGINEERS BOARD OF KENYA</p>	<p>ENGINEERS REGISTRATION BOARD OF THE UNITED REPUBLIC OF TANZANIA</p>	<p>ENGINEERS REGISTRATION BOARD OF UGANDA</p>

Witnessed by

		
<p>Eng. Julius Riungu CHAIRMAN</p>	<p>Eng. Mussa Kimaka ACTING PRESIDENT</p>	<p>Eng. Jackson Mubangizi PRESIDENT</p>
<p>INSTITUTION OF ENGINEERS OF THE REPUBLIC OF KENYA</p>	<p>INSTITUTION OF ENGINEERS OF THE UNITED REPUBLIC OF TANZANIA</p>	<p>UGANDA INSTITUTION OF PROFESSIONAL ENGINEERS</p>

**MUTUAL RECOGNITION AGREEMENT FOR ENGINEERS PROFESSIONAL  
QUALIFICATIONS**

Guidelines for assessment of academic and professional qualifications on first registration.

**1. Purpose**

The purpose of these guidelines is to assist a Competent Authority in a Partner State develop objective criteria and procedures for registering applicants within their territories.

**2. Guidelines**

These guidelines represent the benchmark against which each criteria should be considered.

**3. Application**

These guidelines shall apply to a graduate engineer in a Partner State.

**4. Engineering program**

4.1 An applicant must have completed an accredited or recognized engineering program or assessed and recognized as possessing the equivalent.

4.2 In order to be registered as an engineer, an applicant must demonstrate to the relevant Competent Authority a level of academic achievement at, or following completion of formal education, substantially equivalent to that associated with successful completion of;

i. an engineering degree delivered and accredited in accordance with the best practice



guidelines developed by the Competent Authority of the Partner State; or

ii. an engineering program accredited by a body independent of the education provider or an examination set by an authorized body within a Partner State, provided that the accreditation criteria and procedures, or the examination standards as appropriate, have been endorsed by the Competent Authority of the Partner State.

## 5. Assessment

5.1. An applicant must be assessed within their own territories as eligible for independent practice.

5.2. The assessment shall be undertaken by the Competent Authority within the Country of Origin.

## 6. Experience

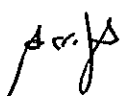
6.1. An applicant must have gained the prescribed number of years of practical experience since graduation.

6.2. The exact definition of practical experience shall be at the discretion of the Competent Authority concerned, but the work in question should be clearly relevant to the fields of engineering in which the engineer claim expertise.

6.3. An applicant must have spent the prescribed number of years in responsible charge of Significant engineering work.

6.4. The definition of significant engineering work will vary between Partner States and disciplines.

6.5. As a general guideline, the work should have required the exercise of independent



engineering judgment, the projects or programs concerned should have been substantial in duration, cost or complexity and the engineer should have been personally accountable for their implementation.

## **7. Engineering work**

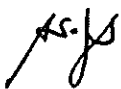
7.1. In general, an applicant may be taken to have been in responsible charge of significant engineering work when they have:

- i. planned, designed, coordinated and executed a small project; or
- ii. undertaken part of a larger project based on an understanding of the whole project; or
- ii. undertaken novel, complex and or multi- disciplinary work.

## **8. Continuous Professional Development**

8.1. An applicant must comply with Continuing Professional Development (CPD) at a satisfactory level.

8.2. The nature and extent of the required compliance with Continuing Professional Development (CPD) and the manner in which such compliance is audited shall remain at the discretion of the Competent Authority concerned but should reflect the prevailing norms for such compliance by engineers within the EAC Partner States.







**MUTUAL RECOGNITION AGREEMENT FOR ENGINEERS PROFESSIONAL  
QUALIFICATIONS**

Guidelines for assessment of engineering experience.

**1. Purpose**

The purpose of these guidelines is to assist a Competent Authority in a Partner State develop objective criteria and procedures for registering applicants within their territories.

**2. Guidelines**

These guidelines represent the benchmark against which each criteria should be considered.

**3. Application**

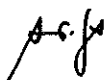
These guidelines shall apply to a graduate engineer in a Partner State.

**4. The assessment of the acceptability of the work experience is based on the extent to which the applicant's experience includes but not limited to the following areas;**

**5. Application of theory**

- Applicant's experience shall include completed projects and work demonstrating meaningful participation and leadership in three or more of the following:

- (i) analysis e.g. scope and operating conditions, feasibility assessment, safety, environmental issues, technology assessment and economic assessment etc;



- (ii) design and synthesis e.g. functionality or product specification, component selection, integration of components and sub- systems into larger systems, reliability and maintenance factors, human and environmental aspects and the societal implications of the product process;
- (iii) testing methods e.g. testing methodology and techniques, functional specification, verification and new product or technology commissioning and assessment;
- (iv) implementation methods e.g., technology application, engineering costs studies, optimization techniques, process flow and time studies, quality assurance implementation, cost/ benefit analysis, safety and environmental issues and recommendations and maintenance and replacement.

## 6. Practical experience

- Practical experience includes applicant's understanding and applying practical limitations of real systems in practice. It includes;
  - (i) site visits to existing engineering works,
  - (ii) application of equipment as part of the larger system,
  - (iii) demonstrated understanding through project work of the limitations of practical engineering and related humans system in achieving desired goals,
  - (iv) demonstrated experience in the components of the engineering process.

## 7. Engineering Management

- Engineering Management includes supervision of staff, project management, general exposure to an engineering business environment and the management of technology.



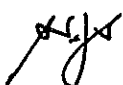
- Management of engineering includes planning, scheduling, budgeting, supervision, teamwork, project control and risk analysis.

#### **8. Communication skills**

- Communication skills includes communication with superiors, colleagues, regulators, clients and the public.
- Communication skills includes preparation of written work, making oral reports or representations and making public presentations.

#### **9. Social implications of engineering**

- The objective is to require experiences which show awareness of an engineer's professional responsibility to guard against conditions dangerous or threatening to life, limb, property or the environment.
- Work environment should demonstrate
  - (i) a recognition of the value and benefits of the engineering works to the public
  - (ii) an understanding of the safeguards required to protect the public and methods of mitigating the adverse impacts
  - (iii) an understanding of the relationship between engineering activity and the public
  - (iv) an appreciation of the role of regulatory bodies on the practice of engineering and
  - (v) an understanding of the health and safety of the workplace limitations in the Host Country.



## 10. Span of control

- Span of control for responsible charge shall include;
  - (i) personally makes engineering decisions or reviews and approves proposed decisions prior to their implementation, whenever such decisions affect the health and safety or welfare of the public.
  - (ii) judges the qualifications of technical specialists and the validity and applicability of the recommendations before such recommendations are incorporated into the work.
  - (iii) selection of engineering alternatives to be investigated and comparison of alternatives for engineering works.
  - (iv) selection of development of design standards or methods, and materials to be used.
  - (v) selection or development of techniques or methods of testing to be used in evaluating materials or completed works, either new or existing
  - (vi) review and evaluation of manufacturing, fabrication or construction methods or controls to be used and the evaluation of test results, materials and workmanship in so far as they affect the character and integrity of completed work.
  - (vii) development and control of operating and maintenance procedures at the project level or higher.

