The Institution of Engineers, Bangladesh (IEB)

Bangladesh Professional Engineers Registration Board (BPERB)

www.bperb-ieb.org.bd

Getting Registered as Professional Engineer

2024

Constitutional Provision regarding Registration of PEng

- **Renewal of PEng Registration: (section 101C.00) evidence of -**
  - Continuation in the engineering profession at the same or higher level of responsibility;
  - 30 hours CPD undertaken for the previous year;
  - Payment of the prescribed registration fees.
- **Annual Registration: (section 101C.02)**

  Annual registration fees are due on 1st January of each year. If registration fees are not paid by 31st October of a year, the names of such engineers be removed from the Register of Professional Engineers, after giving a period of one month's notice, by a letter sent by Registered Post. The registration fees for a particular year will be accepted only if the Professional Engineer has submitted his/her CPD requirements of the previous year for verification and declares that he/she is actively engaged in the practice of engineering.
- **Re-registration: (section 101C.03)**

  Engineers whose names have been taken off from the Register can get themselves re-registered after paying arrears of registration fees and submitting their updated CPD records for verification. If the arrears of registration fees are due for more than two preceding years, a surcharge of 25% of the fees will be levied.
- **Removal of Names from the PEng Register (de-registration): (section 99.00)**
  - Who is dead and from whom a request for de-registration received;
  - Who has not paid within a period mentioned in section 101C.02;
  - Who after enquiry is found to have broken the Rules of Conduct;
  - Who has not attained the required level of CPD;
  - Who is incompetent (not sound in mind), insolvent and convicted by the court.
- **Re-sitting the Professional Review: (section 101C.01)**

  The unsuccessful candidates at the oral interview or the professional essay writing (Writing Assignment) will need to undertake the whole process again.
- **Moderation & Review:**

  The moderation and review for assessment process (the Assessor's conduction of PEng examination and interview) shall be observed and reviewed by Chairman, BPERB and Vice-Chairman, BPERB and or members of review committee formed by the Chairman, BPERB. The Registrar shall assist in the moderation process.
- **Appeals by aggrieved Candidates: (section 101D.00)**

Candidates have the right to appeal to BPERB where they feel that there was an error in the process and in cases of unforeseen events. If a candidate is aggrieved about the assessment process and the gradings, he/she may appeal for justice.

REGISTRATION PROCEDURE FOR APPLICATION WITH PRE-REQUISITES

Step 1: Pre-requisites

a) Accredited bachelor degree in engineering recognized by IEB

b) Corporate member of Institute of Engineers, Bangladesh (IEB)

c) Minimum 7 (seven) years professional experience must be required including a minimum of 2 (two) years' experience in responsible position where he/she had to manage projects or parts of large projects / engineering activities independently and having responsibility for the financial & technical outcome of work of an engineering nature.

d) Evidence of achieving a level of Five 5 days / 30 hours Continuing Professional Development (CPD) in the last twelve (12) months of seeking PEng examination. The quality of CPD has to match with the 05 Core Professional Competence Standards (CPCS) and IPEA Professional Engineer Competence (EC) Standard. The grading will be based on the quality training matched with Core Pr ofessional Competence Standards (CPCS) and IPEA Professional Engineer Competence (EC) Standard.

Note: grading: 1–Inadequate, 2 –Marginally Achieved, 3– Satisfactory Achieved, 4-Adequately Achieved.

Step 2: Sponsor's / Referee's Confidential Reports from 3 (three) Fellow of IEB with at least 10 (ten) years standing or PEng having 03 (three) years standing: Sponsors' Report on applicant's character, professional behavior and conduct, leadership qualities, effective communication, awareness and responsibility regarding safety, health and compliance of Code of Ethics.

Note: Sponsor's Grading will be; 1= Poor (no good comment), 2=fair (some good comments covering only few points), 2.5=average (some more good comments covering few points), 3=good (good comment covering some points), 3.5=very good (very good comments covering major points), 4=excellent (excellent comment covering all points)
The Assessors will review the comments of the Sponsors' and re-grade the grade point given by Sponsors' on the above basis.

Step 3: Completed Application with CV and Work Experience: Academic Qualification, Professional Qualification and Work Experience detailing level of professional competences acquired through his/her work experience on current and past engineering activities.

Note: Grading will be; Level-1: No individual responsibility; Level-2: Little individual responsibility; Level-2.5: Some individual responsibility; Level-3: Significant individual responsibility; Level-3.5: Significant individual responsibility and can involve & oversee the work of others; Level-4: Managerial & Financial responsibility, judgment and decision making

Step 4: Competence & Commitment Report (3000-4000 words) on 5 (five) Core Professional Competence Standards (CPCS) with elements & indicators of attainment aligned with the latest version of IPEA Professional Competency Profile (EC1 – EC13).

Note: Grading Criteria for Indicator of Attainment as per level of competence shall be 1 – poor; 2 – fair; 2.5 – average; 3 – good; 3.5 – very good; and 4 – excellent.

Step 5: Written Examination (WE) in a controlled condition on i) Code & Rules of Ethics, and, ii) Communication & Interpersonal Skill assessed by the Assessors. The answer to be within 1000 words for each topic in 02 (two) hours' time.

i) Code & Rules of Ethics covers the following:

a) Complying with relevant professional codes of conduct, Engineering Ethics and involvement with IEB, professional bodies local and international and Loyalty to employer/superior and social responsibility.

b) Applying and managing safe system of work and ethical responsibility for engineering design, construction, erection, installation, execution, supervision and quality assurance & quality control.

c) Undertaking engineering activities that contribute to sustainable development and responsibility for environmental, health, safety and welfare issues considering diverse impacts on technical, environment, social, cultural, economic, financial and global responsibility.

d) Exercise responsibilities in ethical manner and commitment to public interest in all aspects of professional work demonstrating examples where applicant has applied ethical codes & rules of professional conduct during his/her professional activities.

And

ii) Communication & Interpersonal Skill covers the following:

a) Demonstrating effective personal communication in English and demonstrating ability to contribute and organize professional seminars/workshops, presenting and discussion of proposals and communication to stakeholders.

b) Ability to provide best solution, leading teams, training, mentoring and developing staff to meet changing technical and managerial issues.

c) Enhancing productive working relationships and resolving conflicts between team members and aware of the needs and concerns of others including negotiation with stakeholders.

d) Exchanging information effectively with stakeholders and ability to prepare progress reports for decision making and documentation, as-built drawings for operators, users/clients & stakeholders.

Note: Grading will be 1= Poor, 2=fair, 2.5=average , 3=good, 3.5=very good, 4=excellent

Step 6: Oral Interview by the Assessors: Interview (oral test) on competence and commitment report, Knowledge, understanding and demonstration of IPEA Professional Engineer Competence (EC) Standard, Application of codes standards and regulatory requirement, Ability to analysis of causes and solution of complex engineering problems, Technical commercial & managerial leadership, ability regarding decision making and judgment, and Communication & Interpersonal Skills and Code of Ethics, Health & Safety, Public Welfare and Compliance of Environmental sustainability.

Note: Grading will be 1= Poor, 2=fair, 2.5=average , 3=good, 3.5=very good, 4=excellent

Step 7: Final Assessment by Assessors: Recommendations for Registration for suitable candidates or Re-sit/Re-examinations and oral interview for not suitable candidates.

Note:

- **A minimum Level of Grade 3 out of 4 must be attained to qualify as Professional Engineer, PEng.**
- **The unsuccessful candidates at the oral interview or the Written Examination (WE) will need to undertake the whole process again (as per Section 101C.01 of Constitutional Provision regarding Registration of PEng)**

Step 8: Assessor's recommendations for suitable candidates are sent to the Ethics Board for their clearance verifying the record of the candidates regarding involvement with any incident of Corrupt Practices, breach of Code of Conduct and or any unethical conflicting issues etc.

Step 9: After getting clearance from Ethics Board, the recommendations for Registration is placed to the BPERB Board and BPERB Board finally approves the candidate's registration.

Step 10: Finally in the Annual Convention of the Institution of Engineers, Bangladesh (IEB), Honorable Prime Minister of Bangladesh awards the Professional Engineers (PEng).

ASSESSMENT OF PROFESSIONAL COMPETENCE & COMMITMENT REPORT ON THE FIVE CORE PROFESSIONAL COMPETENCE STANDARDS (WITH ELEMENTS & INDICATORS OF ATTAINMENT) WITHIN 3000-4000 WORD

To meet the minimum standards, an engineer must demonstrate his/her ability to practice competently in own working area to the expected standard level of a competent Professional Engineer. For this purpose 5 (five) **Core Professional Competence Standards,** aligned with the latest version of IPEA Professional Competency Profile (EC1-EC13):

i. **Knowledge and Understanding:** General and specialist knowledge and understanding to optimize the application of existing and emerging technology for solving problems. [EC1, EC2, EC4, EC7 and EC11]

ii. **Design, Development and Solving Engineering Problems:** Application of theoretical and practical knowledge to the analysis and solution of engineering problems. [EC3, EC4, EC5, EC6, EC7, EC12 and EC13]

iii. **Responsibility, Management and Leadership:** Technical, commercial and managerial leadership skills with a sound understanding of economic and procurement policies. [EC7, EC9, EC12 and EC13]

iv. **Communication and Interpersonal Skills:** Effective communication and interpersonal skills with professional commitment. [EC8, EC9, EC10, EC12 and EC13]

v. **Personal and Professional Commitment:** Professional conduct, commitment to society, health and safety, environment and regulation. [EC6, EC7, EC8, EC12 and EC13]

IPEA Professional Competency Profile:

EC1: Comprehend and apply advanced knowledge of the widely-applied principles underpinning good practice;

EC2: Comprehend and apply advanced knowledge of the widely-applied principles underpinning good practice specific to the jurisdiction in which he/she practices.;

EC3: Define, investigate and analyze complex problems using data and information technologies where applicable;

EC4: Design or develop solutions to complex problems considering a variety of perspectives and taking account of stakeholder views;

EC5: Evaluate the outcomes and impacts of complex activities;

EC6: Recognize the reasonably foreseeable social, cultural and environmental effects of complex activities and seek to achieve sustainable outcomes;

EC7: Meet all legal and regulatory requirements and protect public health and safety in the course of his or her activities;

EC8: Conduct his or her activities ethically;

EC9: Manage part or all of one or more complex activities;

EC10: Communicate and collaborate using multiple media clearly and inclusively with a broad range of stakeholders in the course of all activities;

EC11: Undertake CPD activities to maintain and extend competences and enhance the ability to adapt to emerging technologies and the ever-changing nature of work;

EC12: Recognize complexity and assess alternatives in light of competing requirements and incomplete knowledge. Exercise sound judgment in the course of his or her complex activities;

EC13: Be responsible for making decisions on part or all of complex activities.

[Note: as per latest Version 2021.1]

While gaining work experience the engineer will be expected to develop many of the skills defined in the **Core professional Competence Standards** and will be expected to demonstrate his/her status through the submission of a Competence and Commitment Report on Core Professional Competences within 3000-4000 words (hand written).

Each competency standard contains elements of competence which will have their own indicators of attainment. The elements of competence indicate the capabilities related to the competency standard concerned and the indicators of attainment is a guide to indicate the type of work the applicant is enable to demonstrate and that determines the candidate's relevant level of competence. Answer for each indicator of attainment to be brief and limited within the space given in the format of Section B.

Grading Criteria for Indicator of Attainment as per level of competence shall be 1 – poor; 2 – fair; 2.5 – average; 3 – good; 3.5 – very good; and 4 – excellent. The applicant must achieve level of competence grading 3.

Details of Core Professional Competence Standards elements and indicators of attainments are given below:

Core professional Competence Standards – I **Knowledge and Understanding**
General and specialist knowledge and understanding to optimize the application of existing and emerging technology for solving problems.

Professional Engineers develop solutions to complex engineering problems using new or existing technologies, and through innovation, creativity and technical analysis.

The first core competence of the Bangladesh Professional Engineers Registration Board indicates the fundamental theoretical knowledge that the graduate engineer earned during the study period, and combination of general & specialist engineering knowledge & understanding to optimize the application of advanced and complex systems that being earned during his/her engagement of engineering activities.

The vision of the engineer and his/her way of thinking, knowledge and understanding shall be demonstrated in this competence standard which is about the ability to understand underpinning technical principles relevant to the applicant's area of practice and applying them to develop technical solutions.

This will have elements and indicators of attainment as indicated below:

Element of Competence	Indicators of Attainment
1. Maintain and extend a sound theoretical approach for exploitation of new and advancing technology and enhance the skills on mathematics, numerical analysis, statistics and computer & information sciences etc.	a) Ascertain academic knowledge and practical skills earned, gained and enhanced in engineering education through application of Science, Technology (including computer & IT), Engineering and Mathematics (including statistics) that impacted his/her work or the working environment of engineering projects/activities with which he/she had been associated. b) Comprehend and apply universal knowledge: Ability to demonstrate a knowledge and understanding of international, codes and standards, Laws, Acts and Regulations such as – IBC (International Building Code), BS, IS, ACI, ASTM, NFPA, ISO, IEC, NEC, ANSI, VDE and DIN etc. in designing and supervision of building, structure, plant, project etc.; **[EC1, EC7]** c) Comprehend and apply advanced knowledge of the widely-applied principles underpinning good engineering practice, specialist knowledge and knowledge specific to the jurisdiction and local conditions such as- Bangladesh (BDS), Bangladesh National Building Code (BNBC), Dhaka Mohanagar Imarat Nirman Bidhimala (DMINB), City Development Authorities' Building/Construction Rules, Bangladesh (DMINB), Bangladesh Standards (BDS), Codes and Standards, Laws, Acts and Regulations etc. in designing and supervision of building, structure, plant, project etc.; **[EC2, EC7]** d) Ability to maintain, broaden and deepen own knowledge base by exploitation of new and advanced technology and enhance the skills on mathematics, numerical analysis, statistics and computer & information sciences etc. through research, thesis and project activities/group activities. **[EC11]** e) Ability for striving to extend own technological capability by undertaking continuous professional development (CPD) i.e. life-long learning in the context of technological change. **[EC11]**
2. Engage in the creative and innovative development of engineering process & technology in design and development solution and its continuous improvement system.	a) Assess professional needs and contribute to improvement of engineering profession. b) Identify constraints and exploit opportunity for improvements, implementation and transfer of technology. c) Promote sustainable and resilient design applying appropriate and new emerging technologies and engage in the creative and innovative development of engineering process & technology in design & development solution for solving problems. **[EC4]** d) Ensure/secure the application of necessary safety codes, building codes in profession complying standards, specifications, rules & regulations etc. **[EC7]**

Core professional Competence Standards – II
Design, Development and Solving Engineering Problems

Application of theoretical and practical knowledge to the analysis and solution of engineering problems

The second Core Competence Standard of the Bangladesh Professional Engineers Registration Board requires the Professional Engineer to be competent, by virtue of the candidate's initial formation and application of appropriate theoretical and practical methods to the analysis and solution of engineering problems throughout the candidate's working life, to the competence standard which is about the ability to apply engineering knowledge effectively and efficiently to the individual tasks which need to be undertaken in the applicant's role.

This will have elements and indicators of attainment as indicated below:

Element of Competence	Indicators of Attainment
1. Define/Identify, investigate & analyze potential complex engineering problems and specify the tools of analysis available for solving the engineering problems using data & Information Technologies. [EC3]	a) Define / identify complex engineering problems and appropriate solution, selecting and using models or tools for possible solution. b) Demonstrate the techniques, tools, methods for solution of complex engineering problems using data & Information Technologies. c) Investigate potential complex engineering problems and analyze the causes & failure of Building, plant, structure, bridge, project, equipment/machine, components, process, system or any incident and solution of the problems/failures with justification of remedial measures. d) Identify the available products, methods, processes, systems or design development needed to solve the problems found after investigation as stated in c).
2. Conduct appropriate research and undertake design and development and innovative processes in design and development solution. Evaluate possible solutions of engineering problems emphasizing brainstorming & critical thinking. Such problems may include maintenance, risk, safety and health issues.	a) Identifying appropriate research methodologies, technical studies and innovative processes in design and development solution. b) Applying brainstorming & critical thinking and why-why technique for solving possible solutions of problems and responsible for making decisions for selecting the best one justifying the decision. [EC13] c) Exercise sound professional judgment in carrying out engineering designs giving due consideration to costs, quality, risks (including fire resistance/risk of fire hazard, impact of lateral loads such as: seismic hazard, earthquake, wind load including tropical cyclone, water pressure & earth pressure on the retaining & basement wall, and risk of disaster for structural design), environmental impact, maintenance, safety and health issues etc. [EC4, EC7, EC12] d) Identifying the problems of existing practices & solving the problems and improvement of the practices, process, systems and services. [EC5]

Element of Competence	Indicators of Attainment
3. Demonstrate the ability to work independently and exercising independent judgment, and procedure for appropriate design solution of engineering activities & problems and risk management (determination, assessment and mitigation).	a) Ability to identify and define possible solutions of engineering problems, working independently and exercising independent judgment. [EC12] b) Undertaking engineering design (including features of sustainable and resilient design) considering emerging technology and the prevailing codes & standards, rules & regulations and responsibility for decision making. [EC4, EC7, EC13] c) Analyzing solution of the problems and evaluate the potential approaches against the requirement including cost, quality, risk and safety issues, reliability and security. [EC5, EC7] d) Ability to determine, assess and mitigate risk, environment, health and safety issues. [EC5, EC7]
4. Design or develop inclusive solutions to complex problems with stakeholder consultation and Implementation of designed solutions with appropriate planning and evaluate the outcomes and impacts of complex activities in the context of risk and social, environmental, economic and resource impacts. [EC5, EC6]	a) Analyze the design / planning / solution requirement and draw up detailed requirements specification applying appropriate tools for engineering design or development process in consultation with stakeholders *meeting their requirements*. b) Determining the criteria for evaluating design solutions in the context of risk and social, environmental, economic and resource impacts. c) Ensure that the application of the design results in the appropriate practical outcome and evaluate this against original requirement. d) Implement the design solutions taking account of critical constraints including the context of risk and social, environmental, economic and resource impacts and safety using critical decision making process. e) Actively learn from feedback on results to improve future design solution.

Core professional Competence Standards – III **Responsibility, Management and Leadership**
Technical, commercial and managerial leadership Skills with sound understanding of economic and procurement policies.

The third Core Competence Standard of the BPERB requires the Professional Engineer to be competent, by virtue of the candidate's initial formation and throughout the candidate's working life, to demonstrate technical, commercial and managerial leadership competence which is about the ability to plan the applicant's own work and manage or specify the work of others effectively, efficiently, and in a way which provides leadership at an appropriate level, whether technical or commercial.

This will have elements and indicators of attainment as indicated below:

Element of Competence	Indicators of Attainment
1. Plan for effective project management & implementation and carrying out necessary tests/validations, quality assurance and quality control. [EC9]	a) Taking a lead for effective implementation of project/task and having a good command over QMS (ISO 9001), PDCA Cycle. b) Identifying, assessing, managing risks as depicted in codes and standards and taking responsibility in decision making. Identify and manage risk through elimination, reduction, minimization and avoidance techniques. c) Acquisition and management of required resources. d) Material planning and carrying out necessary inspections, quality assurance of materials as per specifications, tests/validations, and quality control for in-process and finished products, particularly construction of civil works including concrete & steel structures, and installation of electro-mechanical works.
2. Planning, Budgeting, Organizing, Directing and Controlling task, people and resources and procurement of contract. [EC7, EC9, EC12, EC13]	a) Preparing a plan/schedule of works and organizing project activities, resources, budgets, fund management and cash flow, monitoring the same and taking a sound judgment for corrective action in respect of any deviations. b) Setting up cost effective management systems through quality control of task, time control and cost control and responsibility for decision making. c) Arranging procurement, contractual agreement, negotiating with all stakeholders adhering to procurement policy and guideline as per Procurement Acts & Rules and resources management and responsibility for decision making. d) Organize and lead teams and coordinating project activities and responsibility for decision making.
3. Leading teams and developing staff to meet changing technical and managerial needs. [EC9]	a) Leading and supporting individual and developing team & staff to meet changing technical and managerial needs. b) Promoting team work and leading teams and well-being of teams and staff. c) Agreeing on objectives and work schedules with project teams and individual members of the team. d) Assessing team and individual performance and providing feedback to them.
4. Bring about continuous improvement through Quality Management System (QMS) ISO:9001. [EC9]	a) Applying quality management standards in operations throughout the organizational/project activities. b) Promote quality throughout the organization/project and its customers and supplier networks by developing and maintaining operations to meet quality standards. c) Plan, *develop,* implement and evaluate the best practice methods of continuous improvement using QMS (ISO 9001) through risk management & PDCA Cycle and taking corrective actions through sound judgment.

Core professional Competence Standards – IV Communication and Interpersonal Skills
Effective communication and interpersonal skills with Professional Commitment.

The fourth Core Competence Standard of the BPERB requires the Professional Engineer to be competent, by virtue of his/her initial formation and throughout his/her working life, to demonstrate effective communication and Interpersonal skills using multiple mediums clearly and inclusively with a broad range of stakeholders in the course of all activities. This competence is to demonstrate the ability to work with others constructively, to explain ideas and proposals clearly and to discuss issues objectively and constructively.

This will have elements and indicators of attainment as indicated below:

Element of Competence	Indicators of Attainment
1. Demonstrating effective personal communication in English and Demonstrating ability to contribute and organize professional seminars/workshops, presenting and discussion of proposals and communication to stakeholders. [EC10]	a) Effectively communicate and collaborate using multiple media (oral/ verbal, written, graphics and symbol etc.) clearly and inclusively with a broad range of stakeholders and provide instructions in the course of all activities. (EC10) b) Preparing and delivering technical presentation, managing debates with audiences and organizing & presenting seminars, project proposal and feedback results to improve the proposal. c) Preparing documents & reports on technical issues, incidents and writing recommendations. d) Contributing Lead Chair and recording minutes of meetings and discussions and proper following up of the decisions taken at such meetings and discussions and communications to stakeholders.
2. Ability to provide best solution, leading teams, training, mentoring and developing staff to meet changing technical and managerial issues. [EC8, EC9, EC10]	a) Leading teams, developing staff and setting individual work packages and providing technical guidance how to proceed satisfactory execution of the task and help team determining the best solution of problem and train them as mentor. b) Leading teams for execution of professional work according to relevant codes of practice in providing solutions of engineering problems c) Recognizing the needs and guiding the teams in incorporating knowledge of Codes and compliance and ensure solution of problem in design during construction, implementation, supervision and quality control.

Element of Competence	Indicators of Attainment
3. Enhancing productive working relationships and resolving conflicts between team members and aware of the needs and concerns of others including negotiation with stakeholders. [EC9, EC10, EC12, EC13]	a) Building team spirit among subordinates and colleagues towards achieving collective goals. b) Enhancing productive working relationships and resolving conflicts between team members and colleagues/peers, making judgment and communicating decisions of resolving conflict and negotiation with stakeholders. c) Managing multi-disciplinary activities in a project and briefing the group or sub-group members. d) Assessing needs and concerns of others. Encourage team members to speak out and contribute their own ideas/thoughts, opinion and share these. e) Identifying, assessing and managing the limits of own personal knowledge, skills, emotions, strengths and weakness.
4. Exchanging information effectively with stakeholders and ability to prepare progress reports for decision making and documentation, as-built drawings for operators, users/clients & stakeholders. [EC10]	a) Exchanging information effectively with stakeholders and provide advice to technical and non-technical colleagues. b) Relate professional activities to the development of society and motivate the people by proper communication method. c) Applying appropriate information system to ensure safe transfer of information in the work place situation and preparing progress reports i.e. Data & information collection, analysis, evaluation and dissemination of data & information for decision making. d) Preparing design & documentation, site plan, layout plan, design report, construction observation report, as-built drawing, operation/maintenance guide & procedure for operators, users/clients & stakeholders etc. following project compliance, Codes, Standards and Regulations.

Core professional Competence Standards – V **Personal and Professional Commitment**
Professional conduct, commitment to society, health and safety, environment and regulation.

The fifth Core Competence Standard of the BPERB requires the Professional Engineer to be competent, by virtue of his/her initial formation and throughout his/her working life, to demonstrate a personal commitment to the IEB Code of Ethics, Rules of Professional Conduct and Standards, recognizing obligations to the society, health & safety, sustainable development and the environment meeting all legal & regulatory requirements which will have elements and indicators of attainment as indicated below:

Element of Competence	Indicators of Attainment
1. Complying with relevant professional codes of conduct, Engineering Ethics and involvement with IEB, professional bodies local and international and Loyalty to employer/superior and social responsibility. [EC6, EC8]	a) Demonstrating compliance of IEB Code of Ethics, Rules of Ethics and Codes for professional engineer and any other professional work norms and practices related to the work place and involvement with professional bodies Local & International. b) Leading professional work according to relevant codes of practice, regulations and legislative requirements and engineering ethics relevant to your role. c) Commitment to support professional bodies (IEB) and other technical societies and support development of engineers under supervision and participate & contribute to IEB activities. d) Social responsibility to uphold ethical values of the society. e) Responsibility to maintain high standards of professional quality and loyalty to employer/superior.
2. Applying and managing safe system of work and ethical responsibility for engineering design, construction, erection, installation, execution, supervision and quality assurance & quality control. [EC6, EC7, EC12]	a) Uphold paramount safety, health and welfare of public and individuals while exercising professional task. b) Applying & managing safe system of work in execution of engineering activities, taking responsibility and making decisions for all health, safety and welfare related issues and code of practice for safe design of building & structure and engineering project/activities etc. and judgment regarding endanger of life. c) Taking specialized care in implementing design, site preparation, use of proper and standard material (Quality Assurance), safety at workplace, employing skilled manpower, close supervision, Quality Control, checking and monitoring to achieve a safe system. d) Developing, implementing and improving appropriate hazard identification, risk management and safety during construction, erection, installation, execution, supervision, quality assurance & quality control in the execution of engineering activities. e) For protection of health and safety, ensure all legal & regulatory requirements and apply a sound knowledge of health, safety and environment related legislation (Act, Rules) and BNBC, Labour Code etc., and for risk management, ISO: 9001. f) Manage, implement, monitor, evaluate and improve the systems justifying the decision and taking corrective action.

Element of Competence	Indicators of Attainment
3. Undertaking engineering activities that contribute to sustainable development and responsibility for environmental, health, safety and welfare issues considering diverse impacts on technical, environment, social, cultural, economic, financial and global responsibility. [EC6, EC7, EC8, EC13]	a) Commitment to keep environment clean, pollution free and taking actions to minimize environmental impact. Use resources efficiently and effectively to ensure a sustainable environment and reducing & avoiding the tragedy of the commons. b) Taking responsibility of environmental, health, safety and welfare issues justifying the decision and making judgment against adverse effect of environment. c) Developing, implementing and improving appropriate environmental hazard & impact identification and management systems. d) Ensuring environmental, social and economic outcomes considering diverse impacts on technical, environment, social, cultural, economic, financial and global responsibility achieving sustainable development goal. e) Sustainable design using imagination, creativity and innovative skills to maintain and improve the environment. f) Engaging stakeholders focusing on sustainable development for protection of environment and society. g) Efficient in understanding and demonstrating the application of ISO: 14001 EMS for Environmental Management complying with environmental principles giving particular attention regarding precautionary principle & disaster risk management and ISO: 45001 for Health & Safety Issues and emergency preparedness.
4. Exercise responsibilities in ethical manner and commitment to public interest in all aspects of professional work demonstrating examples where applicant has applied ethical codes & rules of professional conduct during his/her professional activities. [EC8]	a) Exercise responsibilities in an ethical manner and commitment to not allowing anything that goes against public interest. b) Responsibility to uphold ethical values in engineering profession. c) Responsibility to maintain high standard of professional quality. d) Responsibility to maintain high standard of personal behavior in responsible manner. e) Demonstrate examples where you have applied ethical codes & rules of professional conduct during your professional activities.

CONTINUING PROFESSIONAL DEVELOPMENT (CPD)

Continuing Professional Development (CPD) is the systematic procedure for improvement and broadening of knowledge and skills, and the development of personal attributes necessary for the discharge of professional and technical duties throughout the engineer's working life. CPD intends to bridge the gap between education and Professional Knowledge and Understanding aligning with the latest IPEA Professional Competency Profile, Professional Engineers Competence (EC) and Five Core Professional Competence Standards (CPCS) such as:

- Knowledge, understanding and demonstration of IPEA Professional Engineer Competence (EC) Standard.
- Universal knowledge including existing, new & emerging technologies, creative & innovative development of engineering process, National and International Codes & Standards, BNBC, DMINB, IBC, Laws, Acts and other relevant Legal & Regulatory requirements etc. for designing and supervision of any building, structure, plant, project etc.;
- Complex Engineering Activities, Complex Engineering Problems, analyzing and Solution of problems in construction, erection, installation, execution, supervision and quality assurance & quality control and Risk Management of engineering activities (including lateral load i.e. risk of seismic hazard, earthquake, tropical cyclone & risk of Fire & disaster in structural design activities) etc. and determining, assessing & mitigating risk, environment, health and safety issues including technique, tools, methods for solution and assessing & reviewing;
- Causes & Failure of project, building, plant, structure, bridge, equipment/machine, components, processes, systems etc. Investigating & Analyzing the causes of problems/failures and incidents, solution of the problems/failures and remedial measures etc.;
- Engineering design & development, solution of design problems identifying research methodologies, technical studies and innovative process & design development solution, Brainstorming & Critical thinking and why-why technique for solving problems, decision making & Judgment and Evaluation of Outcomes & Impacts etc.;
- Procurement and ISO:9001 QMS for risk & management of engineering activities, Quality Assurance & Quality Control of Civil works including concrete & steel structures, and installation of electro-mechanical works, PDCA and continual improvement of process & systems etc.;
- Managerial Leadership, Planning, budgeting & fund management, developing staff to meet changing technical and managerial issues etc.;
- Communication & interpersonal skills, leading teams, mentoring and training of teams, preparation of reports, proposal, negotiation and conflict resolution skills etc.;
- Understanding and demonstrating the application of ISO: 14001 EMS for Environmental Management complying with environmental principles giving particular attention regarding precautionary principle & disaster risk management and ISO: 45001 for Health & Safety Issues and emergency preparedness.
- Professional Codes of Ethics and Conduct, Safety, health, environment & sustainable development and Social Responsibility, Related Acts, Rules & Codes (such as- Labour Code, Environmental Rules & Acts etc.)

CPD may be achieved by attending, imparting, presenting or undertaking programs actively in Table below. The quality of the program has to be equivalent to that in the core competence of IPEA.

CPD Activities and Weight Factor

Sl No	CPD activities	Unit/period of activities	Weight factor
1	Convention/Conference/Seminar/ Symposium/Meeting on Technical issues	Each Hour in Audience/Attending	0.5 hour CPD
		Each Hour in Imparting/Presenting	1 hour CPD
2	Training/ Workshop/ Short course/ Technical Meeting Attending, Conducting & Contributing in Technical Issues	Each Hour Attending	1 hour CPD
		Each Hour Imparting/Presenting/ Conducting & Contributing	2 hours CPD
3	Preparation and Presentation of Technical Paper/Professional Lecture	Each paper Each Class	3 hours CPD (equally divided among authors)
4	Publications in Technical conference proceedings	Each paper	2 days CPD (equally divided among authors)
5	Publication in recognized technical journals or publishing technical books	Each paper/book	3 days CPD (equally divided among authors)
6	Graduation courses/Tertiary courses	Each credit hour (i.e. 12-14/hours a semester)	2 days CPD

At the time of seeking the Professional Engineer status, an Engineer should have evidence of 30 (thirty) hours of CPD during the previous twelve (12) months. The assessors expect the applicant is actively involved in CPD. After getting registration as Professional Engineer, s/he must maintain 30 hours of CPD each year. After getting IPEA full membership, CPD requirement shall be 50 hours for a year for International PE (Int. PE) as per IPEA requirement.

RECORD OF CONTINUING PROFESSIONAL DEVELOPMENT

AND

TRAINING FOR REGISTRATION OF PROFESSIONAL ENGINEER

Name:

IEB M/F No. : **Year:** **……..**

Sl No.	Date	CPD Activities/ Topics	Organizer /Trainer/ Presenter /Mentor	Time Duration	Hour	Weight Factor	CPD Claimed (Hr)	Initials of Organizer/Trainer/ Presenter/Mentor

I declare that I am actively engaged in the practice of engineering and the above CPD record is true.

Signature of Engineer & Date:

Sponsors' Assessment regarding applicants' character, professional behavior and conduct

- Good character & personal behavior, loyalty to employers & superiors and responsibility in professional duties.
- Leadership qualities and capabilities for multi-disciplinary works and ability to exercise independent judgment.
- Knowledge and awareness regarding professional code of ethics and honesty and impartiality in professional activities.
- Effective interpersonal communication with engineers, colleagues and Involvement in/with the IEB activities, attending seminars, conventions etc.
- Awareness & responsibility regarding risk, safety, health, welfare, environment & sustainable development and public interest.

Note: If Sponsor's overall grade is less than 3, the candidate will not be allowed for oral test.

Note: PEng Application Form will be valid for 1 (one) year from the date of issue (i.e. the application form must be submitted within one year from the date of issue). After expiry of the date, applicant will have to procure new PEng Application Form if he is still interested to apply for PEng Examinations and 1(one) year validity applies.

BANGLADESH PROFESSIONAL ENGINEERS REGISTRATION BOARD (BPERB)

ADDRESS : IEB HEADQUARTERS (13TH FLOOR), RAMNA, DHAKA-1000

PHONE : +880-2-22338-2936

EMAIL : bperb.ieb@gmail.com; registrar_bperb@yahoo.com

WEBSITE : www.bperb-ieb.org.bd