

PROFESSIONAL REVIEW RULES

1. INTRODUCTION

Set out here are the Rules for acceptance of a candidate into the class of Corporate Member of the Institution of Engineers, Sri Lanka, herein referred to as the IESL.

- 1.1 A candidate for election as a Corporate Member of the IESL, is required to have obtained an approved academic qualification in one of the many disciplines of engineering and also to have had in that discipline adequate training and experience which will be assessed at a Professional Review.
- 1.2 Details of the requirements in regard to training and experience and the procedure according to which candidates may apply for election and attend the Professional Review are set out in these rules.
- 1.3 Candidates should appreciate the fact that they are dependent on senior members of the profession for effectively directing their work, imparting knowledge and enabling them to gain experience, and that they must therefore seek and obtain the assistance and guidance of their seniors at all times.

2. DEFINITIONS

2.1 Chartered Engineer

A Chartered Engineer is one who is capable of assuming personal Professional Responsibility for the analysis and application of Engineering principles to the solution of problems arising in the fundamental processes of Investigation, Planning, Design, Construction, Operation and Maintenance of Engineering works or plant, or in Engineering Research and/or Engineering Education. He may be involved with the management and direction of high-risk and resource intensive projects. He is able to communicate his ideas clearly, concisely and intelligibly to others. His work requires the exercise of original thought and judgement and the ability to supervise the Technical and Managerial work of others. Professional judgement is the key feature of his role, applied to the assumption of responsibility for the direction of important task, including the profitable management of industrial and commercial enterprises.

2.2 Corporate Member

A Corporate Member of the IESL is one who has satisfied the Council of the IESL that he has attained such standard of education, training and experience as required by the Council to testify to his proficiency as a Chartered Engineer.

Every individual member of the profession shall at all times so order his conduct as to uphold the dignity and reputation of his profession and to safeguard the public interest in matters of safety, environment and health and otherwise. He shall exercise his professional skill and judgement to the best of his ability and discharge his professional responsibilities with integrity.

2.3 Education

A candidate is required to have successfully completed the examinations as conducted by the IESL or have an equivalent accredited qualification as set out in Rule 3.1.

2.4 Recognized Training

Recognized Training is the training undertaken by a candidate with “approved academic qualification” as set out in Rule 3.1, at an approved organization (see Rule 5.1.1.1) to adapt himself from an academic to an industrial environment, acquiring the practical skills and a knowledge of the work essential for his future employment, so that he should be able to shoulder responsibility with confidence under decreasing supervision by the end of his training. During this training he should be under the guidance of a Corporate Member of the IESL.

2.5 Responsible Experience

Responsible Experience is the experience gained in a responsible position in the field of Engineering he has specialized in and its applications, under the guidance of a Corporate Member of the IESL, after satisfying the Approved Academic Qualification and Recognized Training requirements.

3. PRE-QUALIFICATIONS FOR PROFESSIONAL REVIEW

A candidate for election as a Corporate Member of the IESL, is required to have obtained an approved academic qualification in one of the many disciplines of engineering and also to have had in that discipline Recognized Training and Responsible Experience as set out below:

3.1 Academic Qualifications

Parts I and II of the Examinations (old syllabus) conducted by the IESL

or

Parts I, II and III of the Examinations (new syllabus) conducted by the IESL

or

Degree in Engineering recognized by the IESL

or

Other qualification recognized by the IESL exempting the candidate from *all Parts* of the IESL Examination, particulars of which could be obtained from the Secretariat of the IESL.

3.2 Recognized Training and Responsible Experience

An application should be made only when a candidate has completed the minimum stipulated period in aggregate, of Recognized Training and Responsible Experience, on the closing date for applications.

Of this period up to a maximum of six (6) months only will be considered prior to his obtaining the qualifications as required for Associate Membership of the IESL. This will apply to :

- (i) the in-plant and workshop training of graduates, in periods of not less than 2 months.
- (ii) the work experience in the relevant field of candidates who have not followed full-time academic courses. In such cases half or more of the period of work experience will be counted as being equivalent to the training period (six months) prior to qualifying as an Associate Member.

(Rule 5 sets out in detail requirements in respect of Recognized Training and Responsible Experience)

3.3 Research and /or Education Route

3.3.1 A candidate who wishes to be examined on the basis of engineering research and/or engineering education must –

3.3.1.1 Possess an acceptable research Post Graduate Degree in Engineering (which normally takes two academic years) from an Institution recognized by IESL

and

3.3.1.2 be engaged on engineering research work or engineering education at a graduate or higher level at the time of his application, in an institution recognized by the IESL

and training requirements as set out in Rule 5.6.1 under Training for Research Candidates in Rule 5.6

3.4 Mature Candidate Route - Refer Rule 11

4. AIM, SCOPE and COMPOSITION OF THE PROFESSIONAL REVIEW

4.1 Aim and Scope

4.1.1 The Professional Review conducted by the IESL is intended to assess the content, quality and duration, of the training and experience of a candidate. The Review is designed to test the candidate's :

4.1.1.1 grasp of the application of engineering principles to the solution of problems arising in the fundamental process of investigation, planning, design, construction, operation and maintenance of engineering works or plant, or in research and in engineering education.

4.1.1.2 ability to demonstrate a professional approach and capacity to accept professional and social responsibility.

4.1.1.3 ability to communicate clearly, concisely and intelligibly with others.

4.1.2 A candidate will be required to show that he can apply in practice the theory relating to his discipline of engineering and to demonstrate that he has acquired an understanding of the fundamental processes by participating in and contributing to those processes.

4.2 Composition

The Professional Review shall comprise:

4.2.1 An assessment of Recognized Training and Responsible Experience gained by the candidate. (Refer Rule 5)

4.2.2 An evaluation of the Report on Recognized Training and Responsible Experience. (Refer Rule 6)

- 4.2.3 An evaluation of the Design and calculations, drawings, specifications, BOQ or Project. (Refer Rule 7)
- 4.2.4 An interview by a panel of two (2) Corporate Members to assess the candidate's ability to communicate verbally and his competence in specific areas as laid down in Form IESL PR1a. (Refer Rule 8)
- 4.2.5 Written Tests as set out in Section 9.

5. DURATION and CONTENT of RECOGNIZED TRAINING and RESPONSIBLE EXPERIENCE

5.1 General

Set out in this Section are the requirements in respect of training, detailing durations, content and manner of presentation.

- 5.1.1 It is necessary that candidates should have had **adequate facilities at their place of employment** to receive proper guidance from Corporate Members of the IESL as to their training and experience which will enable them, in time, to become competent members of the profession and eligible for Corporate Membership. Such organizations will be recognized as such by the IESL, and will be referred to as an "approved organization".
- 5.1.2. Where in-house facilities are not available the candidate should arrange with his employer for secondment to an approved organization having the facilities for training.
- 5.1.3 A **minimum** of forty eight (48) months in aggregate of Recognized Training and Responsible Experience as defined in Rule 3.2 is required for admission as a Corporate Member of the IESL.
- 5.1.4 It is the responsibility of the candidate to obtain for himself the training and experience to meet the requirements set out in these Rules.
- 5.1.5 During the minimum 48 months period of training and experience, candidates should have acquired a sufficient and varied knowledge of engineering techniques, methods, materials and management pertaining to his field of engineering.
- 5.1.6 For purposes of clarity in defining the scope of these 48 months of training and experience, and setting out acceptable deviations from general requirements, the period of 48 months is divided hereafter into two periods of 24 months recognized training and 24 months responsible experience.
- 5.1.7 Where in-house facilities (approved organization) are not available and release for training cannot be arranged, then the candidate will be required to have thirty six (36) months training under the supervision of a Mentor from within the organisation, who will be a Corporate Member of the IESL.

A **minimum** of sixty (60) months in aggregate of Recognized Training and Responsible Experience as defined in Rule 3.2 are required for admission as a Corporate Member of the IESL.

- 5.1.8 If the mentor, who will be a Corporate Member of the IESL, is not in the organisation then the candidate will be required to have a period of thirty six (36) months training.

A **minimum** of sixty (60) months in aggregate of Recognized Training and Responsible Experience as defined in Rule 3.2 are required for admission as a Corporate Member of the Institution.

5.2 Training

- 5.2.1 The period of training should afford the Trainee adequate opportunity to adapt himself from an academic to an industrial environment, during the course of which he should be directed to acquire the practical skills and a knowledge of the work essential for his future employment, ending up more objectively to be able to shoulder responsibility with confidence under decreasing supervision.

5.2.1.1 During the Training period the Trainee should acquaint himself of :

- a. The Code of Professional conduct of a Chartered Engineer. (Published by the IESL)
- b. The need to provide suitable safety measures in every Engineering project.
- c. His responsibilities to his employer, his colleagues, other Engineers and to the society at large.
- d. The importance and relevance of his theoretical knowledge to the design, construction, operation, maintenance etc. of the service which the employing organization deals with.
- e. The general problems affecting an industrial organization such as financial, economic, commercial limitations; constraints brought about by the quality and number of staff, availability of material resources and the need to conserve the natural environment, and the operational and maintenance requirements that may affect engineering decisions.
- f. The vital importance of good industrial relations, safety, health and welfare, both in relation to employees and the general public interest.
- g. The need to understand the point of view of others and to promote good personal communications at all levels.
- h. The need to exercise sound judgement and to accept responsibility for it.
- i. The need to develop his activities to the best advantages of the profession.
- j. Environmental and Social issues, an awareness of the current laws and rules pertaining to environmental issues and current trends in this area.

5.2.1.2 The period of Recognized Training should consist of the following elements :

- a. Induction
- b. Practical Skills
- c. General Engineering Training
- d. Directed Objective Training

- 5.2.1.2.1 During Induction Trainees are normally assisted to adapt themselves to change from an Academic to an Industrial environment. For this purpose they should be oriented in their organizations, be informed of service conditions, obligations and privileges, occupational hazards and safety precautions to be taken, trade union matters, environmental issues etc.
 - 5.2.1.2.2 A period of training in Practical skills essential for the Trainee's future employment and also for him to appreciate the work of the skilled craftsmen, should be given and the Trainee should carry out important basic items of work himself.
 - 5.2.1.2.3 The period of General Engineering Training will normally occupy more than half of the total training period. During this time the trainee should be introduced to the work of as many fields of engineering to which he belongs.
 - 5.2.1.2.4 The final period of Recognized Training should be directed in preparing the Trainee for the status he is to hold subsequent to completion of the full period of training. During this time he will be allowed to shoulder responsibility in carrying out specific jobs under decreasing supervision in order to stimulate his interest and build up his confidence.
 - 5.2.1.2.5 Throughout his training period the Trainee is advised to maintain a log-book of his activities to ensure that the important features of his training are recorded, and endorsed by his Employer / Chartered Engineer / Mentor. This log-book will facilitate the recognition of a candidate's training by the IESL (vide Rule 5.4 also).
- 5.2.2 Recognized training requirements for the various disciplines are set out in Appendix A.
- 5.2.3 Training requirements for engineering disciplines not covered in Appendix A must be referred to the Executive Secretary for acceptance, prior to embarking on a training programme.
- 5.2.4 Guidelines for Mentoring are set out in Appendix B.

5.3 Responsible Experience

5.3.1 Twenty Four (24) months Responsible Experience

After satisfying the Educational and Training requirements, a candidate for Corporate Membership must satisfy the IESL that he has had not less than 24 months experience in a responsible position in the field of Engineering he has specialized in and its applications.

5.3.2 This experience in the capacity of an engineer should be designed to broaden the candidate's understanding of engineering practice in the relevant discipline. The experience should be varied and it is desirable that the candidate should have the opportunities for engaging in tasks of gradually increasing responsibility.

5.3.3 This professional experience shall not be of a routine nature and must involve the exercise of engineering judgement, display of original ideas, and the taking of

Engineering decisions with responsibility to cover both technical and managerial aspects of his work.

5.3.4 Civil Engineers should have at least six (6) months' experience in a Design office in addition to the training requirements laid down in A.1.1.2 to make up a total of 12 months in a Designs office.

5.3.5 In the case where the candidate is mentored, the Mentor shall also supervise the Responsible Experience.

5.4 Log Book

5.4.1 The submission of a Training Log Book is mandatory. A comprehensive record of Training and Experience should be entered by the candidate in his log book, such records being certified by the Engineer/Supervisor in charge of the work or the Mentor, at the end of each period of training.

5.4.2 Training Log Books will be issued to Student Members, Associate Members of the IESL and to direct applicants seeking corporate membership, to be submitted at the Professional Review.

5.4.3 Training Log Books should not be used merely to catalogue the actual work done, but should be used to give small sketches and other details of problems which arose and how these were overcome, and any other notable features of a particular training period. The Training Log Book should provide a systematic, neat accurate, comprehensive and detailed record of training and experience.

5.4.4 A candidate may in addition to the Training Log Book submit duly certified drawings, sketches, calculations, technical papers, photographic records etc. prepared personally by him which will facilitate assessment at the Professional Review.

5.5 Exceptions

5.5.1 Recognized Training

5.5.1.1 Candidates who have successfully completed a post-graduate research degree of a recognized academic institution, which requires a minimum of two (2) academic years may count half such period up to a maximum of twelve (12) months towards part of the 24 (or 36) months recognized training.

Civil, Mechanical, Electrical and Electronic and Chemical engineers who have successfully completed such a course may count up to a maximum of six (6) months of the allowed 12 months towards Designs Office training laid down in A.1.1.2, A.3.1.1(b), A.2.1.2 and A.4.1.3, provided that the Design content of the post-graduate course is such that it is equivalent to the work that is normally carried out in a Designs Office and that the calculations and drawings are submitted as normally required, in respect of the Designs work carried out in the course of the research study.

5.5.1.2 A maximum period of six (6) months practical training carried out prior to meeting academic requirements for Associate Membership may be counted towards training, provided such training was adequately supervised by a Corporate Member, and the applicant was actually and actively engaged in the work and provided such practical training contributed directly to the development of the capabilities of the Engineer in the discipline in which he specializes, provided

that such training was obtained in minimum continuous periods of two (2) months at a time.

5.5.2 Responsible Experience

5.5.2.1 The full period of teaching experience at the Universities in the relevant field of Engineering after the acquisition of a Post Graduate Research Degree may be counted towards the period of responsible experience.

5.5.2.2 For Civil, Mechanical, Electrical & Electronics, and Chemical Engineering candidates a further period of up to six (6) months may be counted towards Design office experience as laid down in A.1.1.2, A.3.1.1(b), A.2.1.2 and A.4.1.3, in addition to the 6 months training period claimed under 5.5.1.1 for the design work carried out for the Post Graduate Research Degree provided the Design content of the Post Graduate Research Course is such that it is equivalent to the work that is normally carried out in a Designs Office and that the calculations, specifications and drawings are submitted as normally required in respect of the Designs work carried out in the course of the Research Study. These two periods of six months each will **not** be considered to run concurrently.

5.5.3 Responsible Experience in Lieu of Recognized Training

5.5.3.1 Candidates who are unable to satisfy the Council that the training for the profession has been obtained in the manner specified, may apply for recognition of a period of experience in a responsible position with exposure to related work, not less than twice the specified period, in lieu of training, except in the case of Civil Engineering candidates, who may claim such experience only in respect of any period of training shortfall beyond the eighteen (18) months required at A.1.1.1 and A.1.1.2.

5.5.3.2 All Engineering Graduates who serve on the Staff of the Universities as Lecturers, Asst. Lecturers, Teaching Assistants, Instructors may count such experience up to a maximum of twenty four (24) months in lieu of training. Half this period up to a maximum of twelve (12) months will be counted for training.

5.6 Research Candidate Route

5.6.1 A candidate who wishes to be examined on the basis of engineering research must –

5.6.1.1 In addition to the academic requirements set out in Rule 3.3.1, meet the following training requirements :

5.6.1.1.1 have been engaged (whilst holding a responsible position) in engineering for a period of at least two (2) years, after obtaining the first degree in engineering

and

5.6.1.1.2 have had, in addition to 5.6.1.1.1,

either i. Not less than four (4) years' practical experience which may include

- up to one (1) year on an approved course of full time post graduate study,
- up to three (3) years on research for the award of a higher degree,

- research carried out while holding the position of teacher in an approved degree course,
- research in a recognized research institution.

or

- ii. not less than three (3) years' practical experience of which not less than two (2) years have been in the investigation, planning, design or construction of engineering works.

5.7 Candidates working in non-Engineering Institution / Organizations

Candidates who are employed in non-engineering institutions or organizations will be eligible to sit the Professional Review provided they possess 24 months recognized training and 12 months responsible engineering experience, and a further 24 months in a responsible position in the institution or organization. During this period he should be under the supervision of a Mentor.

5.8 Corporate Members of Recognized Professional Institutions

Engineers who are corporate Members of other recognized engineering Institutions are eligible to apply for direct entry as Corporate Members. Their applications will be reviewed on a case-by-case basis.

6. REPORT ON RECOGNIZED TRAINING AND RESPONSIBLE EXPERIENCE

- 6.1 A candidate is required to submit along with his application a Report on his Recognized Training and Responsible Experience.

The main objective of the Report on Training and Experience is to demonstrate that the candidate has achieved the degree of professional competence required of a Corporate Member of the IESL and has exercised responsibility at the required level. The Report which will be in the format set out below will take the form of a record of the candidate's training and responsible experience highlighting those activities which demonstrate competence and senior responsibility.

- 6.2 The following points should be observed when preparing the Report:

- 6.2.1 It is essential to be as succinct as possible and every effort should be made to confine the report to the number of words specified in Rules 6.3.2 and 6.3.3
- 6.2.2 It is essential to describe as clearly as possible what work has been done and what responsibilities the candidate has borne. Statements such as "I was involved in the construction of" should be avoided since such statements do not help the Panel to accurately assess the work done by the candidate.
- 6.2.3 Wherever possible candidates should indicate the relevance of their work to the activities of the Organisation, the size and complexity of the projects or work they have had responsibility for and where appropriate indicate costs and budgets for which they have had overall control.

- 6.2.4 The Organizational Charts are particularly important and should give a clear indication of the candidate's position in the Organisation. The optimum arrangement is to show two or three levels of authority above that of the candidates post and all levels below. If anyone shown in the Organisation chart is a member of the IESL or similar professional institution, his level of membership should be shown.

6.3 The Structure of the Report

The Report on Recognized Training and Responsible Experience should be written in the first person and be concise. The Report which should be submitted in triplicate, should be printed / typewritten on A4 size paper with double spacing, and comprise four distinct sections, as indicated below:

- 6.3.1 Summary of the periods covered during Recognized Training and Responsible Experience showing durations. The candidate will detail the inclusive dates of each sub-division of training and experience, and the duration of such periods. A Corporate Member of this IESL should sign alongside from personal knowledge in certification of each such period. This will be in a tabulated format as per Format given in the Appendix C.
- 6.3.2 An account of the significant areas covered during the period of Recognized Training and Responsible Experience. The candidate will, as an introduction to this report set out in chronological order, relevant particulars of his training and experience to date. He will detail the inclusive dates of each sub-division of training and experience, and the duration of such periods.

The candidate must describe the tasks on which he has been engaged whether in investigation, planning, design, construction, operation, maintenance, manufacture or research and education. The account should explain clearly the precise position the candidate has occupied in each case, and the degree of responsibility assigned to him and should indicate where appropriate the magnitude and cost of works he has been engaged on.

This section should be **not less than 1500 words** with a maximum of 2000 words.

- 6.3.3 A detailed account of a few specific instances which demonstrate the application of theory to practice, instances of technical problems encountered and where the candidate has made a contribution to solving specific problems.

This account would be of approximately **1000 words**.

- 6.3.4 The candidate will also submit, with the report, an Organisation Chart in respect of the last three positions held by him. Corporate Members, who should preferably be representatives of the employers, too should certify these Charts.

7. DESIGN

- 7.1 Design is the heart of engineering and it is essential that all engineers, whether or not they ultimately become designers, should at least have an insight into the design process.

Candidates will be required to submit a design supported by calculations, specifications, drawings and priced B.O.Q. where relevant, as set out below.

- 7.1.1 Civil Engineering Candidates.

7.1.1.1. A Civil Engineering candidate will submit

7.1.1.1.1 a minimum of 3 sheets of size 'A1' (594mm x 841mm) of detailed drawings of which at least one (1) sheet should be drawn entirely by the candidate. Certified copies of originals drawn by him would also be acceptable: Computer aided designs and documentation are acceptable, and here the minimum drawing size should be 'A3' (297mm x 420mm).

7.1.1.1.2 detailed design calculations relating to a candidate's submitted drawings; or calculations and flow charts, prepared by the candidate for a properly written and executed computer programme;

7.1.1.1.3 a priced B.O.Q., which refers to a design which, will demonstrate the candidate's ability to carry out designs and estimates for substantial projects relating to his field of experience.

7.1.1.1.4 The B.O.Q. should include

- a. Taking-off sheets relating either to one of the submitted drawings or to another drawing not necessarily prepared by him which also must be submitted;
- b. prices of basic engineering materials, basic wage rates and work norms adopted. (A candidate should be able to demonstrate at the interview justification for rates given in the bill of quantities).

7.1.1.1.5 Any additional information to substantiate his experience could also be submitted.

7.1.2 Electrical / Electronics / Communication / Information Technology Engineering Candidates

7.1.2.1 All Electrical / Electronics / Communication / IT Engineering candidates must submit –

Either (a) a design supported by analysis, computations, drawings etc. in the form of a report

or (b) results of a project study in the form of a dissertation normally not less than 6000 words

7.1.3 Mechanical / Production Engineering Candidates

7.1.3.1 All Mechanical / Production Engineering candidates must submit a mechanical engineering design supported by calculations, specifications and working drawings and priced B.O.Q where :

7.1.3.1.1 a minimum of 2 sheets of size 'A1' (594mm x 841mm) of detailed drawings of either manual or computer aided drawings. Freehand sketches on which the drawings are based should be drawn entirely by the candidate. Certified copies of originals drawn by him would also be acceptable. Computer aided drawings are acceptable, and here the minimum drawing size should be 'A3' (297mm x 420mm).

7.1.3.1.2 detailed design calculations relating to a candidate's submitted drawings; or calculations and flow charts, prepared by the candidate. Computer aided designs and documentation are acceptable.

7.1.3.1.3 a priced B.O.Q. which refers to a design and which will demonstrate the candidate's ability to carry out designs and estimates for projects relating to his field of experience.

7.1.4 Chemical Engineering Candidates

7.1.4.1 All Chemical Engineering candidates must submit a chemical engineering design supported by calculations and drawings and with a list of major items and Engineering specifications.

7.1.4.2 All documents referred to in this rule should be certified by a Corporate Member under whom the work has been done, or in exceptional circumstances by another Corporate Member from personal knowledge.

7.1.4.3 In the event a candidate cannot satisfy the requirements under clause 7.1.4.1 he may take the Design Project Examination set by the IESL.

7.1.4.4 Computer aided designs and drawings will be acceptable.

7.1.5 Agriculture / Marine Engineering Candidates

All Agriculture / Marine Engineering candidates must submit –

Either (a) a design supported by analysis, computations, drawings, specifications, etc. in the form of a report

or (b) results of a project study in the form of a dissertation normally not less than 6000 words.

7.1.6 Candidates in non-Engineering Institutions

All candidates working in financial institutions must submit a project study in the form of a dissertation normally not less than 6000 words

7.1.7 Requirements for Research Candidate

A research candidate will, in addition, have to appear for an interview and the Written Papers 'A' and 'B' like a candidate applying through the normal route.

8. ORAL EXAMINATION (PROFESSIONAL REVIEW INTERVIEW)

8.1 An interview by a panel will be conducted to assess the candidate's suitability for admission as a Corporate Member of the Institution. The interview will be based on the material (report, design work, log book etc.) submitted by the candidate. The Panel will also assess his ability to communicate verbally.

8.2 During the interview the candidate will be asked to outline the work he has claimed as Responsible Experience and/or aspects of the design submitted by him. The candidate's statement will then be discussed with the aim of ascertaining the degree of professional engineering responsibility carried by him and his personal contribution.

- 8.3 The candidate should demonstrate that the nature of his work is such that it cannot be carried out effectively by a Technician Engineer and establish that he exercises judgement and is professionally responsible for decisions and worthy of being a Corporate Member of the Institution.
- 8.4 The interview will also include a brief discussion of the candidate's professional interests outside his immediate field such as participation in professional and Institution activities.
- 8.5 The oral and written examinations will be conducted by a panel of two (2) Corporate Members of the Institution with an accent on the quality, content and the duration of the candidate's practical training and experience, and the assimilation by the candidate of the requisite knowledge.
- 8.6 All examinations will be conducted in English.

9. WRITTEN EXAMINATION

9.1 Aim and Scope

- 9.1.1 The aim of the written examination is to ensure that the applicant for Corporate Membership of the IESL has made a close study of the responsibilities shouldered by professional engineers as members of society, and that he is adequately conversant with the technological and managerial aspects of his profession.
- 9.1.2 A knowledge of the broad topics covered in the syllabus given in the annexure should be assimilated both by experience gathered during the performance of one's normal duties, and by wide reading and discussion of current topics. The study should be analytical and critical, based on sound reason and judgement, without blind assumptions. Ideas expressed in the answers to the set questions should be well thought out. Candidates should read newspapers, topical journals, publications and reports intelligently and keep themselves abreast of current affairs and modern developments.
- 9.1.3 The applicants should be able to express themselves clearly, concisely and intelligibly in English.

9.2 Composition

- 9.2.1 Candidate shall be required to sit 2 written papers, Paper A and Paper B, unless they are exempted therefrom. These written papers will be as given below.

Paper A - Professional Experience – To test the candidate's ability to express in writing, matters pertaining to his professional experience.

Paper B - Communication Skills and Engineering Related Topics – To assess the candidate's ability to communicate and his awareness of topics based on Technology and Society, Management, Industry and Commerce etc.

- 9.2.2 Each written paper is intended to test the candidate's ability to communicate in English and to marshal his thoughts and express them on paper in a clear and concise manner, in addition to demonstrating his knowledge of the subject.

9.3 Paper A – Professional Experience

- 9.3.1 The topics assigned to a particular candidate in Paper A will be based on his own work experience.
- 9.3.2 Questions on Professional Experience will be directed to ascertain the candidate's ability to express in writing the level of responsibility shouldered and how the candidate has benefited from experience by way of originality of thought and judgement in taking engineering decisions and the solution of day to day problems, faced by him.
- 9.3.3 The essays should follow an ordered structure displaying an awareness of the importance of division into suitable paragraphs. Rough work (if any) may be embodied in the answers but should be struck out when completed.
- 9.3.4 Written Paper A would be of 1 ½ hour's duration. (A candidate is expected to write about 1,000 words in Paper A). During this time candidates are expected to answer one of the questions set. Candidates will be judged and marked on the following criteria :
- | | | | |
|---------|--------------------------------------|---|-----|
| 9.3.4.1 | knowledge of the subject; |) | |
| | |) | |
| 9.3.4.2 | relevance of the candidate's answer, |) | 75% |
| | |) | |
| 9.3.4.3 | clarity of argument |) | |
| | |) | |
| 9.3.4.4 | grammar, syntax and expression |) | 25% |
- 9.3.5 The Pass Mark will be 50%

9.4 Paper B – Communication Skills and Awareness of Engineering related topics

- 9.4.1 Written paper B would be of 3 hours duration and will consist of 2 sections. Section I will be on Communication Skills, whilst Section II will be on topics based on Technology and Society, Management, Industry and Commerce. There will be a wide choice of questions and the paper will be common for all disciplines.
- 9.4.2 The pass mark for this paper will also be 50%.
- 9.4.3 The syllabus for Written Paper B is given in Appendix E.

9.5 Exemption

9.5.1 Exemption from Professional Review Written Examination “A” and “B” Papers

- 9.5.1.1 Candidates having a minimum of twelve (12) years since qualifying for Associate Membership of the Institution, made up of two (2) years Recognized Training and ten (10) years Responsible Experience will be considered exempt from the Professional Review written examinations.
- 9.5.1.2 Such candidates will be required to face the Professional Review interview, unless decided otherwise by the Institution.
- 9.5.1.3 All candidates should meet the other requirements stipulated in the Professional Review Rules.

9.5.1.4 A maximum of up to six (6) months credit will be given for training carried out prior to meeting academic requirements for Associate Membership, provided such training was adequately supervised by a Corporate Member/Mentor.

9.5.2 Exemption from Professional Review Written Examination “B” Paper

9.5.2.1 Candidates who participate in the learned activities of the Institution such as :

9.5.2.1.1 Attending lectures, conferences, courses, workshops, etc

9.5.2.1.2 Present papers and articles in the IESL Journal, Newsletter or present papers at learned seminars, conferences, etc. organized by the IESL or any professional Institution recognized by the IESL

9.5.2.1.3 Serve on IESL Standing, Sectional or ad-hoc Committees,

will accumulate Credits, where a total of twelve (12) Credits will qualify the candidate for exemption from the Professional Review Written Examination “B” Paper.

9.5.2.2 Details of the Professional Credit Plan are given in Appendix D.

10. METHOD OF APPLICATION and RESULTS

10.1 Dates of Professional Review Examination

The examination will be held in Colombo twice yearly, normally in the months of February/March and the months of August/September. A candidate will be informed of the dates of the examination about a fortnight in advance. Paper A will follow immediately after, or shortly after the oral examination. Paper B will be held on a date close to the date of the Paper A, before or after it.

10.2 Application Form and Closing Dates

10.2.1 An application must be made on Form “E”, with the appropriate fees. The applications may be either sent by registered post or delivered by hand.

10.2.1 Application will be received from candidates who are Associate Members of the Institution by 15th December for the February/March Review, or 15th June for the August/September Review.

10.2.2 Direct applicants are required to submit their applications not later than 1st December for the February/March or 1st June for the August / September Professional Reviews.

10.2.3 If acknowledgement is not received by 31st January for the February/March Review or 31st July for the August/September Review, candidates should invite attention without delay.

10.3 Documents to be submitted along with the Application

10.3.1 All documents as stipulated in the application form should be sent along with the application. Originals, as well as certified typewritten copies or photostat copies, of such documents must be submitted.

10.3.2 Documents required to be submitted are shown in Appendix F.

10.4 Dates for Submission of other Supporting Documents

10.4.1 The closing dates for the submission of other documents and relevant certificates, in support of an application are 15th January for the February/March Review, and 15th July for the August / September Review, respectively. These documents and certificates must be sent by registered post or delivered by hand. They must be sent in a separate parcel, folded and securely packed. The parcel should be marked at the top left hand corner "Professional Review Documents". Each sheet of drawing and every document must bear the candidate's name and must be fully described on Form IE (P).

10.5 Fees for Professional Review

10.5.1 An examination fee as decided from time to time by the Council will be levied.

10.6 Results of the Professional Review

10.6.1 Each candidate will normally be notified of the results of the Professional Review within two months of the interview.

10.6.2 The performance at the Oral Examination (including documents where applicable), Written Paper 'A' and Written Paper 'B' will be judged separately and independently, and a Candidate could pass in any one of these three items at a time.

10.6.3 Where a candidate fails the examination, a letter will be sent indicating his deficiencies, and advising him how to make good such deficiencies. There is no right of appeal against the results, and there is no limit to the number of attempts a candidate may have for the Professional Review.

11. MATURE CANDIDATE ROUTE

11.1 Preamble

11.1.1 The purpose of the Mature Candidate Route is to provide a route to corporate membership for those who, although they do not have formal academic qualifications at the required level, are able to demonstrate that in the later period of their technical career they have achieved a standard of engineering competence comparable to that of their contemporaries who have become corporate members by the normal routes.

A conventional examination would not be an appropriate method of testing such candidates.

11.1.2 The Institution regards due recognition of engineering talent, at whatever stage in the technical career it can be identified, as an important contribution to the profession and to the nation. It is desirable that individuals who achieve a high standard of professional competence in the course of their technical careers should not be handicapped by a lack of formal educational qualifications for obtaining corporate membership by the normal routes.

11.1.3 It should be stressed however, that the burden of proof of such competence is upon the candidate. The candidate is required to write a Technical Paper at the required level, which will be submitted, for examination by a panel. If the panel agrees that the standard of the Paper is satisfactory they will proceed to examine the candidate orally after the submission of the report and any other material it may consider relevant.

11.2 Definition and Scope

11.2.1 A Mature Candidate is defined as a person with considerable experience and responsibility as an engineer who has had experience in posts of increasing responsibility in a relevant branch of engineering for a period not less than 15 years. At least for 10 years he should have held the post of an engineer, which appointment should be on the basis of an approved scheme of recruitment in an engineering Organisation, and he should have shouldered responsibility in the post of Engineer comparable with that of a qualified engineer. Further he should have attained such a position as to demonstrate a level of competence that prima facie would have admitted him as a corporate Member, had he satisfied the normal academic requirements.

11.2.2 This document gives details of the Paper to be submitted and the form of Oral Test whereby such a person can demonstrate his knowledge and competence.

11.3 Entry Requirements

11.3.1 Candidates should

- a. be at least 45 years old at the date of application;
- b. have had experience and responsibility as an engineer as indicated at Rule 11.2.1 above;
- c. have attained a position demonstrating a level of competence as referred to at Rule 11.2.1 above;

11.3.2 Candidates will not be required to produce evidence of educational attainment.

11.4 Method of Application

11.4.1 a. Candidates should apply to the Institution for admission to Corporate Membership by the Mature Candidate Route on the appropriate form.

b. The candidate must be proposed and supported by at least four Corporate Members.

c. One such Proposer or Supporter, preferably the one acquainted with his work, should certify the correctness of the experience mentioned in the application.

d. The candidate's Proposer and Supporters must be aware that he intends to attempt to satisfy the educational requirements by the Mature Candidate Route.

e. Applications would be entertained only twice a year in December/January or June/July.

11.5 Synopsis

- 11.5.1 Candidates who satisfy the Responsible Experience requirement will be asked to submit a 1000 word Synopsis of the Paper they propose to submit as evidence of academic competence. Candidates should submit the Synopsis within 8 weeks. Two Referees – One a senior member of the Institution from the academic field and the other also a senior member of the Institution from Industry – will be appointed to assess the Synopsis.
- 11.5.2 The synopsis should set out the main divisions of the proposed Paper and the method of treatment. The Synopsis and the subsequent paper should avoid material, which only demonstrates the extent of the candidate's experience. The Synopsis should indicate how the Paper will display the candidate's depth of technical knowledge in his chosen subject and in particular his grasp of engineering principles. It should not be lengthy. The Referees will be searching in their assessment of the Synopsis and will submit their Evaluation Report to the Executive Secretary, who will inform the candidates of any deficiencies in the Synopsis. If the Synopsis has to be re-submitted it should be done within 8 weeks, after the candidate is informed.

11.6 The Paper

- 11.6.1 When the Synopsis is approved the candidate may proceed to prepare the Paper. He will be allowed a period of up to two years from date of acceptance of Synopsis to prepare and submit the Paper in its final form. A candidate who fails to submit the Paper within the specified period must re-apply.
- 11.6.2 Normally the Paper should be about 8,000 words in length on an approved subject, which demonstrates the candidate's specialized knowledge in his field of engineering. It may be based, if desired, on a design study, or report of original work, or on other previously published works of the candidate's own authorship. However, in the case of joint authorship, the candidate's contribution should be made clear in the paper.
- 11.6.3 The candidate will be expected to offer an orderly and critical exposition of the problems encountered or development aims involved, and demonstrate his resolution of achievement by the application of engineering principles and knowledge. The candidate will also be expected to draw conclusions from his results.
- 11.6.4 The Paper should contain more than descriptive matter that could be assembled from published material. It should contain reasoned analysis and synthesis. There should also be discussions on the validity of the applications of basic knowledge to the development of the subject of the Paper. In many topics cost effectiveness and optimization could be introduced beneficially a fundamentals of good engineering.
- 11.6.5 The assessors will not approve a Paper which is an account of engineering work, however detailed it may be, unless it demonstrates the connections with the principles of Engineering Science and other relevant work in the field.
- 11.6.6 Historical reviews except as a necessary background to the submission should not be undertaken, and it is probably more profitable to concentrate in depth on a specialized area of the candidate's own engineering work than to attempt to cover a wider field with probable resultant lack of depth.
- 11.6.7 Where appropriate, the text should be illustrated by clearly drawn sketches and/or diagrams. A reference list should be provided if the candidate makes use of any source material.

- 11.6.8 If the Paper is based on a design study or report, the documents submitted may take a variety of forms, but in every case should be such as to illustrate the candidate's understanding and application of engineering principles. Drawings covering a design or feasibility study should be accompanied by a commentary and calculation, illustrating the lines of thought followed. Papers or reports, published or unpublished, of which the candidate is the author, may be used, provided the subject is the candidate's original work and relevant to his field of engineering.
- 11.6.9 The Paper must be typewritten or printed in double spacing on one side only of A4 size paper. Three copies, each securely bound in a separate folder, have to be submitted. It is recommended that at least one other copy be retained by the candidate since the Institution cannot accept responsibility for the non-receipt of a Paper in transit. A signed declaration must accompany the three copies of the Paper that the text of the Paper is the candidate's own unaided work.
- 11.6.10 Candidates should bear in mind that it is their own responsibility to obtain the permission of employers and/or any others concerned to submit work of a confidential nature.
- 11.6.11 The candidate's Paper will be assessed by a Panel of Assessors acting on behalf of the Institution. The panel should comprise of 3 members at least 2 of whom should be from the academic field. The panel should preferably include the 2 referees. If the paper is found acceptable by the Panel, the candidate will be required to present himself for an interview. No interview will be held if the Paper is adjudged not to have reached the required standard. However, a candidate may then be given an opportunity to re-submit his Paper after amendment or modification, having been notified of his shortcomings and referred to a senior engineer for counseling.
- 11.6.12 Assessors will judge the Paper against the standard of work expected from a graduate engineer (or one of equivalent qualification) whose subsequent field of activity has been similar to that of the candidate. Exceptional experience and responsibility on the part of the candidate will not be allowed to off-set an otherwise inadequate Paper.

11.7 The Interview

- 11.7.1 A candidate whose Paper is deemed satisfactory will be required to present himself for an interview where he will be called upon to demonstrate his competence in the principles of engineering and in computation relevant to his thesis. At the interview the candidate will be examined orally on the subject of his paper. He may bring with him other material such as a design study, notes and/or drawings of original work, photographs or copies of any of his published works, that he considers will be helpful in demonstrating that he has attained a high standard of knowledge and competence in his field of engineering comparable to that of a Chartered Engineer. The interview panel will consist of 5 members, at least 2 of whom should be from the academic field and preferably including the 2 referees who assessed the synopsis.
- 11.7.2 The interview panel will examine the candidate's understanding of the principles of engineering and the way in which these principles are applied for the particular field of engineering in which the candidate works. Interviewers will then judge whether the candidate has demonstrated sufficient understanding to be recommended for exemption from the Institution's educational requirements. They will make this judgement by comparing the candidate's academic knowledge as demonstrated in the Paper and at the interview, with that which would have been acquired by a normally qualified Corporate Member of average ability.

11.7.3 A candidate who fails the oral examination will, only under exceptional circumstances, be allowed to repeat the entire procedure and then on a different topic.

11.8 Notification of Results

11.8.1 After consideration of the views of the Assessors and Interviewers on both the Paper and the Interview the candidate will be notified of the result.

For a successful candidate the formal procedures for transfer to Corporate Membership of the Institution will then be instituted and on satisfactory completion his name will be included in the Membership Register.

11.8.2 The Institution will not enter into correspondence concerning the final decision or divulge the reports of the Assessors or Interviewers.

APPENDIX A

A. Recognized Training Requirements for the various disciplines

The training requirements for the different engineering disciplines are given below. The exceptions to these will be as provided for in 5.5.

A.1 Civil Engineering

A.1.1. Applicants should have after successful completion of the IESL examinations in full or a recognized Engineering Degree or equivalent:

- A.1.1.1 A minimum of 12 months recognized training in Civil Engineering construction, in as many Civil Engineering branches as possible of which at least 6 months should be continuous.
- A.1.1.2 In addition, a minimum of 6 months training which should be continuous, engaged in designs work, and doing a design and drawing under the direct supervision of a Corporate Member, to be submitted for the Professional Review.
- A.1.1.3 Those who are unable to satisfy the requirement laid down in A.1.1.2 above may complete a comprehensive design project under a Chartered Engineer approved by the Council. The comprehensive designs project should have the prior approval of a committee set up for this purpose consisting of at least three (3) designs engineers.

On completion of the project the candidate should present his designs to the committee for evaluation and he should defend his work before a special panel appointed for the purpose.

A.2 Electrical and Electronics Engineering

A.2.1 Applicants should have after successful completion of the IESL examinations in full or a recognized Engineering Degree or equivalent:

A.2.1.1 a minimum of 24 months training in aggregate in one or more of the following major fields:

Electrical Power Systems, Electrical Machines, Electronics, Communication Systems, Control Systems, Automation and Computer Systems and any other, that may be included from time to time by the Council.

A.2.1.2 The training may be in areas of Planning, Design and Development, Estimating, Construction, Manufacture, Installation, Commissioning, Inspection and Testing, Operation and Maintenance. Engagement in all the above areas will not be required, but a broad training not restricted to a narrow field is required.

A.2.1.3 They should, within this period, also have 3 months of training in the use of basic hand tools and machine tools in a workshop if they have not had such training prior to graduation.

A.3 Mechanical Engineering

A.3.1 Applicants should have after a successful completion of the IESL examinations in full or a recognized Engineering Degree or equivalent:

A.3.1.1 A minimum of 24 months recognized training made up of :

A.3.1.1.a At least 6 months in an approved Mechanical Engineering workshop, giving the candidate adequate exposure to the applications of Mechanical Engineering through a combination of :

- Engineering Materials – types & properties
- Material Forming – ferrous & non-ferrous foundry practice, machining, milling, extruding, etc.
- Fitting
- Materials Joining – welding, fastening, adhesives, etc.
- Design & Manufacture
- Installation & Commissioning
- Control Systems
- Electrical & Electronic applications
- Measurement & Inspection techniques
- Computer Applications

A.3.1.1.b At least 18 months in Company Specific Training, which will extend the general training received in A 3.1.1.a and help in focusing towards the special needs of the employing organization in order that candidate plays an effective part in that business. This module with Mechanical Engineering overtones will expose the candidate to :

- Process Engineering
- Production Management
- Maintenance Management
- Energy Management
- Project Management
- CAD / CAM applications
- Advanced Metrology & NDT techniques
- Financial & Commercial appreciation
- Personnel & Human Resources issues
- Health, Safety and Environmental needs.

A.4 Chemical Engineering

A.4.1 Applicants should have after a successful completion of the IESL examinations in full or a recognized Engineering Degree or equivalent:

A.4.1.1.a A minimum period of 12 months being in at least **two (2)** of the following four process and plant aspects :
Process and Plant Evaluation (technical & economic)
Process, Plant and Equipment Design.
Process, Plant Construction (Materials & Methods)
Process, Plant Operation

- A.4.1.1.b A further minimum period of 12 months basic training in the following aspects. Selection of any **four (4)** number of aspects from the following to bring the total to **six (6)** :
- Chemical Engineering Research
 - Process and Plant development
 - Quality assessment of process materials
 - Instrumentation control and computer application.
 - Technical sales marketing and contract negotiations.
 - Economics, Accounting and other management services
 - Administration & Management and Project Management
 - Teaching Chemical Engineering in accredited Degree courses.

A.5 Materials / Metallurgical Engineering

- A.5.1 Applicants should have after a successful completion of the IESL examinations in full or a recognized Engineering Degree or equivalent:

- A.5.1.1.a A minimum of 12 months training in one or more areas in the following major fields :

Metallurgy - Foundry practice, metal forming, fabrication, welding, heat treatment and surface treatment.

Ceramics - Ceramic processing, manufacturing methods, operation and maintenance of machinery.

Polymers - Polymer processing, manufacturing methods, operation and maintenance of machinery.

- A.5.1.1.b The balance 12 months training may be in areas of planning, design and development, selection of materials, testing, quality control, measurements and inspection techniques and failure analysis in one of the major fields. Engagement in all the above areas will not be required, but a broad training not restricted to a narrow field is required.

- A.5.1.2 Materials / Metallurgical Engineers should submit a thesis on problems related to or encountered by those industries. The thesis should have been approved by two referees.

A.6 Mining and Geotechnical Engineering

- A.6.1 Applicants should have after a successful completion of the IESL examinations in full or a recognized Engineering Degree or equivalent:

- A.6.1.1 A minimum period of 24 months of training of which at least 12 months should be continuous practical training in one of the following branches :

A.6.1.1.a For Mining Engineering

- (i) Mining operations where tunneling, shaft sinking, raising, winzing, stopping and securing of ground are practiced.

- or
- (ii) Mineral processing where crushing, grinding, screening, floatation, gravity separation, etc. are practiced.
- or
- (iii) Quarrying where bench drilling, bench blasting, muck loading, crushing and grinding are practiced.
- or
- (iv) Oil well drilling and associated work, exploration drilling, production drilling and drilling for water.

Note : In (i), (ii), (iii) and (iv) above, engagement in all the areas will not be required, but a broad training not restricted to a narrow field is required.

A.6.1.1.b For Geotechnical Engineering

- (i) Geotechnical Investigations; embankment construction and associated operations; foundation excavation and improvement / treatment; material testing/quality control; excavation and stabilization of slopes (rock/soil).
- or
- (ii) Construction of underground chambers; tunneling in rock and /or soil with associated operations such as excavation, drilling and blasting, mucking operations, lighting, ventilation, de watering etc; stabilization of tunnel walls, doweling, rock bolting, shotcreting, grouting, concrete lining, steel lining, etc.
- or
- (iii) Geotechnical Investigations; material testing; Engineering aspects of landslides including investigations, monitoring, counter measures for controlling and stabilisation of slopes; earth retaining structures.

Note : In (i), (ii) and (iii) above, engagement in all the areas will not be required, but a broad training not restricted to a narrow field is required.

A.7 Agricultural and Plantation Engineering

A.7.1 Applicants should have after a successful completion of the IESL examinations in full or a recognized Engineering Degree or equivalent:

or

A Degree in Agriculture with post-graduate qualifications in a relevant field of engineering of minimum one year duration.

A.7.1.1 A minimum period of 24 months of training which should be made up as follows :

- A.7.1.1.a At least 6 months in an Engineering workshop or factory giving the candidate adequate experience in the principal engineering processes such as :-
Foundry Practice, Smithy, Machining, Welding, Fitting, Fabrication, Heat Treatment and Wood work, Electrical and Electronic Practice.
- A.7.1.1.b At least 9 months field training on a farm or Agricultural station giving the candidate adequate experience in farming operations and

cropping programmes both in annual as well as perennial crops, farming, animal husbandry, water management and irrigation practice, farm layout and management.

A.7.1.1.c Not less than 6 months training in either :

The design, construction and manufacture, installation, testing or maintenance of agricultural and/or plantation machinery including product processing machinery and the operation and maintenance of both field machinery as well as crop processing machinery on a tea/rubber/coconut or sugar plantation or arable farming estate/station, or food processing plant.

or

The design, installation, operation and maintenance of irrigation systems on farms/plantations including gravity, sprinkler and drip irrigation. The management of on-farm irrigation practice involving the use of soil moisture, soil type, crop and weather considerations and systems of soil and water conservation. The practice of land use and land conservation.

or

The design, construction operation, maintenance and environment control of farm structures such as silos, ventilated stores, animal housing, crop processing structures, crop dryers, crop preservation, transport and packing systems, for both perishable as well as non-perishable agricultural products.

A.7.1.1.d The balance period to make up an aggregate of 24 months in either 7.1.1.a. or 7.1.1.c. above.

A.8 Production Engineering

A.8.1 Applicants should have after a successful completion of the IESL examinations in full or a recognized Engineering Degree or equivalent:

A.8.1.1 A minimum of 24 months recognized training in aggregate in one or more of the following major field in a manufacturing environment :

Machining, Metal Forming, Foundry, Welding, Fitting, Fabrication, Heat Treatment, Surface Treatment and any other that may be included from time to time by the Council.

A.8.1.2 The training may be in areas of Planning, Design & Development, Estimating, Construction, Manufacture, Installation, Commissioning, Inspection & Testing, Operation and Maintenance. Engagement in all the above areas will not be required, but a broad training not restricted to a narrow field is required.

A.8.1.3 They should within this training period, have a minimum of three months training in the use of basic hand tools and machine tools in a workshop, provided they have not had such training prior to graduation.

A.9 Marine Engineering

A.9.1 Applicants should have after a successful completion of the IESL examinations in full or a recognized Engineering Degree or equivalent:

A.8.1.1 A minimum of 24 months recognized training in aggregate in one or more of the following sectors/areas :

Ship repair and construction in On-shore, Off-shore or Sub-sea marine engineering fields,
Design and/or construction of ships, crafts, marine vessels and structures,
Service on-board sea going ships, vessels and crafts,
and any other that may be included from time to time by the Council.

A.9.1.2 The training may be include Operation and Maintenance, Planning, Design & Development, Estimating, Construction, Manufacture, Installation, Commissioning, Inspection & Testing, and Marine/Ship Surveys in above sectors/areas. Engagement in all the above areas will not be required, but a broad training not restricted to a narrow field is required.

A.10 Telecommunication & Information Systems Engineering

A.10.1 Applicants should have after a successful completion of IESL examinations in full or a recognized Engineering Degree or equivalent:

A.10.1.1 A minimum of 24 months recognized training , of which at least 12 months should be continuous, in one or more of the following major field :

Electronics, Telecommunications, Information Systems, Power Electronics, Measurements, Instrumentation, Control Systems, Automation, and any others that may from time to time, be included by the Council.

A.10.1.2 The training may be in areas of Planning, Design & Development, Prototyping, Industrial Systems, System Integration, Networking, Manufacture, Installation, Commissioning, Inspection & Testing, Operation and Maintenance, Type Approvals, etc. Engagement in all the above areas will not be required, but a broad training not restricted to a narrow field is required.

Considering the rapidly changing nature of Electronics, Communication and Information Systems fields of Engineering, the applicants should demonstrate knowledge and awareness of current techniques and technologies (within 3-5 years prior to the date of application) in the chosen major field of training.

A.10.1.3 They should within this training period, have a minimum of three months training in the use of electronic workshop tools, testing and measuring instruments in a workshop, provided they have not had such training prior to graduation.

A.11 Clothing / Textile Process Engineering

A.11.1 Applicant should have after successful completion of an approved course for an Engineering Degree or equivalent:

A.11.1.1 A minimum of 24 months training in a relevant industrial organization, academic institute or research organization to achieve recognized work related experience as follows:

A.11.1.1.a At least 12 months period of training in a relevant industrial organization, academic institute or research organization in:

Textile Process Engineering in areas of -

Production, distribution, dyeing and finishing of any manmade fiber type

Drawing , preparation, spinning of natural fibres.

Production of textile films

Production, distribution, dyeing and finishing of yarns and threads.

Production, treatment, dyeing and finishing of textile fabrics, woven, knitted and non-woven.

Textile fabric, yarn or thread dyeing and finishing.

Cords and braids

Technical Textiles including medical, composites and structure.

A.11.1.1.b At least 12 months period of training in a relevant industrial organization, academic institute or research organization in:

Clothing Production in areas of -

Process design/development

Production planning and control

Capacity planning

Scheduling and loading of the production line

Work place engineering

Time and work study engineering

Computer Aided Design(CAD)

Garment Dyeing and Washing

APPENDIX B

B Mentoring System

B.1 Appointment of Mentors

B.1.1 Mentors could be appointed, with the approval of the IESL in respect of each Associate Member seeking to become a Corporate Member of the IESL.

B.1.2 Mentors will be Corporate Members of the Institution, with a minimum of five (5) years post-Charter experience, or any other Engineering Institution recognized by the IESL.

B.1.3 In organizations having graduate engineers in their employment, the Mentor can be appointed from amongst its staff or outside (as a consultant). A Mentor has to be appointed in respect of each student/AM in the organization. The Mentor should

preferably be the immediate supervisor, who should be a Chartered Engineer. However, the concurrence of the IESL must be obtained for such appointment.

- B.1.4 The IESL at the request of a student/associate member can appoint a Mentor from amongst its membership. Where the IESL has been asked to appoint a Mentor by a AM/student, such student may be required to make a payment (annual fee) to the IESL for this service.
- B.1.5 The IESL may place a limit on the number of student/AM members any person could be a mentor to. This is with a view to ensuring that the Mentor can meet his obligations towards his mentoree.

B.2 Responsibility of a mentor

- B.2.1 Mentors should acquaint themselves of the training requirements for admission to the class of Members. They should study the training and experience programs of each student/AM member in their charge and advice as to its adequacy. They could in turn advice the organization to amend its proposed plan for training/experience of a candidate, in keeping with the aims and objectives of the organization.
- B.2.2 They should have regular meetings with the student/AM they are expected to mentor, where they counsel the student/AM regarding the requirements of the IESL, test and advice the student/AM about shortcomings in his communication skills, indicate areas where the student/AM should acquire additional skills, etc.
- B.2.3 They should report to the IESL about the student/AM in relation to his training (as against the total proposed), experience (as against the total proposed), communication skills, knowledge of general engineering (engineer in society), language etc. This may be done on a standard format (B 4), and every six months.
- B.2.4 The Mentor should be one of the proposers or supporters in the application for membership of his mentoree.
- B.2.5 The mentor of a particular candidate should not serve in the PR panel of that candidate.

B.3 Responsibility of the IESL

- B.3.1 The IESL will arrange meetings for mentors at regular intervals to
 - Appraise the Mentor of the IESL requirements (existing or new)
 - Get feedback in the operation of the mentor schemeThese meetings will be chaired by senior members of PR panels.
- B.3.2 Maintain records of student/AMs reports submitted by the mentors. Such reports should be made available to the PR panels for their use.
- B.3.3 To consider the performance of candidates as Mentors when evaluating applications to the class of Fellows. Maintain records of candidates including their performance, mentored by the mentor.

B.3.4 Appoint a Mentor at the request of a student/AM member, from the list of persons who have offered their service as mentors. Monitor the reports and make payments to the mentor in such cases.

TRAINEE EVALUATION REPORT

To be submitted by Mentor every six (6) months in respect of the performance of the Mentoree

Name of Trainee : IESL #.....

Address :

Employment :

Discipline : Age : Gender : Male / Female

Training at :

Name of Mentor : IESL #.....

Address :

Period of mentoring under review : From To

TRAINING

Category : Induction / General Engineering Training / Directed Objective Training

Please comment on :

1 Mentoree’s performance during the specified training period, emphasizing on practical skills development, appreciation of engineering principals, social responsibility, and general attitude.

.....
.....
.....
.....

2 Oral and Written Communications (English)

.....
.....

3 Any other relevant points

.....
.....

4 Mentoree’s comments with regards to training during specified period

.....
.....
.....

.....
Signature of Mentor

.....
Date

.....
Signature of Mentoree

Note - If required please use additional sheet of paper for continuation of comments, taking care to number and sign it.

APPENDIX C

C Format for Summary of Training vide Rule 6.3.1

FORMAT FOR SUMMARY OF RECOGNIZED TRAINING & RESPONSIBLE EXPERIENCE

(I) Recognized Training Prior to Graduation (Vide Rule 5.5.1.2)

Total Months

Place of Work	Inclusive Dates			Position	Under whom	Signature of certifying officer
	From	To	Duration (months)			

(ii) Recognized Training After Graduation (Vide Rule 5.5.2)

Total Months

Place of Work	Inclusive Dates			Position	Under whom	Signature of certifying officer
	From	To	Duration (months)			

Breakup of total into Different Types of Training as per Appendix A.

- (a)
- (b)
- (c)

(iii) Responsible Experience (Vide Rule 5.3)

Total Months

Place of Work	Inclusive Dates			Position	Under whom	Signature of certifying officer
	From	To	Duration (months)			

(iv) Exceptions (Vide Rule 5.5)	Total Months No. of Months
(a) Recognized Training – Rule 5.5.1.1	.....
(b) Responsible Experience – Rule 5.5.2	.....
(c) Experience in Lieu of Training – Rule 5.5.3	.....
Total	.....

FORMAT FOR SUMMARY APPLICABLE TO RESEARCH CANDIDATES

Vide Rules 5.3 & 5.6

	Name & Signature of Person Certifying
(a) Name of Post Graduate Qualification and of Recognized Institution	.....
(a) Engagement in Research work at time of application and name of Recognized Institution	.....
(b) Period of engagement in engineering, giving name of responsible position held & inclusive dates	.....
(c) Approved course of full time post graduate study followed, with inclusive dates and duration.	.....
(d) Duration of post graduate research degree, with inclusive dates	.....
(e) Duration of research carried out whilst holding post of teacher in an approved degree course, giving inclusive dates.	.....
(f) Duration in a Recognized Research Institution with inclusive dates.	.....
(g) Practical Experience if any: total duration in years with inclusive dates	.....
No. of Years engaged in:	
(i) Investigation	.....
(ii) Planning	.....
(III) Design	.....
(iv) Construction	.....

APPENDIX D

E. Professional Credit Plan for exemptions from 'B' Paper :-

To get exemption candidates have to obtain a minimum of 12 credits from the Credit Plan at the time of submitting his/her application for the Professional Review.

Details are as follows :

Category	Activity	Credits
1. Learned	1.1 Attended public lectures/seminars / congresses / conferences / workshops / courses organized by the IESL	
	1.1.1 Public Lectures	0.20 per lecture
	1.1.2 Conferences / congresses/workshops/ Seminars	
	½ - 1 day	0.25 per programme
	1½ - 2 days	0.50 per programme
	3 – 5 days	0.75 per programme
	6 or more days	1.00 per programme
	1.1.3 Courses	
	½ - 1 day	0.50 per course
	1½ - 2 days	0.75 per course
3 – 5 days	1.00 per course	
6 or more days	1.50 per course	
2. Presented	2.1 Published papers in IESL or other publications	
	2.1.1 Papers in the IESL Journal, Proceedings of the Annual Sessions (Transactions) or any other publication (International/Local) acceptable to IESL	1-3 credits per paper
	2.1.2 Paper/Report/News item in the IESL Newsletter	½ -1 credit per item
	2.2 Presented a paper at IESL organized Seminars/Workshops/Conferences or any Professional Institutions/Organizations acceptable to IESL for this purpose.	1-2 credits per paper
3. Served	3.1 Served in IESL Sectional Committees/ Sub-Committees/adhoc committees etc.	
	As a Chairperson (A minimum of 75% Attendance is required)	3 per year (or duration of the committee)
	As a Member (A minimum of 75% Attendance is required)	2 per year (or duration of the committee)

- NOTES :
- i. Documentation must be submitted to verify all claimed credits
 - ii. The maximum credits that can be accrued in each category is six (06).
 - iii. The credit plan is acceptable to the activities jointly organized by the IESL with other organizations or by other Institutions acceptable to IESL.
 - iv. Co-authors or Co-presenters will be entitled to an equal share of credits subject to a minimum of one credit.
 - v. This is applicable after becoming an Associate Member.
 - vi. In 2, the maximum credits to be 3, if the activities are non-IESL.

APPENDIX E

D Syllabi for Paper B

D.1 Paper B:

D.1.1 Syllabi on Communication Skills and Topics based on Technology and Society, Management, Industry and Commerce.

D.1.1.1 Communication Skills : The art of communicating clearly, concisely and intelligibly in English: i.e. Communication with the public, written reports, etc.

D.1.1.2 Technology and Society : the growth and effects of technology, the role and responsibilities of the engineer in society, the education and training of professional engineers. Social, economic and political factors affecting engineering decisions, the status of the Engineer. Public consultations, an engineer's service in a developing country and causes for the brain drain.

D.1.1.3 Management, Industry and Commerce : Organisation review and analysis for determining appropriate relationships, responsibilities and levels of authority, delegation of powers, manpower planning, recruitment and selection, human resource development, Industrial relations. Employee remuneration, Employee services, including safety, health and welfare, Administration, Engineering contracts, Methods of Communication with the Organisation and between different organizations.

(A list of books recommended for reading could be had from the Executive Secretary on application)

APPENDIX F

F Documents to be Submitted with Application. (Vide Rule 10.3.2)

F.1 Four(4) copies of the Report on Recognized Training and Responsible Experience (Vide Rule 6)

F.2 Four(4) copies of the Summary of Recognized Training and Responsible Experience (Vide Rule 6.3.1)

F.3 Original and one(1) copy of the letter of first appointment to the grade of engineer after graduation. (Original with be returned).

- F.4 *Original and one(1) copy of the Degree certificate or equivalent (Original will be returned).
- F.5 *Original and one(1) copy of the Birth Certificate (Original will be returned).
*(D.4 and D.5 are applicable to direct applicants only)
- F.6 Any other relevant document such as Credit Plan Record Book, etc.

CONFIDENTIAL

**THE INSTITUTION OF ENGINEERS, SRI LANKA
PROFESSIONAL REVIEW – FEB/MAR – AUG/SEP**

Name of Candidate: Index No
 Panel Members: 1 2
 3 Date of Interview

.....
 (To be filled by the Panel at the Interview)

.....
 (i) Assessment of Training (Vide Rules 5 and 6) – Duration and Quality

	Period (Months)	Adequate	Inadequate	Remarks
(a) Recognized Training (Rule 5.2) (b) Experience in lieu of training (Rule 5.5.3) (c) Research/Teaching/etc. (Rule 5.6) (d) Responsible Experience (Rule 5.3)				
		Satisfactory	Unsatisfactory	
(e) Report (Rule 6) (f) Supporting Documents (Rule 5.4) Log Book, Sketches, Photographs etc.				

(ii) Assessment of Designs: (Vide Rule 7)

	Pass	Fail	Remarks
(a) Investigation, Designs & Calculations (b) Drawings with details (c) B.O.Q			

(iii) Interview (Vide Rule 8)

	Below Average	Average	Above Average	Remarks
(a) Professional Engineering Responsibility (b) Degree of Professional Judgement (c) Fundamental Engineering knowledge (d) Initiative & Leadership (e) Communication Ability				

NOTE: To be successful a candidate has to score, Adequate, Pass & "Average" or "Above Average" for all items.

Result: The candidate has Passed/Failed the interview.

Summary of Remarks
.....
.....

Signatures of Panel Members : 1..... 2... .. 3

(iv) Results of Section "A" Paper (Vide Rule 9.4) (To be filled by the Panel)
..... % Marks Candidate has Passed / Failed

Remarks
.....
.....

Signature of Examiners: Examiner 1 Examiner 2..... Examiner 3

NOTES:

1. (To be communicated to the candidate)
In case the candidate has failed, his/her shortcomings should be detailed below so that the candidate can remedy shortcomings. Please specify further submissions and/or experience required referring to items (I) to (iii) above. Also state the specific period after which the candidate should apply for a reconsideration of his application.
.....
.....
.....
.....
.....

2. (For the information of the Membership Committee)
If any Thesis/Report etc is of sufficient merit, please draw your attention to it below, so that the candidate can be invited to make a contribution to the Journal "Engineer" or Annual Transactions.
.....
.....
.....
.....

Signatures of Panel Members/Examiners: Panel Member/Examiner 1.....
Panel Member/Examiner 2 Panel Member/Examiner 3

(v) Results of Section "B" Paper (Vide Rule 9.5)
(To be filled by the Secretariat with reference to the marks list given by the Examiners of the B Paper)

..... % Marks Candidate has Passed/Failed

Remarks
.....
.....

Signature Executive Secretary

(vi) Confidential Reports from Proposers

We have perused the confidential reports received from the proposers and we are satisfied that the candidate is suitable / not suitable for acceptance to the class of Member.

Signatures of Panel Members: Panel Member 1 Panel Member 2
Panel Member 3