Republic of the Philippines
Professional Regulation Commission
Manila

BOARD OF ELECTRONICS ENGINEERING
Resolution No. 02
Series of 2007

RULES AND REGULATIONS IMPLEMENTING REPUBLIC ACT NUMBERED NINETY-TWO AND NINETY-TWO (R.A. 9292), KNOWN AS "THE ELECTRONICS ENGINEERING LAW OF 2004."

Pursuant to Section 39, Article VIII of Republic Act No. 9292: "AN ACT PROVIDING FOR A MORE RESPONSIVE AND COMPREHENSIVE REGULATION FOR THE REGULATION, LICENSING AND PRACTICE OF PROFESSIONAL ELECTRONICSS ENGINEERS, ELECTRONICS ANGINEERS AND ELECTRONICS TECHNICIANS, REPEALING REPUBLIC ACT NO. 5734, OTHERWISE KNOWN AS "THE ELECTRONICS AND COMMUNICATIONS ENGINEERING ACT OF THE PHILIPPINES," AND FOR OTHER PURPOSES", the Professional Regulatory Board of Electronics Engineering hereby promulgates, subject to approval by the Professional Regulation Commission, the hereunder rules and regulations to carry out effectively the provisions of R.A. No. 9292.

Rule I

SHORT TITLE, STATEMENT OF POLICY, DEFINITION OF TERMS, SCOPE OF PRACTICE

SECTION 1. ***Short Title.*** **–** This Resolution shall be known as the **"RULES AND REGULATIONS OF THE "ELECTRONICS ENGINEERING LAW OF 2004", hereinafter - referred to as the "IRR".**

SEC. 2. ***Statement of Policy*** **–** The State recognizes the importance of electronics engineering in nation-building and development. The state shall therefore develop and nurture competent, virtuous, productive and well-rounded Professional Electronics Engineers, Electronics Engineers and Electronics Technicians whose standard of practice and service shall be excellent, qualitative, world class and globally competitive through inviolable, honest, effective and credible licensure examinations and through regulatory measures, programs and activities that foster their integrity, continuing professional education, development and growth. This "IRR" shall be integrated, construed, and carried out in the light of the Statement of Policy in Sec. 2, Art. I of R.A. No. 9292.

SEC. 3. ***Definition and Interpretation of Terms*** **–** As used in R.A. 9292, the following terms shall mean:
(a) ***Act*** – refers to R.A. No. No. 9292
(b) ***Accredited Professional Organization*** – *refers to the Institute of Electronics Engineers of the Philippines, Inc. (IECEP) as* the integrated and accredited national organization of Professional Electronics Engineers, Electronics Engineers and Electronics Technicians pursuant to Sec. 32, Art. V of R.A. No. 9292.
(c) ***Broadcast, Broadcasting*** - an undertaking the object of which is to transmit audio, video, text, images or other signals or messages for reception of a broad audience in a geographical area via wired or wireless means.
(d) ***Commercial Establishment*** - shall include but not be limited to office buildings, hotels, motels, hospitals, condominiums, stores, apartments, supermarkets, schools, studios, stadia, parking areas, memorial chapels/parks, watercraft and aircraft used for business or profit, and any other building/s or area/s for business purposes, where electronic or electronically-controlled machinery or equipment are installed and/or are being used, sold, maintained, assembled, manufactured or operated.
(e) ***Communications*** - the process of sending and/or receiving information, data, signals and/or messages between two (2) or more points by radio, cable, optical wave guides or other devices and wired or wireless medium.
(f) ***Computer*** – any of a variety of electronic devices that is capable of accepting data, programs and/or instructions, executing the programs and/or instructions to process the data and presenting the results.
(g) ***Consulting Services*** - as used in this Act, shall include services requiring adequate technical expertise, experience and professional capability in undertaking advisory and review, pre-investment or feasibility studies, design, planning, construction, supervision, management and related services, and other technical studies or special studies in the field of electronics engineering.
(h) ***Electronics*** - the science dealing with the development and application of devices and systems involving the flow of electrons or other carriers of electric charge, in a vacuum, in gaseous media, in plasma, in semiconductors, in solid-state and/or in similar devices, including, but not limited to, applications involving optical, electromagnetic and other energy forms when transduced or converted into electronic signals.
(i) ***Electronics and Communications Engineer*** - a person who is qualified to hold himself/herself out as a duly registered and licensed Electronics and Communications Engineer under Republic Act No. 5734;
(j) ***Electronics Engineer*** - a person who is qualified to hold himself/herself out as a duly registered and licensed Electronics Engineer under R.A. No. 9292 and to affix to his/her name the letters "ECE".
(k) ***Electronics Technician*** - a person who is qualified to hold himself/herself out as a duly registered and licensed Electronics Technician under this Act and to affix to his/her name the letters "ECT".
(l) ***Industrial Plant*** - includes all manufacturing establishments and other business endeavors where electronic or electronically-controlled machinery or equipment are installed and/or are being used, sold, maintained, assembled, manufactured or operated.
(m) ***Information and Communications Technology*** – refers to the acquisition, production, transformation, storage and transmission/reception of data and information by electronic means in forms such as vocal, pictorial, textual, numeric or the like; also to the theoretical and practical applications and processes utilizing such data and information.
(n) ***Professional Electronics Engineer*** - a person who is qualified to hold himself/herself out as a duly registered and licensed Professional Electronics Engineer under R.A. No. 9292 and to affix to his/her name the letters "PECE";
(o) ***Telecommunications*** - any transmission, emission or reception of voice, data, electronic messages, text, written or printed matter, fixed or moving pictures or images, words, music or visible or audible signals or sounds, or any information, intelligence and/or control signals of any design/format and for any purpose, by wire, radio, spectral, visual/optical/light, or other electronic, electromagnetic and technological means.

SEC. 4. ***Categories of Practice*** - The Act defines the three electronics engineering and technician categories and their abbreviations as follows:
(a) Professional Electronics Engineer, (PECE)
(b) Electronics Engineer, (ECE)
(c) Electronics Technician, (ECT)

The above abbreviations, as well as other abbreviations used in R.A. No. 9292. shall, henceforth, be used in this "IRR".

The abbreviation ECE shall take on the new meaning as defined above and the professional title Electronics and Communications Engineer shall henceforth cease to exist.

SEC. 5. ***Nature and Scope of Practice of Electronics Engineering and Electronics Technician*** **-** (a) The scope and nature of practice of the Electronics Engineer shall embrace and consist of any work or activity relating to the application of engineering sciences and/or principles to the investigation, analysis, synthesis, planning, design, specification, research and development, provision, procurement, marketing and sales, manufacture and production, construction and installation, tests/measurements/control, operation, repair, servicing, technical support and maintenance of electronic components, devices, products, apparatus, instruments, equipment, systems, networks, operations and processes in the fields of electronics, including communications and/or telecommunications, information and communications technology (ICT), computers and their networking and hardware/firmware/software development and applications, broadcast/broadcasting, cable and wireless television, consumer and industrial electronics, electro-optics/photonics/optoelectronics, electromagnetics, avionics, aerospace, navigational and military applications, medical electronics, robotics, cybernetics, biometrics and all other related and convergent fields; it also includes the administration, management, supervision and regulatory aspects of such works and activities; similarly included are those teaching and training activities which develop the ability to use electronic engineering fundamentals and related advanced knowledge in electronics engineering, including lecturing and teaching of technical and professional subjects given in the electronics engineering and electronics technician curriculum and licensure examinations.
(a) The scope and nature of practice of the ECE as defined in this Section shall be also applicable to the PECE, with the sole difference that it shall only bethe latter who can provide consulting services as defined in R.A. No. 9292, and to sign and seal electronics plans, drawings, permit applications, specifications, reports and other technical documents prepared by himself/herself and/or under his/her direct supervision;
(b) ECEs are not prevented from rendering design work and providing/assuming any supervisory role in electronics works and related fields; provided, that all plans, drawings, specifications, reports and related technical documents resulting or produced from such works which shall be submitted to regulatory authorities and/or that impacts on life, limb and property shall be reviewed and accordingly signed and sealed only by a PECE, to indicate that the PECE approves of and assumes responsibility for the technical accuracy and correctness, as well as the safety aspects, of the works represented by such documents;
(c) Consulting services, as previously defined in Section 3, Article I of R.A. No. 9292 is further clarified herein as those consulting services rendered by the PECE regardless of the manner of compensation from the beneficiary thereof;
(d) The scope and nature of practice of the ECT profession shall embrace and consist of any non-engineering work or activity relating to the installation, construction, operation, control, tests and measurements, diagnosis, repair and maintenance, manufacture and production, sales and marketing of any electronic component/s, device/s, products, apparatus, instruments, equipment, system/s, network/s, operations and processes located on land, watercraft, aircraft, industrial plants or commercial establishments, including the teaching and training of technical and professional subjects given in the electronics technician curriculum and licensure examinations.

All subjects for licensure examinations shall be taught by persons who are holders of valid certificates of registration and professional identification cards, or special temporary permits issued by the Board and the Commission; Provided, that, for the implementation of this requirement, the Board through the Commission shall, within ninety (90) days from the effectivity of this "IRR", furnish the CHED with a listing of the various subjects included in the licensure examinations, together with copies of the syllabi for the subjects for examination.

Rule II

THE PROFESSIONAL REGULATORY BOARD OF ELECTRONICS ENGINEERING

SEC. 6. ***Composition of the Board*** - The Professional Regulatory Board of Electronics Engineering, hereinafter-referred to as the Board, under the administrative control and supervision of the Professional Regulation Commission, hereinafter-referred to as the Commission, shall be composed of a Chairman and two (2) Members who shall be appointed by the President of the Philippines from the three (3) recommendees per position chosen and ranked by the Commission, which recommendees shall in turn be chosen from the five (5) nominees for each position submitted by the Accredited Professional Organization or APO, in accordance with E.O. No. 496, Series of 1991, or the existing rules and regulations presently in existence or that may be promulgated for such purpose.

SEC. 7. ***Powers and Functions of the Board*** - The Board is vested with powers and authorities to :
(a) Administer/implement the provisions of R.A. No. 9292;
(b) Administer oaths in connection with the administration of R.A. No. 9292;
(c) Adopt the official seal of the Board;
(d) Issue Certificates of Registration and the Professional Identification Cards of PECEs, ECEs or ECTs in accordance with Section 19, Article III of R.A. No. 9292, suspend or revoke the same, or otherwise suspend the holder thereof from the practice of his/her profession for any justifiable cause in accordance with Section 23 of R.A. No. 9292, after due process;
(e) Maintain rosters of PECEs, ECEs, and ECTs as defined in Section 25, Article III of R.A. No. 9292;
(f) Issue, suspend and/or cancel special permits to foreign PECEs, ECEs and ECTs and/ or its equivalent in accordance with Sections 23 and 26, Article III of R.A. No. 9292;
(g) Prescribe, amend or revise the requirements for licensing of PECEs, in accordance with the basic requirements defined in Section 18, Article III of R.A. No. 9292, and, as the need arises, taking into consideration latest technological developments, best practices in the international field, current developments in professional practice and the ECE profession, and any mutual recognition/agreement or treaty acquiesced to by the Philippine government; and prepare, adopt and issue the syllabi of the subjects for the licensure examination for ECEs and ECTs in accordance with Section 15, Article III of R.A. No. 9292 , and prepare the questions thereof, in strict conformance with the scope of the syllabi. For this purpose, the Board may adopt recommendations from the Commission on Higher Education (CHED) and the Technical Education and Skills Development Authority (TESDA) in relation to approved courses or curricula;
(h) Adopt a program for the full computerization of the licensure examination, with the exception of any practical examination/s as it may specify and adopt for ECTs;
(i) Grant registration to ECTs without examination, subject to review and approval by the Commission, in accordance with Section 20, Article III of R.A. No. 9292;
(j) Study, examine and recommend, in coordination with the CHED and the TESDA, and in consultation with other concerned government entities and the APO, the essential requirements as to curricula and facilities of schools, colleges or universities, seeking permission to open courses or programs or already offering courses or programs in electronics engineering, electronics technician and related courses or programs and to see to it that these requirements, including employment of qualified faculty members, are properly complied with: Provided, that within three (3) years after the effectivity of R.A No. 9292, the Board shall, in coordination with CHED, TESDA, and in consultation with other concerned government entities and the APO, review and define/re-define the curricula for electronics engineering, electronics technician and/or allied courses or programs for the purpose of re-aligning, revising and/or consolidating the same and/or otherwise defining the minimum requirements by means of which graduates of related or allied courses or programs can qualify to take the ECE and ECT licensure examinations; for this purpose, the Board may adopt the CHED- and TESDA-approved course curricula for ECE, ECT and/or allied courses;
(k) Inspect educational institutions and based on its findings thereon, recommend to CHED and/or the TESDA and/or other government entities concerned with the granting of school permits or authorization, the opening, improvement/upgrading or closure of colleges or schools and universities offering electronics engineering and electronics technician courses or program; accordingly, promulgate rules and regulations thereon;
(l) Adopt and administer a Code of Ethics and a Code of Technical Standards of Practice for PECEs, ECEs and ECTs, which shall be promulgated by the APO in accordance with Section 30, Article IV of R.A. No. 9292;
(m) In coordination and consultation with the APO and concerned parties in the industry, academe and agencies or institutions, shall issue appropriate Resolutions to further spell out, define and/or clarify the practice for PECEs, ECEs and ECTs in accordance with the scope and nature of practice defined under Section 5, Article I of R.A. No. 9292;
(n) Promulgate and ensure strict compliance with a program for Continuing Professional Education and/or development of PECEs, ECEs and ECT in accordance with Sec. 31, Article V of R.A. No. 9292;
(o) Prescribe the minimum manning and manpower requirements for PECEs, ECEs and ECTs in industrial plants and commercial establishments for purposes of ensuring compliance with the provisions of R.A. No. 9292, as well as all other ordinances, laws, rules and regulations that may be enacted hereinafter;
(p) Formulate, prescribe and adopt such rules and regulations for electronics installations in industrial plants, commercial establishments and other buildings or structures covered by the National Building Code of the Philippines, in coordination with the Department of Public Works and Highways (DPWH), other concerned agencies and representatives of industry and the Accredited Professional Organization;
(q) Study the conditions affecting the PECE, ECE and ECT professions in the Philippines, and whenever necessary, exercise the powers conferred by this and other Laws, rules and regulations as may be deemed proper for the enhancement and advancement of the professions and/or the maintenance of high professional, ethical and technical standards, and for this purpose, the Board may personally or through subordinate employees of the Commission or member/s of the APO, duly authorized by the Board and approved by the Commission, conduct ocular inspection or visit industrial plants and commercial establishments where PECEs, ECEs and ECTs are employed for the purpose of determining compliance with the provisions of law relative thereto, in accordance with established policies, rules and regulations of the Commission;
(r) Hear and decide violations of the Act, the Code of Ethics and the Code of Technical Standards of Practice for the profession, and for this purpose, issue *subpoena ad testificandum* and/or *subpoena duces tecum* to secure attendance of witnesses and the production of documents in connection with the charges presented to and/or any investigation pending before the Board;
(s) Delegate the hearing or investigation of administrative cases filed before it to authorized officers of the Commission, except in cases where the issue involved strictly concerns the practice of the PECE, ECE and ECT professions, in which case the hearing shall be presided over by at least one (1) member of the Board assisted by a Legal or Hearing Officer of the Commission;
(t) Promulgate resolutions, orders and/or decisions on such administrative cases. Such resolutions, orders and/or decisions shall be subject to appeal within fifteen (15) days from receipt thereof with the Commission, which may affirm or reverse the same, dismiss the case, deny the appeal or remand the case to the Board for further action or proceeding. If after fifteen (15) days from the receipt of such decision no appeal is taken therefrom to the Commission, the same shall become final and immediately enforceable;
(u) Submit to the Commission an annual action plan and corresponding report at the beginning and close of each fiscal year on the activities, proceedings and accomplishments of the Board for the year, incorporating therein any recommendations to the Commission; and
(v) Discharge such other powers and functions as it and the Commission may deem necessary for the practice of the profession and the upgrading, enhancement, development and growth of the PECE, ECE and ECT professions in the Philippines.

Except in administrative cases, all resolutions issued and/or promulgated by the Board in the exercise of the powers and functions vested under R.A No. 9292 and expounded in the RR thereof shall be subject to the review and approval by the Commission. Whenever necessary and practicable, the Board shall consult with all affected parties before issuing such Resolutions. All such Resolutions shall be approved by a majority of the Board.

Duties of Chairman and Members. The Chairman shall preside at all meetings and sign all official documents, letters, correspondence involving important matters and policies of the Board including summons, ***subpoena*** or ***subpoena duces tecum***. In case of temporary incapacity or absence of the Chairman, it shall be the duty of the members of the Board to attend all meetings particularly when the purpose of such meetings is to deliberate on the results of examinations or questions involving important policies of the Board.

Meetings. Regular monthly meetings shall be held. Special meetings may be held as often as may be necessary at the discretion of the Chairman or upon the request of the majority of the Board.

Quorum. All members shall attend the meetings of the Board, except for unavoidable circumstances, in which case two members of the Board may be sufficient to constitute a quorum for the transaction of official business.

SEC. 8. ***Qualifications of Board Members*** **–** The Chairman and members of the Board must possess the following qualifications at the time of their appointment:
(a) Be a citizen and a resident of the Philippines for at least five (5) consecutive years prior to his/her appointment;
(b) Be of good moral character and integrity;
(c) Be a holder of a valid Certificate of Registration and a valid Professional Identification Card as a PECE, duly qualified to practice as a PECE in the Philippines;
(d) Be a member of good standing of the APO;
(e) Be in active practice of the electronics engineering profession for at least ten (10) continuous years prior to his/her appointment, either in self-practice, or employment in government service and/or in the private sector;
(f) Must not have any pecuniary interest, directly or indirectly, in any school, academy, college, university or institution conferring an academic degree and/or certification/accreditation necessary for admission to the practice of Electronics Engineering and/or Electronics Technician or where review classes in preparation for the licensure examination are being offered or conducted nor shall he/she be a member of the faculty or of the administration thereof prior to taking his/her oath of office; and
(g) Must not have been convicted of an offense involving moral turpitude.

SEC. 9. ***Term of Office*** - The members of the Board shall hold office for a term of three (3) years from date of appointment or until their successors shall have been appointed and qualified and may be re-appointed once for another term. Any vacancy occurring within the term of a member shall be filled for the unexpired portion of the term only: Provided, That the member appointed to serve the unexpired term may be re-appointed more than once for as long as his/her continuous tenure shall not exceed six (6) years. Each member of the Board shall take the proper oath prior to the assumption of office.

SEC. 10. ***Compensation and Allowances of the Board*** - The Chairman and members of the Board shall receive compensation and allowances comparable to that being received by the Chairman and members of existing regulatory Boards under the Commission as provided for in the General Appropriations Act.

SEC. 11. ***Removal of Board Members*** - The President of the Philippines, upon recommendation of the Commission, may suspend or remove any member of the Board for neglect of duty, incompetence, manipulation or rigging of the licensure examination results, disclosure of secret information or the examination questions prior to the conduct of the said examination, or tampering of the grades therein, for unprofessional or unethical conduct, or for any final judgment or conviction of any criminal offense by the Courts, after having given the member concerned an opportunity to be heard and/or to defend himself/herself in a proper administrative investigation.

SEC. 12. ***Custodian of Board Records, Secretariat and Support Services*** - All records of the Board, including applications for examination, administrative cases involving PECEs, ECEs and ECTs shall be kept by the Commission. The Commission shall designate the Secretary of the Board and shall provide the secretariat and other support services to implement the provisions of R.A. No. 9292.

Rule III

EXAMINATION, REGISTRATION AND LICENSURE

SEC. 13 . ***Licensure Examination.*** **–** Except as specifically provided in Sections 20 and 33 of R.A. No. 9292, all applicants seeking to be registered and licensed as ECEs and ECTs shall undergo the required examinations to be given by the Board in such places and dates as the Commission may designate in accordance with the provisions of Republic Act No. 8981.

SEC. 14. ***Qualification for Examination.*** - In order to be allowed to take the examination for ECE or ECT, an applicant must, at the time of the filing of his/her application, establish to the satisfaction of the Board that:
(a) He/She is a citizen of the Philippines or of a foreign country qualified to take the examination as provided for in Section 33, Article V of R.A. No. 9292;
(b) He/She is of good moral character and had not been convicted by a court of law of a criminal offense involving moral turpitude;
(c) For the ECE examinations, He/She is a holder of a degree of Bachelor of Science in Electronics and Communications Engineering or Electronics Engineering, or subject to compliance with minimum requirements to be prescribed by the Board through an appropriate Resolution, such equivalent and/or related engineering course or program from any school, institute, college, or university recognized by the Government or the State where it is established, after completing a resident collegiate course equivalent to that of a full baccalaureate degree. For graduates of equivalent and/or related engineering course or programs who are allowed to take the ECE licensure examination, the Board shall issue the corresponding Resolution/s identifying the concerned applicants and citing the basis for compliance with the minimum requirements it has prescribed that would allow them to take the licensure examination.
(d) For the ECT examinations:
(1) He/She is a graduate of an Associate, Technician, Trade or Vocational course in electronics or, subject to the evaluation of the Board, such equivalent and/or related formal or non-formal course or program from any school, college, university or training institution recognized by the Government or the State where it is established, after completing a resident course or program of not less than two (2) years. For graduates of related formal or non-formal course or programs who will be allowed to take the ECT licensure examination, the Board shall issue the corresponding Resolution/s identifying the applicants and citing the basis for compliance with the minimum requirements it has prescribed that would allow them to take the licensure examination; or
(2) He/she has completed at least the minimum third-year equivalent of a Bachelor of Science program in Electronics and Communications Engineering or Electronics Engineering program according to CHED guidelines, or, subject to the evaluation of the Board, such equivalent and/or related engineering course or program from any school, institute, college or university recognized by the Government or State where it is established. For undergraduates of Bachelor of Science in Electronics and Communications or Electronics Engineering programs, submission of transcript of records would be deemed satisfactory for compliance. For graduates of related engineering course or programs, the Board shall issue the corresponding Resolution/s identifying the applicants and citing compliance with the minimum requirements it has prescribed that would allow them to take the licensure examination.

SEC. 15 **Scope of Examinations. –**
1. For Electronic Engineers – The examination for ECEs shall consist of written test which shall be divided into four (4) general areas: Mathematics (20%), General Engineering and Applied Sciences (20%), Electronics Engineering (30%) and Electronics Systems and Technologies (30%). The subjects to be covered shall include the following: Mathematics, Applied Sciences, Engineering Economics, Laws and Ethics, Electronics, Communications, Computers and Information and Communications Technology (ICT). The corresponding syllabi and descriptions are found in **Annex "A"** of this "IRR".
2. For Electronics Technicians – The examinations for ECT shall consist of written and/or practical tests covering subjects to be prescribed by the Board and shall cover topics specific to the practice of ECTs. For this purpose, the Board may adopt recommendations from the TESDA in relation to approved course curricula and/or subjects covered in similar examinations that the latter is administering and/or conducting for accreditation of electronics technicians. As urgent and important need arises so as to conform to technological and modern changes, the Board may, through appropriate Resolutions, re-cluster, rearrange, modify, add to or exclude any subject and prescribe the number of final examination/s per year after approval by the Commission. The Resolution thereon shall be officially published in the Official Gazette or major daily newspapers of general circulation and also circularized and disseminated to all colleges and schools offering the ECE and ECT programs.

Filing of Application –
1. Applications shall be made in the prescribed form with all the required documents attached therewith and no application made otherwise shall be accepted. All questions and/or requirements in the Commission prescribed form shall be answered in full and/or fully complied with. Applications shall be filed together with the required documents and fees with the Commission thirty (30) working days prior to the first day of examination but in no case later than ten (10) days before the actual first day of examinations.
2. By filing of the application, it is understood that such is conditional and the applicant agrees to observe strictly the requirements prescribed in this "IRR".
3. The designated department of the Commission shall screen the applications to determine whether or not the requirements for admission to the examination have been complied with.

SEC. 16 ***Ratings*** – To pass the licensure examination, a candidate for ECE or ECT must obtain a passing rating of seventy percent (70%) in each of the four (4) tests given during the examination. If a candidate obtains a passing rating in three (3) tests, but obtains a rating in one test below 70%, but not lower than 60%, shall be allowed to take one removal examination in any scheduled board examination on the test where he/she failed to obtain the passing rating. Should the examinee fail to obtain a passing rating in the removal examination, he/she shall be considered as having failed the entire licensure examination.

SEC. 17 ***Release of Result of Examination.*** **–** The Board and the Commission shall correct and rate the licensure examination and shall release the result within fifteen (15) days after the said examination.

SEC. 18. ***Qualifications and Schedule of Registration for Professional Electronics Engineers.*** **–** The following requirements are applicable for the application for registration as a PECE:
(a) Valid Certificate of Registration and Professional Identification Card as an ECE;
(b) Valid/current membership identification card or certificate of membership of good standing from the APO;
(c) Certified experience record of active self-practice and/or employment either in government service or in the private sector, in the format to be prescribed by the Board, indicating the inclusive dates, companies worked for, description of specific responsibilities, relevant accomplishments and name, position of immediate supervisors for a period of at least seven (7) years (inclusive and/or aggregate), at least two (2) years of which are in responsible charge of significant engineering work, from the date applicant took his/her oath as an Electronics and Communications Engineer or Electronics Engineer; the seven years inclusive or aggregate experience includes those which have been accumulated when the applicant was still holding the Electronics and Communications Engineering registration under Republic Act No. 5734; and
(d) Three (3) certifications signed by three (3) PECEs attesting that the experience record submitted by the applicant is factual. The Board shall specify the format for such certifications.

Applications for registration as PECE may be submitted anytime to the Commission. The Board shall then schedule an *en banc* oral interview of the applicant for the purpose of verifying, authenticating and assessing the submittals and establishing the competency of the applicant according to rules, regulations and competency standards to be formulated by the Board. For this purpose, the Board may formulate its own competency standards or adopt internationally-accepted competency standards that it may deem acceptable, against which the qualification and competency of the applicant to practice as a PECE shall be assessed. Such competency standards shall be widely disseminated by the Board.
Under the exception proviso stipulated in this particular Section 18, Article III of R.A. No. 9292 those who have been registered and licensed as Electronics and Communications Engineers under Republic Act No. 5734 for at least seven (7) years upon the effectivity of R.A. No. 9292 as elucidated in the afore-said provision need only to submit items (a), (b), and (c). Under the same exception proviso, those who have been registered and licensed as Electronics and Communications Engineers under Republic Act No. 5734 for less than seven (7) years upon the effectivity of the Act, may apply for "fast track" upgrading to PECE category, but shall additionally submit item (d) above and are mandatorily required to go through an *en banc* oral interview by the Board for verification and authentication of the submitted documents as well as competency assessment, upon passing of which can be registered as a PECE.

SEC. 19. Issuance of Certificate of Registration and Professional Identification Cards. - A Certificate of Registration shall be issued to examinees who pass the ECE and ECT licensure examination, to ECEs who are registered as PECEs and to ECTs Technicians who are registered without examination, subject to payment of fees prescribed by the Commission. The Certificate of Registration shall bear the signature of the Chairperson and Members of the Board, stamped with the official seal of the Commission and the Board, indicating that the person named therein is entitled to practice the profession with all the privileges appurtenant thereto, subject to compliance with all applicable requirements. The said certificate shall remain in full force and effect until withdrawn, suspended or revoked in accordance with Section 23 of R.A. No. 9292.

A Professional Identification Card bearing the registration number and date of registration, duly signed by the Chairperson of the Commission, shall likewise be issued to every registrant who has paid the prescribed fee. This Professional Identification Card will serve as evidence that the holder thereof is duly registered with the Commission.

The Professional Identification Card shall be valid for a period prescribed by the Commission and renewable thereafter. The current/valid membership identification card from the APO shall be presented by the professional to the Commission when renewing the Professional Identification Card.

SEC. 20. ***Registration with and without Examination for Electronics Technicians (ECT).*** **–** Within five (5) years from the effectivity of R.A. No. 9292 on May 28, 2004 pursuant to Rule VII, Section 3 herein, the Board shall issue the corresponding Certificates of Registration and Professional Identification Cards to successful applicants for registration as Electronics Technicians who shall present evidence or other proof satisfactory to the Board that the applicants shall present evidence or other proof satisfactory to the Board that:
(a) He/she is a graduate of at least a two-year Associate, Technician or Trade or Vocational course in Electronics as certified by the TESDA, or that he/she has completed at least the minimum third-year equivalent of a Bachelor's Degree of Science in Electronics and Communications Engineering or Electronics Engineering program according to the CHED guidelines, or subject to the evaluation of the Board, an equivalent and/or related formal or non-formal course or program from any school, institute, college, university or training institution recognized by the Government or the State where it is established; and
(b) He/she has rendered at least seven (7) years (inclusive or aggregate) of active self-practice and/or employment either in the Government or private sector, indicating therein his/her specific duties and responsibilities, relevant accomplishments, the complete names and addresses or clients and companies or persons worked for, as well as the names and positions of immediate supervisors.

The above submittals shall be accompanied by individual certifications from at least three (3) registered PECEs vouching for the integrity, technical capability and good moral character of the applicant in a format to be prescribed by the Board. Such certifications shall be sealed by the PECEs.

SEC. 21. ***Non-issuance of a Certificate of Registration and/or Professional Identification Card for Certain Grounds*** **-** The Board and/or the Commission shall not register and shall not issue a Certificate of Registration and Professional Identification Card to any person convicted by a court of competent jurisdiction of any crime involving moral turpitude, to any person of immoral or dishonorable conduct and to any person of unsound mind, furnishing the party concerned a written statement containing the reasons for such action, which statement shall be incorporated in the records of the Board.

SEC. 22. ***Professional Oath*** **–** All successful examinees and all those who have qualified for registration without examination shall be required to take a professional oath before any member of the Board or any person authorized by the Commission before he/she can be registered and issued a Certificate of Registration and Professional Identification Card, and as a prerequisite to practicing as a Professional Electronics Engineer, Electronics Engineer or Electronics Technician.

SEC. 23. ***Revocation and Suspension of Certificate of Registration, Professional Identification Card and Cancellation of Special Permits.*** **–** The Board shall, upon proper notice and hearing, revoke or suspend the validity of a Certificate of Registration and accordingly the Professional Identification Card, or cancel a Special Permit granted under Section 26 of the Act, for any of the causes mentioned therein, or for unprofessional or unethical conduct, malpractice, incompetence or any violation of R.A. No. 9292, the Code of Ethics and the Code of Technical Standards of Practice, or where fraud, deceit, or false statement was found to have been employed in obtaining said Certificate of Registration, Professional Identification Card or Special Permit.

No certificate shall be denied, revoked or suspended for any of the reasons herein, provided, not until after a sworn complaint in writing and sworn to by the person making it against the applicant or holder thereof shall have been filed with the Board through the Legal and Investigation Office and heard in a public hearing, or upon request behind closed doors by the Board.

Any person, firm, or association may file charges in accordance with the provisions of this section against any registrant, or the Board may *motu proprio* investigate and/or take cognizance of acts and practices constituting sufficient cause for suspension or revocation of the Certificate of Registration by proper resolution or order. The rules on administrative investigation issued by the Commission shall govern the hearing or investigation of the case, subject to applicable provisions of R.A. No. 9292, R.A. No. 8981, PRC Resolution No. 06-342(A), Series of 2006, and the Rules of Court.

SEC. 24. Reinstatement, Re-issuance or Replacement of Certificate of Registration and Professional Identification Card. – The Board may, two (2) years after the revocation of a Certificate of Registration and Professional Identification Card, upon application of the party concerned and for reasons deemed proper and sufficient, reinstate the validity of a revoked Certificate of Registration and Professional Identification Card, subject to compliance with the applicable requirements of the Commission and the Board; *Provided,* That the party concerned did not commit any illegal practice of the profession or any violation of R.A. NO. 9292 codes and policies during the time that his/her Certificate of Registration and Professional Identification Card was revoked. The Board subject to approval by the Commission shall issue a resolution granting a petition for reinstatement to the practice of the profession.
A new Certificate of Registration or Professional Identification Card to replace lost, destroyed, or mutilated Certificate of Registration or Professional Identification Card may be issued, subject to the rules promulgated by the Board and/or the Commission, upon payment of the required fees.

SEC. 25. ***Roster of Professional Electronics Engineers, Electronics Engineers and Electronics Technicians.*** **–** The Board shall prepare and maintain a roster of the names, residence and/or office address of all registered PECEs, ECEs and ECTs, which shall be updated annually in cooperation with the APO, indicating therein the status of the Certificate of Registration, Professional Identification Card and membership in the APO of the professional, whether valid, inactive due to death or other reasons, delinquent, suspended or revoked. The said roster shall be conspicuously posted within the premises of the Commission and the information therefrom made available to the public upon inquiry or request.

SEC. 26. ***Exemptions from Examination and Registration.*** **–** No examination and registration shall be required for foreign PECEs, ECEs or ECTs and equivalent who are temporarily employed by the Philippine Government or by private firms in the Philippines in the following cases:
(a) Where no qualified equivalent Filipino professional is available for the specific item of work to be rendered, as attested to by the APO. For this purpose, the APO shall, upon formal request by the foreign professional and upon proper verification, issue a written certification to such effect;
(b) Where the condition/s of the scope and funding for the work or project are such that it stipulates the temporary employment of a foreign professional. The Board shall accordingly require the foreign professional to submit the necessary documents to evidence such condition/s;
(c) As defined in the General Agreement on Trade in Services, the ASEAN and APEC Engineer Registry programs and other similar international treaties, agreements and/or covenants to which the Philippine Government is a signatory and has ratified. This shall include any bilateral or multi-lateral mutual recognition agreements in services that the Philippines have agreed to or will enter into in the future;

Provided, however, that:
(1) The said foreign professional is legally qualified to practice his/her profession in his/her own country in which the requirements for licensing and registration are not lower than those specified in the Act. The Board shall require the foreign professional to submit evidence or proof that it may deem necessary for this purpose;
(2) The work to be performed by said foreign professional shall be limited only to the particular work or project for which he/she was specifically contracted. This shall be accordingly reflected in the Special Permit to be issued by the Board under the following provision of this Section;
(3) Prior to commencing the work and securing a working visa and/or working permit from the concerned government agencies, the foreign professional shall secure a Special Permit from the Board, which shall be subject to the approval of the Commission. This requirement shall be complied with all the cases (Sections 26.a, 26.b and 26.c) enumerated above;
(4) The same foreign professional shall not engage in private practice on his/her own account. Any proven violation hereof shall be adequate ground for cancellation and/or non-renewal of the Special Permit granted to the foreign professional;
(5) For every foreign professional contracted for the work or project, at least two (2) corresponding Filipino professionals who are registered under the Act shall be employed as counterparts by the Philippine Government or the private firm utilizing the services of such foreign professional for at least the same duration of time as the foreigner's tenure of work. The foreign professional shall submit the appropriate evidence or proof of compliance with this requirement; and
(6) The Special Permit herein granted shall be valid only for a period of not more than six (6) months and renewable every six (6) months thereafter subject to the discretion of the Board and the approval of the Commission: *Provided*, That said permit shall cease to be valid if the foreigner terminates his/her employment in the work or project for which said permit was originally granted and thereafter engages in an occupation that requires another Special Permit or registration under R.A. No. 9292.

SEC. 27. ***Practice of the Profession.*** **–** No person shall offer himself/herself in the Philippines as, or use the title "Professional Electronics Engineer", "Electronics Engineer" or "Electronics Technician", as defined in R.A. No. 9292, or use any word, letter figure, or sign whatsoever, tending to convey the impression that he/she is a PECE, ECE or ECT, or advertise that he/she is qualified to perform the work of a PECE, ECE or ECT, without holding a valid Certificate of Registration and a valid Professional Identification Card in accordance with R.A No. 9292 , except as provided under Section 26, Article III thereof.

SEC. 28. ***Prohibitions and Limitations on the Practice of Electronics Engineering and Electronics Technician Profession.*** **–** Unless otherwise prescribed by any supervening law, the practice of electronics engineering and electronics technician shall be a professional service, admission to which must be determined on the basis of the individual's personal qualifications. Hence, no firm, company, partnership, association or corporation may be registered or licensed as such for the practice of electronics engineering or electronics technician. However, persons properly registered as PECE, ECE, ECT may, among themselves or with any other allied professionals, form a partnership or association or corporation and collectively render services as such, *Provided,* that individual members of such partnerships or associations or corporations shall be responsible for their own respective acts. The Board subject to approval by the Commission shall issue a resolution on the guidelines for the registration by the Board and the Commission of a partnership, association or corporation composed of PECEs, ECEs, ECTs.

SEC. 29. ***Seal of the Professional Electronics Engineers.*** **–** All licensed Professional Electronics Engineers shall obtain and use a seal of a design prescribed by the Board bearing the registrant's name, registration Number and title. Plans, drawings, permit application, specifications, reports and other technical documents prepared by and/or executed under the supervision of, and issued by the Professional Electronics Engineer shall be stamped on every sheet/page with said seal, indicating therein his/her current Professional Tax Receipt (PTR) number, date/place of payment and current membership number in the Accredited Professional Organization when filed with government authorities or when used professionally.

Official Logo of the Board and Seal of Professional Electronics Engineer –
(a) **The Official Seal/Logo of the Board** which is shown hereunder is circular in shape, consisting two concentric circles, with the outside circle measuring 48mm in diameter and the inner circle measuring 28mm in diameter. The upper part of the annular space bear the words BOARD OF ELECTRONICS ENGINEERING and lower half the words PROFESSIONAL REGULATION COMMISSION. The inner circle space has the symbol of an atom with a nucleus and electrons located at the middle portion. The outer and inner ring is filled with orange with boundaries in navy blue color, the text is black with white background, the inner ring is filled with navy blue background, the atom with white and the nucleus and electrons in red color.

(b) The **Seal of Professional Electronics Engineer** as provided by Section 29, Article IV of R.A. No. 9292 shall be, a dry circular seal consisting of two concentric circles with the outer circle measuring 48mm in diameter and the inner circle measuring 32mm in diameter with the appearance of an atom with a nucleus and electrons on the upper portion, a horizontal space bearing the word LICENSE NO. and just below is the license number. The portion of the inner circle below the diametral space shall bear the name of the person holding the Professional Electronics Engineer license. The upper portion of the annular space bear the words PROFESSIONAL ELECTRONICS ENGINEER and the lower portion bear the word PHILIPPINES.

All registered Professional Electronics Engineers shall obtain and use a seal prescribed by the Board bearing the registrant's name, title and registration number. Plans, drawings, reports, permit applications, specifications and other technical documents prepared by and/or executed under the supervision of, and issued by the Professional Electronics Engineer shall be stamped on every sheet/page with said seal, indicating therein his/her current Professional Tax Receipt (PTR) number, date/place of payment and current membership number in the APO when filed with government authorities or when used professionally.

For control and security purposes, the Board subject to approval by the Commission shall issue a Resolution, designating the APO as the sole source of the PECE dry seal, including any replacement for lost or damaged dry seals. The APO shall take the necessary security measures to ensure the authenticity and integrity of all PECE dry seals that it issues, maintain an accurate record thereof, and render an annual report thereon to the Board and the Commission.

SEC. 30. ***Code of Ethics and Code of Technical Standards of Practice.*** - The Board shall adopt the Code of Ethics and the Code of Technical Standards of Practice for PECEs, ECEs and ECTs, which shall be promulgated by the APO. The APO shall submit the same to the Board within six (6) months from the effectivity of this "IRR" for consideration and adoption. The Code of Technical Standards of Practice shall be updated whenever necessary to conform to latest technological standards, changes, trends, and developments.

SEC. 31. ***Continuing Professional Education (CPE) and/or Development Programs.*** **–** All registered PECEs, ECEs and ECTs shall comply with pertinent rules and regulations already prescribed by and/or as may be prescribed and promulgated by the Commission and/or the Board, the APO and other government agencies, pursuant to R.A. No. 9292, as well as other relevant laws, international treaties, agreements and/or covenants to which the Philippines is a signatory and has ratified, with respect to Continuing Professional Education and/or Development (CPE/D) and/or other similar/related programs;

Such CPE/D program shall be jointly developed by the Board, the Commission, and the APO, in consultation with any other affected or concerned agencies of the government, and promulgated by the Board in accordance with Section 7(n), Article II of R.A. No. 9292. The program shall be continuously reviewed and updated to keep it attuned to modern technology and technical standards, latest developments, and current best practices.

SECTION 32. ***Integrated and Accredited Professional Organization.*** **–** There shall be one (1) integrated and Accredited Professional Organization of Professional Electronics Engineers, electronics Engineers and Electronics Technicians in the country, which shall be registered with the Securities and Exchange Commission as a non-stock, non-profit corporation and recognized by the Board, the Commission and all government agencies as the one and only integrated and accredited national organization for the said professionals. Every Professional electronics Engineer, electronics Engineer and Electronics Technician, upon registration with the Commission as such, shall ipso facto become a member of this Accredited Professional Organization. Those who have bee previously registered by the Board but are not members of this Accredited Professional Organization at the time of effectivity of R.A. No. 9292, shall be allowed to register as members of this organization within three (3) years after the effectivity of this Act . Membership in this Accredited Professional Organization shall not be a bar to membership in other association of the electronics engineering and electronics technician professions.

An Accredited Professional Organization shall implement the continuing professional education, accredit other organizations or entities to provide continuing professional education, and/or the Commission, compliance with which shall be one of the requisites for the maintenance of membership in good standing of the professional in the Accredited Professional Organization. All members of good standing of this Accredited Professional Organization shall be issued a annual membership card indicating the membership number and validity period of the membership, which shall be affixed to all plans, specifications and any document signed by the member in the course of practice of his/her profession. Failure to maintain membership in good standing in the Accredited Professional Organization shall be a cause for listing of the individual as delinquent in the roster of professionals.

SEC. 33 . ***Foreign Reciprocity*** **-** No foreigner shall be admitted for registration as PECE, ECE or ECT with or without examination under the Act unless he/she proves in the manner as provided by the Board that, by specific provisions of law, the country, state or province of which he/she is a citizen, subject or national, or in accordance with international treaties, agreements and/or covenants to which their country, state or province is a signatory, admits Filipino citizens to practice as PECE, ECE or ECT after an examination or registration
process on terms of strict and absolute equality with the citizens, subjects or nationals of said country, including the unconditional recognition of professional licenses issued by the Board and/or the Commission and prerequisite degrees/diplomas issued by institutions of learning duly recognized by the government of the Philippines. The foreigner who applies for examination and/or registration under such case has the burden of proving the existence of reciprocity in his/her country, state or province.

A foreign citizen, whether he/she studies in the Philippines or not, who desires to take the Board Licensure Examination for PECEs, ECEs, ECTs through reciprocity shall initiate the establishment of reciprocity between his/her country/state and the Philippines by presenting/submitting a letter or any document signed and under official seal by the appropriate official of his/her country/state requesting the Chairman of the Board to allow the foreign applicant to take the Board Licensure Examination for Guidance Counselors that by express provision of the law of his/her country/state, Filipino citizens shall be allowed to take the Licensure Examination for PECEs, ECEs, ECTs and to register as PECEs, ECEs, ECTs in his/her country/state on terms of strict and absolute equality with the citizens or subjects of said country or state including the unconditional recognition of prerequisite degrees issued by institutions of higher learning duly recognized or established by the Government of the Republic of the Philippines attaching/appending thereto an authentic or authenticated official copy of said law officially translated in the English language.

If the letter/document and the copy of the law submitted by the applicant is satisfactory to the Board, the Board shall issue a Resolution allowing the foreign applicant to take the Board Licensure Examination for PECEs, ECEs, ECTs by requiring him/her to file an application to take the Licensure Examination and by submitting the following documents that shall accompany the application.
a. The original or certified copy of any official document issued by the Bureau of Immigration and Deportation allowing the applicant to enter and reside in the Philippines;
b. Present his/her passport for examination and for photocopying of pertinent information about the applicant;
c. Original or authenticated copy of transcript of records or equivalent document of the course for Licensure Examination issued by the institution of higher learning where he/she studied, duly authorized or accredited by his/her country/state; and
d. Other documents which may be required to be submitted by the Board.

SEC. 34. ***Positions in Government Requiring the Services of Registered and Licensed Professional Electronics Engineers, Electronics Engineers and Electronics Technicians.*** **-** Within three (3) years from the effectivity of R.A. No. 9292, all existing and proposed positions in the local and national government, whether career, permanent, temporary or contractual and primarily requiring the services of PECEs, ECEs or ECTs shall accordingly be filled only by registered and licensed PECEs, ECEs or ECTs. The Board shall coordinate with the concerned government agency/ies regarding the procedure and requirements for the implementation and strict compliance with Section 34, Article V of R.A. No. 9292;

SEC. 35 . ***Penal Provisions*** **–** The following shall be punished by a fine of not less than One hundred thousand pesos (P100,000.00) nor more than One million pesos (P1,000,000.00), or by imprisonment of not less than six (6) months nor more than six (6) years, or both, in the discretion of the court:

(a) Any person who shall give any false or fraudulent statement to the Board to obtain a Certificate of Registration and/or Professional Identification Card as PECE, ECE or ECT;
(b) Any person who shall present or use as his/her own a Certificate of Registration, Professional Identification Card, membership identification card in the APO and/or seal issued to another and any person who allows the use of his/her Certificate of Registration, Professional Identification Card, membership card in the APO and/or seal;
(c) Any person who shall present or use a revoked or suspended Certificate of Registration as PECE, ECE or ECT;
(d) Any person who shall assume, use, advertise or otherwise practice as PECE, ECE or ECT, or append to his/her name, any letter/s or words tending to convey the impression that he/she is a registered PECE, ECE or ECT, when in fact he/she is not duly registered with the Board as such;
(e) Any PECE, or any person on his/her behalf, who shall stamp or seal any document with his/her seal as such after his/her Certificate of Registration, Professional Identification Card and membership card in the APO has been revoked or suspended or after he/she has been suspended from practice or removed from the roster of PECEs, ECEs or ECTs;
(f) Any PECE who shall sign his/her name, affix his/her seal, or use any other method of signature on plans, technical descriptions or other documents prepared by or under the supervision of another PECE, unless the same is prepared in such manner as to clearly indicate the part of such work actually performed by the former;
(g) Any person, except the PECE or ECE-in-charge, who shall sign for any electronics engineering work, or any function of electronics engineering practice, not actually performed by him/her;
(h) Any person holding a Certificate of Registration and Professional Identification Card as PECE, ECE or ECT who shall be involved in illegal wire-tapping, cloning, hacking, cracking, piracy and/or other forms of unauthorized and malicious electronic eavesdropping and/or the use of any electronic devices in violation of the privacy of another or in disregard of the privilege of private communications and/or safety to life, physical and/or intellectual property of others, or who shall maintain an unlicensed and/or unregistered communications system or device; and
(i) Any person who shall violate any provision of R.A. No. 9292 or any rules, regulations, the Code of Ethics and the Code of Technical Standards of Practice promulgated hereunder.

SEC. 36. ***Assistance of Law Enforcement and Other Government Agencies*** **-** Any law enforcement agency shall, upon call or request of the Board and/or the Commission, render assistance in enforcing R.A. No. 9292 including the Code of Ethics, Code of Technical Standards of Practice and the "IRR", and measures promulgated hereunder, by prosecuting violators thereof in accordance with law and the Rules of Court;

Any department, instrumentality, office, bureau, institution or agency of the government including local governments, upon call or request from the Board and/or the Commission, shall render such assistance as it may require, cooperate and coordinate with it in carrying out, enforcing or implementing R.A. No. 9292, the codes, policies, measures, programs or activities of the Board and/or the Commission that it may undertake pursuant to the provisions of R.A. No. 9292.

Rule VII

TRANSITORY PROVISIONS

SEC. 37. ***Transitory Provisions***. – Upon effectivity on May 24, 2004 of R.A. No. 9292, the incumbent Board of Electronics and Communications Engineering shall complete all pending/unfinished works within a six (6) month period, after which it shall cease to exist. The President of the Philippines shall before then appoint the Chairman and Members of the first Board of Electronics Engineering in accordance with Sections 6 and 8 herein, who shall formulate and thereafter promulgate the rules and regulations for the implementation of R.A. No. 9292.

SEC. 38. ***Vested Rights: Electronics and Communications Engineers when this Law is Passed***. - Electronics and Communications Engineers holding a valid Certificate of Registration and Professional Identification Card at the time of the effectivity on May 24, 2004 of R.A. No. 9292 shall be automatically registered and recognized as Electronics Engineers and shall be issued a new Certificate of Registration and Professional Identification Card as Electronics Engineer with the same license number as their original Electronics and Communications Engineer Certificate of Registration upon filing of application in the prescribed form of the Commission, payment of the prescribed fees and submission of valid/current ID or Certificate of Membership from the APO.

Rule VIII

FINAL PROVISIONS

SEC. 39. ***Implementing Rules and Regulations.*** **-** Subject to the approval of the Commission, the Board, in coordination with the accredited professional organization, shall adopt and promulgate such rules, regulations, resolutions, the Code of Ethics and the Code of Technical Standards of Practice for Professional Electronics Engineers, Electronics Engineers, and Electronics Technicians to carry out the provisions of R.A. No. 9292 which shall be published in the Official Gazette or a newspaper of general circulation in the Philippines and shall be effective after fifteen (15) days its full and complete publication therein.

SEC. 40. ***Appropriations.*** **–** The Chairperson of the Professional Regulation Commission shall include in the Commission's program the implementation of R.A No. 9292, the funding of which shall be included in the Annual General Appropriation Act.

SEC. 41. ***Separability Clause.*** **–** If any provision of this "IRR", or the application thereof to any person or circumstance is declared or unconstitutional invalid or, all the rest of the provisions or application thereof to other persons or circumstances shall not be affected by such declaration.

SEC. 42. ***Repealing Provisions.*** **–** All Rules and Regulations, Board Resolutions and memoranda or parts thereof in conflict with any provision of this "IRR" and/or inconsistent herewith are hereby repealed or amended accordingly.

SEC. 43. ***Effectivity.*** **–** This "IRR" shall take effect after fifteen (15) days following its complete and full publication in the Official Gazette or in any newspaper of circulation in the Philippines.

Done in the City of Manila, Philippines on the 31st day of August, 2007.

SYLVIA ICASIANO-MARCELO
Chairman

NESTOR C. DACANAY
Member

JOEL B. BAJADOR
Member

ATTESTED BY:

CARLOS G. ALMELOR
Secretary
Professional Regulatory Boards

APPROVED :

LEONOR TRIPON-ROSERO
Chairperson

RUTH R. PADILLA
Commissioner

NILO L. ROSAS
Commissioner

ASIM/NCD/JBB/CGA/Shirley
C:irr 9292 final draft

"ANNEX A"

SYLLABI FOR ELECTRONICS ENGINEERING LICENSURE EXAMINATION

I. MATHEMATICS (20%)

1. Algebra & General Mathematics
- **Algebraic functions**
- **Theory of equations**
- **Factorization and algebraic functions**
- **Ratio, proportion and variation**
- **Matrix theory**
- **Arithmetic and geometric progressions**
- **Equations and inequalities**
- **Linear and quadratic equations**
- **Complex number system**
- **Polynomials**
- **Mathematical induction**
- **Logic and probability**
- **Statistics**

2. Geometry
- **Lines and planes**
- **Plane figures**
- **Application of cavalier's, Pappus and prismodial theorems**
- **Coordinate in space**
- **Quadratic surfaces**
- **Mensuration**
- **Plane geometry**
- **Solid geometry**
- **Spherical geometry**
- **Analytical geometry**

3. Trigonometry
- **Logarithmic principles**
- **Trigonometric functions**
- **Fundamental trigonometric identities**
- **Solutions of right and oblique triangles**
- **Applications of terrestrial mensuration**
- **Area, perimeter and centroid of plane figures**
- **Polar coordinates**
- **Spherical trigonometry**

4. Calculus
- **Complex variables**
- **Derivatives and applications**
- **Integration and applications**
- **Transcendental functions**
- **Partial derivatives**
- **Indeterminate forms**
- **Multiple integrals**
- **Differential equations**

5. Mathematics Laws, Terms and Theories
- **Laws, theories and other rules relative to the fields of mathematics**

II. GENERAL ENGINEERING & APPLIED SCIENCES (20%)

1. Engineering Mechanics
2. Strength of materials
3. College physics
4. General chemistry
5. Thermodynamics
6. Engineering materials
7. Engineering economics
8. Engineering management
9. Laws & Ethics
- **Contract and specifications**
- **Telecommunications and broadcasting laws and regulations**
- **Electronics engineering law of 2004**
- **Code of professional ethics and conduct**
- **Philippine electronic code**

III. Electronics Engineering (30%)

1. Electricity/Magnetism Fundamentals
- **Atomic Structure**
- **Electric Charge**
- **Laws (ohms,kirchoff,coulomb,etc)**
- **Magnetic Power**
- **Magnetic field/flux**
- **Magnetic/electric quantities/units**
- **Magnetic/electromagnet principles**

2. Electrical Circuit
- **Ac-dc circuits**
- **Resistors**
- **Inductors**
- **Capacitor**

3. Solid State Devices/Circuits
- **Semi-conductor fundamentals**
- **Transistor components, circuits, analysis, and design**
- **Special services(photo, electric,photo voltaic etc)**

4. Power Generator/Sources/Principles/Applications
- **Cells and batteries**
- **Electric Generator**
- **Electronic power supply**
- **Voltage regulation**
- **Photovoltaic/thermoelectric generator**
- **Distribution transformer**
- **UPS/Float-battery system**
- **Converters/inverters**

5. Electronic (Audio/RF) Circuit/Analysis/Design
- **Amplifiers**
- **Oscillators**
- **Rectifier**
- **Filters**
- **Voltage regulation**

6. Tests and Measurements
- **Volt-ohm-ammeter (analog/digital)**
- **R-L-Z bridges**
- **Oscilloscope**
- **Cable Testers**
- **RF meters**
- **Signal generators (audio, RF,video)**
- **Noise generators**
- **Power/reflectometer/grid dip meter**

7. Microelectronics
- **Integrated circuits componets, characteristics and products**
- **Operational amplifiers/multivibrators**

8. Industrial Electronics Principles/Applications
- **Electronic control system**
- **Industrial solid state services**
- **Welding system/high frequency heating**
- **Feedback systems/servomechanism**
- **Transducers**
- **Motor speed control systems**
- **Robotic principles**
- **Bioelectrical principles**
- **Instrumentation and control**

9. Computer Principles
- **Analog/digital system**
- **Binary number system.Boolean algebra**
- **Mathematical logic and switching networks**
- **Basic digital circuits (logic,gates,flip-flops,multivibrators etc.)**
- **Static and dynamic memory devices**
- **Programming and machine languages**
- **Information and acquisition processing**
- **Analog/Digital conversion**
- **Computer Networking**

IV. ELECTRONICS SYSTEMS AND TECHNOLOGIES (30%)

1. Radio Communication System

a. Transmission Fundamentals
- **Transmission system**
- **Transmission medium**
- **Primary line constants**
- **Velocity and line wavelength**
- **Characteristic Impedance**
- **Propagation constants**
- **Phase and group velocity**
- **Standing waves**
- **Voltage Standing Wave Ratio**
- **Telephone lines and cables**
- **Wave guides**
- **Balanced and unbalanced lines**
- **Twisted pair wire**
- **Coaxial Cable**
- **The decibel**
- **Power ;eve; calculations**
- **Signal and Noise fundamentals**

b. Acoustics
- **Definition**
- **Frequency range**
- **Sound pressure level**
- **Sound Intensity**
- **Loudness level**
- **Pitch and frequency**
- **Internal and octave**
- **Sound distortion**
- **Room acoustics**
- **Electro-Acoustics transducers**

c. Modulation
- **Amplitude modulation**
- **Phase modulation**
- **Frequency modulation**
- **Pulse modulation**

d. Noise
- **External noise**
- **Phase noise**
- **Noise calculation and measurements**
- **Radio interference**

e. Radiation and Wave Propagation
- **Electro magnetic radiation**
- **Radio spectrum**
- **Wave propagation**
- **Radiation patterns**
- **Wavelength calculations**
- **Radiation resistance**
- **Diversity systems**

f. Antennas
- **Basic considerations**
- **Wire Radiators in Space**
- **Isotropic radiator**
- **Current and voltage distribution**
- **Resonant, non-resonant antennas**
- **Terms and definition**
- **Antenna gain and resistance**
- **Bandwidth, beamwidth,polarization**
- **Effects of ground on antennas**
- **Grounded, ungrounded antennas**
- **Grounding systems**
- **Antenna height**
- **Design and applications**
- **Matching systems**
- **Impedance calculations**
- **Antenna types**
- **Directional and non-directional**
- **Microwave antennas**
- **Wideband and Special purpose antennas**

g. Wire and wireless communications System
- **The telephone set**
- **Connection and performance**
- **Exchange area plant**
- **Loop design**
- **Trunks in the exchange plant**
- **Insertion loss**
- **Traffic calculations**
- **Reference Equivalent and standards**
- **Telephone networks**
- **Signaling, Billing, CAMA, ANI**
- **Echo, signing and design loss**
- **Via net loss**
- **Network hierarchy, class type**
- **VF repeaters**
- **Transmission considerations in long distance network**
- **Telephone features-IDD,NDD,LEC**
- **Mobile communications**
- **Cellular communication, trunk radio, radio paging system etc.**

h. Microwave Communications and Principles

i. Basic principles of various Electronics Stytem
- **Electro-optics/photonics/optoelectronics**
- **Electromagnetics**
- **Avionies,acrospace,navigational and military applications**
- **Medical electronics**
- **Cybernetics**
- **Biometrics**

2. Digital and Data Communications System

a. Digital Communication Networks
- **Bit and Binary transmission**
- **Signaling rate**
- **Error probability**
- **Digital filtering**
- **Switching**
- **Packet circuit**
- **Vertical circuit**
- **Open systems interconnection**
- **Multiplying, modulation and synchronization**
- **Pulse code modulation**
- **Companding**
- **Encoding**
- **Bandwidth and signal to noise ratio**
- **Delta modulation**
- **Slope overload**
- **Adaptive delta modulation**
- **Codes and protocol**
- **Error detection and correction codes**
- **Digital carrier systems**
- **Frequency shift keying**
- **Phase shift keying**
- **Differential phase shift keying**
- **DC nature of data transmission**
- **Loops**
- **Neutral and polar**
- **Binary transmission and the concept of time**
- **Asynchronous and synchronous**
- **Timing**
- **Distortion**
- **Bits, band, WPM**
- **Data interface standards**
- **Data input/output devices**
- **Digital transmission on analog channel**
- **Modulation – demodulation schemes parameters**
- **Circuit conditioning**
- **Modem applications**
- **Serial and parallel transmission**

b. Fiber optics
- **Principles of light, transmission**
- **Types**
- **Light sources, laser, LED**
- **Light detectors**
- **Modulation and waveform**
- **System design**
- **General application**
- **Design procedure**
- **Dispersion limited domain**
- **System bandwidth**
- **Splicing techniques**

3. Satellite, Braodcasting and Cable TV System
a. Satellite system
- **The satellite system**
- **Types of satellite**
- **Satellite orbit**
- **Uplink considerations**
- **Demand assignments multiple access**
- **Antenna tracking**
- **Satellite link budgets**
- **Path loss**
- **Figure of merit**
- **Ration of carrier to thermal noise power**
- **Station margin**
- **VSAT**

b. Broadcasting and Cable TV systems
- **Radio transmitter (AM,FM, Television)**
- **Studio (Microphone, Amplifiers, Cameras, Lighting etc)**
- **Cable television**