

# **The Vocational Qualification System in Korea**

KRIVET

## FOREWORD

With recent trends in the globalization of trade and labor markets and the development of information technology, most of the developed countries have begun to reform their vocational education and training systems by establishing lifelong education systems to nurture high quality human resources while reflecting the needs of the labor market. These reforms include the development of vocational qualification system to evaluate and certify vocational competencies of adults as well as students.

The aim of the vocational qualification system is to test and recognize the vocational knowledge and skill standards of individuals, and thereby guide and direct the training and development of skilled personnel required by business, industries, and governmental organizations and at the same time to improve and enhance the socio-economic status of these skilled individuals.

This material provides an overview of the developmental process of vocational qualification systems, covering national technical qualification systems, the national qualification system of non-technical categories, and private vocational qualification systems. It attempts to provide professionals, policy makers and educators throughout the international community with a better understanding of the vocational qualification system in Korea.

It is hoped that this work will contribute to the promotion of cooperation and the exchange of ideas and experiences in the development and operation of vocational qualification systems.

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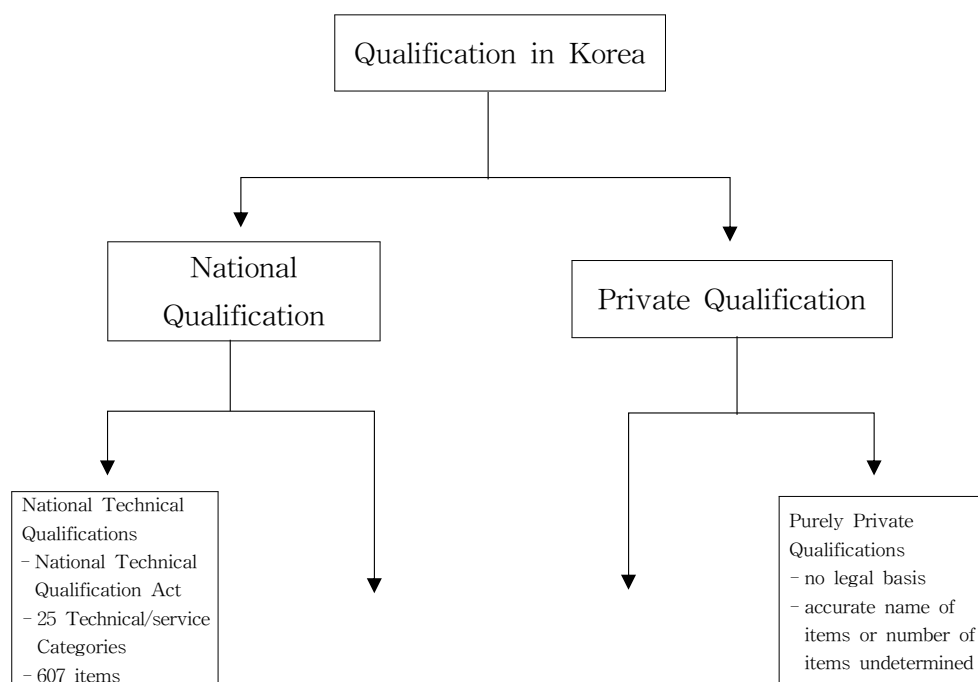
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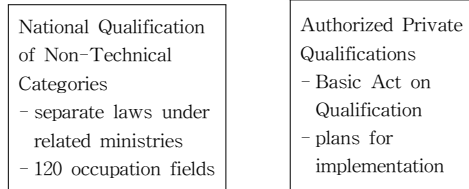
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# I. National Technical Qualification System

## 1. The Structure of Korean Qualification System

The qualification system in Korea can be divided into national qualification and private qualification as shown in Figure I-1. National qualification consists of national technical qualifications and other non-technical national qualifications. Private qualification (the term of 'private' in this context can be understood as meaning 'voluntary') also comprises two parts, authorized and unauthorized.





[Figure I-1] Qualification System in Korea

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## **2. Developments in the History Technical Qualification System**

The establishment of the current national technical qualification system has its beginnings in the enactment and promulgation of the National Technical Qualifications Act (Act No. 2672) on December 31, 1973. Prior to the adoption of this Act, the administration of technical qualification was conducted in the following categories: ①through the laws applied according to industry type since 1958, ②certification system based on the 1967 Vocational Training Law, ③certification of the Business Management category conducted by the private sector since the late 1950s.

### **1) Technical Qualification Acts**

#### (1) professional Engineer Act

The professional Engineers Act(No. 1442) was enacted on November 11, 1963 and was implemented by Presidential Decree (No. 1819) on May 27, 1964. Voted on by the Committee for National Reconstruction following the military coup, it was six years behind Japan. The purpose was stated as "determining the qualifications for professional engineer and the suitability of their work in order to contribute to the enhancement of science and technology and to the development of the national economy"(Act Article II). An professional engineer was defined as "a person with high-level professional knowledge of science and technology as well as applicable skills based on practical experience." "Applicable skills", furthermore, was defined as technical tasks such as planning, research, design, analysis, investigation, testing, operation, construction, evaluation or guiding and supervising of these activities based on professional knowledge and practical experience(Decree Article II) There were 13 categories in the qualification test and they were divided into the fields of agriculture,



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fishery, forestry, electricity, machinery, chemical engineering, textiles, metal, mining, shipping, aviation, construction, and applied science. The test itself consisted of a pre-test and the actual test, where examinees were tested on their applicable ability through written exams and oral interviews. For the administration of the certification of engineers, an Administration Committee was established under the Economic Planning Ministry. The law also states in Article 32 that a Korea Technical Society needs to be formed for the purpose of developing the skills of engineers and fostering improvement in their work.

The test for professional engineer was conducted under the auspices of the Minister of the Economic Planning Ministry until March 30, 1967 when it was moved to the Ministry of Science and Technology. In 1973 the National Technical Qualification System was enacted and following the establishment of the Korea Technical Certification Agency in December 1976, the administration of the test was put in charge of the agency.

## (2) Construction Industry Act

The Construction Industry Act, enacted on March 11, 1958 (No. 477), deals with approving licenses for those involved in construction, contracting, and certifying construction engineers for the purpose of developing the construction industry. Article 16 (certifying engineers) defines the construction engineer as someone who is "one of the following categories of civil engineers, construction engineers, electric engineers and has received certification from the Minister of Internal Affairs following inspection by the Construction Engineers Inspection Committee."

Qualification was further classified into three types according to skill type when the law was amended on September 24, 1958 (No. 498). The administration of these activities was undertaken by the National Construction Office and moved once again to the Construction Division in 1963.

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(3) Special Order Regarding Military Procurements Act

The Special Order (No. 2504), enacted on February 17, 1973 for the purpose of efficient procurements of military supplies, required military suppliers and research institutes to secure and provide subsidies to certified engineers and craftsmen in precision machining and precision measuring recognized by the Minister of Defense to be indispensable to military suppliers or research institutes.

Precision mechanics recognized by the Minister of Commerce and Industry were limited to those having passed the qualification exam. Which began on March 22, 1972. Determined by a practical test and a written exam., which there existed Class I and II precision mechanics and Class I and II precision surveyors.

(4) Electrical Industry Act

The Electrical Industry Act was enacted on December 31, 1961 (No. 953) in order to establish a basic policy regarding the electrical industry and contribute to its development and the public welfare.

According to the Act, electrical industries were mandated to appoint a supervising engineer in charge of all areas dealing with electrical matters. The supervisors were divided into Class I, II, and III and had to be certified by the Ministry of Commerce and Industry. On October 11, 1973 an amendment (Decree No. 6900) was made to expand certification of supervisor engineers to dam repairs (Class I, II), boilers and turbines (Class I, II).

The supervising electrical engineers received their license by qualifying under the national electrical engineers exam.. ordered by the Ministry of Commerce and Industry and completing a practical apprenticeship period at an institution authorized by the Ministry of Commerce and Industry. Dam repairs supervisors and boiler turbine supervisors were granted licenses

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according to their education levels and qualifications as well as practical experience.

The national qualification test for electrical supervisors is categorized according to class and is a two-step process involving a written exam.. which is followed by an oral interview, intended only for those who passed the written exam.. Someone who passed the written exam.. was able to waiver the first stage the next year in the case of having failed the oral interview the first time.

#### (5) Electric Construction Act

To issue licenses to electric construction companies, to foster electrical engineers, and to secure safe and proper construction the Electric Construction Act was enacted on February 26, 1963 (No. 1280).

Accordingly, electric construction companies were required to keep an electric engineering supervisor, certified by the Ministry of Commerce and Industry and divided into three types, for efficient managing of engineers. As for the criteria for qualification, Type A required the following qualifications: certification in Electrical Engineering Supervisor Class I or II; a university degree in electrical engineering and four years or more of practical experience (six years or more for beginners); or Type B certificate holders with six or more years or practical experience. Type B requirements were a Class III Electrical Engineering Supervisor certificate; technical high school education with four or more years of experience; or Type C certificate holders with six or more years of experience. Type C required five or more years of experience in electrical construction and qualification under the Type C electrical engineering written exam..

#### (6) Beauticians Act

Created in December 5, 1961, the Beauticians Act (No. 798) stipulated

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the qualifications of beauticians and barbers in order to improve public sanitation. Article 3 stated that, "A person is qualified to become a beauticians or a barber after completing a course at a technical high school authorized by the Minster of Health and Welfare for one year or more and after receiving a license for passing a qualifying exam.. administered in every city and province." The qualification exam.. consisted of a written and a practical test.

(7) Test Rules for Welders

This rule was enacted on May 6, 1966 (Transportation Division Order No. 222) for the stipulation of details regarding qualification, the technical exam.. and its process, and certification of welders. The qualifying exam.. for welders commissioned two or more people with sufficient knowledge in welding to become test supervisors and was divided into written and practical parts. On July 18, 1969, the system was further classified into Class I, II, and III welders.

(8) Radio(electric wave) Regulation Act

Enacted on December 31, 1961, the Radio Regulation Act sought to improve public welfare by managing the use of radio wave in an efficient manner. According to the law, the operation of electric wave equipment was required to be done by licensed operators who have passed the qualifying exam.. Qualification categories included Class I, II, III, and Telephone Class Radio Telecommunications Operator; Class I, II, III Radio Engineers, and Special Class Radio Engineers; and Class I, II, and III Amateur Radio Telecommunications Engineers, certified through a written and practical test.

On March 14, 1967 the law was amended (No. 1913), changing the Telephone Class Radio Engineer item to the Special Class item.

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## **2) Certification Under the Vocational Training Act**

The certification scheme began to be systematically implemented on January 16, 1967 with the enactment of the Vocational Training Act (No. 1880) for motivating workers to acquire skills, for assessing and standardizing the degree of skills, for job stability and efficient allocation of labor, and for establishing a sense of professionalism.

As ordered by the President, the certification process was to be carried out by someone designated by the Labor Office, including the director of a vocational training organization or the head of a local government office, who was to administer all or parts of the qualifying test.

In addition, certification was divided into two steps: a written subject test and a practical test. Each item was classified into ① Class II, people with the degree of skills that would normally belong to an experienced engineer, and ② Class I, originally intended to be people who have acquired several years of experience after qualifying for Class II and therefore exempt from parts or all of the written exam..

Eligibility for the qualifying exam.. was given to those who have completed the required course at a public vocational training institution or an authorized vocational training center or those who are recognized as having higher qualification.

Certificates were handed out to those who passed the qualification process, at which point they were required to fill out the necessary items in the registry and were given the title "craftsman," an exclusive term of address.

The head of the Labor Office was also requested to give priority to craftsmen when mediating jobs, in accordance with the original objective of attracting interest in skill certification.

As the Vocational Training Act was enacted in June 1967 the first skill certification exam.. was conducted, but there was no one qualified enough to apply for Class I status. As for Class II, there were 13 categories and

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1754 out of a total of 2646 applicants passed the exam.. In the ensuing practical exams for 15 categories held in August of that year, 434 out of 1407 examinees passed. This was the first ever certification based on the Vocational Training Act.

Later in 1968, a de facto 4-level system of certification was implemented based on the amendment that put Class III and Class IV apprentices under Class I and Class II craftsmen. 1357 out of 2012 applicants passed the 16 categories of the written exam., and 4266 out of 8349 applicants of the 67 practical exam. items passed.

The certification scheme that had been implemented with the enactment of the Vocational Training Act and the Ministerial Decree of the Ministry of Labor took a step ahead by instituting the legal basis for classification and specific exam. procedures in the certification system with the Implemental Regulation Amendment on April 28, 1969.

Pursuant to this amendment, the application requirements were clearly laid out, and exam. exemption criteria based on the stipulations in Article 20 of the Vocational Training Act were put forth. For example, those who passed a written or practical certification exam. in the same field and class were exempted from the next subject or practical exam.. Those who completed a training course in communication authorized by the head of the Labor Office were exempted from the Class II certification written subject test. In addition, those who won awards in skills competitions held under the auspices of the Labor Office or those who received certification after passing the practical exam. were seen as having authorized certification.

One of the main contributions of the Vocational Training Act was that it established an efficient operating system of providing skilled laborers. Prior to 1967, most labor demand was filled by standards of education level and experience, which led to confusion and contentions regarding fairness.

For a more scientific and rational method of certification and after-qualification management, plans for a single integrated certification

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system under the Labor Office were introduced. In addition, to meet the demands for the establishment of a more practical organization of certification categories the Implemental Regulation was amended on February 24, 1971 as a Decree of the Ministry of Health and Welfare.

Following this amendment, licenses for high pressure gas and frozen goods were changed to certification items under the Vocational Training Act by the Ministry of Commerce and Industry.

As for the certification items, 16 items including drill and sheet-metal work were abolished while 97 items were added, resulting in 97 subject items including die and mould and prime mover and 107 practical exam. items. On May 6, 1975 eight more items were added in the amendment.

The Basic Act on Vocational Training, introduced as the Vocational Training Act was abolished on December 31, 1976, in order to nurture skilled workers in demand by the industry, to promote employment stability and a rise in social position of workers and to contribute to economic development. The basic objectives remained unchanged from its predecessor, but changes were made for a broader applicability in the domain of vocational training.

For instance, certification was classified into Master Craftsman, Class I Craftsman, Class II Craftsman, and Apprentice. The Master Craftsman group were chosen based on credentials such as work experience and an interview, the Class I and Class II Craftsman group were required to pass both a written and practical exam., while the Apprentice group were selected from a practical exam..

A total of 148 items were set in place, 119 craftsman items absorbed from the Vocational Training Act and 29 additional items in business management such as abacus calculation, bookkeeping, typewriting and shorthand. The Class III, IV, V Craftsman groups were all changed to the Apprentice group when absorbed into the new act.

The certification was carried out directly by the Labor Office or by

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public vocational training institutions and authorized organizations.

On December 31, 1981 the amendment of the act separated the certification scheme from the Basic Act, from which the National Technical Qualification Act was born. 141 items, resulting from the deletion of 7 items including typewriting and repair craftsman apprentice, were absorbed into the new Act.

### **3) Certifications in the Business Management Category**

#### (1) Overview

Since the late 1950s, the certification of business management fields such as abacus calculation, bookkeeping, typewriting were brought into focus by various interest groups. In November 1964, the Korea Vocational Education Promotion Committee received authorization from the Ministry of Culture and Education to implement certification, but in the 1970s five other organizations(Korea Administrative Functions Development Association, International Vocational Skills Certification Center, Korea Administration Promotion Agency, Korea Business Skills Efficiency Association) received authorization from the government to certify qualification in abacus calculation, bookkeeping, typewriting and related fields.

Whereas there were various ministries that watched over the certification by the 6 business management certification institutions, in order to improve the operation of the certification system and raise its credibility the system was integrated into the single organization of the Labor Office in 1977.

In November 1977 the Korea Business Skills Development Center was established and began to carry out the certification of business management skills, previously undertaken by the Labor Office and 6 different organizations.

Although the certification of the business management field by the



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private sector was integrated into one, there remained the Korean Chamber of Commerce and Industry under the Ministry of Commerce and Industry and Education Committees in various cities and provinces, creating a tri-sectional system of operation.

On December 31, 1981 and April 29, 1982, following amendments in the NTQS, the certification of the business management field was absorbed into technical qualification and administered by the Korea Vocational Training Management Agency until January 1984 when it became relegated to the Korea Chamber of Commerce and Industry(KCCI) once again.

#### (2) Certification through the Basic Vocational Training Act

Following the Amendment of the Implemental Regulation of the Vocational Training Act on April 28, 1969, the item of type-operating craftsman was added as a certification item and the exam. was administered for Levels 1 to 4 in both Korean and English. Upon the Amendment on May 4, 1974 three additional categories of abacus calculation, bookkeeping, and shorthand were created. The categories of bookkeeping and shorthand were divided into 4 levels, while the typewriter operating item was divided into 5 levels.

The implementation of the certification was carried out by the Labor Office or commissioned to the government-authorized International Vocational Skills Certification Center. However, with the enactment of the Basic Act on Vocational Training on December 31, 1976 the items of abacus calculation, bookkeeping, and typewriting (shorthand was excluded) were absorbed into the Basic Act.

Following the enactment of the Basic Act, abacus calculation was classified into 11 dans and 7 geups (18 levels in total), bookkeeping into 4 levels, and typewriting into 6 levels. Thus the business management field consisted of 3 categories with 28 levels in total, and certification was administered by the Korea Business Skills Development Center beginning in

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1977.

The absorption of the shorthand item into the Basic Act was carried out on July 6, 1979 by the Decree of the Labor Office and was divided into 7 levels. In addition, Level 6 of the typewriter operating item was deleted.

After the Amendment of the National Technical Qualification Act on December 31, 1981 and the Amendment of its Implemental Decree on April 29, 1982, qualification of the business management field was absorbed into national technical qualification. In the abacus calculation item, Levels 6 and 7 were deleted and so 11 dans and 5 geups were absorbed into technical qualification. Bookkeeping had 4 levels and shorthand ended up with 5 levels after the deletion of Levels 6 and 7. As of October 31, 1991 a Presidential Decree newly created word processing and secretarial work categories.

Thus a total of 5 categories and 29 levels in business management are classified as national technical qualification and its certification was relegated to the Korea Vocational Training Management Agency from the Korea Business Skills Development Center, and again to the KCCI where it is currently being administered.

(3) Certification through the Korea Chamber of Commerce and Industry(KCCI)

The Korea Chamber of Commerce and Industry has been administering as well as setting up the rules of the certification exams of abacus calculation, bookkeeping, and typewriting categories.

The certification rules of the abacus calculation item were announced on July 28, 1962 for improving and diffusing abacus skills and increasing efficiency in business management. There were 7 levels set and exam. questions were formulated according to the rules of vocational training courses.

In February 1964, an amendment was made to the Certification Exam. Rules, creating 1 dan over 1 geup, which went up to 10 dans in 1970, to

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11 dans in 1972 and resulted in 18 levels ranging from the lowest 7 geup to the highest 11 dan. In 1978, however, 6 and 7 geup were deleted and the remaining 16 levels were absorbed into the National Technical Qualification Act on April 29, 1982.

Bookkeeping certification was implemented according to the rules determined on November 8, 1962 for the promotion of efficiency and enhancement of capabilities. All 4 levels were absorbed into the NTQS in 1982 following the enactment of the Act.

Typewriting certification was implemented based on the Korean and English Typewriting Skills Certification Exam. Rules enacted on October 19, 1965 to promote the spread of the use of typewriters and for efficiency in office work. In 1978, Levels 6 and 7 were deleted and in 1982 Level 5 was deleted as well, leaving the remaining 4 levels to be absorbed into the NTQS. But on October 16, 1995 a Presidential Decree abolished this item of certification.

#### (4) Vocational Education and Testing of Vocational Skills

The Certification Rule of the Various Vocational Skills was enacted on March 10, 1970 as a Decree of the Ministry of Culture and Education to assess the vocational skills of various vocational education courses in middle and high schools, technical schools, technical high schools, etc. The 4 items of certification were abacus calculation, bookkeeping, shorthand and typewriting.

Abacus calculation was classified into the Special Class and 7 additional levels, bookkeeping had 4 levels, while shorthand and typewriting each had 7 levels. The administration of the exam. was undertaken by the Education Committees under each city and province, which handed out certificates to all qualifiers.

Following the Amendment on August 31, 1973 the Special Class was further divided into 8 dans, extending the total number of levels to 8 dans

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and 7 geups.

On September 15, 1980, with the amendment of the exam. rules, the 6th and 7th geup of the abacus calculation item, shorthand and typewriting were deleted. On April 29, 1982 a total of 29 categories were absorbed into the National Technical Qualification Act.

#### **4) Introduction of the National Technical Qualification System**

##### (1) Enactment of the National Technical Qualification(NTQ) Act

On December 31, 1973 the government enacted the NTQ Act (Act No. 2672). Ensuing were the Implemental Decree of the same act (October 16, 1974) and Implemental Regulation of the same act (December 31, 1974), from which the establishment of the system was rendered complete.

##### (2) Subsequent Developments

The NTQ Act, since its enactment in 1973, has gone through 4 amendments and the Implemental Decree has gone through 18 amendments since its enactment in 1974. A chronology of events and developments is provided below.

##### ① NTQ Act

- a. Enactment December 31, 1973 Act No. 2672 (newly created)
- b. Amendment April 8, 1981 Act No. 3422 (Labor Office promoted to Ministry of Labor)
- c. Amendment December 31, 1981 Act No. 3510 (overseeing of certification relegated to the Minister of Labor from the Minister of Science and Technology)
- d. Amendment December 20, 1983 Act No. 3664 (making compulsory the post-qualification education of certificate holders every 5 years)
- e. Amendment March 27, 1997 Act No. 5318 (enactment of the Basic Act

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on Qualification and stipulation of private qualification)

The first amendment of the NTQ Act dealt with the promotion of the Labor Office to the Ministry of Labor, which succeeded all the former's duties. The second amendment at the end of that year moved the authority of certification from the Division of Science and Technology to the Ministry of Labor. The main content is as follows: first, the administrative duties were relegated to the Labor Ministry from the Division of Science and Technology; second, the Technical Qualification System Inspection Committee was established under the Ministry of Labor; third, overlapping certifications were abolished; fourth, the use of the title of technical qualification was forbidden; fifth, preferential hiring was provided for holders of national technical qualification certificates by employers; sixth, eligibility for the qualification exams was withheld for three years in case of cheating; and finally, fines of 2million to 5million won were assigned for unauthorized borrowing of the certification title.

On December 20, 1983 the third amendment mandated the receiving of post-qualification education after acquiring the qualification in order to update the recipient's capabilities. Parts of the amendment are as follows: first, technical qualification was divided into the Engineer group and Craftsman group, with the Service group added; second, the implementation of post-qualification education was stipulated; third, overlapping subjects in the qualification exam. could be exempted; fourth, acquirers of technical qualification were required to register and had to re-register every 5 years; fifth, national qualification certificate holders were given preferential treatment during times of authorization of opening businesses and such; sixth, the priority hiring clause of business owners acquiring technical qualification was changed to preferential hiring; finally, a temporary suspension of qualification was allowed to occur if re-registration didn't take place.

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The fourth amendment carried out on March 27, 1997 proclaimed with it a separate Basic Act on Qualification, which was promulgated on April 1, 1997. Its main contents are: a) definition of technical qualification and private technical qualification, b) prohibition of taking similar qualification exams, c) renaming of technical qualification notebook to qualification card or certificate, d) agreeing to authorize private technical qualification, e) extension of total or partial exemption of qualification exam. subjects, and f) raising penalties (5 million won → 10 million won, 2 million won → 5 million won).

② Implemental Decree of NTQ Act

- a. Enactment October 16, 1974 Presidential Decree No. 7283 (newly created)
- b. Amendment December 29, 1975 Presidential Decree No. 7902
- c. Amendment December 31, 1976 Presidential Decree No. 8357 (administration exam. partially commissioned to the Korea Technical Certification Agency)
- d. Amendment December 31, 1977 Presidential Decree No. 8799 (extension of categories available for commissioning)
- e. Amendment January 6, 1979 Presidential Decree No. 9278  
(mandatory certification authority relegated to Minister of Labor Office)
- f. Amendment June 22, 1979 Presidential Decree No. 9509 (notification of qualification cancellation to the Korea Technical Certification Agency)
- g. Amendment December 31, 1980 Presidential Decree No. 10124  
(qualifications determined for categories including Class I heat engineer)
- h. Amendment April 29, 1982 Presidential Decree No. 10802 (Business Management certification commissioned to Korea Vocational Training Management Agency, absorbed into national technical qualification)
- i. Amendment December 20, 1983 Presidential Decree No. 11281 (harmonization of education level and field experience requirements for exam. eligibility, certification of Business Management categories commissioned to KCCI)
- j. Amendment November 15, 1984 Presidential Decree No. 11543 (Projection craftsman absorbed)
- k. Amendment October 31, 1991 Presidential Decree No. 13494 (registration

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- duties of wireless equipment item undertaken by order of the National Technical Qualification Act)
- l. Amendment July 8, 1993 Presidential Decree No. 13925 (loosening of Engineer application requirements)
  - m. Amendment November 10, 1994 Presidential Decree No. 14413 (qualification system for environmental specialists newly created)
  - n. Amendment October 16, 1995 Presidential Decree No. 14783 (19 categories of multi-skilled engineers newly created)
  - o. Amendment October 28, 1996 Presidential Decree No. 15161 (construction electronic equipment engineer classified under electric field)
  - p. Amendment June 2, 1997 Presidential Decree No. 15384 (Industry Promotion Agency→Ministry of Trade and Industry, Fisheries Office→Ministry of Maritime Affairs and Fishery)

It has been nearly 30 years since the adoption of the NTQS. During this time, the Korean economy has advanced from an underdeveloped to a developing one and recently admitted into the OECD. Despite current economic difficulties resulting from the mismanagement of the foreign reserve, the miraculous economic development achieved by the hands of Koreans cannot be ignored. From a science-and-technology point of view, the NTQS has been instrumental in the leap forward.

The NTQ Act has been amended 18 times since its enactment, and the main changes are as follows:

The 1st Amendment (December 29, 1975): Presidential Decree No. 7902

1. The related ministry heads are to report by November 15 of each year next year's certification exam. plans to the Minister of Science and Technology.
2. The registration deadline of acquirers of qualifications is extended from 15 to 30 days.

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3. Relegation of rights and authorities regarding certification of some categories:
    - 9 items including Class I Prime Mover Testing Engineer - Minister of Home Affairs→Governor of each province
    - 2 items including Class I Mining Safety Engineer - Minister of Commerce and Industry→Governor of each province
    - 18 items including Class I Precision Mechanical Engineer - Minister of Commerce and Industry→Korea Precision Equipment Center
    - Class II Automobile Repair Craftsman - Minister of Transportation→Governor of each province
    - 2 items including Class I Electric Construction Craftsman - Director of Industry Promotion Office→Governor of each province
    - 3 items including Mining Craftsman Apprentice - Director of Labor Office→Korea Mining Promotion Agency

The 2nd Amendment (December 31, 1976): Presidential Decree No. 8357

1. Commissioning of technical qualification certification: Director of Division of Science and Technology→Korea Technical Certification Agency
2. Grading of multiple choice exams: related ministries→Korea Technical Certification Agency
3. Submitting of registration applications of acquirers of national qualification: within 30 days→60 days
4. Rendering of certification fees: through seals (but fees imposed by the Korea Technical Certification Agency are paid in cash)
5. Commissioning of certification authority to Korea Technical Certification Agency (Commissioned centers: Korea Precision Equipment Center, Ministry of Construction, Ministry of Transportation, Division of Science and Technology, Minister of



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Post, Industry Promotion Office, Labor Office Director, Electric Wave Director)

The 3rd Amendment (December 31, 1977): Presidential Decree No. 8799

1. Schools under certification requirement: higher technical school included
2. Announcement of certification exam.: 90 days and 30 days before exam. date
3. Excluded from commissioning of certification authority: mandatory certification, active soldiers, 5 items including Class II Cable Equipment Craftsman

The 4th Amendment (January 6, 1979): Presidential Decree No. 9278

1. Changes in required skills for Engineer group, Class I Craftsman group
2. Name changes: Junior university, Higher school for Vocational Training, Professional School→Junior college
3. Changes in Mandatory Certification Authority: related ministries →Director of Labor Office
4. Partial changes in qualification items

The 5th Amendment (June 22, 1979): Presidential Decree No. 9509

1. Must notify Korea Technical Certification Agency upon cancellation of technical qualification
2. Commissioning of national technical qualification management authority (i.e. registration, handing out registration cards, managing registration cards, etc): related ministries→Korea Technical Certification Agency
3. Notification of technical qualification registration details: Korea Technical Certification Agency→related ministries

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The 6th Amendment (December 31, 1980): Presidential Decree No. 10124

1. Abolishment of some mandatory certifications: for graduates of university, junior colleges, and vocational high schools
2. Loosening or abolishment of eligibility requirements for exam. application: Class II Engineer - further reductions in restrictions  
Class II Craftsman → abolishment
3. Extension of exemption for award-winners in skills competitions: only have to take written exam. and interview

The 7th Amendment (April 29, 1982): Presidential Decree No. 10802

1. Integration of Business Management certification
2. Exemption of Class II Craftsman group written exam.: vocational high schools, Vocational Training Center
3. Change in order of certification of Engineer group: review of credentials, written exam., interview→written exam., review of credentials, interview
4. Question sheet of written exams made public
5. Announcement of national technical qualification exam. plans: 20 days before the new year
6. Name change: Korea Technical Certification Agency→Korea Vocational Training Management Agency

The 8th Amendment (December 20, 1983): Presidential Decree No. 11281

1. Loosening of application requirements in Engineer group
2. Considerable changes in technical qualification items: 119 newly created, 126 abolished, 100 integrated into 38, 22 separated into 48
3. Technical Qualification Review Committee: 25→32 members
4. Craftsman Exam.: written exam. added
5. Exemption period of written exam.: 1 year→next 2 tries

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6. Certification of Business Management: commissioned to KCCI

The 9th Amendment (November 15, 1984): Presidential Decree No. 11543

1. Stipulation of people subjected to post-qualification education, time, methods
2. Business Management Skills: excluded from registration requirements

The 10th Amendment (July 1, 1987): Presidential Decree No. 12195

1. Change in technical qualification items: 13 newly created, 2 integrated into 1, 1 separated into 3
2. Award winners in National Skills Olympics: exemption when applying for Class I
3. Re-registration of people who deferred post-qualification education: within 1 year of expiry date

The 11th Amendment (December 19, 1988): Presidential Decree No. 12555  
Amendment to the Implemental Decree for Awards-deletion of birthplace in application form

The 12th Amendment (March 27, 1989): Presidential Decree No. 12668

1. Change in qualification items: newly created (9 in the Engineer group, 5 in the Craftsman group)
2. Loosening of application requirements: Class II Confectionary Pastry

The 13th Amendment (October 31, 1991): Presidential Decree No. 13494

1. Change in technical field: Engineer 21→22  
Craftsman 15→19
2. Change in items: 36 newly created (Engineer 20, Craftsman 16), 137 abolished, 25 separated into 61, 72 name changes, 62

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integrated into 28

3. Certification of craftsmen: added practical exam.
4. Loosening of application requirements: Class I, II Engineers, Craftsman group
5. Changes in certification procedures of different class: written→ practical exam. (including professional engineer)

The 14th Amendment (July 8, 1993): Presidential Decree No. 13925

1. Loosening restrictions of application requirements in field experience
2. Change in qualification items: 14 newly created, 1 name change
3. Prohibition of more than one exam. application in the same item and class

The 15th Amendment (November 10, 1994): Presidential Decree No. 14413

1. Reflection of performance evaluation of students in vocational high schools or vocational training centers during industry-school cooperative training
2. Making possible commissioning of certification to administrative or private sector
3. Creation of Environmental Expert Qualification

The 16th Amendment (October 16, 1995): Presidential Decree No. 14783

1. Change in Qualification items: 24 newly created, 32 were adjusted into 14, 18 abolished
2. Multi-skilled Engineer qualification newly created

The 17th Amendment (October 28, 1996): Presidential Decree No. 15161

1. Change in position of the Construction Electric Equipment item: construction→railway signs

The 18th Amendment (June 2, 1997): Presidential Decree No. 15384

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1. Change in qualification items: 4 newly created, 1 abolished
  2. Integration of government ministries: Industry Promotion Office  
→Ministry of Trade and Industry, Fisheries Office→Ministry of  
Maritime Affairs and Fisheries

### **3. Enactment of National Technical Qualification**

#### **1) Background**

There has been some criticism about the technical qualification system prior to the adoption of the NTQ Act. First, the lack of coherence between the technical qualifications issued by various government ministries and laws according to their particular objectives limits the development of qualified technical workers. Second, the criteria for national technical qualification are much too complicated and unbalanced, thereby reducing its credibility. Third, the various qualifications authorized by different sources, many of them overlapping in their content, are not being accorded inter-changeability, therefore leading to a waste of time and resources of not only the qualification system operators, but also of those taking the tests. Fourth, the near absence of preferential treatment for certificate holders has worked to deter the incentives of workers to acquire technical skills. Fifth, due to the unorganized system of qualification it has been impossible to keep technical education and vocational training in line with the needs of the industry.

#### **2) Objective**

By establishing an evaluation scheme of skills and the level of skills, not only may the capabilities of technicians and craftsmen be enhanced, but their social recognition and credibility will also be increased. The social

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positions of technicians and the utilization of their skills will be enhanced through the spread of preferential treatment for skilled workers who have obtained qualification certificates. Another purpose is to improve technical education and the vocational training system by way of responding to the needs of the industry, with these qualified workers as the link. In addition, greater efficiency can be achieved in the management and operation of what is now a sporadic and arbitrary qualification system, which may be conducive to ensuring better and more capable technical workers and also providing manpower support to the national advanced industrialization policy.

### **3) Basic Principles**

Through this system, human resources in the science and technology field, essential in an industrial society, will be classified into three categories: (1) scientists(the so-called brain power), (2) on-site technicians, who are in charge of technical matters in the actual workplace, and (3) craftsmen, whose main duties are manufacturing, assembling, operating, repairing and maintenance. Furthermore, on-site technical workers such as technicians and craftsmen may also achieve equal social, economic status with doctorate-level academics once they obtain certificates in the highest levels of their respective qualification tests. This is designed to enhance the morale and self-esteem of technicians and craftsmen and to upgrade the social positions of technicians and craftsmen.

### **4) Functions**

The qualification system in Korea aims to assess and evaluate the degree of achievement towards a certain goal. Its main functions are to conduct an evaluation of (a)technical skills education and training, (b)special abilities imperative in an industrial society. The Korean qualification system also provides invaluable feedback regarding the qualification system in

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general and its future direction, which lead to the enhancement of workers' skills. Policy-wise it controls the flow of the industrial manpower supply.

During the twenty years of the implementation of NTQS, its goal of establishing a working model of certification by integrating into one the scattered standards and criteria has been accomplished. The current impetus must be given to heightening the credibility of certificates and making them more suitable for practical use. The functions of NTQ could be suggested as follows; First, individual skills and capabilities should be evaluated according to standard criteria, making possible the supplying of skilled workers as well as providing a direction for human resources development institutions. The economic and social status of technicians will also rise through increased recognition of their abilities. Second, the qualification system must provide a link between the supply and demand of skilled workers, facilitating the smooth flow of labor. Third, it acts as a guideline regarding employment, pay, promotion to individuals and standards for human resources management, especially in an industrial society. Fourth, qualified and skilled workers can be secured and further utilized, contributing to increased productivity and industrial development.

##### **5) Establishment Direction of Qualification Items**

At the time of the enactment of the NTQ Act, the main consideration was given to skills related to heavy industry, such as machinery, metal, and chemical engineering, since the basic principle was economic development through the support of heavy industry. The technical education and vocational training policy was planned to suit this purpose, and an attempt was made to integrate the wide variety of certification systems prevalent before. An emphasis was put on making the items for qualification realistic and practical, able to bring about actual benefits to individuals and society.

The Class I and Class II Engineer items encompass a wider range of

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skills compared to Professional Engineers and are closely linked to formal education venues. The more specialized Professional Engineers are more suited to specific skills required on-site.

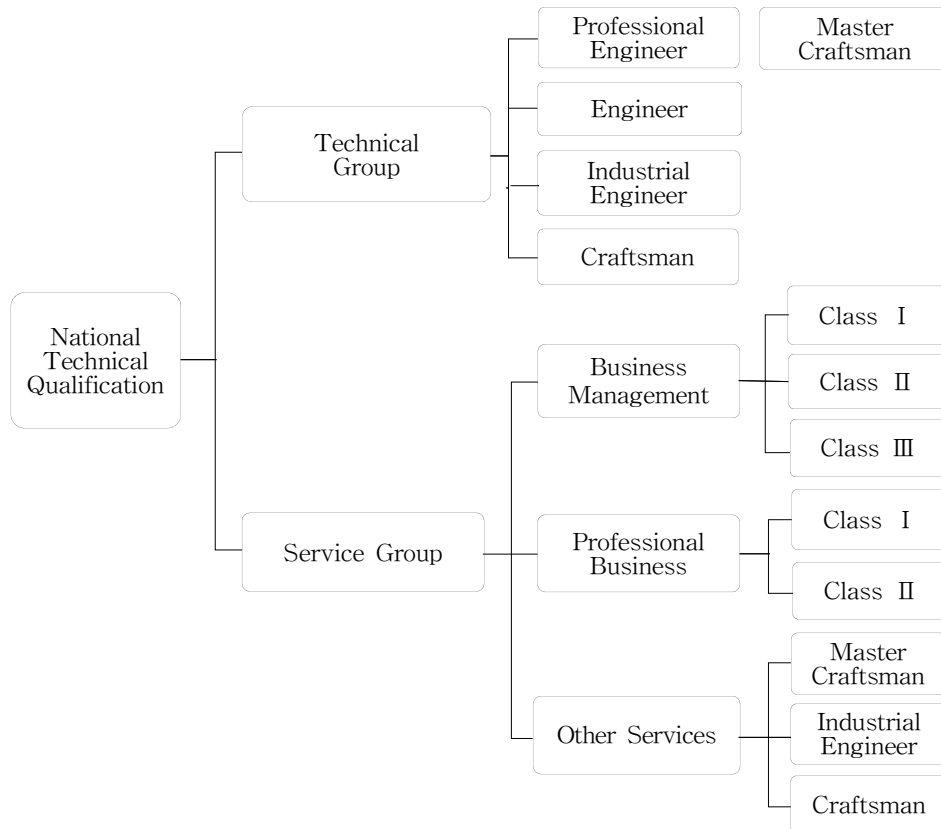
In the Craftsmen group, the range and level of skill expands as an individual reaches a higher rank. The lower rank craftsmen are helped to learn simple crafts in order to receive qualification.

## **4. The Structure of NTQS**

### **1) Classification**

As shown in Figure I-2, the current national technical qualification system is classified into 5 different levels: Professional Engineer, Master Craftsman, Engineer, Industrial Engineer, and Craftsman. The Service group is divided into Business Management and Other Services. Business Management has 3 levels(geup) and the Other Services group item has under it the two levels of Master Craftsman and Craftsman in 2 fields of work.





[Figure I-2] Classification of National Technical Qualification

## 2) Qualification Categories and items

There are 25 categories in the technical group including machinery, metal, chemical engineering and ceramics, electricity, electronics, communications, shipbuilding, aeronautics, civil engineering, architecture, textiles, mining resources, information processing, land development, agriculture and forestry, industrial design, energy, safety management, environment, applied industries, transportation, pottery, foods, sanitation and the business management categories under the service group.

Under the amendment of the Enforcement Decree there are 607 items of qualification, which is divided into 550 in the technology and skill group

and 57 in the service group.

<Table I-1> Number of Qualification Items in the Technical Group of the NTQS

Grade Occupation Category	Total	Professional Engineer	Master Craftsman	Engineer	Industrial Engineer	Craftsman
1. Machinery	118	10	10	15	31	52
2. Metal	48	6	6	7	10	19
3. Chemical Engineering and Ceramics	20	5	1	4	5	5
4. Electricity	19	5	2	4	4	4
5. Electronics	13	3	1	3	3	3
6. Communications	20	1	1	4	7	7
7. Shipbuilding	9	3	-	1	1	4
8. Aeronautics	9	2	1	1	1	4
9. Civil Engineering	29	11	-	4	4	10
10. Construction	33	4	2	3	7	17
11. Textiles	30	6	2	4	9	9
12. Mining Resources	16	4	-	3	4	5
13. Information Processing	8	2	-	2	3	1
14. Land Development	11	3	-	3	3	2
15. Agriculture and Forestry	39	6	1	9	9	14
16. Ocean and Fisheries	20	4	-	8	5	3
17. Industrial Design	6	1	-	2	2	1
18. Energy	6	3	-	2	1	-
19. Safety Management	19	7	1	5	5	1
20. Environment	13	4	-	4	4	1
21. Applied Industry	39	6	-	11	8	14
22. Transportation	3	1	-	1	1	-
23. Pottery	22	-	1	-	4	17
Total	550	97	29	100	131	193

The service group is divided into business management, professional business and other services. The category of business management has under it 7 items: bookkeeping, abacus calculation, word processing,

Korean/English shorthand, secretarial work, and computer application. Except for abacus calculation, which is classified into 1~11 dan and 1~3 geup, the qualification levels in the Business Management field are classified into levels 1, 2, 3. The field of professional business has under it 3 items; job counselor, social survey analyst, and electronic commerce. This field are classified into level 1, 2. The total number of categories are shown in Table I-2.

<Table I-2> Number of Qualification items in the Business Management (Service Group) of the NTQS

Occupation category	Item	Class	Number
Business Management	Bookkeeping	1-3 geup	3
	Abacus Calculation	1-11 dan and 1-3 geup	14
	Word Processing	1-3 geup	3
	Korean Shorthand	1-3 geup	3
	English Shorthand	1-3 geup	3
	Secretarial Work	1-3 geup	3
	Computer Applicability	1-3 geup	3
	Computer Accounting	1-3 geup	3
Professional Business	Job Counselor	1-2 geup	2
	Social Survey Analyst	1-2 geup	2
	Electronic Commerce	1-2 geup	2
Total			41

The other services under the service group, previously under the technical service category in the craftsman group, consists of the two fields of foods and sanitation, as is shown in Table I-3. There are a total of 15 items, 4 in master craftsman, 1 in industrial engineer, and 11 in craftsman.

<Table I-3> Number of Qualification Items in the Other Services Category (Service Group) of the NTQS

Occupation field \ Grade	Master Craftsman	Industrial Engineer	Craftsman	Number
1. Foods	Cooking Baking	Cooking	Korean Cooking Western " " Chinese " " Japanese " " Swellfish " " Confectionary Pastry Bartender	11
2. Sanitation	Barber Beautician		Barber Beautician Laundry	5
Total	4	1	11	16

### 3) Certification Criteria

The criteria for certification under the NTQS are provided in the following (Table I-4).

<Table I-4> NTQS Certification Criteria According to Grade

Grade	Certification Criteria
Professional Engineer	Whether or not the applicant has the ability to plan, research, design, analyze, test, operate, construct, evaluate or guide and supervise these activities based on a high level of expert knowledge and field experience
Master Craftsman	Whether or not the applicant has plenty of experience and skills in order to supervise, guide other workers, carry out on-site training, and act as a link between the management and production workers
Engineer	Whether or not the applicant has the ability to carry out skilled tasks such as design, base construction, and analysis based on engineering knowledge.
Industrial Engineer	Whether or not the applicant has the ability to carry out multi-skill tasks based on basic technical knowledge or experience
Craftsman	Whether or not the applicant has the ability to carry out task management duties such as produce, manufacture, operate, repair, and evaluate.

The certification criteria for business management qualification under the services group, whose testing is executed by KCCI, is as follows:

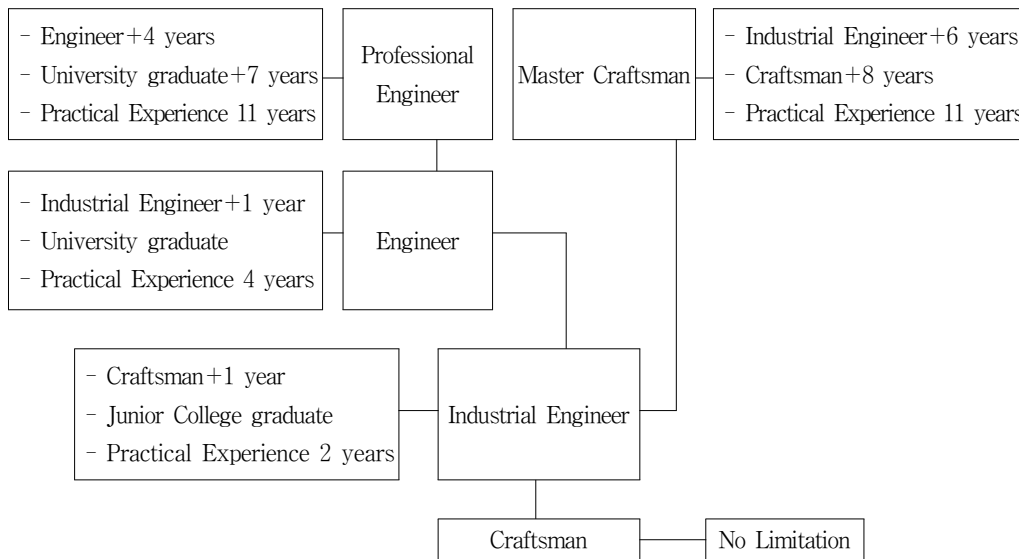
<Table I-5> Certification Criteria for Business Management (Service Group)

Name	Grade	Certification Criteria
Bookkeeping	1 geup	The ability to carry out accounting duties at a big firm and possessing knowledge of commercial and industrial bookkeeping, production cost calculation, accounting theory at the university graduate level
	2 geup	The ability to carry out accounting duties at a small or medium-sized firm and possessing knowledge of commercial and industrial bookkeeping at the high school graduate level
	3 geup	The ability to carry out accounting duties at a small firm and possessing knowledge of commercial bookkeeping principles
Abacus	1-11 dan	The ability to process professional calculations with efficiency and accuracy and carry out accounting calculations in a big firm
	1 geup	The ability to process professional calculations and carry out accounting calculations in a small or medium-sized firm
	2 geup	The ability to process general calculations and to carry out accounting calculations in a small or medium-sized firm
	3 geup	The ability to process basic calculations and to carry out accounting calculations in a small or medium-sized firm
Korean Shorthand	1 geup	Possessing expert-level Korean shorthand skills and the ability to carry out related duties with efficiency and accuracy
	2 geup	Possessing intermediate-level Korean shorthand skills and the ability to carry out related duties with efficiency and accuracy
	3 geup	Possessing beginner-level Korean shorthand skills and the ability to carry out related duties with efficiency and accuracy

English Shorthand	1 geup	Possessing expert-level English shorthand skills and the ability to carry out related duties with efficiency and accuracy
	2 geup	Possessing intermediate-level Korean shorthand skills and the ability to carry out related duties with efficiency and accuracy
	3 geup	Possessing beginner-level Korean shorthand skills and the ability to carry out related duties with efficiency and accuracy
Secretary	1 geup	Possessing expert knowledge on secretarial work and the ability to carry out related duties with efficiency and accuracy
	2 geup	Possessing general knowledge on secretarial work and the ability to carry out related duties with efficiency and accuracy
	3 geup	Possessing basic knowledge on secretarial work and the ability to carry out related duties with efficiency and accuracy
Word Processing	1 geup	Possessing expert-level word processing skills and the ability to carry out related duties with efficiency and accuracy
	2 geup	Possessing intermediate-level word processing skills and the ability to carry out related duties with efficiency and accuracy
	3 geup	Possessing beginner-level word processing skills and the ability to carry out related duties with efficiency and accuracy
Computer Applicability	1 geup	Possessing expert-level computer skills and the ability to carry out related duties with efficiency and accuracy
	2 geup	Possessing intermediate-level computer skills and the ability to carry out related duties with efficiency and accuracy
	3 geup	Possessing beginner-level computer skills and the ability to carry out related duties with efficiency and accuracy

**4) Eligibility for the Qualification Exam.**

Figure I-3 shows the application requirements under the Implemental Decree of the National Technical Qualification Act. Eligibility for the Professional Engineer qualification is given to individuals who have ① acquired qualification as an engineer, industrial engineer, or craftsman and worked in their fields for 4, 6, 8 years respectively, ② graduated from university or junior college and worked in the field of qualification application for 7 and 9 years respectively, ③ completed training at the level of engineer or industrial engineer, ④ had field experience for more than 7 or 9 years or 11 years without having proper formal education, and ⑤ acquired an identical qualification and class in a foreign country.



[Figure I-3] Eligibility for National Technical Qualification

**5) Certification Process**

The certification procedures according to each technical qualification field is stipulated in Article 15 of the Implemental Decree. The certification

process proceeds in the order of written exam., practical exam., and interview. Each stage of the exam. requires the passing of the previous stage, but if the practical exam. is in the form of a written exam., then both stages may occur within the same stage. The certification process of the technical group qualification is illustrated in Table I-6.

Professional engineer qualification requires a written exam. and an interview, while the categories of Engineer, Master Craftsman, Industrial Engineer need to take a written and practical exam..

<Table I-6> Certification Procedures for the Technical Group

Qualification Type	Certification Procedure	
	Written Exam.	Interview or Practical Exam.
Professional Engineer	Short answers or essay	Oral interview
Master Craftsman	Multiple choice (1 answer out of 4 choices)	Actual performance test+ Written exam.
Engineer	Multiple choice (1 answer out of 4 choices)	Actual performance test+ Written exam.
Industrial Engineer	Multiple choice (1 answer out of 4 choices)	Actual performance test+ Written exam.
Craftsman	Multiple choice (1 answer out of 4 choices)	Actual performance test

The written exam. takes the form of essay-type and multiple-choice questions, with the Professional Engineer examinees given short answer and essay questions and others given multiple-choice questions. The cutoff point is 60 out of 100 for professional engineers, master craftsmen, and craftsmen, while engineers and industrial engineers need to receive at least 40 points in each subject with an average higher than 60.

There are 4 types of practical exams: interview, actual performance, written answers, and combined. The interview-type exam. applies only to



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the Professional Engineer class. Actual performance requires the examinee to use certain equipment and tools to design, manufacture, operate, repair, extract, analyze and inspect according to instructions. The written type refers to the short-answer type written exam., and the combined exam. consists of both actual performance and the written type. Qualification exams utilizing solely the written version are currently being transformed into combined or performance-type exams in order to enhance the practical skills of qualification acquirers.

The cutoff point for practical and interview exams is 60 out of 100 for the technical group qualification and Other Services qualification. The certification procedures for the Business Management field of the Service Group are shown in Table I-7. Both written and practical exams are required in secretarial work and word processing, while other categories require only one of the two. It should be noted that although bookkeeping requires only a written exam., the actual exam. has questions requiring not only theoretical knowledge but actual ability, making the exam. closer to the combined type.

<Table I-7> The Certification Procedures of the Business Management Field (Service Group)

Qualification item	Certification Procedure
Secretary	Written exam. → Practical exam.
Word Processing	Written exam. → Practical exam.
Bookkeeping	Written exam.
Abacus Calculation	Practical exam.
Shorthand	Practical exam.

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## **5. Administration of Certification Process**

### **1) Current Operation**

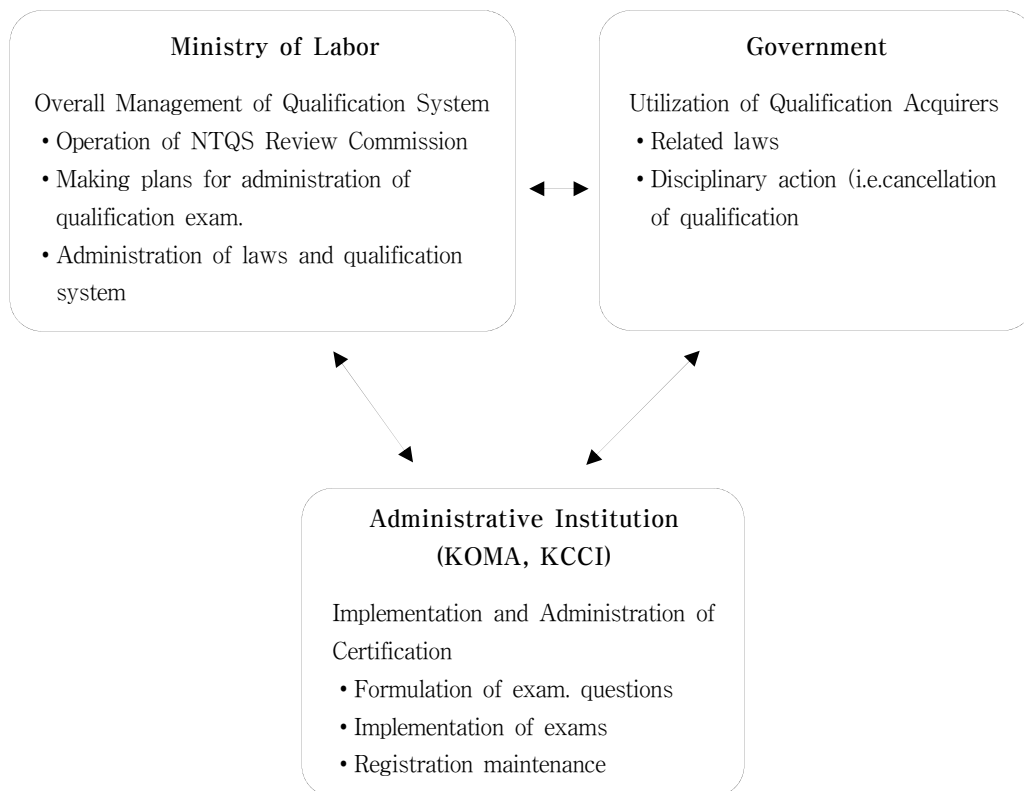
National technical qualification is currently under the control of 15 different government organizations, but the overall management is headed by the Ministry of Labor under the NTQ Act. The undertaking of the formulation of exam. questions, the certification process, registration, and post-qualification education are commissioned to the Korea Manpower Agency(KOMA) and KCCI under the Implementation Decree of the same Act. KOMA is in charge of the Other Services category in the Service Group as well as the Technical Group, while the KCCI deals with the Business Management field in the Service Group. The certification of active soldiers and military personnel are authorized by the Minister of Defense, and the registration, certification, reports of changes, and management of the qualification system of electric wave engineers, industrial engineers, and craftsmen are authorized by the Minister of Information and Communication.

Issues regarding the operation of the NTQS such as the creation, integration, and abolishment of qualification categories, application requirements for each level, certification procedures, qualification exam. subjects, adjustments in exam. periods, measures for establishing preferential treatment for certificate holders, improvement of the qualification system, exemption conditions, commissioning certification to the private sector, and authorization of private qualification are inquired into by the Technical Qualification System Review Committee, a consultative body under the Minister of Labor consisting of public officials and specialists, and reflected into the national technical qualification policy. The overall operating system of the NTQS is depicted in Figure I-4.

The NTQS Review Committee is composed of less than 33 members who are either Level 3 or higher government bureaucrats or specialists recommended by the Minister of Labor. The committee also reviews the

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opening and closing of qualification categories, exam. subjects, application requirements, adjustments in exam. administration, measures for the establishment of preferential treatment for certificate holders, and general measures for improving the NTQS.



[Figure 1-4] The Operating System of the NTQS

The Ministry of Labor is the main organization that deals with the NTQS and directs policy regarding its operation and adjustments among various authorities. It is also in charge of the 269 categories in technical qualification, including machinery safety engineer, chemical engineering safety engineer, industrial safety engineer, and carries out the following functions:

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- ① creating and abolishing qualification categories and exam. subjects, deciding on the application requirements,
  - ② deciding on various standards, such as certification fees
  - ③ confirming administration plans of the qualification exams
  - ④ operating and finding ways to improve the NTQS, such as promoting preferential treatment for certificate holders, improving the qualification administration system, and post-qualification education.

The 15 related authorities have the right to make plans for implementing exams, to decide on qualifiers, to decide on registration and its cancellation, and to carry out post-qualification education. In addition, they may cancel the qualification of certificate holders if they were won through bribery or other dishonest measures.

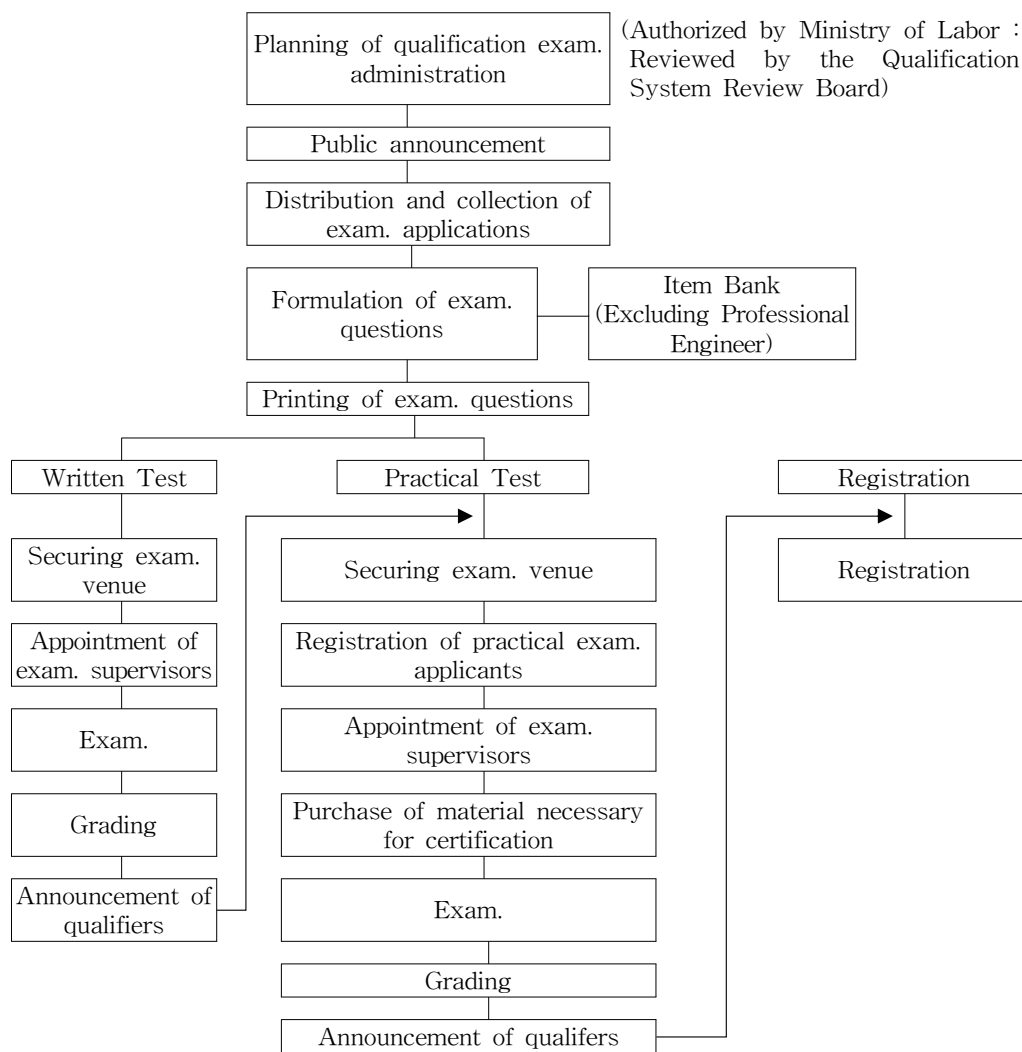
## **2) Registration Process following the Acquisition of Certificates**

Once an applicant has passed the qualifying exam., he or she is required within 15 days of the qualification announcement to register with the related government ministry, which then hands out the certification in the form of a small notebook.

With the Amendment of the Implementation Decree on December 31, 1976, the registration period was extended to 60 days. If, for some reason, the qualifier was unable to register within the 60 days, then he or she could apply for the certificate by attaching a formal excuse within one year. In 1982, the Korea Vocational Training Administration Agency was established to take care of the registration duties. On December 20, 1983, the registration duties in the Business Management field was commissioned to the KCCI, also in charge of the administration of the qualification exams in the field. On October 31, 1991, following the Amendment, the registration along with the exam. administration of wireless equipment Class I, Class II engineers and Class II craftsmen was relegated to KOMA.

### 3) Implementation Process

The implementation of certification is illustrated in Figure I-5. After the qualification exam. is announced, applications are distributed and collected. Once the test centers and test proctors are secured, the written and practical exams are administered. Then the qualifier list is announced and they are required to register.



[Figure I-5] Implementation Flowchart of Certification

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## **6. Formulation and Administration of Exam. Questions**

### **1) Formulation of Questions**

All exam. questions, except for the Professional Engineer qualification categories, are formulated according to certain criteria regarding written and practical exam. subjects. Questions for the engineer and craftsman qualification categories are compiled by outside experts, stored in a item bank, and selected randomly from various levels of difficulty. For Professional Engineers, the formulation of exam. questions is commissioned to outside experts prior to the exam..

The written exam. is in the form of multiple-choice. Examinees in the engineer group take 4 to 6 subjects and receive 20 questions per subject, while those in the craftsman item receive 60 questions per subject.

The practical exam. is administered as a single comprehensive subject and there is no set number of questions. The exam. can take the form of actual performance or a written version (interviews in the case of professional engineer) depending on the item.

### **2) Operation of the Item Bank**

The current national technical qualification exam. consists of 2 stages: written and practical. The written exam. (1st stage) is in the form of multiple-choice (1 answer out of 4) and the questions are selected from the item bank. The practical exam. (2nd stage) can take any of the three forms of the written version, combined, and actual performance. The written version consists of short-answer questions and essay-type questions. The combined version mixes both the written version and actual performance and is used only in the items. where due to lack of equipment a total performance-type exam. cannot be administered. As for the written version, the item bank is used in order to maintain the continuity and

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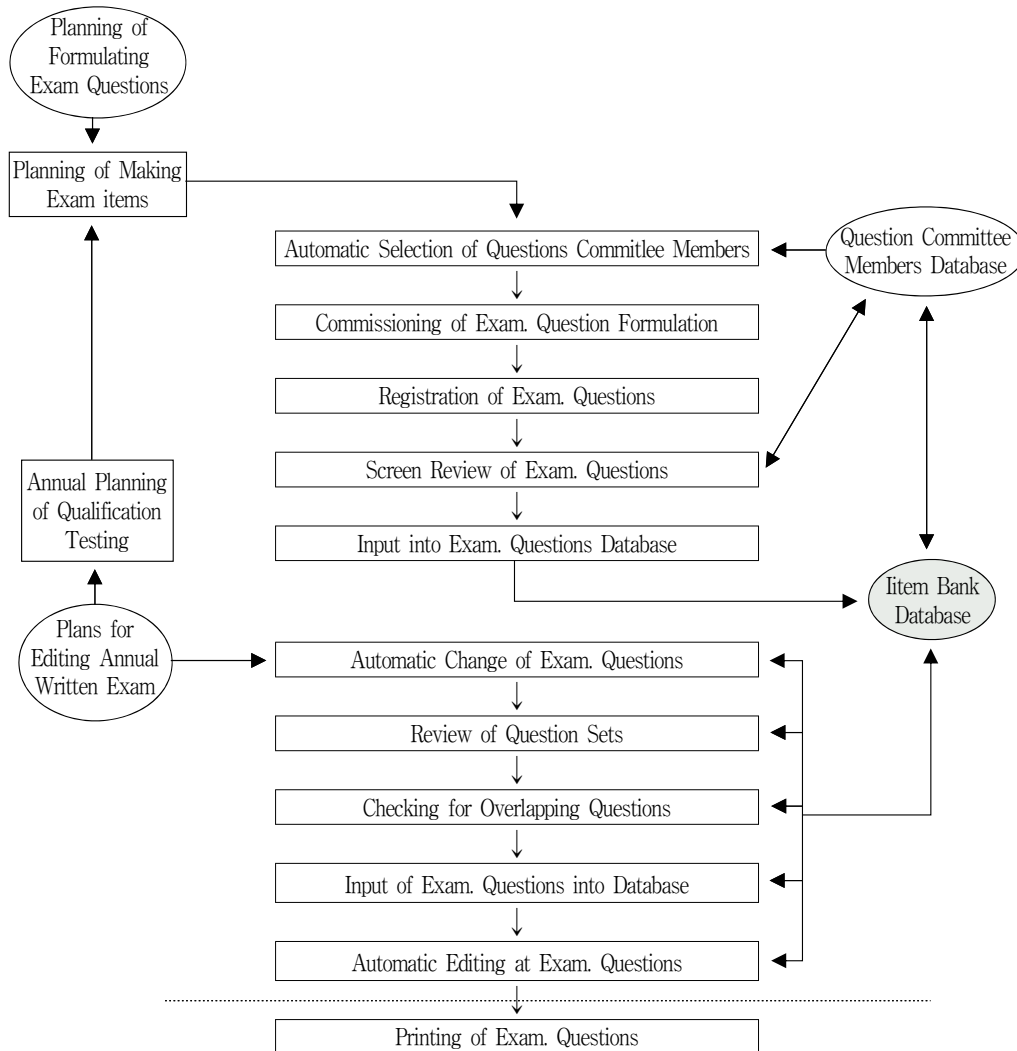
safety of exam. questions. The item bank is a system that compiles the knowledge and experience of specialists in a computer system for the formulation of exam. questions.

KOMA did a trial run of the item bank in the 1997 National Technical Qualification written exam. and has been operating it since 1998. Currently 514 items (1525 subjects) input, manage, select, edit, quantify, make, and review exam. questions through this system.

There are several advantages in the computer-operated system of national technical qualification written exams, naturally constructing a data base and automating the item bank system. First, duties regarding the making of exam. questions such as input, editing, and information search can be done in a more time-efficient manner. Second, the exam. questions themselves and their sets can be selected automatically, and errors in grammar will be directly corrected. Third, the quality of questions will improve, security can be maintained more easily and committee members can conduct their duties in a credible manner.

The management of the Item Bank system by KOMA is shown in Figure I-6.

However, a genuinely computerized certification would require not only that a question bank be programmed and saved into a computer, but also that the computer hardware and software needed for certification be readily available. Thus the current item bank system operated by KOMA cannot be called a truly computerized process of certification. There have been 3 stages in the development of computerized certification: (1) computer assisted testing, (2) computerized testing(CT), and (3) computerized adaptive testing(CAT).



[Figure I-6] Flowchart of the Selection of Exam. Questions from the NTQS Item Bank

As the above facts show, the current Item Bank system, dealing with the input, management, selection, editing, statistics, the actual making of the qualification exam. questions and keeping tabs on the review committee members, is merely a support tool in its current stages.



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### **3) Selection criteria of Exam. Questions**

To determine the selection criteria of exam. questions and to determine the scope and level of exam. questions, a researcher working at KOMA in charge of question selection does a field investigation to get a feel for the current status of technological development. He or she, then, makes a preliminary draft of the selection criteria and completes the selection criteria plan following its review by an outside expert. The views of the related authorities of each item are taken into consideration, and the final copy is sent out to each government organization, university, junior college, polytechnic college, high school, vocational school, and technical academy. In addition, the selection criteria are continuously updated following field investigations.

### **4) Exam. Questions**

#### (1) Professional Engineer

A Professional Engineer Certification Review Committee, composed of academics, recommends the exam. question formulators and two members for each item are selected.

All members meet before the exam. date and agree on the questions for each item. In order to prevent leakage, the members are to remain segregated until the exam. date.

The questions are essay-type so that examinees can be broadly evaluated on their basic practical knowledge as well as expert knowledge based on field experience.

Two interviewers are present during the interview exam.. Evaluation is based on field experience, expert knowledge and applicability of qualification item, general knowledge of qualification item, business management and leadership ability, along with disposition and talent.

<Table I-8> A Summary of Interview Questions for Professional Engineers

Main Item	Point
1. Relevant field experience	30
2. Relevant expert knowledge and applicability	20
3. General knowledge in qualification field	20
4. Management and leadership skills as a professional engineer	20
5. Possessing character of a professional engineer	10
Total	100

(2) Master Craftsman, Engineer, Industrial Engineer and Craftsman—  
Written Exam.

The written exam. is in the form of multiple choice (choosing 1 out of 4 answers). Exam. questions are compiled by selected committee members from academic and industrial experts. Irrespective of the exam. period, approximately 30,000 exam. questions per year are newly created. Each new question is checked in its relevance to field work, objectivity, and accuracy and is given a unique code according to its item, exam. subject, formulation criteria, level of difficulty, and type. Then the question is processed into the computer and stored in the Item Bank.

For the making of the exams, the list of unique question codes are printed out and programmed according to subject. Then questions three times the number needed for 1 set are selected and stored. During the exam. period, the supervisor randomly selects 1 of the 3 sets of exam. questions and hands it over to the person in charge of editing, who edits and prints out the exam. questions in an isolated area.

(3) Master Craftsman, Engineer, Industrial Engineer and Craftsman—  
Practical Exam.

The same procedures as the written exam. are applied until the storing of questions into the item Bank. A trial performance is carried out, if

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necessary, to test the appropriateness of the actual performance type exam.. In the case of the written version, the formulation method is identical to the written exam., while the actual performance type exam. selects one of the sample questions announced beforehand.

## **7. Credit Bank System**

A "Lifelong Open Learning Society" aims to maximize national competitiveness by making education available throughout the life of individuals and society, expanding time and space restrictions in education. One reform measure to achieve this end is the Credit Bank System, which is being actively pursued by the government. The Credit Bank System seeks to improve upon the limitations of formal education by recognizing the various field experiences and training accumulated by an individual outside the school environment. It also provides motivation for life-long learning to people who have previously had not access to higher education. It was against this backdrop that the Credit Recognition Act was enacted, allowing national technical qualification acquisition to be equated with credits from a formal education institution.

### **1) Linking Qualification with Formal Education**

The plans for recognition of credits for acquirers of national qualification within the formal education setting is as follows:

- ① It needs to be recognized that the courses listed under the NTQS are much more comprehensive than the titles or content of college courses and cannot be matched. Therefore credits given to certificate holders should foremost be in the form of major requirements, and upon completion of these required courses credits may be handed out

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as general electives.

- ② The highest number of formal education credits that may be recognized through the acquisition of qualification is 110 for the bachelor's degree and 65 for junior colleges.

## **2) Credit Recognition for the Technical Group**

- ① Professional Engineers are given 45 credits.
- ② Master Craftsmen are given 39 credits.
- ③ Engineers (formerly Class I Engineers) are given 30 credits.
- ④ Industrial Engineers (formerly Class II Engineers, Multi-skilled Engineers, Class I Craftsmen) are given 24 credits.

## **3) Credit Recognition for the Service Group**

- ① Level 1 Word Processing is given 12 credits.
- ② Level 2 Secretarial Work is given 4 credits.
- ③ Level 1 Abacus Calculation is given 8 credits.

If a certificate holder has 2 or more qualifications in an identical item, then the credits for the highest qualification is granted in its entirety, while the rest of the qualifications are granted  $\frac{3}{4}$ ,  $\frac{2}{4}$ ,  $\frac{1}{4}$  of the recognizable credits in order of grade. All decimal points are rounded to the nearest number. However, if lower-class qualifications are acquired after a higher-level qualification then credits are not recognized.

In the case where 2 or more identical-level qualifications with some overlapping subjects are obtained, then portions of the recognizable credits are subtracted with regards to the overlapping subjects. For Class I and Class II Engineers, 3 credits are cut off for each overlapping subject, and Class I Craftsmen and Multi-skill Craftsmen must forego 2 credits for each overlapping subject.

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## II. National Qualification System of Non-Technical Categories

### 1. Overview

#### 1) Current Status of National Qualification in Korea

National qualification in Korea is broadly divided into technical qualification, under the NTQ Act, and national qualification, stipulated by separate laws. Technical qualification has been managed in a relatively organized manner under a single law, but qualification under separate laws have been introduced and managed by several ministries, making it very different from the former.

The current status of Korean national qualification according to category, occupation field, and item is shown in Table II-1.

<Table II-1> Current Status of National Qualification According to Classification Criteria

	Technical Qualification under the National Technical Qualification Act	National Qualification under Separate Acts
categories	25	15
Occupation Fields	-	120
Items	607	-

'Category' referred to in the NTQ Act is a concept used to classify the different domains of technical qualification, including machinery, metal, chemical engineering and ceramics, electricity, electronics, communications, shipbuilding, aviation, safety management, environment, applied industry, transportation, pottery, business administration, foods and beverages,

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sanitation. In contrast, the separate laws stipulating qualifications other than technical ones do not use the concept of 'category'. Therefore, in order to look at the overall operation of the national qualification system in a comprehensive manner, qualifications under the separate laws need to be classified into differentiated domains.

Accordingly, non-technical national qualifications comprise 15 categories and among these the 4 fields of medical/health, professional business administration, education/social welfare, service do not belong to the fields stated in the NTQ Act. The rest 11, such as applied industry, construction, maritime, agriculture, pottery, aviation, energy, communication, safety management, transportation, and national terrestrial development, are part of the categories listed in the NTQ Act.

The NTQ Act utilizes the 'item' concept as a subset of 'categories'. A certain category consists of several items, which has a total number of 607. In non-technical national qualification, however, there is a mixture of laws using and ignoring the concept of 'item' which makes it difficult to apply consistently the 'item' concept under the NTQ Act.

Whereas the NTQ Act uses the 'item' concept as the lowest unit in the classification of qualification according to field or level, qualifications existing under separate laws have qualifications that are unclassified and also qualifications that are multi-tasking which makes it difficult to classify according to both the level and field of work. So in non-technical national qualification a term other than item should be used to set classification standards. Thus the concept of 'occupation field' was born. According to this classification, national qualification other than technical have 15 categories, which in turn has 120 occupation fields.

According to the above analysis, Korean national qualification has 30 categories, with 607 items under the Technical Qualification sector and 120 items in the others sector.

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## **2) Items and Occupation Types According to Each Government Ministry**

In Korea 24 ministries, divisions, and offices deal with national qualification. Table II-2 shows the different qualifications according to each ministry.

<Table II-2> Items and Occupation Types According to Government Ministry

Related Ministry	Type	No.	National Qualification
Ministry of Transportation	Separate Qualification	15	Assessment and Evaluation, Construction, Real Estate, Road Safety Manager, Distribution, Aircraft Pilot, Aircraft Repairs, Housing Manager, etc.
	Technical Qualification	104	Professional Civil Engineering Engineer (Civil Engineering Execution), Class1 Civil Engineering Engineer, Class 2 Civil Engineering engineer, Professional Architecture Engineer (Architectural Execution), Class 1 Architecture Engineer, Class 2 Architecture Engineer, Professional Machinery Engineer (Construction Equipment), Class 1 Construction Equipment Engineer, Class 2 Construction Equipment Engineer, Class 1 Heavy Equipment Maintenance Engineer, Class 2 Heavy Equipment Engineer, Professional National Land Development Engineer (Urban and Regional Planning), Class 1 Urban and Regional Planning Engineer, Professional National Land Development Engineer (Landscape Architecture), Class 1 Landscape Architecture Engineer, Class 2 Landscape Architecture Engineer, Professional National Land Development Engineer (Land Survey), Class 1 Land Survey Engineer, Class 2 Land Survey Engineer, Class 1 Heavy Equipment Maintenance Craftsman, Class 2 Heavy Equipment Maintenance Craftsman, Assistant Heavy Equipment Body Maintenance Craftsman, Assistant Heavy Equipment Engine Maintenance Craftsman, Class 1 Civil Engineering Material Testing Engineer, Class 2 Civil Engineering Material Testing Engineer, Class 2 Crane Operator Craftsman, Excavating-Machine Operator Craftsman, Bulldozer Operator Craftsman, Road-Roller Operator, Motor-Grader Operator, Forklift Truck Operator, Air-Compressor Operator, Loader Operator, Scraper Operator, Dumptruck Driver, Concrete Mixer Operator, Asphalt Finisher Operator, Asphalt Mixing Plant Operator, Crusher Operator, Dredge Operator, Gravel Plant Operator, Overhead-Crane Operator Construction, Construction Equipment, Construction Machinery, Survey, Interior Construction, Drawing blueprint, Aeronautical photos, Asphalt, Concrete, Civil Engineering Law, Waterproofing, Construction Law, Bricklaying, Plastering, Warm Water Ondol, Glass Implementation, Building Painting, Architectural Carpentering, Concrete Form, Scaffolding, Reinforcing Iron Bar, Wood Joinery, Soil Mechanics and Foundation, Furniture Manufacturing, Civil Engineering Structure, Docks, Roads and Airports, Ocean Resources Development, Sewers, Agricultural and Fishery Civil Engineering, Auto Inspection, Motor Vehicle Mechanics, Motor Vehicle Inspection, Motor Vehicle engine, Motor Vehicle Chassis, Motor Vehicle Electricity, Aircraft, Aircraft Maintenance, Aircraft Body Maintenance, Aircraft Equipment Maintenance, Aircraft Electronics Maintenance, Transportation, etc.
	Subtotal	119	

(table continued on next page)



National Police Office	Separate Qualification	4	Security Guard Instructor, Driving Skills Assessment, Driving Instructor, Driver's License
	Technical Qualification	6	Explosives Management, Explosives Manufacturing, Explosives Handling, etc.
	Sub-total	10	
Ministry of Science and Technology	Separate Qualification	7	Radioactive Isotopes Treatment Specialized License, Radioactive Isotopes Treatment General License, Nuclear Reactor Control Supervisor License, Nuclear Reactor Control License, Nuclear Fuel Material Treatment Supervisor License, etc.
	Technical Qualification	55	Radioactive, Ultrasonic, Magnetic Particle, Penetrant, Addy Current, Leak Non-destructive Testing, Nuclear Power (In addition to the above titles, all of Professional Engineer, Class 1&2 Engineer titles except the titles for which 17 other responsible ministries are entitled to.)
	Sub-total	62	
Customs Office	Separate Qualification	2	Customs Officer, Bonded Processing Expert
Ministry of Education	Separate Qualification	7	Social Education Specialist, Practical Curriculum Instructors, Infirmary Nurse, Professional Counselor, Teacher, Associate Teacher
National Customs Office	Separate Qualification	1	Bartender
Financial Supervisory Committee	Separate Qualification	3	Insurance Dealer, Damage Assessment, etc.
Ministry of Labor	Separate Qualification	4	Authorized Labor Relations Officials, Industrial Safety Instructors, Industrial Hygiene Instructors, Vocational Training Instructors
	Technical Qualification	197	Industrial Safety, Safety Management, Industrial Hygiene Management, Machinery Safety, Chemical Engineering Safety, Electricity Safety, Construction Safety In addition to the above titles, all titles of technical qualification (excluding Engineer) and office workers group, except the titles for which other responsible ministries are entitled to
	Sub-total	201	
Ministry of Agriculture and Forestry	Separate Qualification	8	Auctioneer, Farming Business, Veterinarian, Fisheries Business, Forestry Business, Traditional Foods Specialist, Land Substitution
	Technical Qualification	6	Livestock Engineering, etcl.
	Sub-total	14	
Rural Development Administration	Technical Qualification	22	Agricultural Chemistry, Horticultural Seedling, Plant Protection, Agricultural Machinery Maintenance, Farm Machinery Operator, Agricultural Machinery, Vegetable Cultivation, Fruit Culture, Floral Culture, Horticulture under Structure, Mushroom Seedling

(table continued on next page)

Ministry of Culture and Tourism	Separate Qualification	10	Korean Travel Guide, Tourist Translator and Guide, Tourist Hotel Manager, Cultural Objects Repairs, Librarian, Youth Instructor, etc.
	Technical Qualification	2	Projection
	Sub-total	12	
Ministry of Justice	Separate	1	Lawyer
Division of Court Administration	Separate Qualification	1	Judicial Expert
Ministry of Health and Social Affairs	Separate Qualification	27	Nurse, Assistant Nurse, Physical Therapist, X-Ray, Social Welfare Worker, Optometrist, Massage, Pharmacist, Nutrition, Hygiene, Hygiene Testing, Emergency Rescue Worker, Medical Recorder, Doctor, Clinical Pathological Engineer, Medical Specialist, Mental Health Nursing, Doctor of Herb Medicine, etc.
	Technical Qualification	21	Food Processing, Barber, Beautician, Korean Cooking, Western Cooking, Chinese Cooking, Japanese Cooking, Swellfish Cooking, Confectionery Maker, Pastry Maker, Bartender, Food Processing, Agricultural Food Processing, Fishery Processing, Laundry
	Sub-total	48	
Forestry Administration	Separate Qualification	2	Forestry Civil Engineer, Forestry Cultivation Engineer
	Technical Qualification	17	Forest Product Processing, Forestry, Forestry Management, Forestry Engineering, Forest Seedling, Pulp Paper, Wooden Products Processing, Wooden Material
	Sub-total	19	
Ministry of Industry and Resources	Separate Qualification	3	ISO9000, 14000-authorized Inspector, Sales Manager
	Technical Qualification	81	Die Making, Die Design, Tool and die Making, Precision Measuring, Instrumentation and Control, Industrial Instrumentation Control, Industrial Instrumentation, General Machinery, Electronics, Heat Treatment, Mining Safety, Prime Mover Operator, Prime Mover Installation, Electricity, Electric Work, Interior Wiring, External Wiring, Heat Consumption Management, Electric Power Distribution and Transmission Facilities, Voltage Transformation Equipment, Electric Power Generating Facilities, Transmission and Distribution Equipment, Safety Management (Gas), Gas, High-Pressure Gas Machinery, High-Pressure Gas Freezer, High-Pressure Gas Handling, High-Pressure Gas Chemistry, Mining, Mine Boring, Ore-Dressing, Mining Apparatus, etc.
	Sub-total	84	
Ministry of Finance and Economy	Separate Qualification	2	Chartered Accountant, Tax Accountant

(table continued on next page)

Ministry of Communications	Separate Qualification	3	Amateur Radio Engineer, Special Class Radio Communications Operator, Special Radio Communications Operator
	Technical Qualification	31	Telephone and Telegraph Equipment, Telecommunication Cable and Communication, Radio Operator, etc.
	Sub-total	34	
Small and Medium-sized Firms Promotion Agency	Separate Qualification	3	Quality Control Engineer, Business Management Instructor, Technology Instructor
National Railway Administration	Technical Qualification	21	Railway Vehicle, Locomotive Power Train Engine Maintenance, Locomotive Power Train Electricity, Train Maintenance, Track Maintenance, Train Switching, Railway Signal
National Patent Office	Separate	1	Patent Attorney
Ministry of Ocean and Fisheries	Separate Qualification	14	Assessment and Evaluation, Ship Engine, Ferrying Specialist, Hygiene Manager, Workers on Ships Carrying Dangerous Materials, Ship Navigator, Communications Operator, etc.
	Technical Qualification	20	Fish Disease, Scuba Diving, Fishery, Fisheries Processing, Aquatic-Cultivation, Fishery, Aquatic Production Management, Ocean Environment, Ocean Resources Development
	Sub-total	34	
Ministry of Government Administration	Separate Qualification	2	Firefighting Equipment Manager, Administrator
	Technical Qualification	11	Managing Dangerous Material, Cadastral Survey, Cadastre, Firefighting Equipment
	Sub-total	13	
Ministry of Environment	Technical Qualification	13	Garbage Worker, Air Pollution, Water Pollution, Noise, Environment
Total		727	

### 3) Categories and Items According to Work Field

The 727 items of national qualification can be divided according to the work field as in Table II-3. The field of machinery, with 118 items, is the largest field, followed by metal with 48, farming with 44, and applied industry with 41. In contrast, industrial design and sanitation each had only 6 and 5.

<Table II-3> Categories and Items According to Work Field

Category	Number	National Qualification
1. Machinery	118	Omitted (All National Technical Qualification)
2. Metal	48	Omitted (All National Technical Qualification)
3. Medical/Health	27	Nurse, Assistant Nurse, Physical Therapist, X-Ray, Optometrist, Massage, Pharmacist, Nutrition, Hygiene, Hygiene Testing, Ambulance Worker, Records of Treatment, Doctor, Clinical Pathology Engineer, Medical Specialist, Assistant Psychological Therapist, Psychological Therapy Social Worker, Midwife, Sanitation, Dentist, Indigenous Medicine Pharmacist, Indigenous Medicine Business, Indigenous Medicine Doctor, Veterinarian, etc.
4. Applied Industry	42	ISO9000, ISO14000-authorized Inspector, 39 items of National Technical Qualification omitted
5. Construction	34	Architect, 33 items of National Technical Qualification omitted
6. Ocean and Fisheries	35	Assessment and Evaluation, Ship Engine, Ferrying Specialist, Hygiene Manager, Workers on Ships Carrying Dangerous Materials, Ship Navigator, Communications Operator, etc. 20 items of National Technical Qualification omitted.
7. Service	5	Traditional Foods Specialist, Tourist Translation and Guide, Korean Travel Guide, Tourist Hotel Manager, etc.
8. Agriculture and Forestry	44	Farming Business, Forestry Business, Livestock Artificial Insemination, Forestry Civil Engineer, Forestry Cultivation Engineer, 39 items of National Technical Qualification omitted
9. Professional Office Work	24	Assessment and Evaluation, Authorized Real Estate Dealer, Housing Manager, Distribution Manager, Security Guide Instructor, Auctioneer, Librarian, Lawyer, Judicial Expert, Chartered Accountant, Tax Accountant, Authorized Labor Relations Official, Damage Assessment, Bartender, Administrator, Customs Officer, Patent Attorney, Quality Control Manager, Technology Instructor, Business Management Instructor, etc.
10. Civil Engineering	29	Omitted (All National Technical Qualification)
11. Textiles	30	Omitted (All National Technical Qualification)
12. Pottery	24	Cultural Objects Repair Craftsman/Engineer, 22 items of National Technical Qualification omitted.
13. Aeronautics	18	Transportation Equipment Pilots, Aircraft Pilots, etc. 9 items of National Technical Qualification omitted.

14. Energy	13	Radioactive, Ultrasonic, Magnetic Particle, Penetrant, Addy Current, Leak Non-destructive Testing, Nuclear Power, etc. 6 items of National Technical Qualification omitted.
15. Communications	23	Amateur Radio Communications Engineer, Special Class Radio Communications Operator. Specialized Radio Communications Operator. 20 items of National Technical Qualification omitted.
16. Education and Social Welfare	12	Librarian Instructor, Social Education Instructor, Practical Curriculum Instructors, Infirmary Nurse, Professional Counselors, Teachers, Associate Teachers, Social Welfare Workers, Vocational Training Instructors, Youth Instructors, etc.
17. Safety Management	22	Industrial Safety Instructor, Industrial Hygiene Instructor, Firefighting Equipment Manager. 19 items of National Technical Qualification omitted.
18. Mineral Resources	16	Omitted (All National Technical Qualification)
19. Chemical Engineering and Ceramics	20	Omitted (All National Technical Qualification)
20. Electricity	19	Omitted (All National Technical Qualification)
21. Shipbuilding	9	Omitted (All National Technical Qualification)
22. Environment	13	Omitted (All National Technical Qualification)
23. Transportation	7	Traffic Safety Manager, Instructor, Driver's License. 3 items of National Technical Qualification omitted.
24. Land Development	12	Land Substitution, 11 items of National Technical Qualification omitted.
25. Electronics	13	Omitted (All National Technical Qualification)
26. Information Processing	8	Omitted (All National Technical Qualification)
27. Industrial Design	6	Omitted (All National Technical Qualification)
28. Office Management	41	Bookkeeping, Abacus Calculation, Word Processing, Korean Shorthand, English Shorthand, Secretarial Work, Computer Application Ability, Computer accounting, Job counselor, Social Survey analyst, Electronic Commerce, etc
29. Foods	11	Cooking, Korean Cooking, Western Cooking, Chinese Cooking, Japanese Cooking, Swellfish Cooking, Confectionary, Pastry, Bartending
30. Sanitation	5	Barber, Beautician, Laundry
Total	727	

#### 4) Education Level Requirements for Exam. Eligibility

Table II-4 shows the education level requirements to be eligible for national qualification. Of the total national qualifications, 679 (94.7%) do not have restrictions regarding the education level, while 21 (2.9%) required a high school diploma and 17 (2.4%) asked for the completion of at least junior college. This shows that most national qualifications do not limit eligibility according to the level of education, and all 597 national technical qualification categories grant eligibility on field experience alone.

<Table II-4> Education Level Requirements for Qualification Eligibility

Restriction	No. of Item(%)	National Qualification
① None	689(94.7)	Omitted (includes 607 National Technical Qualification categories)
② High School Graduates	21(2.9)	Assistant Nurse, Physical Therapist, X-Ray, Optometrist, Massage, Hygiene, Emergency Rescue Worker, Medical Recorder, ISO 9000, 14000-authorized Inspector, Clinical Pathology, Associate Teacher, Youth Instructor, Herb Medicine, etc.
③ Junior College Graduates	17(2.4)	Librarian, Librarian Instructor, Social Education Professional, Veterinarian, Pharmacist, Infirmary Nurse, Nutrition, Doctor, Professional Counselor, Medical Specialist, Teacher, Dentist, Doctor of Herb Medicine, etc.
Total	727(100.0)	

#### 5) Existence of National Qualification Exam.

As is evident in <Table II-5> the number of Qualification items that require the passing of qualifying exams for the acquisition of national qualification amounts to 700(97.6%), which shows that almost all national

qualifications are acquired through exams. On the other hand, 17 items (2.4%) allowed qualification not through exams but through completion of a fixed education course (librarian, librarian teacher, social education professional, social welfare worker, art teacher, school nurse, professional counsellor, teacher, assistant teacher), through a review of credentials among those with court-authorized eligibility (agriculture expert, public works engineer, massage doctor, forestry expert, fishery expert, traditional foods expert), and through other procedures (worker on ships carrying dangerous material).

<Table II-5> Current Status Regarding the Existence of National Qualification Exams

Exam. Requirement	No of item (%)	National Qualification
① Yes	710(97.6)	Omitted (Including 607 items of National Technical Qualification)
② No	17(2.4)	Farming Business, Librarian, Librarian Instructor, Social Education Professional, Social Welfare Worker, Forestry Civil Engineer, Massage, Infirmary Nurse, Fishery Business, Forestry Cultivation Engineer, Worker on Ships Carrying Dangerous Materials, Forestry Business, Professional Counselor, Traditional Food Specialist, Teacher, Vocational Training Instructor
Total	727(100.0)	

## 6) Types of Qualification Grade

Of all national qualifications 627(87.4%) items are classified into certain levels and 90(12.6%) do not have more specific grades(See Table II-6).

<Table II-6> Classification in National Qualification

Class	No of Item (%)	National Qualification
① Yes	637(87.6)	Tourist Hotel Manager, Ship Engine, Ferrying, Librarian, Social Education Professional, Forestry Civil Engineer, Recreational Instructor, Amateur Radio Communications Engineer, Infirmary Nurse, Forestry Cultivation Engineer, Driver's License, Hygiene, Emergency Rescue Worker, ISO 9000, 14000-authorized Inspector, Sales Manager, Teacher, Bartender, Vocational Training Instructor, Youth Instructor, Communications Operator, Special Class Radio Communications Operator, Ship Navigator, etc. 605 items of National Technical Qualification are omitted.
② No	90(12.4)	Omitted
Total	727(100.0)	

There are various names for national qualification classification ranks, but most divide the different ranks into 'levels(geup)', 'type(jong)', 'A(gap), B(eul), C(byung)' or a combination of all three. For example, managers of tourist hotels are classified into head managers, level 1 managers, and level 2 managers.



<Table II-7> Types of National Qualification Grade

Type of grade	National Qualification
① Geup	Ship Engine(I-VI geup), Social Education Professional(I-II geup), Social Welfare Worker(I-III geup), Forestry Civil Engineer(I-II geup), Recreation Instructor(I-III geup), Amateur Radio Communications Engineer(I-III geup), Infirmary Nurse(I-II geup), Forestry Cultivation Engineer(I-II geup), Hygiene(I-II geup), Emergency Rescue Worker (I-II geup), Teacher(I-II geup), Bartender(I-II geup), Vocational Training Instructor(I-III geup), Youth Instructor(I-II geup), Sales Manager(I-III geup), Communications Operator(I-III geup), Ship Navigator(I-VI geup), 6 items of the Office Work field of the Service Group(Bookkeeping, Word Processing, Korean Shorthand, English Shorthand, Secretarial Work, Computer Application Ability: I-III geup), etc.
② Chong	Ferrying Specialist(I-II chong), Driver's License(I-II chong)
③ A/B/C	Wireless Telephone among Special Class Radio Communications Operator (A/B/C)
④ Other	353 items in the Technology/Skills and Other Services field of National Technical Qualification(Professional Engineer, Master Craftsman, Engineer, Industrial Engineer, Craftsman), Tourist Hotel Manager(Supervisor, Class I-II Manager), Librarian(Associate Librarian, Class I-II Librarian), ISO 9000, 14000-authorized Inspector(Associate Inspector, Inspector, Head Inspector, Authorized Inspector), 1 item of the Service Group of National Technical Qualification(Abacus Calculation: I-XI dan and I-III geup)

## 2. Examples of the Government Operation of the National Qualification of Non-Technical fields According to Each Ministry

The separate laws of each government ministry providing for the specific details regarding nation qualification other than national technical

qualification need to be summarized as to make clear the various qualification classes, work content, institutions of implementation, requirements for acquisition, conditions for eligibility, and the certification process.

### 1) Ministry of Construction and Transportation (Architect Act)

This law was enacted for the purpose of securing qualified construction engineers with expert knowledge and ample experience and skills, responsible for construction design and base construction. The main requirements of becoming a construction engineer are as shown in Table II-8. The Presidential Decree announced on May 9, 1998 emphasized on-site work experience as one of the major conditions for eligibility.

<Table II-8> The Qualification System Under the 'Architect Act'

item	Class	Work Description	Administrative Institution	Certification Requirement	Eligibility Requirement	Certification Procedure
Architect	None	Planning and supervising of construction as well as on-site investigation and inspection.	Korea Architects Association	Passing of Qualification Exam.	<ul style="list-style-type: none"> <li>○ 7 or more years of practical experience (including research) after passing the preliminary examination for architects.</li> <li>○ 7 or more years of practical experience after acquiring Class I Architecture Engineering Field of National Technical Qualification</li> <li>○ Having acquired Architecture Engineering Professional Engineer of National Technical Qualification</li> <li>○ 5 or more years of experience as associate architect after passing the preliminary exam. or acquiring Class I Architecture Engineer qualification</li> <li>○ 5 or more years of practical experience after acquiring qualification in a foreign country</li> </ul>	Written Test + Practical Test

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## **2) Ministry of Labor (Government-Authorized Labor Relations Official Act)**

Various labor-related laws were enacted resulting from many problems following industrialization such as unfair labor contracts, unsatisfactory work conditions, wages, work hours, equipment, labor unions, and strikes. However, difficulties arose from the complex nature of the law, incurring damages to those not familiar with labor laws or rights provided by the law. To resolve this sort of problem, there has been recognized a need for professionals dealing with labor-related duties mediating between workers, employers, and public officials. Thus the Authorized Labor Relations Officials Act was enacted, and their requirements are described in Table II-9.

There are no constraints put on the eligibility conditions for becoming a public labor officer, but in practice a preference is given to those with relevant work experience. Public officials who have worked 5 or more years as a 5+ rank and 10 years of labor administration experience are exempted from the qualification exam.. As of 1997, 273 people have passed the exam., but 369 more people have acquired qualification by way of experience.

<Table II-9> The Qualification System under the Government-Authorized Labor Relations Official Act

item	Class	Work Description	Administrative Institution	Certification Requirement	Eligibility Requirement	Certification Procedure
Authorized Labor Relations Officials Act	None	<ul style="list-style-type: none"> <li>- acting agents for registration, reporting, and statement duties to the related authorities according to the stipulations of the Labor Relations Act</li> <li>- filling out and confirming all documents under the stipulations of the Labor Relations Act</li> <li>- Consulting and providing advice on the Labor Relations Act or labor management</li> <li>- Assessment of labor management in firms according to the Labor Standards Act</li> </ul>	Labor Training Center	<ul style="list-style-type: none"> <li>- passing of qualification exam.</li> <li>- 10 years of experience in labor-related administrative duties (5 years or more as a Level 5 or higher official)</li> <li>- partial exemption from exam. for those with 10 years of labor-related experience</li> </ul>	None	First stage (multiple choice) + Second Stage (Essay) + Interview

### 3) Ministry of Justice (Lawyer Act)

As society became more complex and functions more diversified, the domain of law expanded and in many instances began to deal with law-related duties as well. However, many difficulties ensue because the law itself is too abstruse and the process too complicated for the average person.

Therefore, the Lawyer Act was adopted to protect the legal rights of average citizens, instituting a social apparatus that acts as a proxy in instances of lawsuits, arbitration, nonlitigation, public litigation and other legal affairs. Pursuant to this law, a qualification system for lawyers with professional legal knowledge was introduced. (See Table II-10)

<Table II-10> The Qualification System under the Lawyer Act

item	Class	Work Description	Administrative Institution	Certification Requirement	Eligibility Requirement	Certification Procedure
Lawyer	None	- acting agents for law-related matters such as civil and criminal trials, arbitration, filing lawsuits against government administration, arranging meetings between parties involved, etc.	Ministry of Administration and Local Government, Judicial Training Institution	passing the government-authorized judicial exam. and registering under the Lawyers Association after 2 years of training at the Judicial Training Institution	none (upon failing the first stage of examination for 4 consecutive years, then unable to take the exam. for the next 4 years)	Written Test (First, Second Stage) + Interview

In order to become a qualified lawyer, one must pass an exam. administered by the Ministry of Government Administration and Home Affairs, upon which a 2-year training course must be completed. For a lawyer to open a new office, he or she must register under the Korea Attorneys' Association through the local Attorneys' Society. In total, three organizations are involved in the qualification system: the Ministry of Justice undertakes the overall management of the system, the Ministry of Government Administration and Home Affairs is in charge of the certification of qualification, and the Judicial Research and Training Institute is responsible for the training of people who passed the qualifying exam..

Since lawyers are in an occupation category that requires an intense level of professionalism and ethics, a Registration Review Committee is established under the Korea Attorneys' Association and inspects cases of rejection and cancellation of registration.

The Korea Attorneys' Association is responsible for the training of future lawyers and operates under it an Attorney Training Center for this

purpose. Training consists of periodic sessions held twice a year and special sessions held seasonally.

After acquiring the qualification for practicing law, most go on to open law offices or work in law firms. The number of lawyers in Korea is relatively low compared to other advanced countries and demand for lawyers and their services are steadily on the rise.

#### 4) Division of Judicial Administration (Judicial Experts Act)

In a society which has grown increasingly complex over the years, law-related incidents and tasks have grown in number, so there has been enacted a Judicial Experts Act to provide a link between the law enforcement institution and the people, for efficient and accurate judicial administration and prevention of violation of rights. This Act was accompanied by the introduction of the Judicial Experts Qualification which entails the ability to compose legal documents. A detailed description of the qualification is provided in Table II-11 below.

<Table II-11> The Qualification System under the Judicial Experts Act

item	Class	Work Description	Administrative Institution	Certification Requirement	Eligibility Requirement	Certification Procedure
Judicial Expert	None	filling out documents necessary for registration to the Court or Prosecution Office	Judicial and Administrative Office	<ul style="list-style-type: none"> <li>- A public official who has worked in law-related duties, prosecution duties, or narcotics investigation for a number of years and is accredited by the Chief Justice of the Supreme Court as having the necessary knowledge and capabilities to carry out the responsibilities of a judicial expert</li> <li>- passing the qualification exam.</li> </ul>	None	<ul style="list-style-type: none"> <li>- decided by the Chief Justice according to qualification criteria</li> <li>- Judicial Expert Exam: First, Second Stage Written Exam, Third Stage Interview</li> </ul>

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Until 1990 when their name was officially changed, law officers were called judicial documentation secretaries and have been in existence since 1897. Up until now, a public official who has worked for a certain number of years in the courts, the constitutional court, the trial department or prosecution administration in the prosecutor's office, or in narcotics inspection has been chosen for the job. However, the issue of fairness was raised and beginning in 1992 open qualification exams have been implemented. As of 1998, a total of 4 exams have been held.

For the operating of the Judicial Experts qualification system, several committees have been created. The Judicial Experts Qualification Review Committee under the Division of Judicial Administration determines whether qualification should be granted or not, the Registration Review Committee under the Korea Law Officer Association reviews the rejection or cancellation of registrations, the Judicial Experts Disciplinary Committee under the regional courts deal with the reprimanding of judicial experts, and the Judicial Experts Exam. Committee under the Division of Judicial Administration implements and operates the qualification exam. itself.

After the acquisition of this qualification, most people find jobs in law offices or open private offices specializing in legal matters.

##### **5) Patent Office (Patent Attorney Act)**

The Patent Attorney Act was introduced because of the increasing number of controversies regarding the protection of the rights of inventors and their creations. The main details of the patent attorney qualification are shown in Table II-12.

<Table II-12> The Qualification System under the Patent Attorney Act

Item	Class	Work Description	Administrative Institution	Qualification Requirement	Eligibility	Certification Procedure
Patent Attorney	None	A patent attorney seeks to protect the rights of inventors regarding patents, copyright, and trademark.	National Patent Office	<ul style="list-style-type: none"> <li>○ Any citizen over 20 years of age that meets the following requirements:               <ul style="list-style-type: none"> <li>- someone who passed the qualification exam. and completed a 1 year training apprenticeship</li> <li>- someone who is qualified as a lawyer under the Lawyer Act and has registered as a patent attorney</li> <li>- someone who has worked for at least 5 years in the judgment or assessment division in the Patent Office as a Level 3 + public official</li> </ul> </li> </ul>	No restrictions	Written exam.

Patent attorney qualification can be acquired through three channels: the qualification exam., recognition of work experience, and recognition of some other qualification. In particular, lawyers who registered to become patent attorneys were immediately granted qualification, which was met with fierce opposition from patent attorneys mainly because patent attorneys could not engage in lawsuits leading the way for lawyers to simultaneously fulfill both duties. But in 1998 the domain of patent attorneys was expanded, opening the way for representation of their clients in lawsuits. The accuracy of lawsuit decisions was also improved since lawsuits in specialized fields were put forth by patent attorneys, more appropriate for the job than general attorneys.

Prior to 1990 the qualifying exam. was based on absolute evaluation, where anyone with a higher grade than the cutoff point qualified, but in 1991 evaluation was changed to a relative grading system. Although the



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number of qualifiers was set at 30 each year from 1991 to 1995, 71 people qualified in 1997 and it is expected that 80 will be given qualification in 1998. The number has increased due to the fact that patent attorneys can now engage in lawsuits, which will entail increased demand for patent attorneys. Patent attorneys can find employment in patent law offices or foreign-based patent law offices, patent departments in firms, and the Patent Office. Sometimes patent attorneys are recruited as Level 5 public officers dealing with technology property rights.

### **3. Credit Bank System for Certificate Holders of the National Qualification of Non-Technical Categories\***

According to the Credit Recognition, Atc, those who have acquired national qualification are allowed recognition of credits appropriated to each type of qualification. Therefore, in order to equally distribute the benefits of the credit bank system a plan for credit recognition of national qualifications other than national technical qualifications was devised as follows:

#### **1) Total Credit Recognition According to Grade**

Among those eligible for credit recognition, qualifications similar in the level of difficulty were lumped together in a cluster. The classes were further determined by differentiating between the levels of each cluster based on their education levels. Then the credit recognition bestowed to national technical qualification acquirers was considered for the total credits recognized for each grade. See Table II-13 for the education level of each class and the total credits recognized.

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\* These contents have not been yet legislated at this point.

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- ① The A Level, requiring on-site work experience in addition to a master's degree, was granted 45 credits.
  - ② The B Level, requiring a university degree and on-site work experience, was granted 38 credits.
  - ③ The C Level was set at the level of university graduates and was granted 30 credits.
  - ④ The D Level was set at the level of junior college graduates and was granted 24 credits.
  - ⑤ The E Level was determined as the level reached upon completing 1 year of junior college and given 12 credits.

<Table II-13> Credit Recognition According to Grade

Grade	A	B	C	D	E
Total Credits Recognized	45	38	30	24	12

For the levels in-between levels A~E, (-) levels were instituted rather than forcefully placing them in one of the 5 levels.

<Table II-14> Credit Recognition for (-) Levels

Grade	A <sup>-</sup>	B <sup>-</sup>	C <sup>-</sup>	D <sup>-</sup>	E <sup>-</sup>
Total credits recognized	42	34	27	18	6

## 2) Distribution of Credits According to Exam. Type

For those people who acquired national qualification through exemption rules, recognition for credit was not granted for the exempted exam. subjects. This provision is in accordance with the aim of the credit bank system to authorize credit recognition to only those who have been

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objectively determined as having qualification through a fixed process or exam..

To this end, a distribution plan of total credit recognition according to exam. type was proposed. For the most common exam. type of multiple-choice written test followed by a short answer or essay-type written test, 50% of the total credit recognition was given to each test. In the case of a written and a practical test in the second stage of the exam., a 40:60 distribution was implemented. For oral interviews 10% of the total credit recognition was granted, in order to recognize the minimum amount of credits for the lowest level of E.

### 3) Conditions for Credit Recognition According to Grade

Conditions for being eligible for credit recognition according to each class are displayed in Table II-15.

<Table II-15> Conditions for Credit Recognition According to Grade

Grade	Qualification	Total
A	Lawyer, Chartered Accountant, Industrial Safety Instructor, Industrial Hygiene Instructor, Assessment and Evaluation, Architect, Management Instructor, Tax Accountant, Technology Instructor, Quality Control Evaluation, Patent Attorney, Ferrying Specialist, Customs Officer*, Authorized Labor Relations Specialist*, Judicial Expert*	15
B	Nuclear Reactor Control Supervisor License, Nuclear Fuel Material Treatment Supervisor License, Radioactive Rays Treatment Supervisor License, Nuclear Reactor Control License, Associate ISO 14000, 9000, Transportation Equipment Controller, Firefighting Equipment Manager, Youth Instructor Class I, Seamanship, Tourist Hotel Manager, Recreation Instructor, Cultural Objects Repairs, Insurance, Ship Engine Class I& II*, Ship Navigator Class I& II*, Bartender Class I, etc.	23
C	Midwife, Nurse, Dental Hygiene, Dental Equipment Operator, Physical Therapist, X-Ray, Nuclear Fuel Material Treatment License, Radioactive Isotope Treatment General License, Security Guard, Bartender Class II, Recreation Instructor Class II, Tourist Hotel Manager Class I, Sales Management Class I, Distribution Management, Insurance Dealer*, Nutrition*, etc.	33
D	Emergency Rescue Worker Class I, Herb Medicine, Hygiene Class II, Hygiene Testing Class II, Medical Recorder, Optometrist, Associate Teacher, Authorized Real Estate Dealer, Traffic Safety Manager, Associate Housing Manager, Youth Instructor Class III, Assessor, Tourist Hotel Manager Class II, Tourist Translator and Guide, etc.	19
E	Assistant Nurse, Emergency Rescue Worker Class II, Livestock Artificial Insemination, Auction, Driving Skills Test, Recreation Instructor Class III, Amateur Radio Engineer Class II, Special Class Radio Engineer*, etc.	11
Total		101

\* : (-) level qualification

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## III. Private Qualification System

### 1. Overview

#### 1) Defining Private Qualification

Private qualification refers to a system of qualification administered and operated by the private sector, including non-governmental private organizations and individuals.

#### 2) National Authorization System of Private Qualification

In order to activate the private qualification system, the Korean government enacted the Basic Qualification Act on March 27, 1997. Pursuant to this law, a state-authorized private qualification system, drafted for the purpose of recognizing important and necessary private qualifications through a set of evaluation processes, was introduced. The task of evaluating applications of private qualifications for government authorization which is expected to start in full-scale in 1999 is undertaken by the Korea Research Institute of Vocational Education and Training. Now Basic Qualification Act is merging with National Technical Qualification Act so as to make unification Act in the filed of qualification.

#### 3) National Authorization Standards for Private Qualification

To qualify for authorized private qualification, an individual must have the appropriate skills that are in accordance with the fundamental directives of the qualification system as layed out in the Basic Qualification Act. A person must also have had three or more qualification credentials that have been in effect for at least one year to this date. Certificates from those private qualification applicants with only the most organized operations are

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recognized. In the case of the presence of a similar national qualification, the certification standards, subjects, and eligibility of the private qualification must be identical or at a similar level to those of the national qualification.

#### **4) Preferential Treatment for Workers with Authorized Private Qualification**

As provided for by the law stipulating the details of national qualification, workers with authorized private qualification are to receive the same treatment as workers with national qualification. Furthermore, the head of a vocational education and training institute may utilize either certificates of national qualification or private ones as references for admission. In addition, pursuant to the Credit Recognition Act a worker with authorized private qualification may obtain university and junior college credits for high school graduates and university credits for junior college graduates.

## **2. Current Status of the Private Qualification System**

### **1) Qualification Item**

Since the private qualification system is in the initial stages of its operation, a compact analysis of all its items is difficult at this point. Table III-1 shows the qualification items currently in operation according to category.

<Table III-1> Current Status of Private Qualification Items According to the Category of work

Category	Qualification Item	Sub-Total
1. Business Management	Word Processor, Shorthand, Computer Typing, Accounting, Abacus Calculation, Bookkeeping, Secretarial Work, Trade English, Merchandizer, Business Consultant, Marketing, Informatics(Business Management), Convention Expert, Policy Analyzing and Evaluation, Securities Analyst, Marketing Management, Human Resources Management, Production Management, Production Cost Management, Labor Relations Management, Credit Analyst, Loans Inspection, International Finance, Finance Management, Business Management, Trade Practical Ability, Technology Sales, Sales Management, etc.	36
2. Computers	Office Automation Craftsman, PCT(PC Application Ability), Electronic Data Interchange(EDI), Information Processing Practical Ability, Software Application Aptitude Test, Information Search, Information Technology Management, Information Communications, Information Technology Qualification(ITQ), Information Input Authorization Exam., Information Application Authorization Exam., Computer Equipment Control, Information Communications Equipment Control, Computer Operation, Internet Search Expert, Internet Information Planning, Internet Practical Ability Qualification Authorization, Webmaster, Client/Server Programmer, Computer Animation Designer, System Engineer, System Management, Multimedia Expert Class I, II, Multimedia Engineer, Computer Game Maker Class I, II,	32
3. Language Skills	Translation Grading Test(Class 3), Practical Translation Aptitude Test, Translator, Simultaneous Translator, Chinese Character Class I - V, Associate Class I - V, Chinese Character Aptitude Test Class I - IX, Chinese Character Associate Class I - V, Penmanship	8
4. Sports/Health	Children's Physical Trainer Class I, II, Fitness and Body Care Class I, II, Seniors' Physical Trainer, Physical Trainer for the Disabled, Children's Recreation, Physical Training Consultant, Billiard Instructor, Fencing Instructor, Kickboxing Instructor, Aerobics Instructor, Recreation Instructor, Sports Dancing, Foot Care, Bodyguard Class I, II, Standard Class I - IV, Latin Class I - IV, Aromatherapist, etc.	35

5. Hobbies/ Design/ Hairdressing	Piano Grading Test(Instructors/Students), Jewelry Assayist, Musical Therapist, Speed-reading, Floral Artist, Flower Arrangement, Penmanship, Quilt Making Instructor, Stencils, Home Fashion, Gift-wrapping, Animal Beautician, Trainer, Makeup Artist, Skin Care, etc.	17
6. Social Welfare: Sanitation/ Counselling/ Education	Health Information Manager, Old-age Welfare Specialist, Nursing for Senile Elderly, Hospital Administrator, Medical Insurance, Commercial Counselor, Counselor, Personality Shaping, Family Consultant, Creativity Instructor, Mind-developing Instructor, Scientific Experiments Instructor, Specialist on Behavioral Development for Kindergarten Students, Infant/Children's Developmental Process Analyst, Sodang Instructor, Traditional Manners Instructor, Reading Instructor, Social Suvey Specialist, Essay Writing Instructor, etc.	26
7. Construction and Civil Engineering	Real Estate Consultant, Investment Evaluator, Construction Management Specialist	3
8. Industry/ Machinery	Key Craftsman Class I, II, Billboard Advertisements, Furniture Design, Patent Management, CNC Machinery Cutting, Machinery Design Drawing, Machinery and System Control, Machine Tool Cutting Operator, etc.	18
9. Services/ Others	Total Image Management, Credit Information Class I, II, Information Search Class I, II, Industrial Counselor, Tourist Hotel Worker, Auction, Sales, Social Insurance Manager, Tourist Guide, Korean Travel Guide, Event Planning and Production	11
Total		186

## 2) Qualification Grade

Of the 37 private qualifications investigated, 48.6% had qualification ranking and 51.4% did not have different grades in qualification. (See Table III-2) This shows the necessity for a more organized and systematic private qualification system, in light of the fact that national qualification has several layers of classification in order to mark the differences in individual work performance and ability.



<Table III-2> Grade in Private Qualification

Grade	Name of Qualification	Number(%)
Class 4+	Badook Promoter and Instructor, Chinese Character Aptitude Test	2( 5.4)
Class 3	Pet Care, Trainer, Translation Aptitude Test, Glass Handicraft, Sports Massage, Counselor, Bodyguard, Yoga Instructor, Technology Sales, PCT Exam.	11(29.7)
Class 2	IPCT-authorized Exam., Server Technology Sales, Sales Management, Children's Physical Trainer	4(10.8)
Class 1	Medical Treatment Administrative Management	1( 2.7)
No grade	Foot Care, Industrial Counselor, Professional Counselor, Credit Analysis, Loans Inspection, International Finance, Production Cost Management, Business Management Assessment, Investment Evaluation, ITQ-authorized Exam., Finance Management, Job Analysis, Production Management, Business Management, Quality Control, Marketing Management, International Trade Expert Exam., Medical Insurance Management	19(51.4)
Total		37(100.0)

The grading in private qualification is based on not only education level, but also level of difficulty of skill, number of course hours completed, and other criteria. These criteria, however, are rather arbitrary and show a need for structurally systemizing the classification of qualification into grades.

### 3) Condition for Acquiring Qualification

There are three channels in Korea for receiving qualification certificates: ① by completing a prescribed training course, ② by qualifying for certification after completing a prescribed training course, and ③ by qualifying for certification without receiving prescribed training. As Table III-3 shows, all of the private qualifications under investigation comprised a

certification process followed by an exam..

This is similar to national qualification, 97% of which require the passing of a qualifying exam. in order to receive a certificate. However, in rare instances it is possible to qualify for national qualification with completion of training or a review of credentials, whereas private qualification does not provide any other methods of receiving qualification, where a completion of certain courses may substitute exams.

<Table III-3> Condition for Qualifying under Private Qualification

Condition	Qualification	Number(%)
Completed Training Course	None	0( 0.0)
Passed Qualification Exam.	International Trade Expert Exam., IPCT-authorized Exam., ITQ-authorized Exam., Practical Ability Authorization Exam., Technology Sales, Server Technology Sales, Sales Management, Finance Management, Job Analysis, Production Management, Business Management, Quality Management, Marketing Management, PCT Exam., Medical Treatment Administrative Management, Medical Insurance Management	16(43.2)
Passed Qualification Exam. after completing Training Course	Foot Care, Pet Care, Training, Translation Aptitude Test, Glass Handicraft, Children's Physical Trainer, Sports Massage, Counselor, Chinese Character Aptitude Test, Bodyguard, Yoga Instructor, Badoo Promoter and Instructor, Credit Analysis, Loans Inspection, International Finance, Business Management Assessment, Investment Evaluation, Industrial Counselor, Professional Counselor	21(56.8)
Total		37(100.0)

Prior to the qualification exam., 56.8% of private qualifications required the completion of a relevant training course and 43.2% allowed qualification without training. Among the qualifications mandating a training course, it

was found that many of the institutions handing out the certificates also operated a training facility and only recognized training from its own institution as a requirement for qualification, which can lead to problems. For example, the credibility of the qualification in question may be hindered when information about exam. questions are filtered through the administration authorities' adjunct training institution. Therefore, it is imperative that training centers and administrative institutions are separated and allow workers to receive training at the various institutions of their choice in order to insure fairness and trustworthiness.

#### 4) Eligibility for Application

Table III-4 summarizes the conditions for becoming eligible to apply for private qualification that are being currently applied.

<Table III-4> Eligibility for Private Qualification

Condition	Qualification	Number(%)
Restrictions exist	Children's Physical Trainer, Bodyguard, Technology Sales, Server Technology Sales, Sales Management, Counselor, IPCT-authorized Exam., Credit Analysis, International Finance, Production Cost Management, Business Management Assessment, Investment Evaluation, Medical Treatment Administrative Management, Medical Insurance Management, Pet Care, Trainer, Loans Inspection, Badook Promoter and Instructor, Industrial Counselor, Professional Counselor	21(56.8)
No restrictions	Finance Management, Job Analysis, Production Management, Business Management, Quality Management, Marketing Management, International Trade Expert Exam., ITQ-authorized Exam., PCT Exam., Foot Care, Translation Aptitude Test, Glass Handicraft, Sports Massage, Chinese Character Aptitude Test, Yoga Instructor	16(43.2)
Total		37(100.0)

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According to investigation results, qualifications restricting eligibility conditions account for 56.8% of the total and 43.2% do not limit eligibility.

Sample restrictions regarding eligibility include work experience or possession of a certificate in a relevant field, completion of training in a related area, and age requirements. Among these the level of education was usually the least cited and is the least likely to pose problems for Korean workers most of whom are able to meet the requirement of high school graduation.

Overall, it is necessary to modify the system of allowing different eligibility requirements even within the same qualification item for a fair and equal process.

### **5) Certification Process**

Of the private qualifications currently in operation, 62.2% require both written and practical tests, while the remaining 37.8% require only a written exam.. None of the categories required only a practical exam. for qualification. It is evident that most private qualifications utilize both written and practical forms of qualifying exams(See Table III-5). When workers are taking both the written and practical exams, the practical exam. was equal to or a little bit higher than the written one in grading percentage.

In sum, the private qualification system places a relatively higher degree of importance on the written than the practical exam., which may lead to a limited assessment of actual working capabilities.

<Table III-5> Certification Process of Private Qualification

Exam. Type	Qualification	Number(%)
Written Exam.	Credit Analysis, Loan Inspector, International Finance, Production Cost Management, Business Management Assessment, Investment Evaluation, Technology Sales, Server Technology Sales, Sales Management, International Trade Expert Exam, Medical Treatment Administrative Management, Medical Insurance Management, Translation Aptitude Test, Chinese Character Aptitude Test	14(37.8)
Practical Exam.	None	0( 0.0)
Written Exam. + Practical Exam.	Finance Management, Job Analysis, Production Management, Business Management, Quality Management, Marketing Management, IPCT-authorized Exam, ITQ-authorized Exam, PCT Exam, Foot Care, Pet Care, Trainer, Glass Handicraft, Sports Massage, Children's Physical Trainer, Counselor, Bodyguard, Yoga Instructor, Badook Promoter and Instructor, Industrial Counselor, Professional Counselor	23(62.2)
Total		37(100.0)

## 6) Exemption

For the increased compatibility of qualifications as well as the prevention of overlapping test subjects in similar qualifications, exemption from parts or all of the qualifying exam. should be granted.

As proven by <Table III-6>, 75.7% of private qualifications do not provide any exemptions while 24.3% granted exemption from a few subjects. Examples of conditions for possible exemption are majoring in a relevant field in university, completing training in a related area from an educational institution, and acquiring a related qualification from an international institution.

<Table III-6> Exemption from Private Qualification Exams

Condition	Qualification	Number (%)
None	Credit Analysis, Loan Inspector, International Finance, Production Cost Management, Business Management Assessment, Investment Evaluation, Technology Sales, Server Technology Sales, Sales Management, Finance Management, Job Analysis, Production Management, Business Management, Quality Management, Marketing Management, PCT Exam., Medical Treatment Administrative Management, Medical Insurance Management, Translation Aptitude Test, Glass Handicraft, Sports Massage, Chinese Character Aptitude Test, Children's Physical Trainer, Bodyguard, Yoga Instructor, Badook Promoter and Instructor	28(75.7)
Exemptions exist	International Trade Expert Exam., IPCT-authorized Exam., ITQ-authorized Exam., Foot Care, Pet Care, Trainer, Counselor, Industrial Counselor, Professional Counselor	9(24.3)
Total		37(100.0)

Up until now, there have not been many exemptions in the case of private qualification. But, for its future development, to reduce time-consuming efforts for prospective qualifiers exemption should be granted to those who have already acquired qualification in a similar item or those who have majored in a related field at a formal institution or a vocational training center.

At the same time, the problem of adjusting and maintaining the consistency of the level of difficulty as well as the exam. content in both schools and qualification administration institutions. In addition, the possible over-flooding of private qualification, resulting from a lack of criteria in determining exemption, needs to be considered. Therefore, careful and thorough research must precede the determination of exemption.

## 7) Standards for Passing

Exploring the passing standards of qualification is important from the perspective of quality control. Among the researched private qualifications, a sizeable number has set an average of 60 as the cutoff point for passing. Some categories have higher cutoff points as the level goes up(See Table III-7). Over 70% of applicants pass in most private qualification examinations.

<Table III-7> Passing Standards for Private Qualification

Standard	Qualification
Average of 60 and higher	Production Cost Management, Business Management Assessment, Investment Evaluation, Sales Management, Finance Management, Job Analysis, Production Management, Business Management, Quality Management, Marketing Management, International Trade Expert Exam., IPCT-authorized Exam., PCT Exam., Medical Treatment Administrative Management, Medical Insurance Management, Foot Care, Pet Care(Class III), Trainer(Class III), Counselor, Bodyguard, Badook Promoter and Instructor, Industrial Counselor, Professional Counselor
Average of 70 and higher	Credit Analysis, Loan Inspector, International Finance, Pet Care(Class II), Trainer(Class II), Translation Aptitude Test, Glass Handicraft, Sports Massage, Chinese Character Aptitude Test(lower than Class I), Yoga Instructor
Average of 80 and higher	Pet Care(Class I), Trainer(Class I), Chinese Character Aptitude Test(Class I)
Others	<ul style="list-style-type: none"> <li>▪ Technology Sales and Server Technology Sales Categories receive qualification according to the number of people in each class.</li> <li>▪ The ITQ-authorized exam. issues a certificate according to grade received.</li> <li>▪ Children's Physical Trainers are evaluated on an absolute score basis with a cutoff grade of 60.</li> </ul>

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Low passing standards and high passing rates raise the likelihood of excessive private qualification holders and lowered credibility. In addition, the qualification may work as a symbolic tool of self-content, not an index of the individual's level of vocational ability, which will only restrict its social credibility and transferability. Therefore, a more strict and objective, as well as trustworthy, passing standard needs to be set in place, and along with it the increased level of difficulty in qualification exams in order to reduce the high passing rates.

### **8) Post-qualification Management and Post-qualification Education of Certificate Holders**

On investigating whether or not post-qualification of certificate holders occurs in private qualification administrative institutions, 64.9% of the respondents answered in the affirmative while 35.1% replied negatively.

Post-qualification education in most cases takes the form of providing information to qualification recipients and employment guidance, which may be the most important aspect of qualification after-management. However, even the institutions that said they do engage in employment guidance remained at recommending workers when offers come in from the outside rather than actively contacting firms to mediate jobs.

In order to keep up the utility of these qualifications it is important to provide certificate-holders with re-education so that workers may acquire new skills as well as the necessary information about the changes in society. However, only 32.4% of the researched private qualifications were conducting continuing education, so it can be concluded that the vast majority of private qualifications are not updated with education. In particular, it is alarming to see that the field of information technology, which is constantly going through rapid innovations, is not providing the much-required upgrading education.



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### **3. Operation Institutions of Private Qualification**

#### **1) Korea Productivity Center**

The Korea Productivity Center, created in August 1957, was designated by the Ministry of Commerce and Technology and Ministry of Finance as a center for guiding small and medium sized firms in management and for calculating production costs for procurements in March 1978. In February 1987, it was authorized to become a special institution for education and training pursuant to the Basic Act on Vocational Training, and in June of the same year it established as a subsidiary, the Korea Firm Consulting Co. which assesses the management of firms in the distribution sector. In March 1994, it received authorization as a product quality-assessing institution, and in October 1994, it became a professional center for quality and management assessment and an education center for producing personnel for carrying out such assessments. In May 1996, it was authorized by the Office of Small and Medium Sized Industries to train personnel for environmental management assessment and became the official training center for bringing up such inspectors in July. In December 1996 it was designated as the education center for standardization, pursuant to the Industrial Standardization Act.

The Korea Productivity Center issues certificates as well as providing education and training in approximately 160 courses, such as management, marketing, production cost, accounting, human resources development, production management, labor relations, etc. Those receiving training at this center are doing so for the purpose of gaining a competitive edge by acquiring expert knowledge as well as practical skills in their respective fields. Following their course work, trainees are evaluated on the basis of written papers or examinations. Courses for production cost managers and accountants involve a simulation, on which trainees are graded.

Starting in 1997, an ITQ Authorization Center was established to deal

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with information technology qualification (ITQ). The ITQ examination ranks information technology application abilities and issues authorization based on this objective assessment. The exam. comprises two parts: a basic test on practical skills and an application test that requires a written and a practical test. The basic test subjects are word processing, spreadsheet, database, presentation, while the application test evaluates examinees on the required theories of information technology application, internet, Group Ware as well as the four categories in the basic test. Each subject has a high score of 500, where grades ranging from 400 to 500 are A, 300 to 400 are B, 200 to 300 are C, and 100 to 200 are D. There have been three ITQ authorization exams held so far.

There are plans to divide the authorization process into 16 fields by adding Word Processing Application, Database Application, Internet Application, Programming, and CALS(Commerce At Light Speed) to the original 11 including business management information manager, information manager, geographical information manager, etc.

## **2) Korea Financial Training Center**

As the financial market in Korea is continuously undergoing liberalization as well as globalization there is being recognized an increasing need and demand for professionals on advanced financial expertise.

The Korea Financial Training Center, established in June 1976, is in charge of the education and training of officials of financial institutions, the mental education of workers in financial institutions, the publication of texts and finance-related books, and other activities that deal with the training of officials in financial institutions.

The qualification system was adopted in full scale by the Center in 1976. In order to foster workers' abilities in management consulting and management guidance as well as corporate analysis and credit evaluation,

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the first course created was a credit analysis course. Upon completion of this course, eligibility for the credit analyst qualification exam. was given. In 1981, limited to those possessing a credit analyst qualification, courses on credit analysis and credit law were available in order to make them eligible for taking a loan review officer qualification exam.. In 1982 an international finance officer qualification exam. was introduced for those who took courses in practical English, foreign exchange duties, and international finance. In 1995 an International Finance MBA Course, taught entirely in English, was opened and certificates were handed out. A course for professional dealers was newly opened in 1997 with the purpose of producing professional dealers knowledgeable in both theory and practice. In order to nurture professionals in information utilization, especially in financial information, a course for financial information officers was also created.

The Korea Financial Training Center, in addition, is currently operating a cyberbank system, educating via on-line 50,000 members nation-wide each year and allowing them to take the qualification exam.. This system was introduced for the enhancement of capabilities of bankers, and aims to educate and evaluate the abilities of bankers at every level and work type. In 1998, plans for a financial English qualification exam. was being implemented in order to foster professional financiers.

### **3) Korea Trade Association-International Trade Training Center**

In the 1970s in Korea, it was required for any company involved in trade to hire a trading manager. The trading manager qualification, which was operated as a national qualification, contributed greatly to the initial development of Korean trade. However, it was criticized later that governmental intervention hindered the further growth of trading industries, leading to the abolishment of the qualification whereby firms could now engage in trade by simply registering.

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The Korea Trade Association, upon recognizing the need for producing personnel well-equipped for international trade, began administering the a trade expert authorization exam. in 1993 and once every year following that.

The exam. consists of 4 subjects, trade relations law, approval, contracts, business and trade-related English, and there are no special requirements for eligibility. In the first exam. 119 people applied, but the number increased each year, reaching 510 in 1997. The qualification rate is less than 40%. Those who pass the exam. have an advantage in times of employment, and incumbent workers can use this qualification to their advantage as well for promotion evaluations.

#### **4) Korea Information Industry Federation-Personal Computer Application Ability Evaluation Examination Center**

The Korea Information Industry Association was reborn as the Information Industry Association under the Korea Economic Federation in March 1976. In 1984, it created the ASOCIO(Asia-Pacific Information Industry Organization) and in 1988 it changed its name to the Korea Information Industry Federation.

The first PC Application Ability Evaluation Exam. was held on December 8, 1996 and it seeks to foster computer-able workers well-suited for this age of globalization and accelerate the informationalization of firms, thereby invigorating the information technology industry. In February 1997, the PCT Co. was created for the sole purpose of operating the PC Application Exam., and it was immediately put to use in the two exams held that year. It also embarked on research for study manuals and further improvements of the exam.. Later in the year PCT signed an export contract to receive royalties from the CAL Institute in New Jersey, U.S.A. and built a U.S.-based PCT Testing Center.

Currently about 40 firms give preferential treatment to workers with

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excellent PCT scores, and incumbent workers are given special consideration for promotion.

#### **5) Samsung Data System(SDS) In-firm Qualification**

At Samsung SDS, there has been established since 1989 an Office Automation Qualification System, which assesses business management workers' computer skills concentrating on the Office Automation Package. This system was introduced with the purpose of enhancing production by maximizing utilization and application of information through computers by all workers.

Since 1997 the Samsung Information Qualification System, which comprehensively assesses information production, information search, distribution, and management, has been implemented, directed at all workers. Test subjects include basic knowledge on information, required subjects, and internet application, PC communication, EXCEL, Powerpoint, Easybase, electives. Each subject has a total score of 100 and those who receive 70 plus scores are qualified. Based on the accumulated scores, qualification is divided into 5 different ranks or classes and each qualification item expires in 4 years.

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