



International Association for Radio, Telecommunications and Electromagnetics, Inc.
840 Queen St. • New Bern, NC 28560 • 1-800-89-NARTE • fax 1-252-672-0111 • www.narte.org

Telecommunications Certification Application Package

---FORMS MAY BE PHOTOCOPIED---

Contents

| | |
|---|----------|
| About iNARTE Certification | Page 1 |
| Engineer Certification Criteria | Page 2 |
| Technician Certification Criteria..... | Page 3 |
| Application Instructions..... | Page 4 |
| Application Forms Certification Application Form | Page 5 |
| Detailed Work History Form | Page 6-7 |
| Reference Form..... | Page 8 |
| Question Submission Form..... | Page 9 |

About iNARTE Certification

iNARTE was established by industry leaders in 1982 in response to the FCC's deregulation and encouragement of industry certified personnel. As an objective third party certification body, iNARTE developed an evaluation process based not only on examination, but real world skills and work experience.

iNARTE Certification requirements are founded in four main areas:

Education and Training;

Work Experience;

Personal References and;

iNARTE Examination (Credit may be given to Junior Technicians for an FCC GROL, or to graduates of a iNARTE accredited College or University)

Proven work excellence is the cornerstone of iNARTE Certification. Telecommunications certification levels are based on the number of years of relevant experience (see table at right).

| Certification Class | Experience Required |
|---------------------|------------------------------|
| Master Engineer | 8 years as an Engineer |
| Senior Engineer | 6 years as an Engineer |
| Junior Engineer | 4 years as an Engineer |
| Master Technician | 8 years as a Technician |
| Senior Technician | 6 years as Technician |
| Junior Technician | 2 years/More as a Technician |

Submission of the application form implies agreement to adhere to the **iNARTE Code of Ethics**, available from iNARTE HQ or online at www.narte.org/codeofethics.html

Notes About the Application Process

Application Checklist

- Application
- Fees
- Detailed Work History
- Supervisor reference
- Peer references
- 10 questions
- Transcripts/certificates

- Once any component of your application package is received, iNARTE will begin to compile your file.
- You will receive updates on the progress of your application by mail every 6 weeks, or you may contact us to check on the status of your file at **1-800-89-NARTE**.
- Once the application form and fees are received, iNARTE will initiate examination scheduling.
- Reference forms should be sent *directly* to iNARTE from the reference provider by mail or **fax at 1-252-672-0111**.

All application materials should be sent to
iNARTE, 840 Queen St., New Bern, NC 28562

Forms may be faxed to 252-672-0111. Contact iNARTE with any questions at 1-800-89-NARTE.



Engineer Certification Criteria

MASTER Engineer Certification Criteria

1. Complete the Telecommunications Application Form and submit application fee. Submission of the application form implies agreement to adhere to the iNARTE Code of Ethics.
2. Pass the iNARTE Master Engineer examination. (Minimum score of 75%).
3. Have a minimum of 8 years of experience as a telecommunications engineer. Provide current resume or complete the Detailed Work History Form. *Up to a maximum of 4 of the required 8 years of engineering experience may be credited from a verified BSEE, BSEET or a science related BS Degree at the discretion of the iNARTE Certification Review Board.* Applicant must arrange for official college transcripts to be provided by appropriate college and sent directly from the college/university to iNARTE.
 - a) Candidates holding a iNARTE Senior Engineer certification will be credited with a minimum of 6 years of engineering experience.
 - b) Candidates holding a registered professional engineering certificate from any state, trust or territory, will be credited with 4 years of engineering experience.
 - c) Candidates holding an engineering registration from a country other than the United States will be credited with 4 years of engineering experience.
4. Using the iNARTE reference form, provide a minimum of 1 supervisory reference and 3 additional references. Each must be familiar with the candidate's experience and support the candidate's competence and character.
5. Compose 10 original multiple-choice questions with correct answers and supporting references.

SENIOR Engineer Certification Criteria

1. Complete the Telecommunications Application Form and submit application fee. Submission of the application form implies agreement to adhere to the iNARTE Code of Ethics.
2. Pass the iNARTE Senior Engineer examination. (Minimum score of 75%).
3. Have a minimum of 6 years of experience as a telecommunications engineer. Provide current resume or complete the Detailed Work History Form. *Up to a maximum of 4 of the required 6 years of engineering experience may be credited from a verified BSEE, BSEET or a science related BS Degree at the discretion of the iNARTE Certification Review Board.* Applicant must arrange for official college transcripts to be provided by appropriate college and sent directly from the college/university to iNARTE.
 - a) Candidates holding a iNARTE Junior Engineer certification will be credited with a minimum of 4 years of engineering experience.
 - b) Candidates holding a registered professional engineering certificate from any state, trust or territory, will be credited with 4 years of engineering experience.
 - c) Candidates holding an engineering registration from a country other than the United States will be credited with 4 years of engineering experience.
4. Using the iNARTE reference form, provide a minimum of 1 supervisory reference and 2 additional references. Each must be familiar with the candidate's experience and support the candidate's competence and character.
5. Compose 10 original multiple choice questions with correct answers and supporting references.

JUNIOR Engineer Certification Criteria

1. Complete the Telecommunications Application Form and submit application fee. Submission of the application form implies agreement to adhere to the iNARTE Code of Ethics.
2. Pass the iNARTE Junior Engineer examination (minimum passing score of 75%). *Examination is not mandatory for BSEE or BSEET graduates from a 4 year college program at a iNARTE Accredited College or University.*
3. Have a minimum of four (4) years of bona fide engineering experience in telecommunications. Provide current resume or complete the Detailed Work History Form. BSEE, BSEET and BS graduates from a college or university other than those designated as iNARTE authorized testing centers must provide transcripts of college credits in lieu of the 4 years of engineering experience; however, in this instance, examination is mandatory.
4. Using the iNARTE reference form, provide a minimum of 1 supervisory reference and 2 additional references. Each must be familiar with the candidate's experience and support the candidate's competence and character.
5. Submit 10 originally developed multiple choice questions with correct answers and supporting references.



Technician Certification Criteria

MASTER Technician Certification Criteria

1. Complete the Telecommunications Application Form and submit application fee. Submission of the application form implies agreement to adhere to the iNARTE Code of Ethics.
2. Have a minimum of 8 years of experience in telecommunications. Provide current resume or complete the iNARTE Detailed Work History Form. Provide evidence of completing courses/training in telecommunications. Official school transcripts may be required. Photocopies of applicable training certificates may be submitted.
3. Using the iNARTE reference form, submit a minimum of 1 supervisory reference and 3 additional references each supporting character and competency on the Master Technician level. Reference forms should be forwarded directly to iNARTE.
4. Compose 10 original multiple-choice questions with correct answers and supporting references.
5. Pass the iNARTE Master Technician examination (minimum score 75%).

SENIOR Technician Certification Criteria

1. Complete the Telecommunications Application Form and submit application fee. Submission of the application form implies agreement to adhere to the iNARTE Code of Ethics.
2. Have a minimum of 6 years of experience in telecommunications. Provide a current resume or submit the iNARTE Detailed Work History Form.
3. Provide evidence of completed courses/training in radio and/or telecommunications. Official school transcripts may be required. Photocopies of applicable training certificates may be submitted.
4. Using the iNARTE reference form, submit a minimum of 1 supervisory reference and 2 additional references supporting character and competence at the Senior Technician level. Reference forms should be forwarded directly to iNARTE.
5. Compose 10 original multiple-choice questions with correct answers and supporting references.
6. Pass the iNARTE Senior Technician examination (minimum score 75%).

JUNIOR Technician Certification Criteria

1. Complete the Telecommunications Application Form and submit application fee. Submission of the application form implies agreement to adhere to the iNARTE Code of Ethics.
2. Have a minimum of 2 years of experience in telecommunications. Provide a current resume or submit the iNARTE Detailed Work History Form.
3. Provide evidence of completed courses/training in radio and/or telecommunications. Official school transcripts may be required. Photocopies of applicable training certificates may be submitted.
4. Using the iNARTE reference form, submit a minimum of 1 supervisory reference and 1 additional reference supporting character and competence at the Junior Technician level. Reference forms should be forwarded directly to iNARTE.
5. Compose 10 original multiple-choice questions with correct answers and supporting references.
6. Pass the iNARTE Junior Technician examination (minimum score 75%) **OR** submit a copy of your FCC General Radiotelephone Operators License (GROL license). Or graduate from a iNARTE approved 2 year AS program, or equivalent, from an iNARTE Accredited Training Institute or College. See attached Accredited Training Institute link: <http://www.narte.org/h/traininginstitutes.asp>.



7. Application Instructions

| Certification Type | Application (Exam Fee Included) | Annual Renewal Fee |
|---------------------------|--|---------------------------|
| Master Engineer | \$120.00 | \$110.00 |
| Senior Engineer | \$105.00 | \$100.00 |
| Junior Engineer | \$90.00 | \$85.00 |
| Master Technician | \$75.00 | \$70.00 |
| Senior Technician | \$70.00 | \$65.00 |
| Junior Technician | \$55.00 | \$55.00 |

- 1. APPLICATION (Page 5):** Complete the application form and submit with the non-refundable application fee as shown above to 840 Queen St., New Bern, NC 28560. When application and fees are received, iNARTE will begin to compile the application file and schedule testing.
Upon signing the application form, you agree to abide by the iNARTE Code of Ethics as printed in the iNARTE Membership Handbook and online at <http://www.narte.org/h/codeofethics.asp>
- 2. TESTING:** iNARTE will coordinate the necessary arrangements for a testing date and time at the location chosen by applicant. Accredited Testing Center listings are available from iNARTE HQ or online at <http://www.narte.org/h/testcenters.asp>. Examinations are graded at iNARTE Headquarters and the applicant will be advised of a pass/fail within 10 working days by mail or they may call Headquarters for their results. Passing score for Telecommunications exams is 75%. Should a candidate fail the examination, a retake is permissible following a **90-day** period. Examinations may be retaken any number of times, however, an examination processing fee of \$60.00 is required each time the exam is taken.
- 3. DETAILED WORK EXPERIENCE (Pages 6,7):** Provide detailed evidence of experience in the appropriate field using a current resume, or the iNARTE Detailed Work History Form. Some credit for college education/degrees may be awarded based on review of official transcripts.
- 4. REFERENCES (Page 8):** Initiate action with those individuals who will serve as references. Using the reference form provided (**Page 8**), these individuals must attest to the applicant's competency at the certification level requested and also serve as character references. One Reference must be from a supervisor. Reference forms should be sent directly to iNARTE.
- 5. EVIDENCE OF EDUCATION & TRAINING:** Evidence of completing courses of study or training programs in related areas as offered by educational institutions and/or through internal corporate training programs are given consideration as part of certification. Official school transcripts may be required for experience credit. Photocopies of applicable training certificates may be submitted.
- 6. QUESTIONS (Page 9):** Submit ten (10) original multiple-choice questions written in your own words, relating to your area of expertise; for telecommunications, the certification level for which you are applying. Questions, which relate to real world workplace engineering or technical/testing situations, are preferred. Questions must conform to the format outlined on the iNARTE question form.





APPLICATION for TELECOMMUNICATIONS CERTIFICATION by
INTERNATIONAL ASSOCIATION FOR RADIO,
TELECOMMUNICATIONS AND ELECTROMAGNETICS, INC.

840 Queen St., New Bern, NC 28562 1(800) 89-NARTE or (252) 672-0111

| | |
|-----------------------------|--------------|
| FOR OFFICE USE ONLY | |
| Certification Number: _____ | Date: _____ |
| Test Type: _____ | Score: _____ |

TELECOMMUNICATIONS CERTIFICATION

I, the undersigned, hereby apply for iNARTE Telecommunications Certification under the provisions outlined by iNARTE and agree to abide by the iNARTE Code of Ethics printed in the membership handbook and online at <http://www.narte.org/h/codeofethics.asp>

Engineer

Technician

Master Senior Junior

Master Senior Junior

Name _____
(First) (Middle Initial) (Last)

Name _____
(As to be shown on Certificate)

Address _____ City _____ State _____ Zip _____

Phone:(Work) _____ (Home) _____

Date of Birth _____ Sex M F Citizen of _____

Email Address _____ High School Graduate Yes No

| University, College or Institute | Accredited* Y/N | Dates Attended MM/YY-MM/YY | Degree/Diploma Conferred |
|----------------------------------|--------------------|-------------------------------|--------------------------|
| | | | |
| | | | |

If graduating from an Accredited University or Training Institute, your faculty representative must sign the box below:

*(See <http://www.narte.org/h/traininginstitutes.asp> to verify iNARTE Accreditation for your college)

Existing Professional Licenses (if any). Please attach copy.

| Issuing Agency | First Date Issued | License or Cert. Number | Type | Current | Lapsed |
|----------------|-------------------|-------------------------|------|---------|--------|
| | | | | | |
| | | | | | |
| | | | | | |

Requested Test Center: _____ Requested date/month: _____
See listing at <http://www.narte.org/h/testcenters.asp>

Payment: Application fees are non-refundable. Total fees: \$ _____

Check enclosed Charge _____
MC VISA AMEX CVV # Exp. Date

I hereby authorize iNARTE, in accordance with iNARTE's privacy policy www.narte.org/h/privacy.htm to publish my name, city, state, country and any certification it may issue to me in all of its directories or registries. In addition, iNARTE is authorized to confirm my certification to inquiries on my behalf. I have read and agree to abide by the iNARTE Code of Ethics as published at www.narte.org/h/codeofethics.asp.

Signature of Applicant _____

Date _____





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DETAILED WORK HISTORY FORM

NAME _____ DATE _____

ADDRESS _____

PHONE (WORK) _____ (HOME) _____

1. Education

| A. GIVE THE HIGHEST ELEMENTARY OR HIGH SCHOOL GRADE COMPLETED _____ | | | B. IF YOU COMPLETED HIGH SCHOOL, GIVE DATE _____ | | | |
|---|----------------|----------|--|-------|--------------|------------------|
| C. NAME AND LOCATION OF COLLEGE OR UNIVERSITY | DATES ATTENDED | | YEARS COMPLETED | | CREDIT HOURS | DEGREES RECEIVED |
| | TO | FROM | DAY | NIGHT | SEMESTER | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| D. CHIEF GRADUATE COLLEGE SUBJECTS | CREDIT HOURS | | E. CHIEF UNDERGRADUATE COLLEGE SUBJECTS | | | SEMESTER |
| | | SEMESTER | | | | |
| | | | | | | |

2. Other schools, short courses, industrial courses, military, etc.

| SCHOOL OR COURSE NAME | LOCATION | HOURS. | DATES ATTENDED | CERTIFICATE, DEGREE, LICENSE, ETC. |
|-----------------------|----------|--------|----------------|------------------------------------|
| | | | | |
| | | | | |
| | | | | |

3. Significant personal achievements or contributions in radio or telecommunications:

| |
|--|
| |
| |
| |
| |

4. References:

Name

Telephone

1. _____
2. _____
3. _____



5.

| LIST RADIO/TELECOMMUNICATIONS EXPERIENCE BELOW, BEGINNING WITH THE MOST RECENT. | |
|---|----------------------------|
| TITLE: | DATES: From _____ To _____ |
| NAME AND ADDRESS OF EMPLOYER: (firm, organization, etc.) | NAME/TITLE OF SUPERVISOR: |
| CLASSIFICATION GRADE | PLACE OF EMPLOYMENT |
| DESCRIPTION OF WORK-AREAS OF EXPERTISE: | |
| | |
| | |
| | |
| | |
| | |
| TITLE: | DATES: From _____ To _____ |
| NAME AND ADDRESS OF EMPLOYER: (firm, organization, etc.) | NAME/TITLE OF SUPERVISOR: |
| CLASSIFICATION GRADE | PLACE OF EMPLOYMENT |
| DESCRIPTION OF WORK-AREAS OF EXPERTISE: | |
| | |
| | |
| | |
| | |
| | |
| TITLE: | DATES: From _____ To _____ |
| NAME AND ADDRESS OF EMPLOYER: (firm, organization, etc.) | NAME/TITLE OF SUPERVISOR: |
| CLASSIFICATION GRADE | PLACE OF EMPLOYMENT |
| DESCRIPTION OF WORK-AREAS OF EXPERTISE: | |
| | |
| | |
| | |
| | |
| | |

USE ADDITIONAL SHEETS IF NECESSARY

6.

| MEMBERSHIPS IN OTHER ORGANIZATIONS: | FROM: | TO: |
|-------------------------------------|-------|-----|
| | | |
| | | |
| | | |

7.

| IF YOU HAVE TAKEN EXAMINATIONS FOR ANY STATE OR FEDERAL CIVIL SERVICE EXAMINATIONS IN THE RADIO OR TELECOMMUNICATIONS FIELD, LIST THEM BELOW | | | |
|--|---|------------|--------|
| TITLE OF EXAMINATION | NAME AND ADDRESS OF COMMISSION OFFICE OR BOARD OF EXAMINERS WITH WHICH YOU FILED YOUR APPLICATION | MONTH/YEAR | RATING |
| | | | |
| | | | |
| | | | |

I CERTIFY that the statements made by me on this form are true and correct to the best of my knowledge and belief and are made in good faith.

(Signature)

(Date)





Applicant

 Name Phone Number

Engineer

Technician

Master Senior Junior Master Senior Junior

IMPORTANT: Applicant is to complete the address of reference and supply the reference with a stamped envelope addressed to iNARTE. This form must be submitted **directly to iNARTE** by the reference giver. Forms may be faxed to (252) 672-0111.

Reference

 Name Address, City, State, Zip

 Company Title Phone Number

Are you a iNARTE Certified Member? No Yes If Yes, _____
Certificate Number Expiration Date

How long have you known the applicant? _____ Is the applicant related to you by blood or marriage? Yes No

Would you hire this individual for a position of responsibility? Yes No Are you the applicant's Supervisor? Yes No

iNARTE equates experience with competency in that the more time an individual remains in active practice the more varied their experience may be. The person named on this reference has applied for iNARTE certification credentials. You have been asked to give your impression of the applicant's experience. These capabilities and characteristics show up in practice over the years and are known only to the applicant's acquaintances and associates. Thank you for your help.

Please answer the following questions, use the lines provided or use additional paper if needed.

1. General Characteristics: What factors relate to the applicant's current assignments? (Works independently, uses own judgment, level of technical sophistication, performs assignments to skill development, makes decisions independently, etc.)

2. Direction Received: How closely is the individual supervised? (Supervises others, works independently, supervisor screens assignments, consults supervisor with unusual problems, etc.)

3. Typical Duties: What kinds of activities does the applicant routinely do in a normal workday? (Applies standard practices, plans and conducts tests, supervises more than 1 technician or engineer, etc.)

Overall evaluation/other comments: _____

X _____
 Signature of Reference Date





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TELECOMMUNICATION CERTIFICATION QUESTION SUBMISSION FORM

The following format must be used. This form may be copied and used for each question. Write or print clearly. Whenever possible iNARTE requests that you also submit an electronic copy of your questions.

SAMPLE QUESTION

Determine the characteristic impedance, of a quarter wave transformer used to match a line with a characteristic impedance of 50 ohms to a 200 ohm load.

- a. 100 ohms.
- b. 112 ohms.
- c. 1235 ohms.
- d. 150 ohms.

Answer: C Time: 5 Minutes
3rd Edition (or latest) ISBN 0137514395

Reference: **Electronic Communications Systems**, by Wayne Tomasi, Prentice Hall,

For: Engineer

1. Question: (Try to avoid any possible misinterpretations of the question. If question is negative, i.e., "Which item does **NOT** include the following?", the **NOT** should be bolded and capitalized.)

2. Answers: (Only 4 answers) {Include all calculations if the answer is calculated}

- A.
- B.
- C.
- D.

3. Correct Answer: _____

4. Applicability Engineer Technician Both

5. Time required to answer the question: _____ Minutes

6. Reference(s) _____

7. Category (From list below) _____

Please use only the categories that apply to your certification class.

Technician Category List Technician Level

| | Master | Senior | Junior |
|---------------------------|--------|--------|--------|
| A. DIGITAL | ✓ | ✓ | ✓ |
| B. OPERATIONAL AMPLIFIERS | ✓ | ✓ | ✓ |
| C. DECIBEL | ✓ | ✓ | ✓ |
| D. OSCILLATORS | ✓ | ✓ | ✓ |
| E. AC CIRCUITS | | ✓ | ✓ |
| F. POWER SUPPLIES | | ✓ | ✓ |
| G. TRANSFORMERS | ✓ | ✓ | ✓ |
| H. TRANSISTORS | ✓ | ✓ | |
| I. TRANSISTOR CIRCUITS | | | ✓ |
| J. FILTERS | | ✓ | ✓ |
| K. ACTIVE FILTERS | ✓ | | |
| L. AC THEORY | ✓ | | |
| M. DC THEORY | ✓ | | |
| N. WAVE SHAPERS | ✓ | | |
| O. DIODES | | ✓ | |
| P. DC CIRCUITS | | | ✓ |

| | | | |
|---------------|--|--|---|
| Q. REGULATORS | | | ✓ |
|---------------|--|--|---|



Engineer Category List

(Categories apply to all Engineer Levels)

| |
|------------------------------------|
| A. TELECOMMUNICATIONS PRINCIPLES |
| B. TRANSMITTER & RECEIVER CIRCUITS |
| C. DIGITAL COMMUNICATIONS |
| D. DATA COMMUNICATIONS |
| E. OPTO-ELECTRONICS |
| F. MICROWAVE LINKS |
| G. SATELLITE LINKS |
| H. TRANSMISSION-LINES PRINCIPLES |
| I. HF AND VHF LINKS |
| J. ENGINEERING ECONOMY |

Notes on Question Content

- Questions must be in your own words.
- Questions which relate to real-life work situations or problems are desirable.
- Your questions should be geared toward the certification type and level for which you are applying.

