

**Government of India  
Central Institute of Fisheries, Nautical & Engineering Training (CIFNET)**

**PROSPECTUS**

**BACHELOR OF FISHERIES SCIENCE (NAUTICAL SCIENCE)  
[B.F.Sc.(N.S.)]**

# CIFNET

Central Institute of Fisheries, Nautical & Engineering Training (CIFNET), erstwhile Central Institute of Fisheries Operatives (CIFO), was established in 1963 at Kochi to meet the trained manpower needs of ocean going fishing vessels and that of fishing industry, by the Govt. of India. Subsequently two units of CIFNET were established, at Chennai, Visakhapatnam in 1968 and 1981 respectively, for meeting the additional requirement of manpower necessitated by the expansion of marine fishing industry with large number of fishing vessels in their fleet. The name was later upgraded consistent with its functions as 'Central Institute of Fisheries Nautical & Engineering Training' (CIFNET). CIFNET is the only national institute of its kind in the country to meet the training requirements of technical and certified personnel such as Skippers, Mates, Engineers, Engine Drivers of ocean-going fishing vessels as stipulated in the Merchant Shipping (Amendment) Act. 1987. CIFNET is also responsible for developing the required technical manpower for supporting shore establishments.

## The key objectives of the Institute are:

- To create technical manpower for the operation of Ocean going fishing vessels
- To create trained manpower to manage fishery establishments
- To provide training for technical teachers of Maritime States and Union Territories for manning their fishermen training centres

- To assist developing nations in the South-east Asia, Middle-east and African regions to create technical manpower for development of Marine Fisheries sector
- To provide technical consultancy service in all its related matters with special reference to technical manpower requirements.

## FACILITIES

### Infrastructure

The Institute has well developed permanent infrastructure facilities at its three centres which houses the class rooms, laboratories, workshop, Nautical-Chart practice hall, Simulator (ERS&N) centre, Craft & Gear practical, Library, Hostel, Recreation and other amenities.

CIFNET at its Headquarter at Kochi and its Units at Chennai & Visakhapatnam have well equipped facilities for imparting training and other related activities of the Institute.

### Training Vessels

A detailed study of Nautical and Fishing Sciences is the core objective of the programme which requires sea exposure. For providing adequate sea training as per the curriculum, the institute has three ocean-going fishery training vessels based one at each centre. The overall length of the vessels ranges from 28 to 34 metres with Horse Power ranging from 600 to 750 BHP.

## Departments

Each one of our Institutes at the above centres have the following Departments:-

### Department of Fisheries Technology

The Department has ultra modern infrastructure for fishing gear repairs, fabrication and training. The Department imparts theoretical and practical classes on Fishing gear materials and design, Fishing technique, Fishery Biology, Deck Equipments etc. Fabrication, repairs and maintenance of fishing gears required for the training vessels of the Institute are also undertaken by this department. This Department is also equipped with a fishing gear and fishery biology laboratory.

### Department of Nautical Science

The Department of Nautical Science has well equipped facilities at all the three centres of CIFNET for imparting theoretical as well as practical training in Seamanship, Navigation, Marine Meteorology and Oceanography. It has excellent visual aids for onshore training. The Department is also equipped with modern navigational equipments and has a spacious navigation hall for conducting chart practicals and passage planning.

### Department of Marine Engineering

Division comprises of various disciplines of engineering such as Marine Engines, Marine Auxiliaries, Electrical, Electronics, Computer Application, Fishing Craft Technology, Refrigeration and Hydraulics. Well established Workshop and Laboratories on the above disciplines are available with the institute to impart a systematic practical training to the students during their course of study.

### Marine Engineering Workshop

A well-equipped workshop is available for maintenance and repairs of the training vessels of the Institute. It also provides practical training with the special emphasis on machining, welding, smithy, fitting, carpentry and IC engine refitting.

### Training Section

Training section of the Institute coordinates all the training activities of the Institute. Selection of candidates by conducting entrance examinations, interviews, curriculum development, planning, programming and conducting various training courses are dealt by the section. It is also providing employment guidance for the post-institutional trainees.

### Library

The Institute library is adequately equipped with technical-scientific books and reputed journals on Nautical Science, Marine Engineering, Fishing Craft Technology, Fishing Gear Technology, Workshop Technology, Electrical Technology, Electronics, Computer Science, Fishery Biology, Fish handling, Marine Meteorology, Oceanography, Refrigeration, Hydraulics etc. at its three centres.

## Courses offered

### Regular Courses & Ancillary courses

The Institute has been conducting two trade courses viz. Vessel Navigator & Marine Fitter Course of 2 years duration, which is formulated under Craftman Training scheme of NCVT, New Delhi since 2006. These two trades are started with the view of producing practical Trades man in the Marine Sector and manpower for the Deck side and Engine side of the fishing vessel The successful candidates, after obtaining requisite sea service will become competent to appear the respective competency examinations conducted by the Mercantile Marine Department, Director General of Shipping, Ministry of Shipping, Govt. of India.

In addition, the Institute is also conducting ancillary course viz. Shore Mechanic Course (12 months) on request from State Fisheries Departments for the benefit of personnel who are managing the shore establishments of the Fisheries Organisations.

### Statutory Courses

A Number of statutory modular courses such as Elementary Fishing Technology Course, Advanced Fishing Technology Course and Radar Observers Course, are mandatory for obtaining the competency certificates issued by MMD, D.G. Shipping. CIFNET is the sole agency in India approved by the DG Shipping for the conduct of Elementary Fishing Technology and Advanced Fishing Technology courses.

### Refresher Courses for examination

Preparatory coaching classes are essential for the candidates appearing for Competency examinations to update their knowledge. CIFNET organises refresher training courses for Mate Fishing Vessel Examination, Engine Driver Fishing Vessel Examination, Skipper Gr. II Examination, Engineer Fishing Vessel Examination to enable the candidates to face the examination with confidence and courage.

### Training for foreign nationals

The Institute also arranges Special training programmes for Foreign Nationals from countries like Nigeria, Zambia, Tanzania, Ghana, PDR Yemen, Myanmar, Laos, Sri Lanka, Bangladesh, Maldives, Philippines etc. under various schemes like FAO Fellowship, CFTC, SCAAP, ESCAP, ITEC, Colombo Plan etc. Thus over the years the Institute came out as a nodal Institution in the South-east Asia for training the personnel of the fishing fleet and offering Special training in Nautical, Fisheries and Engineering disciplines.

### Short term Training programmes

The Institute's facilities in the field of Nautical, Fisheries and Engineering Technology are utilised for tailor-made short term courses for the specific requirement of the participants as categorised here under.

- Short term training for Fishermen
- Tailor made programmes conducted for sister organisations
- Refresher courses for serving officials of fishery organisations
- Orientation courses for new entrants of fishery and financial institutions
- Refresher courses for college faculties
- Short term courses for graduate, post graduate students of Fishery colleges, B.Tech. and M.Tech. students of Engineering colleges.

The Technical expertise, training and infrastructure facilities of CIFNET are being utilised to the optimum level by conducting various short term training programmes for the students fraternity during last few years. The ITI / ITC, Graduates, Post Graduates students and students of the Engineering Colleges had the opportunity to attend these specially designed sandwich programmes and were able to absorb gainful practical knowledge.

- *For Under Graduates / Post Graduate students of Fishery colleges*
  - Fisheries Technology
  - Fishery Biology
  - Refrigeration & Equipment Engineering
  - Fishing Vessel Engineering
  - Seamanship & Navigation
  - Oceanography & Meteorology

- *For M.Tech. / B.Tech Students*
  - Marine Diesel Engine and associated system
  - Marine Engineering
  - Marine Refrigeration
  - Marine Electro Technology
  - Power Generation and Distribution onboard ships
  - Marine Electronic equipments and Power supplies
  - Food Preservation
  - Marine Diesel Engine & Associated Systems with Engine Room Simulator
  - Operation of Marine Diesel Engines with Engine Room Simulator

## Bachelor of Fisheries Science (Nautical Science) course [B.F.Sc. (N.S.)]

The B.F.Sc.(N.S.) course offered by CIFNET is a 4-year (8 Semester) programme mainly concerned with study of fish capturing techniques, nautical science and operation of fishing vessels. This programme has an exhaustive curriculum designed to provide profound practical knowledge on various aspects of the fishing and nautical sciences. This Degree course is affiliated to Cochin University of Science and Technology, Kochi. This course will be converted into a Residential course in due course.

This 4-year programme will be producing a new generation of experts in the fishing field who will be able to take up any challenges in the operation of fishing vessels and related research & academic spheres with confidence.

### Syllabus - outline

The Syllabus includes a detailed study of fishing, different types of fishing operation, construction of the fishing vessel, seamanship & navigation, study of engines and other machineries on board, maintenance of fishing vessels, oceanography & marine meteorology, Harvesting of fish, preservation of fish,

post harvest technologies, economics of fishing among other related theories. The semester-wise papers of the course are outlined here under.

| SEMESTER I  | SEMESTER II   |
|---|---|
| 1.1. General English<br>1.2. General Mathematics<br>1.3. Classification of Fishing Gear<br>1.4. Naval Architecture – I (Fishing Craft Technology)<br>1.5. Marine Fishery Resources<br>1.6. Nautical Science - I (Chart Work - Practicals – I) | 2.1. Communicative English<br>2.2. Fishery Biology<br>2.3. Fishing Gear Accessories<br>2.4. Nautical Science – II (Practical Navigation)<br>2.5. Fishing Gear Practicals – I<br>2.6. On Board Training - Practical  |
| SEMESTER III  | SEMESTER IV   |
| 3.1. Physical Oceanography<br>3.2. Fishing Gear Materials<br>3.3. Nautical Science – III (Safety, Seamanship & Watch keeping)<br>3.4. Fishing techniques – I<br>3.5. Marine Ecology<br>3.6. On Board Training - Practical                     | 4.1. Fishing Gear Design – I<br>4.2. Marine Meteorology<br>4.3. Basics of Fishery Microbiology<br>4.4. Nautical Science – IV (Chart Work – Practicals – II)<br>4.5. Fishing Gear Practicals – II<br>4.6. On Board Training – Practical                              |
| SEMESTER V  | SEMESTER VI   |
| 5.1. Fish Preservation Techniques<br>5.2. Fishing Gear Design – II<br>5.3. Fishing techniques – II<br>5.4. Nautical Science – V (Construction & Stability)<br>5.5. Fish Processing Technology Practical<br>5.6. On Board Training - Practical | 6.1. Fishery Products Technology<br>6.2. Marine Engineering – I (Engines, Propellers)<br>6.3. Nautical Science – VI (Navigational Aids)<br>6.4. Naval Architecture – II (Boat Building)<br>6.5. Fishing Gear Practicals - III<br>6.6. On Board Training - Practical |

| SEMESTER VII  | SEMESTER VIII  |
|---|--|
| 7.1. Introduction to Fisheries Extension<br>7.2. Nautical Science –VII (Seamanship & Navigation)<br>7.3. Marine Engineering – II (Refrigeration)<br>7.4. Ship Operation Technology<br>7.5. Elective paper<br>7.6. On Board Training - Practical | 8.1. Culture Fishery<br>8.2. Fleet Management<br>8.3. Introduction to Coastal Zone Management<br>8.4. Introduction to Fisheries Economics<br>8.5. Marine Fisheries Management<br>8.6. Project Work |

### Mode of study

Theory - The theory papers will be handled by well experienced faculties of the Institute who have proven practical track records in their field of study. The classes will be handled with modern teaching aids like Multi-media, Internet, Overhead projectors, live models etc.

### Practical

The curriculum is framed with special emphasis on practical aspects in Nautical science, Fishery Biology, Fishing Craft Technology, Fishing Gear etc. Practical exposure will be given to the students in the well established laboratories.

### On-board training

The speciality of this 4-year Degree programme is the component of on board practical training given to the students during the course of study. The onboard practical training will be an opportunity to students to get acquainted with the operation, management and maintenance of the vessel which is the unique nature of this course.

### Method of Evaluation

|                                |   |
|--------------------------------|---|
| Observation of progress record | : Internal Assessment for 50% marks by Monthly Unit Test, Assignments, Attendance etc.<br>Semester Examinations (6 months)  |
| Examination                    | : Semester Examination will be conducted by the Cochin University of Science & Technology for 50% marks as per university regulations for under graduate programme. |
| Award of degree                | : After the successful completion of all the semester examinations, degree certificate will be awarded by the Cochin university of Science & Technology, Kochi.     |
| Minimum Attendance             | : 75%   |

### Career profile

After the successful completion of the 4-year Degree programme the candidates will be able to choose their career opening in Central Fishery Institutions dealing with Research, Fishing Vessel operation, State Fishery Departments, Universities and other Private Establishments dealing with Vessel operation, Fish Processing etc.

### No. of Seats

| Category              | No. of seats | Remarks   |
|-----------------------|--------------|---|
| Admission through CET | 20           | At present 15% and 7.5% of the seats are reserved for SC/ST students respectively |
| Non-Resident Indian   | 01           | ---   |
| Foreign National      | 01           | ---   |

### Eligibility Criteria

**Entry Qualification** : 10 + 2 with 50% marks in Maths and 50% aggregate marks in other science subjects and also minimum 50% marks in English either in 10<sup>th</sup> or +2 std. In the case of SC/ST students only a pass is required in the qualifying examination with the above subjects.

**Age limit** : Maximum: 20 years as on 1<sup>st</sup> October of respective year

**Vision** : In case the candidate wish to take up the career on sea/vessel he/she should pass the prescribed eye test conducted by Mercantile Marine Department before admission.

### Mode of selection

**Admission through CET:** Based on Common Entrance Test (conducted by CIFNET at Kochi), Academic performance in qualifying examination and interview.

| Score Sheet |                       |    |           |       |
|-------------|-----------------------|----|-----------|-------|
| CET         | Academic performance  |    | Interview | Total |
| 1           | 2                     |    | 3         | 1+2+3 |
| 100         | English : 10          | 90 | 10        | 200   |
|             | Maths : 20            |    |           |       |
|             | Science subjects : 60 |    |           |       |

**NRI category:** Candidates in this category need not come through entrance examination. Sponsorship by Non-resident India is only essential. If more candidates are applied in this category, the selection will be on the basis of academic merit and performance in the interview for which the yardstick projected above will be followed.

**Foreign Nationals:** Candidates in this category need Sponsorship of a foreign organisation is required. If more candidates are applied in this category, the selection will be on the basis of academic merit.

### Fee structure\*

| Sem. No. | Through CET (Open quota) |              |                   |                 |                 |       | NRI Quota   |              |                   |                 |                 |       | Foreign Quota |              |                   |                 |                 |       |
|----------|--------------------------|--------------|-------------------|-----------------|-----------------|-------|-------------|--------------|-------------------|-----------------|-----------------|-------|---------------|--------------|-------------------|-----------------|-----------------|-------|
|          | Tuition fee              | * Other fees | # Caution Deposit | ^ Other Deposit | University Fees | Total | Tuition fee | * Other fees | # Caution Deposit | ^ Other Deposit | University Fees | Total | Tuition fee   | * Other fees | # Caution Deposit | ^ Other Deposit | University Fees | Total |
| 1        | 5000                     | 5950         | 4000              | 1000            | 515             | 16465 | 23000       | 5950         | 4000              | 1000            | 515             | 34465 | 38500         | 5950         | 4000              | 1000            | 515             | 49965 |
| 2        | 5000                     | --           | --                | --              | --              | 5000  | 23000       | --           | --                | --              | --              | 23000 | 38500         | --           | --                | --              | --              | 38500 |
| 3        | 5000                     | 5950         | --                | 1000            | 315             | 12265 | 23000       | 5950         | --                | 1000            | 315             | 30265 | 38500         | 5950         | --                | 1000            | 315             | 45765 |
| 4        | 5000                     | --           | --                | --              | --              | 5000  | 23000       | --           | --                | --              | --              | 23000 | 38500         | --           | --                | --              | --              | 38500 |
| 5        | 5000                     | 5950         | --                | 1000            | 315             | 12265 | 23000       | 5950         | --                | 1000            | 315             | 30265 | 38500         | 5950         | --                | 1000            | 315             | 45765 |
| 6        | 5000                     | --           | --                | --              | --              | 5000  | 23000       | --           | --                | --              | --              | 23000 | 38500         | --           | --                | --              | --              | 38500 |
| 7        | 5000                     | 5950         | --                | 1000            | 315             | 12265 | 23000       | 5950         | --                | 1000            | 245             | 30195 | 38500         | 5950         | --                | 1000            | 315             | 45765 |
| 8        | 5000                     | --           | --                | --              | --              | 5000  | 23000       | --           | --                | --              | --              | 23000 | 38500         | --           | --                | --              | --              | 38500 |

\* Subject to change every year.

| University Fees                   | Amount      | Remarks  |
|-----------------------------------|-------------|--|
| University Union                  | 55          | To be paid annually subjected to change as per University norms                  |
| SAF                               | 45          |  |
| Sports fee                        | 100         |  |
| Medical Insp                      | 15          |  |
| Quazi University fee              | 100         |  |
| Matriculation fee                 | 100         | At the time of admission subjected to change as per University norms             |
| Recognition fee                   | 100         |  |
| <b>Total</b>                      | <b>515</b>  |  |
| * Other Fees (Annual)             | Amount      | Remarks  |
| Lab. Fee                          | 700         |  |
| Onboard training                  | 1500        |  |
| Lib. Fee                          | 300         |  |
| Student Welfare                   | 100         |  |
| Recreation fee                    | 100         |  |
| Computer & internet facility      | 400         |  |
| Seminar/Symposium/Workshop        | 250         |  |
| Sports fund                       | 300         |  |
| Maintenance fee                   | 100         |  |
| Local visit/Study tour            | 1000        |  |
| Hostel rent                       | 1200        | Only for hostellers  |
| <b>Total</b>                      | <b>5950</b> |  |
| # Caution Deposits                |             |  |
| Caution                           | 2000        | To be paid at the time of admission, will be settled on completion of the course |
| Hostel Mess                       | 2000        |  |
| <b>Total</b>                      | <b>4000</b> |  |
| ^ Other Deposits (Non-refundable) |             |  |
| Vessel Mess (Per year)            | 1000        | To be paid yearly for mess onboard vessel  |
| <b>Total</b>                      | <b>1000</b> |  |

## Hostel Facilities

Boys hostel : Hostel facility within the campus will be provided according to the availability only.

Girls hostel : Not available.

## Common Entrance Test (CET)

All applicants (except students sponsored by NRI & Foreign Nationals) who wish to undergo this B.F.Sc.(N.S.) programme with CIFNET have to appear for a Common Entrance Test at CIFNET, Fine Arts Avenue, Kochi -16. The Common Entrance Test will be of objective type, which covers the topics of Maths, Physics, Chemistry, Biology and English language. For each correct answer, 1 mark will be awarded and for every wrong answer, 0.25 mark will be deducted.

## Guidelines for filling up the Application form

### General guidelines:

1. Illegible/wrong/filling with over writing, incomplete filling up will lead to Rejection of the application for which the applicant alone shall be responsible.
2. Information provided in the forms will be treated as final and no request for correction, alteration & addition will be entertained.
3. Fill up only in English using the Capital letters
4. Write only one character in one box
5. Leave one box blank between words.
6. Use a coma to separate letters or group of words
7. Use only Black Ball point pen

Following item-wise instruction may be read carefully before filling up the application.

**Item No.1:** Write full name as in Official records. Initials have to be written after the name leaving one box blank.

**Item No. 2:** Write name of your Father/Guardian with initials.

**Item No.3:** Enter your Date of birth in Christian Era in the order of Day – Month – Year.

**Item No.4:** Completed age as on 1<sup>st</sup> October of respective year.

**Item No.5:** Tick whether Male or Female in appropriate box.

**Item No.6:** The nationality of the candidate may be indicated (put tick mark).

**Item No.7:** a) Enter your Religion

b) Tick applicable Caste, others SC/ST

**Item No.8:** Enter your mother tongue

**Item No.9:** The complete address for the communication may be indicated with phone number. Please note that all correspondence will be addressed to the above address during the course of study.

**Item No.10:** Write permanent address of the candidate.

**Item No.11:** Eligibility criteria of qualification may be tick marked appropriately

**Item No.12:** Medium of study for the 12<sup>th</sup> standard may be tick marked, if others specify categorically the medium of study.

**Item No.13:** The details such as School/college of study, year of passing for 10<sup>th</sup> and 12<sup>th</sup> or equivalent may be indicated.

**Item No.14:** The details of marks obtained on the subjects mentioned for 12<sup>th</sup> standard or equivalent may be filled in and the score sheet also may be appropriately filled in the following formula given in the application form.

Example:-

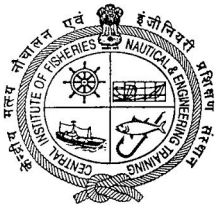
| Subject                  | Month & Year of passing | Max. Marks | Marks obtained | %  | Multiply factor | Score 5X6 |
|--------------------------|-------------------------|------------|----------------|----|-----------------|-----------|
| 1                        | 2                       | 3          | 4              | 5  | 6               | 7         |
| English                  | April 10                | 100        | 72             | 72 | 0.1             | 7.2       |
| Maths                    | April 10                | 200        | 128            | 64 | 0.2             | 12.8      |
| Science subjects (Total) | April 10                | 300        | 150            | 50 | 0.6             | 30.0      |
| Total                    |                         |            |                |    |                 | 58.0      |

Downloaded application duly filled may also be sent with application fee of Rs.400/- for general and Rs.200/- for SC/ST through demand draft drawn in favour of 'Senior Administrative Officer, CIFNET' payable at Kochi - 16

### How to apply

The filled applications (in the prescribed forms) along with the attested copies of certificates in respect of qualification, including mark list of 10<sup>th</sup> & 12<sup>th</sup> Standard Examination, Age and Community Certificate (in the case of SC/ST/OEC Candidates) and two self addressed (Unstamped) envelopes of size 25cms x 11cms. should reach the Director, Central Institute of Fisheries, Nautical & Engineering Training, Fine Arts Avenue, Kochi-682016 on or before the last date mentioned in the Advertisement. Applications which are received late/incomplete/without age certificate/SSLC Mark List/Community Certificate (for SC/ST only)/not in the prescribed forms, will not be considered.

## Route Map



**GOVERNMENT OF INDIA**

**CENTRAL INSTITUTE OF FISHERIES, NAUTICAL & ENGINEERING TRAINING (CIFNET),**

**Fine Arts Avenue, Kochi – 682 016, India. Phone: 0484-2351610, 2351493, 2351790.**

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