



## Introduction

*Centre of Excellence in GIS*, the first of its kind and very unique model in the country, has been established at NPTI Complex, Faridabad in technical collaboration with CES Technologies Private Limited, an organic IT arm of the Premier Engineering Consultancy Organisation, Consulting Engineering Services (India) Private Limited (CES), engaged in IT consultancy and GIS enabled services. This Centre is working in the areas of:

- Advanced and frontier technologies in GIS & Remote Sensing.
- GIS & Remote Sensing based Consultancy work execution.
- Blending Advanced and frontier technologies as per industry requirements.
- Providing skills professionals to the industry.

The Centre would impart various types of industry oriented GIS Training to address skill shortage and provide employment opportunities. The Centre would also address the vast latent requirement of GIS in terms of development of fundamental technology and evolving customized solutions, that is also the need of the day.

As an initial step, it has been decided to provide a **One Year Post Graduate Diploma Programme in GIS & RS** where Engineering and Geo-Science Graduates & Post Graduates wishing to take up GIS as their career could look forward to joining the course. After successful commencement of first course we are inviting applications for third batch of the course.

## About NPTI

National Power Training Institute (NPTI) has been set up by the Government of India under the Ministry of Power, to function as the National Apex Body for Human Resources Development of Indian Power Sector. With its Corporate Office at Faridabad, it operates on all India basis through its Regional Institutes located at Neyveli (Tamil Nadu), Durgapur (West Bengal), Badarpur (New Delhi), Nagpur (Maharashtra), Guwahati (North Eastern Region), Power Systems Training Institute (PSTI), Bangalore, Hot Line Training Centre (HLTC), Bangalore, and the 'Centre for Advanced Management and Power Studies' (CAMPS), Faridabad.

The Training Institutes at Badarpur, New Delhi and Nagpur are equipped with full-scope, digital, real-time, high-fidelity fossil fuel fired 210 MW Thermal Power Plant Simulators providing off-job, hands - on training. The Corporate Office at Faridabad also houses a similar state-of-the-art 500 MW Simulator, 430 MW CCGT Simulator and GIS Resource Centre. The Power Systems Training Institute at Bangalore houses a Load Dispatch Training Simulator.

NPTI is catering to the Human Resources development needs of Power Sector for nearly 4 decades.

## **Major Activities of NPTI**

The activities of NPTI can be classified broadly as follows:

### **Education**

Following course are run by NPTI

- MBA in Power Management
- B.E. /B. Tech. (Power Engineering & Technology)\*
- P.G. Diploma in Thermal Power Plant Engineering
- Post Diploma in Thermal Power Plant Engineering
- P.G. Diploma in GIS & Remote Sensing

*\*Being conducted at Regional Institutes at New Delhi, Nagpur and Durgapur*

### **Campus and Infrastructure**

Institute has its own campus spread over a picturesque landscape of about 15 acres in Faridabad, which is a neatly planned city and a well developed industrial centre. The campus is strategically located, just about 5 kms from New Delhi Haryana Border, about 30 kms from International Air Port and 25 kms from New Delhi Railway Station. Entire campus is connected through WiFi. The campus houses the main institute building, guest house, hostels, sports complex, and residential quarters for both academic and administrative staff. The main Institute building houses 5 lecture halls, a syndicate room, board room, library, 500 MW Simulator, 430MW CCGT Simulator and GIS Resource Centre etc. A multipurpose fully air-conditioned Auditorium with a capacity of about 300 seats and an Open Air Theatre have been constructed as a recreation center where various cultural functions are held.

A cozy conference hall with most modern facilities and seating capacity for 60 persons is also available for holding seminars, workshops and conferences. A well-furnished 50-room executive hostel, a 120-room trainee's hostel with 24 hours internet facility and a separate Girls hostel with modern lodging and boarding facilities are also available. A well-equipped state of the art Gymnasium is also available to students for their healthy development.

### **Library**

The Library has a large collection of about 25,000 volumes and video packages on modern power station technology, management, finance, information technology and various branches of engineering & science. It subscribes to a number of national and international technical journals and periodicals. The Library is equipped with Lib Sys package for efficient retrieval of information.

### **Sports Facilities**

Modern indoor and outdoor game facilities have been developed. Students are encouraged to avail facilities like Badminton, Lawn Tennis, Table Tennis, Basket Ball, and Volleyball etc. Yoga classes are conducted to keep the students physically and mentally fit and to ward off stress.

### **Climate**

July to September are monsoon months, followed by pleasant weather till November. During December- January become quite cold. April- June are quite warm. The famous tourist spots like Suraj Kund, Badkal Lake are located just nearby.

---

### **Medical Facility**

One part time doctor will be available in the Campus for first aid/ treatment. However in case of emergency, the students may be admitted to nearby hospital on their own expenses.

### **About CES Technologies Private Limited**

CES Technologies Pvt. Ltd. is an InfoTech-based organic arm of an ISO: 9001-2000 certified Consulting Engineering Services (India) Private Limited (CES). CES is, a premier house of engineering consultancy, rendering its services in core sector engineering and infrastructure building in India and abroad, employing over 2000 highly qualified and experienced techno-managerial professionals. CES Technologies has embedded a state-of-the art GIS, Remote Sensing, Land Survey and mapping capabilities through adoption of latest Geo-informatics technique.

The strength of CES Technologies lies in creation of updated Geospatial information database from existing hard copy Maps, Land Survey & Mapping, Cadastral mapping and Remote Sensing data tailor-made to the need of the customers. It has also augmented its capabilities by adding theme based services based on satellite imageries for soil, land-use, vegetation, geology/geomorphology and utilities with our experts in various fields working in India as well as abroad. It has rich and diversified experience in implementing various GIS projects at National & International level.

### **Why Should You Join**

Geographic Information Systems popularly known as GIS is a rapidly growing technological field for resource planning and management. It has wide applications in almost all the fields of infrastructure Development like land use planning, utilities management, landscape assessment and planning, transportation and infrastructure planning, real estate analysis, telecommunication, Power transmission & distribution and many other unlimited applications.

GIS and Remote Sensing (RS) have already influenced us in almost every aspect of life. In future the application of GIS will be widespread in every sphere of the asset management process. There will be a wide application of GIS in our country in the areas like Power Sector, Transportation Sector, Highway, Road management sector, agriculture etc. and hence a great demand for trained manpower.

### **About the Program**

Post Graduate Diploma in Geographic Information System & Remote Sensing is a one year (52 weeks) full time programme comprising of various modules in GIS & RS under Fundamental, Core & Application Development. It also incorporates Specialization through on site project work in different domains of GIS & RS. The syllabus of the course has been focused to cover practical GIS & RS applications in land management, presenting the theory behind applications and implementation.

This Post Graduate Diploma programme prepares skilled Software professionals (GIS Analysts, GIS Engineers/ Programmers, GIS Consultants) through classroom lectures and practical training, making use of client server and Internet GIS technology.

---

The program is targeted towards fresh and practicing graduates and is a unique golden opportunity for the bright executives to become a GIS & Remote Sensing expert who are expected to move to key positions in the near future.

### **Course Objectives**

1. To create a pool of committed and competent professionals equipped with the appropriate technical skills to steer the Industry and run it on commercial lines.
2. The main aim of the course is to develop a pool of trained manpower readily available for recruitment in various utilities working on GIS and RS tools.

### **Pedagogy**

Class room lectures, practice sessions, case studies, group discussions, syndicate discussions, group & individual classroom presentation, group & individual field works and project work at organizations related to GIS & Remote Sensing will be resorted to impart knowledge and skills to the students. In addition, visits to pioneer institutes & organisations shall be organized to ensure that the students have the real 'feel' of the GIS sector.

### **Program Structure**

This is a one-year program spread over 52 weeks. In the first six months, the students take courses in **Basic Fundamentals in GIS, Different Tools and Modules of GIS, Applications of GIS in Different fields, Basic Fundamentals of RS, Different Equipments and Modules of RS etc.** In the later half of the programme, the students would need to work with reputed organisations for about four months on live projects to get a practical exposure and to have real 'feel' of industry.

## **Course Curriculum**

### **A) Theory & Practical Sessions**

#### **I) FUNDAMENTAL / CONCEPT MODULE**

##### **Concept of Geographical Information System (GIS)**

- Basics of Geography
- Hardware & Software Requirement
- Fundamentals of GIS and Mapping
- Data Visualisation
- Thematic Map Preparation

##### **Concepts of Remote Sensing Technology (RS)**

- Basics of Remote Sensing
- Electromagnetic Energy
- Elements of Remote Sensing
- Fundamentals of Photogrammetry

##### **Concepts of Global Positioning System (GPS)**

- Basics of GPS
  - Working with GPS/DGPS
-

## II) CORE MODULE

### Core of Geographical Information System (GIS)

- Map Projections
- GIS Data Capture and Visualisation
- GIS Data Compilation and Analysis
- Map Composition and Export
- GIS Applications in Various Fields
- Database concepts, Data Normalizations
- Relation between different tables
- Linking of External non Spatial Database to Geodatabases
- Relational Databases Management System (RDBMS)
- Spatial & Nonspatial Query Analysis

### Core of Remote Sensing Technology (RS)

- Satellite Remote Sensing Sensors & Platforms
- Multispectral Remote Sensing
- Application of Remote Sensing
- Image Interpretation & Analysis
- Image Enhancement Tools
- Image Rectification and Geocoding (Using ERDAS Imagine)
- Image Classification (Using ERDAS Imagine)

### Core of Information Technology (IT)

- Information Technology Overview
- Data Structures
- Development of Computer Technology
- Communication & Networking
- Data Processing Techniques

## III) ADVANCE MODULE

### Applications of GIS/RS in -

- Urban & Regional Planning
- Irrigation & Watershed Management
- Transportation Management
- Environmental Management
- Natural Resources management
- Agricultural Crops & Resources Management
- Power Sector Orientation
- Disaster Management

### B) Industrial / Educational Visits

### C) Pilot Project Work

### D) On Job Training

*Please note that the list is only tentative and not binding on the Institute. Actual offering may differ depending upon various factors and interest of participants.*

---

### **Industrial / Educational Visits**

Educational Visits have an important role to play in providing exposure and experience to the students. Accompanied with lot of fun and excitement, it is a means to gather knowledge in the concerned field out of the campus of our own educational institution.

With this purpose of having an overview of how other reputed institutes and organization are utilizing the knowledge and technical skills of Geoinformatics in there respective areas of concern, an educational visit will be organized.

### **On Job Industrial Training (OJT)**

Students are required to undertake on site training at various reputed companies. During the on site training, participants will work on the live projects. This training will help the students to have the real 'feel' of the GIS projects and provide the learning opportunities to the upcoming GIS experts.

### **Pilot Project Work**

Students are required to undertake 4 week project work after completion of on site training. The project is a compulsory requirement for the completion of the program. Evaluation of the project will be based on submission of written project report and a defense presentation.

### **Evaluation**

*Centre of Excellence in GIS* will follow the system of continuous evaluation throughout the term of the course. The evaluation for each subject involves the assessment of performance of students in class room sessions, participation for eliciting effective and fruitful discussions, creativity and innovations demonstrated in Assignments/ Teamwork/ Presentations/ Project work, performance in surprise tests and performance in end-term examinations. Students who fail to maintain minimum academic standards may be asked to leave the program.

### **Placement**

To provide career opportunities, NPTI and CES Technologies shall maintain close linkages with various reputed companies for employment.

### **Intake**

The maximum number of seats is limited to 30. The reservation for SC/ST, OBC and physically handicapped will be as per Government of India norms. Seats could however be increased/decreased as per the policy decision to be taken at a subsequent stage by NPTI. Five (5) seats are kept for sponsored candidates. If these seats are not filled up, the same will be used as non-sponsored.

### **Admission Eligibility**

The candidates who have atleast obtained Engineering degree in any discipline or Post Graduates in Geosciences. The student whose qualifying degree is recognised by the Govt. of India, are eligible to apply for admission in the course.

*Please note that merely fulfilling eligibility criteria does not guarantee the selection to the course.*

---

### **Age limit**

For non sponsored candidates upper age limit as on 10.11.2009 is 30 years. No upper age limit for sponsored candidates.

### **Notes**

- 1) Candidates appearing in the final year Examination can also apply. However, they will have to fulfill the above eligibility conditions in respect of academic qualifications and furnish evidence to that effect at the time of counseling.
- 2) Candidates sponsored by various Central Public Sector Undertakings, Private Organisations, Power Companies, State Electricity Boards/Power Utilities and allied energy sectors who meet the above eligibility conditions are eligible for admission to this Course. The candidates should bring with them the proof of their sponsorship at the time of counseling, failing which they will not be considered for admission to the programme against the sponsored category seats.
- 3) Final eligibility will be checked at the time of the counseling. Therefore, all the aspirants are advised to bring with them all the original documents on the basis of which they claim admission with attested recent passport size photograph, failing which they will not be allowed to appear for Interview.

### **Procedure for Admission**

#### **A) Merit List(s)**

Merit will be one of the criteria for admission to PG Diploma programme. Merit list (s) for admission to this programme (for general and reserved categories, including sponsored seats) will be prepared on the basis of the percentage of the marks obtained by the candidates in the qualifying Degree Examination.

*Please note that if two or more candidates secure same / identical marks in the merit, the candidate senior in age will be preferred.*

#### **B) Group Discussion (GD) & Personal Interview**

Only the selected candidates based upon the academic merit will be called for GD and Personal Interview. Selected students will have to show all the original documents with for verification to the Interview Board (to be constituted by the Director General, NPTI). They will have to deposit the requisite fee prior to the counseling. Candidates who failed to deposit the fee at the time of counseling will not be eligible for **Personal Interview** and their candidature will be cancelled.

Group Discussion and Personal Interviews will be conducted at NPTI, Corporate Office, Sect-33, Faridabad on mentioned date and time only.

The merit list(s) duly approved by the Director General, NPTI, prepared, according to the criteria mentioned above will be displayed at the Notice Board of the NPTI and can also be seen at the NPTI's website i.e. [www.npti.nic.in](http://www.npti.nic.in) on mentioned date.

---

### Note(s)

- 1) Selected Candidates are advised to deposit a Demand Drafts of Rs. 60,000/- as 1<sup>st</sup> installment of the fee for General/Reserved Category Candidates, Rs. 75,000/- for Sponsored category candidates, in favor of “NPTI, Faridabad” payable at Faridabad.
- 2) In case a selected candidate withdraws or asked to withdraw from the program for any reasons, his/her tuition fee will not be refunded except for the refundable deposit. All disputes will be settled in Faridabad court only.
- 3) All the seats will be filled as per the reservation policy of the Govt. of India. If the seats remain vacant in SC/ST categories, the same will be filled through the candidates belonging to other category as per rules.
- 4) All the candidates are advised to attach two sets of all required certificates/ testimonials with the admission form along with attested photograph and bring in original at the time of **COUNSELING** failing which their candidature will be cancelled.

### APPLICATION FORM

The Prospectus along with the application form would be available for download from website of the institute ([www.npti.nic.in](http://www.npti.nic.in)) from 07<sup>th</sup> September,2009 onward.

The filled applications form in all respect with attested documents & recent passport size photograph along with a Crossed Demand Draft for Rs. 500/- drawn in favour of “NPTI, Faridabad” payable at Faridabad, should be reached to **Director (CP), National Power Training Institute, Sector-33, Faridabad-121003, Haryana**, not later than 12<sup>th</sup> October, 2009 (5:00 PM).

Incomplete applications shall be rejected without any notice. NPTI shall not be responsible for any postal delay.

### Fees and Expenses (Tentative)

Course fee (includes development Charges)

- Course fee
  - Non sponsored (Paid in 2 Equal Installments) Rs. 1,20,000/-
  - Sponsored Rs. 1,50,000/-
- Security Deposit (Refundable) Rs. 5,000/-
- Hostel Room Rent Rs. 10,000/- for 6 months
- Special Educational/Industrial Visits Rs. 5,000/-

*Boarding charges are as per actual. Students are encouraged to get their medical insurance done.*

---

### Fee Submission Plan

The course fee should be paid in two equal installments i.e. Rs. 60,000/- by non sponsor candidates and Rs.75,000/- by sponsored candidates. First installment should be paid on admission and second installment latest by 15<sup>th</sup> March, 2010. The charges towards security deposit, Special Educational/Industrial Visits & hostel room rent for six months, should be paid at the time of admission to the program as detailed below:-

#### At the Time of Admission:

#### For Non-Sponsored Candidate

##### First Installment

- Course fee Rs.60,000/-
  - Security Deposit (Refundable) Rs. 5,000/-
  - Hostel Room Rent Rs. 10000/- for 6 months
  - Special Educational/Industrial Visits Rs. 5,000/-
- Total = Rs. 80,000/-**

##### Second Installment (Before 15<sup>th</sup> March, 2010)

- Course fee Rs.60,000/-
  - Hostel Room Rent Rs. 10000/-
- Total=Rs. 70,000/-**

#### For Sponsored Candidate

##### First Installment

- Course fee Rs.75,000/-
  - Security Deposit (Refundable) Rs. 5,000/-
  - Hostel Room Rent Rs. 10000/- for 6 months
  - Special Educational/Industrial Visits Rs. 5,000/-
- Total = Rs.95,000/-**

##### Second Installment (Before 15<sup>th</sup> March, 2010)

- Course fee Rs.75,000/-
  - Hostel Room Rent Rs. 10000/-
- Total=Rs. 85,000/-**

The fee is payable by DD in favour of "NPTI, Faridabad" payable at Faridabad.

#### Important Dates

- (1) Sale of Application Forms/ Downloading of Application Forms  
07<sup>th</sup> September,2009 onwards
  - (2) Last Date for Receipt of Application Forms  
12<sup>th</sup> October,2009
  - (3) Display of Short listed Candidates on the Website for GD & PI and Dispatch of Letters  
14<sup>th</sup> October,2009
  - (4) GD & PI at NPTI, Faridabad  
26<sup>th</sup> -27<sup>th</sup> October,2009
  - (5) Display of Selected Candidates & Dispatch of Letters  
01<sup>st</sup> November,2009
  - (6) Counseling & Payment of Fees  
09<sup>th</sup> November,2009
  - (7) Registration & Commencement of Program  
10<sup>th</sup> November,2009
-

## Correspondence

**For all inquiries, please contact:**

**The Director (Corporate Planning),**  
National Power Training Institute,  
Sector - 33, Faridabad-121003,  
Haryana.  
Ph. No. : 0129-2255213

**Anand Kumar Pandey,**  
Course Coordinator,  
National Power Training Institute,  
Sector - 33, Faridabad-121003,  
Haryana.  
Mob. No. : 09911406284

---

**Application Form for P.G. Diploma in GIS & Remote Sensing (2009-2010)**

1. Name of the Candidate (in full) :
2. a) Mother's Name :  
Profession :  
b) Father's Name :  
Profession :
3. Date of Birth (In Christian Era) : \_\_\_\_ Date \_\_\_\_ Months \_\_\_\_ Year
4. Age (as on 10.11.2009) : \_\_\_\_ Year \_\_\_\_ Months \_\_\_\_ Day
5. Sex : Male/ Female
6. Marital Status : Single / Married
7. Nationality :
8. Your E- Mail address :
9. Your Computer Proficiency Level : Non User/Entry Level/Expert/Dip Holder/Other
10. Category (SC/ST/OBC/XSM/PH/Gen) :
11. Address for Communication :  
(Give complete address)

Paste  
Your  
Recent  
Photo

Telephone Number (with code) : Res. Mob.

12. Permanent Address :  
(Give complete address)

Telephone Number (with code) : Res. Mob.

---

13. Are you a sponsored candidate : Yes/ No

14. Educational / Professional Qualifications:

*(Please mention in Reverse Chronological Order starting with most recent)*

Examination Passed	Branch / Subject of Study	School / College / Institute	University	Passing Year	Total Percentage

**Note:**

- i. Please attach the document which clearly indicated your percentage of qualifying degree.
- ii. In case of CGPA please indicate equivalent % marks with proof of conversion formulae.
- iii. Attested photocopy of qualifying degree certificates, mark sheets and proof of date of birth
- iv. All attested photocopies of the document are to be sent along with application form.

15. Job Experience after Graduation (if any) :

Duration	Name of Employer	Post Held	Pay Scale	Nature of Experience

16. Certificate of Sponsorship on Letterhead of the Company/Firm/Institute

Dated: \_\_\_\_\_

This is to certify that Dr/Mr/Ms/Mrs \_\_\_\_\_ Working in this concern/organization \_\_\_\_\_ as \_\_\_\_\_ will be sponsored by us in case he/she is selected for admission to P.G. Diploma in GIS & Remote Sensing for the session 2009-2010.

Place : \_\_\_\_\_

Seal : \_\_\_\_\_

Name:

Designation:

Address of Sponsoring

Authority:

17. Any other relevant information :

18. List of Documents attached

- Passport size photo duly attested
- Attested photocopy of qualifying degree Certificate
- Attested photocopy of Marksheets of the qualifying degree
- Sponsorship Certificate (if applicable)
- Attested photocopy of Certificate of Date of Birth
- Community certificate (if applicable)


**DECLARATION**

The above furnished information is true to the best of my knowledge and in case of anything found misleading or wrong my candidature is liable to be rejected without any notice.

Place:

Date:

Signature of Candidate

(Name in Full)

**FOR OFFICE USE ONLY**

Application No. : Certificate attached :Yes/No

Sponsored : Yes/No Sponsorship Certificate Attached :Yes/No

Checked by:

Verified by: