SIX MONTHS

CERTIFICATE COURSE
IN
REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEM

at

Patna Science College

Department of Geology

Patna University, Patna-800 005

About Patna Science College

Patna Science College, a constituent unit of Patna University, continues to blaze a trail in the field of science education in Bihar. The institution is providing academic leadership to other institutions of higher education in the state.

Right since its inception in 1928, Patna Science College has always shown the way- be it teaching innovation or scientific research. The teachers of this college have made meritorious contributions to research in their respective fields and got national and international recognition in the past and this healthy trend still continues. The college has produced a galaxy of brilliant scientists, technocrats, bureaucrats and teachers over the years. In fact, its alumni are occupying top positions in every walk of life.

The college is centrally located in Patna and has separate blocks for each science departmetns viz. Geology, Physics, Chemistry, Mathematics, Statistics, Botany and Zoology.

The Post-graduate science departments of Patna University are situated in the campus of Patna Science College.

Keeping pace with the technological advancement, changing job market and in response to the growing needs, a six month professional technology course on 'Remote Sensing and GIS' (Self-financing) has been introduced at the Department of Geology, Patna Science College, Patna University.

About Remote Sensing & GIS

"Remote Sensing is the science (and to some extent, art) of acquiring information about the Earth's surface without actually being in contact with it. This is done by sensing and recording reflected or emitted energy and processing, analyzing and applying that information."

With the launch of highly sophisticated Earth Resources Satellite, the world is being scanned continuously and Remote Sensing data are being generated in pictorial and tape forms regularly.

Geographic Information System (GIS) is a powerful tool for collecting, storing, retrieving at will, transferring and displaying spatial data from the real world.

Remote Sensing and GIS together are crucial tools for the challenges we face now and in the coming years. The need of the time is that Information Technology, Remote Sensing and GIS are appropriately integrated for proper management of the resources and protection of the environment.

The certificate course is aimed at developing basic ideas in understanding the concepts of Remote Sensing and GIS and its potential to various fields.

Eligibility for admission :

(a) Admission to the Certificate Course in Remote Sensing and GIS is open to Candidates who have Bachelors Degree in Science / Arts (having Geography as one of the elective subject) / Agriculture / Architecture / Computer Science or Engineering of a University established or incorporated by law with at least 55% marks for general and 45% marks in the case of candidates belonging to SC / ST and BC (Annex I) in aggregate.

(b) Admission to certificate course in RS & GIS shall be made on the basis of written aptitude test followed by viva-voce carrying a total of 100 marks. The Written Aptitude Test will be multiple choice objective type of questions carrying 75 marks. The duration of the test shall be 60 minutes. The selection of the candidate will be on the basis of Written Aptitude Test (qualifying) and viva-voce.

The questions will cover the disciplines such as elementary knowledge of Computer, Mathematics, Geography, Geology, Environmental Science, Indian Space Science and Technology and current affairs related to Science and Technology in India.

(d) Reservation of seats to SC, ST, BCI, and OBC category students unless specified otherwise, will be as per the rules of Patna University applicable at the time of admission.

Number of Seats :

The Total number of seats available for admission to the course is **30** (Thirty) including reserved seats.

Course Fee :

(a)	Registration Fee	Rs. 100.00
(b)	Admission Fee	Rs. 400.00
(c)	Tuition Fee	Rs. 4000.00
(d)	Laboratory/Instrumentation Charges	Rs. 1500.00
(e)	Library Charges	Rs. 500.00
(f)	Contingency & Miscellaneous Charges	Rs. 500.00
	Total	**Rs. 7,000.00**

Besides the course fee, the candidates will have to pay Rs. 500/- only as examination fee at the time of submission of examination form.

Structure of the Course :

A candidate for the certificate course in Remote Sensing and GIS shall be offered and be assessed and examined in the subject comprising two theory papers and one practical paper according to the following structure :

(i) PAPER I (Theory) : 100 Marks

Principles of Aerial photography and Satellite Remote Sensing.

(ii) Paper II (Theory) : 100 Marks

Computer Fundamentals and Basic Principles of Geographic Information System.

(iii) Paper III (Practical) : 100 Marks

Examination :

(a) Only a student registered with the Patna University after admission in this course will be eligible for appearing in the examination.

(b) There shall be one annual examination each year.

(c) The examination are to be designed with a view to ascertain whether the candidate has developed necessary knowledge and skills.

Job Opportunities in the Field of Remote Sensing and GIS

1. **Central Government :** Central govt. organisations/agencies such as Space Application Centre (SAC), National Remote Sensing Agency (NRSA), Regional Remote Sensing Application Centre (RRSAC) employ personel trained in Remote Sensing & GIS.

2. **State Govenment :** Every state has a Space Application Centre in which Remote Sensing and GIS professionals are employed.

3. **Private Sector :** The demand of Remote Sensing and GIS professionals is increasing day by day. Remote Sensing & GIS professional can start his/her career as Project Manager/GIS Programmer etc.

4. **Academic Institute :** Candidates who persue higher studies in Remote Sensing & GIS may join academic institutes/research organisations.

5. **Overseas :** There is scope for professionals in Remote Sensing & GIS in countries like USA, Canada, Netherland, Switzerland, China, Australia etc.

6. **Self Employment :** After obtaining the professional degree in Remote Sensing & GIS, a candidate may start his/her own enterprise.

Faculty :

The faculty of the course consists of experienced and efficient teachers/resource persons from the parent Geology Department and other Patna University departments

besides Guest faculties will be drawn from various organizations/universities and centres of excellence.

Teaching Aids :

Modern methods of teaching and instructions will be used for imparting training during the course including computer aided teaching methodologies.

Other Information :

(a) 75% attendance shall be compulsory for appearing in the examination.

(b) Regular periodical test will be conducted throughout the course.

(c) The examination conducted and results published will be under the examination board of the Patna University.

(d) Candidates failing to appear at the annual examination will be permitted to appear two subsequent examinations only.

Placement Cell :

Patna Science College has a well organised Placement Cell located in the Deptt. of Geology. Its objective is to provide assistance and guidance to students in getting training and employment in the corporate world. Some of the companies which provided job opportunities to our students during the past years : - **IBM, ITC, WIPRO, TCS, & several NGO's.**

How to Apply :

Applications form and Prospectus can be obtained from the Course Co-ordinator, Deptt. of Geology, Patna Science College on payment of Rs. 300/- only (Rs. 350/- only by post) by Bankers Cheque/Demand Draft in favour of **Remote Sensing and GIS Course, Patna Science College, payable at Patna.**

Prof. (Dr.) V. S Dube
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Deptt. of Geology

Prof. (Dr.) S. N. Guha
Principal
Patna Science College

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