

**Government of West Bengal**  
**Department of Science and Technology and Biotechnology**  
**West Bengal State Council of Science & Technology**  
**Geoinformatics and Remote Sensing Cell**

**Post Graduate Diploma in Geoinformatics**

In recent years the application of Geographical Information System (GIS) with input from Remote Sensing (RS) is becoming an essential tool for planners and decision makers. The use of GIS as a tool for integrating several themes, apparently uncorrelated at times, to arrive at a fruitful decision or for creating a model for an would be scenario or visualize “what happens if” situation has been helping decision makers to meet a challenge in solving many problems like flood mapping, rural development, watershed modeling and management, finding drinking water resources, development of new roads in hilly terrain, disaster management etc.

**Geoinformatics & Remote Sensing Cell**

The Geoinformatics & Remote Sensing Cell, Department of Science and Technology and Biotechnology, Government of West Bengal has established its credential as a pioneer organization in generating RS & GIS database for spatial information in various scales for land, water resources as well as various applications for developmental planning activities. The Department has also undertaken several projects at National and State level to meet the needs of the various National level and State level Stakeholders. It has an energetic group of young specialists in the field of GIS and Remote Sensing and also has a large archive of data and satellite imageries.

**Opportunities**

With the near future implementation of various Remote Sensing-GIS based projects, generation and utilization of geospatial data there is a growing need to have trained manpower to deal with the GIS and spatial data collection, assimilation and analysis. Besides Government many private organizations are recruiting persons with knowledge in Geoinformatics in various fields like urban planning, watershed management, forestry, water resource management. Geoinformatics & RS Cell, Department of Science and Technology and Biotechnology, Government of West Bengal implements number of projects on RS & GIS. PG Diploma in Geoinformatics is a desirable qualification for recruitment of project scientists for these projects. However essential qualifications may vary from project to project.

### **About Course**

Keeping this in view, Department of Science and Technology and Biotechnology, Government of West Bengal offers one year PG Diploma Course in Geoinformatics since 2008 for human resource development in this field. The Course has been upgraded into a combined One Year PG Diploma/ Two Years M.Tech. in Geoinformatics course in collaboration with MAKAUT since 2019.

The course covers use of state-of-the-art technologies in application fields of Remote Sensing, GIS and GPS. Students are provided intensive hands-on training on various aspects GIS, Digital Image Processing software, together with GPS and Digital Photogrammetry etc. The applications of programming languages, Database Management Systems, Web Technology, Machine Learning & Deep Learning, Big Data Analytics etc. in Geoinformatics are important components of the course.

### **Course Content (Duration 1 year)**

#### **First Semester (6 months)**

##### Theoretical Papers

1. Principles of Remote Sensing and Photogrammetry
2. Principles of Geographic Information Systems (GIS)
3. Basics of Global Navigation Satellite System (GNSS), Cartography & Digital Mapping
4. Research Methodology and IPR
5. Recent Trends in Geoinformatics: (Machine Learning and Big Data)
6. Audit Course

##### Practical Paper

7. Remote Sensing and Photogrammetry Lab
8. GIS Lab
9. Basics of GNSS, Digital Mapping Lab
10. Web Technology Lab
11. Programming Lab

#### **Second Semester (6 months)**

##### Theoretical Paper

12. Spatial Data Modeling
13. Satellite Image Processing
14. Applications of Geoinformatics
15. Geoinformatics in Water Resources Management or Geoinformatics in Disaster Management
16. Audit Course
17. Mathematical Methods and Scientific Computing for Geospatial Data Analysis

#### Practical Paper

18. Database Analysis Lab
19. Satellite Image Processing Lab
20. Application of Geoinformatics Lab
21. Geoinformatics in Water resources Management Lab or Geoinformatics in Disaster Management Lab
22. Project Work

#### **Course Fee**

Per Semester course fee is Rs. 22,500/- and the total course fee for the two-Semester course is Rs. 45,000/-

#### **Qualification & Eligibility Criteria**

1. For the PG Diploma, Students with a Master's degree from a recognized university/institute in Physics, Mathematics, Geology, Geophysics, Geography, Agriculture, Atmospheric Science, RS& GIS, Environmental Science, Botany, Forestry, Marine Science, Computer Application can apply.
2. For M. Tech. in Geoinformatics, Bachelor's degree from a recognized university/institute in Civil Engineering, Computer Science, Information Technology, Mining Engineering, Surveying, Architecture, Regional Planning, Electronics and Communication or equivalent will be considered for admission.
3. A student should secure at least a minimum of 55% (50% for SC/ST) marks in the Master's level or in the Bachelor's degree in engineering and with at least two first classes/ divisions or 60% (55% for SC/ST) in the master's/ pre-master's level of examinations for admission to P G Diploma in Geoinformatics course.

#### **Admission Procedure**

1. The selection will be made on the basis of weightage of marks on Admission Test (60%), Academic Background (20%) and Interview (20%).
2. The Admission Test will be of 60 marks. The Question Paper of MCQ type will be divided into four groups covering basic knowledge on Remote Sensing & GIS, Physics, Earth Sciences and Mathematics, and students have to answer from any three groups.
3. The students desiring to take admission to M. Tech. in Geoinformatics course will have to appear for PGET conducted by MAKAUT. For notification, application and all other admission related to the admission you are requested to follow the official website of Maulana Abul Kalam Azad University of Technology (MAKAUT).

### **Advertisement, Information Brochure & Application Form**

1. Advertisement for admission into this course is made through daily Newspapers and in the Departmental website [www.wbdstbt.in](http://www.wbdstbt.in) generally in the month of May.
2. Information Brochure along with application form may be downloaded from the Departmental website [www.wbdstbt.in](http://www.wbdstbt.in) or [vigyansathi](http://vigyansathi.in) portal.
3. The filled in application form along with attested copies of all testimonials, photograph and a declaration (annexure-I) is to be submitted in the Vigyansathi portal.
4. Candidates appearing in the qualifying examination that year may also apply. In such a circumstance, last published result of the qualifying degree (certified by the candidate that the submitted mark sheet is the last published one) will be considered for calculation of academic score for admission. Admission will be made provisional for candidates appearing in the final examination in the year of admission. In case, mark-sheet of the qualifying examination is not submitted by the time of registration of the ongoing academic session, or the candidate fails to secure the qualifying marks for the admission, the admission will be cancelled without any refund of fees.
5. A person in professional service nominated by the Government employer or working as a faculty in a Government/ Government Sponsored College/ University may also be considered for admission into this course. Two seats are kept provisionally reserved for such candidates. Candidates sponsored by Govt. Departments/ College-Universities need not appear in the admission test. Self sponsored employed persons have to submit No Objection Certificate from the employer.
6. Reservations of seats -- as per rule.
7. In all cases the decision of the Competent Authority of this Department will be final.

### **Cancellation of candidature**

Submission of false / incorrect information or suppression of facts will summarily lead to cancellation of candidature at any stage even being selected/ admitted. At any stage, if a

candidate is found to be not eligible, his/ her candidature may be cancelled. At any stage, if any of the academic institutions from where the candidate passed is found to be not recognized his/ her candidature may be cancelled.

### **Sessions & Classes for Session 2020-21**

1. Duration: One year (full time): Kindly follow the website to know the schedule of the next course.

2. The theoretical classes are held generally from 11.00 AM to 2.00 PM and the lab classes from 2.30 PM to 5.30 PM. Generally all classes are conducted at the class room. However, in case of abnormal situation like the present pandemic situation, the classes are conducted online.

### **Tentative Dates**

Date of Publication of Advertisement: Around second week of May every year.

Commencement of classes: 1<sup>st</sup> Week of August every year.

### **How to apply?**

The applicant is requested to visit the website [www.vigyansathi.in](http://www.vigyansathi.in) and register himself/ herself with the necessary details. The details like names, contact details etc. furnished should be carefully entered as it will be used for further processing and cannot be modified.

Once the registration is done, the applicant needs to fill in an online application form for admission to the course. To complete the submission kindly keep the following handy:

- A single PDF file containing the duly signed scanned copy of Declaration form (Annexure I) and relevant testimonials like mark sheets starting from Madhyamik Pariksha (10th Std.), Caste Certificate (if applicable) etc. and any other document the candidate likes to submit.
- A color passport size digital photograph.

It may be noted that notwithstanding anything expressed in the Advertisement, Guidelines, Website or in the Application Form, the decision of the Authority of the Department on all matters of admission will be treated as final.

The declaration form is given below (in annexure – I)

**Declaration**

(to be uploaded by the candidate after filling in)

**Declaration by the Candidate:** I hereby declare that all the information given by me in the on-line application is true and correct to the best of my knowledge and belief. I also note that if any of the above statements are found to be incorrect or false or any information or particulars have been suppressed or omitted there from or in future if it is found that the academic institution from where I have passed is not a recognized institute or I am undergoing another regular university course at the same time, I am liable to be disqualified. In the event of information being found incorrect or misleading, my candidature shall be liable to cancellation at any time and I shall not be entitled to get refund of any fee paid by me.

Signature of Candidate: \_\_\_\_\_

Date: \_\_\_\_\_

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

**Undertaking by the Candidate:**

I shall comply with the West Bengal State Council of Science & Technology (Council) as well as MAKAUT's rules, standards and instructions for student behavior as notified from time to time. I hereby waive and release all claims against the their representatives at a time when I am not under the direct supervision of the these institutes or their representatives or arising out of my failure to remain under such supervision or to comply with such rules, standards and instructions, and I agree to indemnify the Institutes and their representatives against any consequences thereof. I agree that the Institutes shall have the right to enforce appropriate standards of conduct and that it may at any time terminate my participation in the Institutes' programme for failure to maintain these standards or for any actions or conduct which the Institutes consider to be incompatible with the interest, harmony, comfort and welfare of other students. All reference herein to the parents of the applicant shall include the legal guardian or other adult responsible for the applicant. I agree that in case of any legal dispute concerning admission procedures, the same shall be subject to exclusive jurisdiction of Courts at Kolkata, This agreement shall take effect from the time I am accepted by and confirmed in enrollment in the Course.

Signature of Candidate: \_\_\_\_\_

Date: \_\_\_\_\_

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

**Declaration by the Parent /Guardian:**

I certify that I am the parent or legal guardian of the above applicant and that I have read the foregoing agreement. I hereby guarantee to the Council payment of all fees and other sums due at any time to the Council by the applicant. I agree that in case of any legal dispute concerning admission procedures, the same shall be subject to exclusive Jurisdiction of Courts at Kolkata.

Signature of Parent/ Legal Guardian: \_\_\_\_\_ Date: \_\_\_\_\_

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

Occupation of Signatory: \_\_\_\_\_ Relationship with the candidate: \_\_\_\_\_

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