

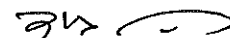
**Minutes of the meeting of the Senate of MNNIT, Allahabad held on (Friday)  
27.01.2006 at 2.30 P.M. in the Conference Room of the Institute.**

Following members were present:

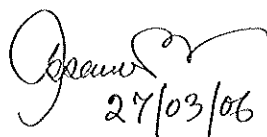
1.	Prof. A.B. Samaddar, Director	Chairman
2.	Prof. R.N. Shahi	Member
3.	Prof. Satish Chand	"
4.	Prof. S.K. Agrawal	"
5.	Prof. Triloki Nath	"
6.	Prof. S.N. Tiwari	"
7.	Prof. T.N. Sharma	"
8.	Prof. V.K. Nema	"
9.	Prof. R.K. Srivastava, CED	"
10.	Prof. S.C. Prasad	"
11.	Prof. Rakesh Mathur	"
12.	Prof. Raghuvir Kumar	"
13.	Prof. R.C. Mehta	"
14.	Prof. P.R. Agarwal	"
15.	Prof. N. Roy	"
16.	Prof. S.K. Duggal	"
17.	Prof. K.M. Gupta	"
18.	Prof. Dinesh Chandra	"
19.	Prof. Peetam Singh	"
20.	Prof. Vineeta Agarwal	"
21.	Prof. Rajeev Tripathi, Chairman, SPGC	"
22.	Dr. N.D. Pandey, Chairman, SUGC	"
23.	Dr. Sunil Gulati	"
24.	Dr. Mahendra Kumar	"
25.	Prof. K.K. Shukla	"
26.	Prof. M.M. Gore	"
27.	Prof. Rakesh Narain	"
28.	Sri R.P. Tiwari	Registrar/Secretary


Following decisions were taken in the meeting:

1. The Senate welcomed Dr. Sunil Gulati external member who attended the meeting for the first time.
2. The Senate confirmed the minutes of the last meeting held on 12.12.2005.
3. The Senate while considering the mercy appeals of UG & PG students deferred the decision and decided to form a Committee of following faculty members, which will look in to the matter and make a flow chart for its working route and reasons for mercy. The Committee was requested to give its report at the earliest.
  - (a) Prof. Satish Chand
  - (b) Prof. Rakesh Mathur
  - (c) Prof. Raghuvir Kumar
  - (d) Prof. K.K. Shukla
4. The Senate considered and rejected the mercy appeal of Praveen Raju Talla (Enrollment No. 2005CC03) a student of M.Tech. Ist semester CAD/CAM who could not secure the required SPI/CPI in Ist semester.



5. The Senate considered and rejected the mercy appeal of Madhav Kumar Sharma (Enrollment No. 2005CA53) a student of MCA 1st semester who could not secure the required SPI/CPI in 1st semester.
6. The Senate considered the mercy appeal of Manish Srivastava (Enrollment No. 2004AM08) a student of M.Tech. who had joined on industry during studentship. The Senate took it very seriously and decided that the student should apologize in writing and after that he might be allowed to register in M.Tech.
7. The Senate considered the mercy appeal of Kshitij Mohan (Enrollment No. 2002MEFT/EE03) and allowed him to register in this semester.
8. The Senate considered the request of Dhananjay Kumar Raman (Enrollment No. 2003DN14) a student of M.Tech. for semester leave and decided to grant him leave for this semester. However, as his 3 years period allowed for completion of M.Tech. is completing, the period may be extended and he may be allowed to register in July 2006.
9. The Senate considered and rejected the mercy appeal of Surendra Nath Premi (Enrollment No. 2004CS13) a student of M.Tech. (Computer Science & Engg.)
10. The Senate authorized the Chairman Senate to nominate Senate Expert nominee for the Selection Committees.
11. The Senate considered and approved the recommendation of the Committee constituted by Senate on 22.11.2005 to recommend the procedure & guidelines for accounting leave of students on various grounds. (Annexure 1)
12. The Senate decided that M.Tech. in Remote Sensing and GIS be started from the session 2006-07 jointly by departments of Civil Engineering and Computer Science & Engg., which seemed to be more appropriate.
13. The Senate deferred the decision on starting other new M.Tech. programmes.
14. The Senate considered letter No.M./P.S./2006 dated 2.1.2006 of Educational Consultants India Limited (Ed.CIL) for consideration of fee to be charged from students of various Countries including SAARC Countries taking admission in the Institute and decided that fee of US \$ 2000 per annum be charged from students of SAARC Countries and US \$ 4000 per annum from students of other Countries. This amount will include the tuition fee component as is being charged from students under DASA scheme.

  
27/03/06

  
(R. P. Tiwari)  
Registrar/Secretary

MOTILAL NEHRU NATIONAL INSTITUTE OF TECHNOLOGY  
ALLAHABAD


Dated: Jan. 23, 2006

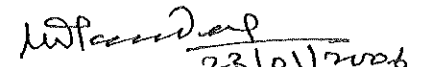
The Director

The Senate in its meeting held on 22.11.2005 had constituted a Committee to recommend the procedure & guidelines for accounting leave of students on various grounds.

Please find enclosed herewith the minutes of the meeting of above Committee held on 19.01.2006.

Dean (AA)/Rg.

  
24/01/06

  
(N.D. Pandey) 23/01/2006  
Convener

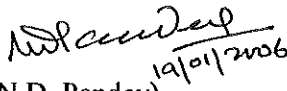
**Minutes of the meeting of the committee (constituted by Senate in its meeting held on 22.11.2005) to recommend procedure and guidelines for accounting leave of students on various grounds held on Thursday, January 19, 2006 at 4.00 p.m. in the Conference room of the office of Dean (Academic Affairs).**

Following members were present:

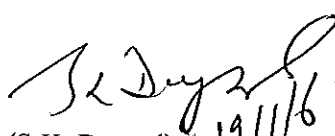
1. Dr. N.D. Pandey, Chem. Convener
2. Dr. Vineeta Agarwal, EED Member
3. Dr. S.K. Duggal, CED Member
4. Dr. M.M. Gore, CSED Member
5. Dr. K.K. Shukla, AMD Member
6. Dr. Rakesh Mathur, Dean (Acad.) Special Invitee


Following decision were taken by the Committee:

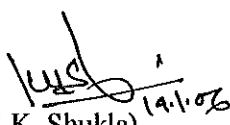
1. Students with less than 75% attendance in a subject are not to be allowed to appear in the End Semester Examination of that subject. This implies that 25% shortage of attendance includes absence due to Sports/games activity, Campus interviews, Medical and any other type of leaves, etc.
2. In addition, Chairman Senate in consultation with Dean (Academic), Chairman SUGC/SPGC may give a maximum relaxation of 5% below 75% requirement for special cases only. Such cases should be duly recommended by respective DUGC/DPGC with supporting documentation and proper justification for the same.

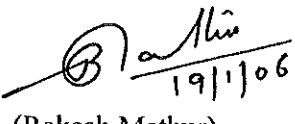
  
(N.D. Pandey)  
Convener

  
(Vineeta Agarwal)  
Member

  
(S.K. Duggal)  
Member

  
(M.M. Gore)  
Member

  
(K.K. Shukla)  
Member

  
(Rakesh Mathur)  
Special Invitee

एजुकेशनल कन्सल्टेंट्स इण्डिया लिमिटेड  
 (भारत सरकार का उद्यम)  
 Educational Consultants India Limited  
 (A GOVERNMENT OF INDIA ENTERPRISE)



क्र. अ. / जी.एस / 2006

दिनांक 02/01/06

4464  
30.1.06

सेवा में,

डा. उमाइ सी. अग्रवाल  
 मोतीलाल नेहरू इन्स्टीट्यूट  
 इलाहाबाद

विषय:-

CA.  
 Pl. place of for  
 disambiguation in 10th meeting with  
 PA  
 Put in the  
 Next Senate meeting  
 on 27th Jan  
 14/01/06  
 12/01/06

नहोदय/महोदया,

Dem (AA)

For record  
 27/01/06

उपरोक्त विषयानुसार नलग्न पत्र आपकी सेवा में प्रेषित किया जा रहा है।

URGENT  
 P. N. K. P.  
 P. D. S. S. S.  
 Date: 27/1/06

भवदीय

(Signature)

प्रबन्धक / उपप्रबन्धक / सहायक प्रबन्धक

एजुकेशनल कन्सल्टेंट्स इण्डिया लिमिटेड  
(भारत सरकार का उद्यम)  
*Educational Consultants India Limited*  
(A GOVERNMENT OF INDIA ENTERPRISE)



A.K.SRIVASTAVA  
HEAD (PLACEMENT & SECONDMENT)  
Phone (D): 0120-2515281; Fax 2515372

TIME BOUND

No.: PS/Marketing/Institutions/2004

January 2, 2006

Dear Sir,

We are in the process of participating in various educational events being conducted in various countries including SAARC during the next couple of months to promote Indian Education Abroad. We are targeting large number of student admissions (more than 1000 nos.) in the coming academic year, i.e. 2006-2007.

You may be aware that Government of India has already agreed for 50 percent fee waiver for the nationals from SAARC countries for studying Engineering courses in all the National Institutes of Technology (formerly known as Regional Engineering Colleges) and other centrally funded institutions under 'Direct Admission of Students Abroad' Scheme. Ed./CIL has been coordinating admissions under DASA on behalf of the Government of India. It is also understood that some of the private colleges are also offering concessional and very low fees for students from SAARC countries.

With a view to exploit full potential of attracting a good number of Foreign Nationals/PIOs/NRIs, etc to Indian institutions, it is suggested that you may consider offering a most competitive package for different courses, particularly for students from SAARC countries. The suggestive annual fee packages (inclusive of hostel accommodation) can be in the range of US\$ 800-2000 for different courses considering the paying capacity of students in SAARC region and with target to achieve large number of students from this regions.

We would like to have your well considered offer giving the best and competitive course-wise fee structures in general and with particular reference to SAARC and other countries also, so that we can incorporate the name of your college in the publicity/promotional material to be distributed during the promotional events. You are also requested to indicate a fixed number of seats course-wise, alongwith eligibility requirements, for which we could offer provisional admissions during our marketing events. This may have better response from the prospective students.

In addition, we request you to send us Brochures/Printed Material of your college/Institute for distributing during the event. Kindly ensure that the above information and publicity material reaches us latest by 13<sup>th</sup> January 2006.

With best wishes for a Happy New Year 2006.

Yours sincerely,

(A.K.SRIVASTAVA)

**Proposal**  
for  
**Post Graduate Programme**  
in  
**CIVIL ENGINEERING**

**Master of Technology**  
in  
**REMOTE SENSING & GIS**

Submitted by

**DEPARTMENT OF CIVIL ENGINEERING**  
Motilal Nehru National Institute of Technology  
ALLAHABAD- 211 004 (U.P.) India

## M. Tech. in Civil Engineering Specialization: REMOTE SENSING & GIS

### ABOUT THE PROGRAMME:

India has an important and successful space programme with the capacity to design and manufacture satellites, launch vehicles, payloads and sensors, and dissemination of information obtained from space. The geo-information technologies are also being developed and applied in India and abroad for economic development and decision making, and also for monitoring, planning and management purposes. GIS and remote sensing have enormous application potential from the Central government down to the municipality (Panchayat) level, for universities, technical institutes and R&D organizations, for the private sector and for Non-Governmental Organizations.

Remote sensing and Geographic Information System (GIS) have evolved constantly in last few decades and have emerged as significant interdisciplinary technologies, apart from achieving a matured and operational status. These modern technological tools are being increasingly used in a variety of application areas such as Civil Engineering, Geography, Geology, Environmental Sciences, Agriculture, Disaster Mitigation and Management, Archaeology, Forestry, Business, Journalism, Natural Resource Monitoring and Management, Infrastructure Development and Management, Event Mapping (Accidents/ Crime/ Fire/ Utilities), Automated Mapping/ Facility Management, Land Use Mapping and Management, Urban and Regional Planning, etc., among others.

Presently, a number of International/ National conferences are held every year with remote sensing, GIS & GPS as the main theme and also a number of International and National Journals of repute are now being published, giving latest developments in these fields.

### ELIGIBILITY

10 Students (full time) and 5 sponsored candidates with B.E./ B. Tech. in Civil Engineering/ Computer Science & Engineering/ Information Technology/ Electronics Engineering/ Electrical Engineering/ Architecture/ Agriculture Engineering/Marine Engineering/ Aeronautical Engineering/ Mining Engineering or its equivalent or MCA/ MBA/ M.Sc. in Computer Science/ Geology/ Geomorphology/ Mathematics/ Archaeology/ Bio-technology/ Bio-informatics/ Environmental Science with a minimum of 60% marks would be admitted for the programme, as per the prevailing norms of MNNIT, Allahabad. They should have a valid GATE score for getting the fellowship in M. Tech. programme.

### NEED OF THE PROGRAMME

India is a developing economy and there is a tremendous infrastructure growth going on like state-of-the-art road network (Golden quadrilateral), river interlinking project, upgradation of urban infrastructure, etc. With the increased awareness about the usefulness and application potentials of Geoinformatics coupled with the launching of several programmes of national importance by Government of India related to natural resources monitoring and management, preparation of Spatial Data Infrastructure (SDI), landslide hazards zoning, monitoring and management, national heritage, disaster mitigation and management, etc., there is an acute shortage of trained manpower in the field of remote sensing and GIS. Hence, M. Tech. (Remote Sensing and GIS) at MNNIT, Allahabad will be a step in this direction to fill up this gap.

The annual turnout of experts in Remote Sensing and GIS at M. Tech. level is limited in the whole country with very few Institutes like IIT-Roorkee, IIT-Bombay, IIT-Kanpur, JNTU-Hyderabad, Anna University, etc. running M. Tech. programme with specialization in Remote Sensing and GIS, whereas looking at the possible projects and application areas, the demand is very high. It may be worth to mention that the placement at the above Institutes is almost cent percent for students of M. Tech. in remote sensing and GIS.

In the Department of Civil Engineering, following courses are offered at B. Tech./ M. Tech. level related to the field of remote sensing and GIS:

1. Elements of Remote Sensing & Image Processing (M. Tech. level as elective)
2. Fundamentals of GIS and GPS (M. Tech. level as elective)
3. Geoinformatics (B. Tech. V semester as Core Course)

Keeping the above in view, there is an urgent need to further develop this discipline and it is therefore proposed to start M. Tech. in Civil Engineering with specialization in Remote Sensing and GIS at Motilal Nehru National Institute of Technology, Allahabad. If permitted, MNNIT-Allahabad will be the 1<sup>st</sup> NIT to start this course.

### M. Tech. Thesis Supervised in the Field of Remote Sensing and GIS in Department of Civil Engineering

S. No.	Title of Thesis	Supervisors
1.	GIS Based User Interactive Information System for Village Level Land Use Planning (2005)	Dr. R.D. Gupta
2.	Implementation of Water Quality Indices under GIS Environment (2005)	Dr. R.D. Gupta & Dr. R.C. Vaishya
3.	Fuzzy Logic based GIS Modelling for Identification of Ground Water Potential Zones (2005) - Thesis work of P.G. Diploma in Remote Sensing & GIS, of Allahabad University	Dr. R.D. Gupta
4.	Environmental Impact Assessment of Proposed Allahabad Bypass Project in GIS Environment (2005)	Dr. R.C. Vaishya & Dr. R.K. Srivastava
5.	Optimization of Road Construction Material Transportation Using GIS (2005)	Dr. R.K. Srivastava & Dr. R.P. Tiwari



6.	Landfill Site Selection Using GIS for Allahabad City (2005)	Dr. R.P. Tiwari & Dr. R.K. Srivastava
7.	Ambient Air Modelling for Gaseous Pollutants under GIS Environment (2004)	Dr. R.D. Gupta
8.	GIS Based Database Creation and Analysis of Archaeological Investigation at Kaushambi (2004)	Dr. R.D. Gupta & Dr. G.K. Rai
9.	Delineation of Ground Water Potential Zones in Jhagrabaria Watershed using Remote Sensing, Geoelectrical Sounding and GIS Techniques (2004) - Thesis work of P.G. Diploma in Remote Sensing & GIS of Allahabad University.	Dr. R.D. Gupta
10.	Solid Waste Management in Allahabad City (2004)	Dr. R.D. Gupta & Dr. R.C. Vaishya
11.	GIS Based Water Quality Mapping for Allahabad City (2004)	Dr. R.D. Gupta & Dr. R.C. Vaishya
12.	Development of Soil Resource Information System using GIS (2003)	Dr. R.D. Gupta & Dr. R.K. Srivastava
13.	Identification of Landslide Prone Areas under GIS Environment (2003)	Dr. R.D. Gupta & Dr. R.K. Srivastava
14.	Rainfall-Runoff Modelling using GIS and Remote Sensing (2003)	Dr. R.D. Gupta & Dr. R.C. Mehta
15.	A GIS Based Soil Erosion Assessment (2003)	Dr. R.D. Gupta & Dr. V.C. Agrawal
16.	Development of Decision Support System for Geospatial Ambient Air Modelling (2003)	Dr. R.D. Gupta & Dr. I.C. Agrawal
17.	Land Resource Mapping using remote sensing Techniques (2002)	Dr. R.D. Gupta & Dr. R.K. Srivastava
18.	Development of a GIS Based Spatial Model for Land Suitability Analysis (2002)	Dr. R.D. Gupta & Er. Y.K. Gupta
19.	Identification of Residential Sites using GIS Technique (2001)	Dr. R.D. Gupta & Er. Y.K. Gupta

#### Ongoing Ph.D. works in the Field of Remote Sensing and GIS in Department of Civil Engineering

S. No.	Title of Thesis	Supervisors
1.	GIS and Remote sensing based Resource Monitoring for Environmental Management Candidate: Mr. Anuj Bariar	Dr. R.D. Gupta Dr. S.C. Prasad
2.	Remote Sensing and GIS Based Integrated Analysis for Earthquake Induced Land Hazards Candidate: Mr. Y.K. Gupta	Dr. R.D. Gupta Dr. Krishna Kumar
3.	GIS based Decision Support System for Integrated Waste Management (Ms. Shikha Verma has applied for admission in the Department of Civil Engineering)	Dr. R.K. Srivastava Dr. R.D. Gupta

#### Ongoing Projects in the Field of Remote Sensing and GIS in Department of Civil Engineering

Name of Research Project	Funding Agency	Amount (Rs. in lacs)	Principal Investigator(s)
Modernisation of Survey and Remote Sensing Laboratory (Completed)	MHRD, Govt. of India	12.00	Dr. R. D. Gupta Dr. R. N. Shahi
Development of DSS for Natural Resources Management using Remote Sensing and GIS (Ongoing)	MHRD, Govt. of India	15.00	Dr. R.D. Gupta
Research Project entitled <i>Datum Transformation Modelling for Integration of GPS Derived Data with SOI Maps for Urban Planning of Allahabad</i> submitted to Technical Education Quality Improvement Programme (TEQIP), Govt. of India with Principal Investigators as <i>Dr. R.D. Gupta and Dr. Krishna Kumar</i> has been approved. The total project cost is Rs.67.00 lakhs. The process of purchase of Dual Frequency GPS is in progress. The transfer of remaining fund to Dean (R&C) is awaited so that the project can be started.			
Joint Research Project of Allahabad University, IIT Kanpur Motilal Nehru National Institute of Technology (MNNIT), Allahabad, IIIT-Jabalpur has been submitted to Technology Development Mission, MHRD, Govt. of India by IIT, Kanpur on <i>Technology Development for the Study of the Past</i> . The total project cost is Rs. 17.63 crores. Dr. R.D. Gupta and Dr. R.K. Srivasatva are Coordinators (Principal Investigators) and Dr. A.B. Samaddar, Director, MNNIT is the Chairman of the research group from MNNIT, Allahabad.			

#### Research Publications in the Field of Remote Sensing and GIS in Department of Civil Engineering

- Gupta, R.D., 2005, *Development of Village Level Information System for Land Use Planning at Micro-level under GIS Environment*, Invited Paper at National Seminar on GIS for Rural Development, Sept. 26-28, 2005, Hyderabad.
- Kumar, K. and Gupta, R.D., 2005, *GIS and Remote Sensing based Approach for Developmental Planning and Resource Management: A Case Study of Kuraon Block*, India, 56<sup>th</sup> International Astronautical Congress 2005, Oct.17-21, 2005, Fukuoka, Japan
- Gupta, R.D., 2005, *Spatial Decision Support System for Planning Infrastructural Facilities at Village Level*, 13<sup>th</sup> International Conference on Geoinformatics, Toronto, Canada, August 17-19, 2005.
- Gupta, R.D., 2005, *GPS Based Ground Control Points for Rectification of Satellite Data*, National Workshop on GPS Technology and Applications, Sept. 14-15, 2005, Hyderabad.

5. Kumar, K. and Gupta, R.D., 2005, *GPS Based Approach for Crustal Deformation Studies*, International Conference on GIS/GPS/ Remote Sensing- Map India 2005, Feb. 7-9, 2005, New Delhi.
6. Srivastava, R.K., Singh, Abhishek K., & Radha Krishna, S. *Analysis of Ground Water Sustainability using GIS in Northern Region of India*, International Conference on "Energy and Environmental Technologies for Sustainable Development", Oct 2003.
7. Gupta, R.D., Srivastava, R.K., Prakash, D. V. S. S., 2002, *Remote Sensing Based Resource Mapping using Digital Satellite Data*, Indian Geotechnical Conference on Geotechnical Engineering: Environmental Challenges, 20-22 December, Allahabad, India.
8. Srivastava, R.K., Reddy, M., Bala Ramudu, P., Tiwari, R.P., 2006, *Landfill Site Selection Using GIS*, Accepted for International Congress on Environmental Geotechnics, June 26-30, 2006, Cardiff, U.K. (accepted)
9. Gupta, R.D., Rai, G.K. and Bhaskar, Bala,C., 2004, *GIS based User Interactive System for Management of Archaeological Data of Kaushambi Site*, Invited Paper in International Conference on "Remote Sensing Archaeology: Understanding Historical Cultural Heritage with Space Technology", Oct. 18-21, 2004, Beijing, China.
10. Gupta, R.D., Agarwal, V.C. and Hari Kishan, G. S., 2005, *Implementation of USLE Model under GIS Environment for Soil Erosion Assessment: A Case Study of Loni River Watershed*, International Conference on GIS/GPS/ Remote Sensing- Map India 2005, Feb. 7-9, 2005, New Delhi.
11. Gupta, R.D., 2004, *Role of GIS as Decision Support System in Water Resources Planning and Management*, Indian Cartographer, Vol.24.
12. Kumar, K., Gupta, R.D., 2004, *Investigations into the Efficacy of GPS Derived Ground Control Points for Rectification of IRS Images*, 55<sup>th</sup> International Astronautical Congress 2004, Vancouver, Canada, October 4-8, 2004.
13. Gupta, V.K., Agarwal, I.C. & Gupta, R.D., 2003, *Remote Sensing and GIS as an Information Technology for Air Quality Status Planning*, Asian Conference on GIS, GPS, Aerial Photography and Remote Sensing, Oct.13-15, 2003, Kuala Lumpur, Malaysia.
14. Gupta, R.D., Gupta, Y.K. and Asthana, R.V., 2003, *A Spatial Modelling Approach for selection of Residential Sites using GIS: A Case Study for Chail Block of Kaushambi District*, Indian Cartographer, Vol. 23.
15. Gupta, R.D., Anand, R.C., Ghatak, S. and Mohanta, D., 2003, *Generation of Natural Resources Profile for Land Use Planning using Remote Sensing*, National Conference on Advances in Civil Engineering: Prespectives of Developing Countries, 15-16 Feb, Kanpur.
16. Agarwal, I.C., Gupta, R.D., Gupta, V.K., 2003, *GIS as Modelling and Decision Support Tool for Air Quality Management: A Conceptual Framework*, 6<sup>th</sup> International Conference on GIS/GPS/RS: MapIndia 2003, 28-31 Jan, New Delhi.
17. Srivastava, S.K. and Gupta, R.D., 2003, *Monitoring of Changes in Land Use/ Land Cover using Multi-sensor Satellite Data*, 6<sup>th</sup> International Conference on GIS/GPS/RS: MapIndia 2003, Jan.28-31, New Delhi.
18. Gupta, R.D., Gupta, Y.K., Srivastava, S.K., 2002, *A Spatial Modelling Approach for Land Suitability Analysis for Agriculture using GIS*, ISPRS TC VII International Symposium on Resource and Environmental Monitoring, December 3-6, Hyderabad, India.
19. Srivastava, S.K. and Gupta, R.D., 2002, *Urban Sprawl Mapping using Digital Image Processing Techniques: A Case Study of Allahabad City*, ISPRS TC VII International Symposium on Resource and Environmental Monitoring, December 3-6, Hyderabad, India.
20. Gupta, R.D., 2002, *Geospatial Modelling for Environmental Impact Assessment using remote sensing and GIS*, National Seminar on Recent Trends in Civil Engineering, Feb 22-23, Jodhpur, India.
21. Gupta, R.D., Garg, P.K. and Arora, M., 2001, *A GIS Based Decision Support System for Developmental Planning in Dehradun District*, Indian Cartographer, Vol. 21.
22. Gupta, R.D., Garg, P.K. and Arora, M., 2001, *Development of a Decision Support System for Agricultural land Suitability Analysis*, National Seminar on Environment Technology for Water Resources Management, March 2-3, Dehradun, India.
23. Gupta, R.D., Garg, P.K. and Arora, M., 2001, *A GIS Based Spatial modelling for Developmental Planning*, International Conference on Remote Sensing & GIS/GPS, Feb 2-5, Hyderabad.
24. Gupta, R.D., Garg, P.K. and Arora, M., 2000, *Remote Sensing and GIS for Landuse/ Landcover Change Analysis for District Level Planning*, National Symposium on Spatial Technologies for Natural Hazards Management, Nov 21-22, IIT Kanpur, India.
25. Gupta, R.D., Garg, P.K. and Arora, M., 2000, *Use of Statistical Techniques for Inter- Block Disparities Analysis under GIS Environment*, Journal GIS INDIA, Vol. 9, No.6, pp.23-27.
26. Gupta, R.D., Garg, P.K. and Arora, M., 2000, *Analysis of Intra-District Disparities using GIS Technique*, 3<sup>rd</sup> International Conference on GIS/GPS/RS, Centre for Spatial Database Management & Solutions, New Delhi, India.
27. Gupta, R.D., Garg, P.K. and Arora, M., 2000, *Remote Sensing and GIS for Agricultural Planning for Sustainable Development in Dehradun District*, National Seminar on Geoinformatics, Nov. 17-18, Coimbatore.

#### List of Faculty Members for the M. Tech. Programme

1. Dr. R.D. Gupta, Course Coordinator
2. Prof. R.K. Srivastava
3. Prof. S.C. Prasad
4. Prof. S.K. Duggal
5. Prof. Mahesh Chandra
6. Er. Y.K. Gupta
7. Dr. R.P. Tiwari
8. Dr. R.C. Vaishya
9. Dr. Rajat Rastogi

10. Dr. R.P. Singh
11. Dr. R.M. Singh
12. Dr. A.K. Singh (On leave)

**LIST OF EQUIPMENTS AND SOFTWARE AVAILABLE: Remote Sensing & GIS Facilities Available**

S. No.	Name of Instrument	Conf/size	No.
1.	GIS Software	ArcGIS 8.3, ArcGIS 9.1	02
2.	GIS Software	GeoMedia Pro	01
3.	Digital Image Processing Software	Erdas Imagine 8.5	01
4.	GIS & Image Processing software	ILWIS 3.0	01
5.	Personal Computers	P-IV	04
6.	Hand-held GPS with Palm top and ArcPad software	Leica GS-5	01
7.	Scanner (Colour)	Size: A-0 & A-4	01
8.	Large size Colour printer	Size: A-0 & A-4	01
9.	Laser Printer (B/W)	A4 size	01
10.	Electronic Survey Total Station	Leica TC 1800, TCA 1800	02
11.	Dual Differential GPS (*)	Please see the remarks below.	01
12.	Bernese Software (*)		01

(\*) The funds for the following two items were made available under TEQIP during a meeting in the month of Feb. 2005 in the tenure of Dr. Krishna Kumar, Director and Dr. R.K. Srivastava (MED), Faculty Incharge (Purchase):

1. Dual frequency geodetic quality differential GPS with RTK
2. Scientific Post Processing software – BERNESE for GPS data processing

For item at Sr. no. 1, the recommendations for purchase of Dual Frequency Geodetic Quality Differential GPS with RTK capability along with post processing software have been finalized and sent by Departmental Purchase Committee of Civil Engineering Department to Faculty Incharge (Purchase). These recommendations are under considerations and a final decision is expected to be taken soon for the purchase of GPS under TEQIP (NCB-02).

However, no firm quoted for item at Sr. no. 2 and it has to be obtained directly from University of Bern, Bern, being a proprietary item

**COURSE PROFILE: M. Tech. (Remote Sensing & GIS)**

The duration for M. Tech. degree programme would be 4 semesters and the curriculum as worked out has been given under subsequent heads.

**SEMESTER – I**

S. No.	Course No.	Subject	L	T	P	Credits
1.	CE-801	Principles of Remote Sensing	3	-	2	4
2.	CE-802	GIS Technology & Applications	3	-	2	4
3.	CE-803	Object Oriented Programming	3	-	2	4
4.	-	Elective-I	3	-	2	4
5.	-	Elective-II	3	-	2	4
Total Credits						20

**SEMESTER – II**

S. No.	Course No.	Subject	L	T	P	Credits
1.	CE-804	Satellite Image Processing	3	-	2	4
2.	CE-805	Fundamentals of GPS	3	-	2	4
3.	CE-806	Neural networks & Fuzzy Systems	3	-	2	4
4.	-	Elective-I	3	-	2	4
5.	-	Elective-II	3	-	2	4
Total Credits						20

**SEMESTER – III**

S. No.	Course No.	Subject	L	T	P	Credits
1.	CE-807	Project/ Special Problem	-	-	-	2
2.	CE-808	Seminar	-	-	-	2
3.	CE-809	Thesis	-	-	-	8
Total Credits						12

**SEMESTER – IV**

S. No.	Course No.	Subject	L	T	P	Credits
1.	CE-810	Thesis (continued from M. Tech. III semester)	-	-	-	12
Total Credits						12

Total Credits for all semesters = 64

**LIST OF ELECTIVES**

S. No.	Course No.	Name of Course
1.	CE-811	Analytical & Digital Photogrammetry
2.	CE-812	Precision Remote Sensing
3.	CE-813	Surveying Measurements & Adjustment Computations
4.	CE-814	Physical & Satellite Geodesy
5.	CE-815	Cartography and Digital Terrain Modelling
6.	CE-816	Geoinformatics for Land Use Planning
7.	CE-817	Microwave Remote Sensing
8.	CE-818	Computer Aided Project Analysis and Management
9.	CE-819	Geoinformatics for Water Resources Engineering
10.	CE-820	Web GIS
11.	CE-821	Database Management Systems
12.	CE-822	Mathematical Modelling & Computer Applications
13.	CE-522	Engineering Geology
14.	CE-666	Environmental Impact Assessment
15.	CE-686	Soft Computing Methods in Engineering Problem Solving
16.	CE-701	Earth Resources and Sustainable Development
17.	CE-704	Integrated Solid Waste Management
18.	CE-714	Disaster Management and Hazard Mitigation
19.	CE-851	Transportation Systems Planning and Engineering
20.	CE-854	Analysis of Transportation Systems

## COURSE CURRICULUM

### SEMESTER - I

#### **CE-801: PRINCIPLES OF REMOTE SENSING**

Introduction to Remote Sensing data - acquisition and processing, sensor systems, applications; Electro-magnetic radiation (EMR): nature and characteristics, Stefan Boltzman law, Wein's displacement law, atmospheric windows, Interaction of EMR with atmosphere, interaction with earth surface features, interaction with soils and rocks, interaction with vegetation. Multi concept in remote sensing, general requirements of a platform, sun- synchronous and geo-synchronous orbits, sensors for visible and near infra-red wavelengths, profilers, images, scanners, radiometers, optical-mechanical and push broom scanners, spectral, spatial, radiometric and temporal resolution, remote sensing data products, Landsat MSS and TM, SPOT, IRS, ERS, IKONOS, etc., thermal properties, thermal radiometer and scanner, system and environmental factors affecting thermal imagery, Fundamentals of photogrammetry, Preprocessing of remote sensing data, Data Analysis- Visual image interpretation, Basics of digital image analysis, Application of remote sensing to different fields.

#### **CE-802: GIS TECHNOLOGY & APPLICATIONS**

Geographic Information System (GIS)- Introduction and utility, Geographical concepts and terminology, GIS packages and salient features, Essential components of a GIS, Data acquisition- Scanners and Digitizers, Raster and Vector formats, Data editing, Errors and corrections, Geo-referencing, Real world problem solving and spatial Analysis, Database structures, compact methods of storing raster data, Spatial database management, Database Query, Merging and edge matching, Reclassification and aggregation, Overlay Operations, Buffer Analysis, Digital Terrain Modelling, Data presentation and generation of thematic maps, GIS and Spatial Data Infrastructure (SDI), Spatial Decision Support System (SDSS), Applications of GIS in the field of Natural resources management, Environmental impact assessment, Soil mapping, Disaster management and other fields.

#### **CE-803: OBJECT ORIENTED PROGRAMMING**

Overview of programming languages, procedural and object oriented programming, Review of C++ programming fundamentals, Visual Basic programming: Basics, loops and decisions, structures, functions, objects and classes/ modules, operator overloading, inheritance, Objects library, Active X Programming, Graphical user interface and its development using Visual Basic; Introduction to JAVA programming.

### SEMESTER - II

#### **CE-804: SATELLITE IMAGE PROCESSING**

Digital image, digital image processing system, developments in digital image processing, multi-concept in remote sensing data analysis, Preprocessing of Remotely Sensed Images: Radiometric distortions and corrections, Geometric distortions and corrections: model based correction, ground control points, geo-referencing, resampling, Image Enhancement: Image histogram, contrast enhancements, spatial and frequency filtering, high pass and low pass filters, Kalman filter, edge detection and enhancement, Image Transformations: Principal component analysis, Tasseled cap transformation, band ratios and vegetation indices, image classification, supervised and unsupervised classification, training areas, Different classifiers, binary and hybrid classification, K-means clustering, ISODATA, divergence analysis, separability analysis, classification accuracy estimation, Modern image processing techniques.

#### **CE-805: FUNDAMENTALS OF GPS**

Global Positioning System (GPS)-Introduction, Satellite navigation System, GPS-Satellite constellation, Space segment, Control segment, User segment, GPS satellite signals, Receivers and their types, Data formats- RINEX, Coordinate Systems, Time Systems, Satellite Orbit Determination, GPS Observations – Signals, Code Pseudo range and Carrier Phase, Troposphere and Ionosphere - their modelling and estimation, Multipath errors, Point Positioning and Differential Positioning, Static positioning, Kinematic Positioning - Pseudo-Kinematic and Stop and Go, Cycle Slip detection and Correction, Initial Phase Ambiguities and Ambiguity Resolution Algorithms, Real time GPS, Geoid, Ellipsoid and Reduction of observations, WGS 84, Transformation to various Map Projection Systems, GPS errors, Network adjustments, Applications to surveying and mapping, GIS and GPS Data Integration.

#### **CE-806: NEURAL NETWORKS & FUZZY SYSTEMS**

Introduction to neural networks, learning process, least mean square filter, ANN structure, perceptron, multilayer perceptron, ANN parameters, Feed-forward multilayer networks, Backpropagation algorithm, Fixed weight competitive net, Introduction to adaptive networks, Basic concepts of fuzzy sets, measure of fuzziness, theory of uncertainty, fuzzy relations, fuzzy logic, decision making in fuzzy environment, neuro-fuzzy systems, applications of neural networks and fuzzy systems in digital processing of remotely sensed images and GIS.

### ELECTIVES

#### **CE-811: Analytical & Digital Photogrammetry**

Developments from conventional to Analytical to Digital photogrammetry, Photogrammetry as mapping technique, Geometry of vertical and tilted photographs, Flight planning, Stereoscopy and its principles, Coordinate systems, Elements of interior and exterior orientation, Determination of elevations and contouring, Map substitutes, photomaps and mosaics, Analytical orientation- relative and absolute, Different systems of aerial triangulation and principles, Analytical aerial triangulation, Independent model triangulation, Strip formation and adjustment, Bundle block adjustment, Stereo-plotting instruments and modern trends, Digital Photogrammetric Systems, Potential, capabilities and characteristics features, Digital image and photographs and their characteristics, Collinearity and coplanarity conditions, Storage and compression of digital photogrammetric data, Automatic image matching techniques- signal based and feature based, Model formation using digital stereo pairs, Digital orthophotos, Automatic generation of DEM.

**CE-812: Precision Remote Sensing**

Introduction to precision remote sensing- spatial, spectral, temporal precision and their requirements, Altimetric LiDAR- Physics of laser, spectral characteristics of laser, laser interaction with objects, principle of Airborne Altimetric LiDAR, multiple return, components of a LiDAR system, INS technology, INS-GPS integration, measurement of laser range, calibration, flight planning, error analysis of data, DEM processing, filtering of raw data, data classification techniques, LiDAR data integration with spectral data, LiDAR applications, Hyperspectral Imaging: Hyper spectral concepts, data collection systems, calibration techniques, data processing techniques, Spectral Angle Mapping, Spectral Mixture Analysis, Spectral Matching, Mixture Tuned Matched Filtering, classification techniques, airborne and spaceborne systems, applications, High Resolution Satellites: Sensors and orbits, data processing, applications.

**CE-813: Surveying Measurements & Adjustment Computations**

Errors- sources and classification, concept of observation and mathematical model, Error propagation, Laws of random errors, frequency distributions, Normal law of error, Deviation of normal law. Propagation of systematic and accidental errors, Test of departure, most probable value, Measures of precision, standard error of indirectly observed and conditioned quantities, Weighting of observations, Rejection criteria, Statistical tests to be applied to observational data, Chi-square test, t-test, variance ratio test, curve fitting and correlation, Interpolation, Variogram and Kriging, Theory of least squares and its application to adjustment problems, Adjustment computations by observation equation method, condition equation method and combined method in matrix form, Variance-covariance of adjusted data, error ellipse and ellipsoid- determination, significance, Adjustment of simple triangulation figures, Adjustment of level nets.

**CE-814: Physical & Satellite Geodesy**

Introduction to geodesy and geodetic surveying, shape of earth, Gravity field of earth and its importance, Properties of spheroids and Geoid, Spherical excess, Indian topographical maps- scales and sheet numbering system, computations of geodetic positions, Geocentric and non-geocentric systems, Detail of some important spheroids, gravity fields of earth and its importance, Geoidal reference ellipsoid, Map projection-necessity and classification, properties of cylindrical and conical projections, gravity measurements, geodetic datum, Field astronomy- basic terms and definitions, determination of azimuth, latitudes and longitude, Fundamental of satellite geodesy, GPS for geodetic measurements.

**CE-815: Cartography and Digital Terrain Modelling**

Introduction, Justification for Cartography, Relationship with GIS and DTM, Cartographic digitizing techniques: Point data, line data, polygon data, digitizers: Positional accuracy of manual digitizing, Raster to Vector conversion, automatic & semi-automatic digitizing techniques, Raster & Vector data structure, Data processing, Cartography display & plotting techniques, Plotters: Vector & Raster, flatbed & drum, Applications of cartography, Introduction to DTM, Data acquisition, Ground Survey, photogrammetric method, Modelling techniques, Polynomials used for surface representation, contouring from grid data, Triangulated based DTM- Delaunay triangulation, Radial sweep methods, contouring from triangulated data, Hybrid approach, Grid based software packages, Applications of DTM.

**CE-816: Geoinformatics for Land Use Planning**

Introduction to land use planning- objectives and planning process, land use/ land cover mapping, Land use information- concepts, definition and its significance, Spatial nature of land use planning, Data requirements for urban and regional planning, land use/ land cover classification system, Spatial and Temporal resolution requirements, Spectral nature of land use analysis- visible, infrared, thermal and microwave image analysis, Techniques of land use change detection, Global land cover monitoring, principles and conventions for land use map preparation, Manual and digital methods of land use/ land cover map preparation and accuracy requirements, Concept of mixed pixels, Linear Mixture Modelling approach for sub-pixels classification, Fuzzy logic and neural network based approaches for land use mapping, Utility of land use maps in environmental planning, resource monitoring and management, Urban planning, transportation planning, Remote sensing, GIS and GPS in land use planning.

**CE-817: Microwave Remote Sensing**

Introduction and advantages, active and passive microwave systems, Platforms and sensors, Passive microwave systems- Mathematical formulation for microwave radiation and simulation, Applications in the various fields – meteorology, Oceanography, Active microwave systems- Radar principles, Radar equation, Resolution and Range, Phase and angular measurements, Microwave scattering and its measurement, scene and sensor parameters, Imagery characteristics and interpretation, image registration, baseline determination, measurement of surface topography and deformation analysis, Applications in various fields, Microwave Interferometry- theory and mathematical background, Differential interferometry, Applications in DEM generation and glacial movements, hydrology, landslides.

**CE-818: Computer Aided Project Analysis and Management**

Basic concepts in project analysis and management, Probability theory and its applications in construction planning and management, Mathematical models of CPM, PERT for planning, Scheduling & controlling of construction projects, Resources allocation & levelling, Elements of engineering economics, Criteria for cost comparison & cost indices, Statistical methods of decision making under uncertainty, Balancing the risk and cost effectiveness of decisions, Use of remote sensing and GIS for Project management, Applications in different fields.

**CE-819: Geoinformatics for Water Resources Engineering**

Water resources planning- Indian Scenario, Hydrological Cycle, Water balance and hydrological modelling, Classification of hydrological models, Hydrological parameters in modelling and its input from remote sensing data, Landforms- Classification, Drainage texture and patterns, Geomorphological analysis of basin characteristics, Use of remote sensing and DEM for extraction, of landform elements, Vegetation indices- NDVI, Tasseled Cap transformation, Soil properties and its interpretation using satellite data, hydrological soil

classification, idealised sequence for soil mapping, Rainfall and runoff modelling, Remote sensing and GIS for water resources planning and management, Applications in flood and drought mapping and zonation, erosion studies, ground water, water quality and pollution studies, reservoir capacity and sedimentation, river morphology, Watershed management and hydrological impact analysis.

#### **CE-820: Web GIS**

Fundamental principles of Web GIS, Client/ Server architecture & programming, Introduction to Internet concepts and practices, Internet and Web protocols, URL's, Domain names, Static and dynamic web pages, HTML Coding: Basics, tables, Frames & Forms, Java Script Programming: Events and exercises, Document object model, Cold Fusion Application Development: Cold fusion history, Positioning and advantages, Working with data, Controlling program flow, Passing parameters and accessing databases over the web, Querying databases, Web GIS Implementation: Advantages of Web GIS, Decision support systems, Customized GIS, 3D & 4D GIS, Virtual GIS, Development of Web enabled information system, Web-enabled GIS software.

#### **CE-821: Database Management Systems**

Basic Concepts of Database, Database system concepts and architecture, Data modelling, Record storage and primary file organizations, Index structures for files, Relational data model and relational algebra, Relational database language, relational calculus, Relational database management system, Network data model and the IDMS system, Hierarchical data mode, IMS system, Database Design: Functional dependencies and normalization for relational databases, Rational database design algorithms and further dependencies, Database design process, System Implementation Techniques: System catalog, Query processing and optimization, Database security and authorization, Advanced Data Models and Emerging Trends: Advanced data modelling concepts, Object-oriented database, Distributed and client-server architecture, Emerging database technologies and applications.

#### **CE-822: Mathematical Modelling & Computer Applications**

Modelling Process: Taxonomy and steps in model building, simulation, algorithms and heuristics, simulation languages, Primitive models: physical laws, curve fitting, forecasting: Nature of data, Statistical attributes, Probability distributions and their mechanisms, Generation of random numbers, Time series, Pattern Recognition: Neighborhood and distances; Cluster analysis; Individual and group preference patterns, Graphical models and matrix models, Input-output type models, Routing problems, Linear Dynamical Structure: Block diagram representation of model structure, Transfer function representation, State space models, Stability, System control, Discrete and continuous growths, Growth process and integral equations, Discrete event approach, Simulation of Discrete and Continuous Processes: Monte Carlo methods, Stochastic simulation, System identification, Inverse problems, Virtual reality, Case studies related to Sciences and Engineering.

#### **CE-522: Engineering Geology**

Geological mapping, commutation problem, types of geological maps, inblock diagram, uses of geological maps in engineering structures, structural features of rocks and their defects, sub-surface exploration, geological and geophysical methods, interpretation and correlation of field data, exploratory drifts and tunnels, slope movements, geological factors in the evaluation of stability of hill slopes, rock cutting and earth slopes, soil erosion and conservation, classification of landslides, analysis of landslide prone areas in GIS.

#### **CE-666: Environmental Impact Assessment**

Introduction to EIA, National Environmental policy, Natural environmental systems, ecological balance- loss and recovery, Concept of sustainable development, Regulatory requirements: Regulatory bodies and their role, Legislation Standards, Code of practice, Frame work for EIA: Purpose, statement and questionnaire, elements of impact analysis. Scope of EIA, policy level, regional level, project level, Methodologies: Description, discussion and use of important methodologies, recent concepts in design making assessment of environmental parameters, Use of computer software including mathematical models and geographical information system for environmental impact evaluation and decision making, Public participation: Role of public participation and voluntary organisations in environmental decision making, Case Studies: for infrastructure development plan, Environmental Audit: Introduction, Program planning on site. Audit Evaluation and presentation, other type of Audits, Risk Assessment.

#### **CE-686: Soft Computing Methods in Engineering Problem Solving**

Theory of representation; Working principles of ANN; Two computational paradigms: Multi-layer networks; Auto associative and hetero-associative nets; Learning in neural nets: Supervised and unsupervised learning; Application of neural nets; Neural network simulators, Genetic algorithm and Traditional optimization methods; Simple genetic algorithms- reproduction, crossover and mutation; Analysis of GA-operators; Deception; Working principles of genetic algorithms; Multi-model and multi-objective optimization; Engineering applications; Introduction with applications for Evolution strategy. Combined use of ANN-GA, Fuzzy sets, fuzzy numbers, fuzzy relations, fuzzy measures, fuzzy logic and the theory of uncertainty and information; applications of the theory to inference and control, clustering, image processing and data handling, Neuro-fuzzy systems, application of Neuro-fuzzy systems.

#### **CE-701: Earth Resources and Sustainable Development**

Introduction to ecology, various ecosystems, inter linkages between components of ecosystems; Economic growth of the society and its co-relation with the natural resources use, Impact on ecosystems and other natural resources due to economic development, Over exploitation of natural resources and its impact on the balance of ecosystems; Concept of Sustainable development, various initiatives (Regulatory and voluntary) for sustainable development; Environmental protection rules and acts, guidelines for environmental impact analysis, concept of carrying capacity; Measures for sustainable development- Eco labeling, Life cycle analysis, Green product development; cleaner production; Wastes exchange, Green Productivity, Policy issues based on polluter pays principle; International trends in sustainable development and Indian scenario- case studies, remote sensing/ GIS/ GPS applications.

**CE-704: Integrated Solid Waste Management**

Introduction to solid waste generation, its impact on environment and management, sources, composition and characteristics of solid waste, current trends and practices of waste management, Inventory of solid waste, physical, chemical and biological properties, sources, types and properties of hazardous waste included in MSW, collection and handling of solid waste, mode of transportation, use of GIS in waste transportation network planning, treatment of MSW: segregation, recycling, energy recovery and reuse, Disposal of MSW: landfill site selection, planning and design of landfill, gas and leachate movement and control, landfill closure and post-closure monitoring, Planning for integrated solid waste management for a city, use of GIS in MSW management.

**CE-714: Disaster Management and Hazard Mitigation**

Natural calamities: Earthquakes, landslides, cyclones, storms, floods, epidemics and avalanches, Characterisation and properties of forces created by natural phenomenon, Hazard assessment prediction and forecasting techniques, Failure of structure: Failure of Dams, mines, slopes, multi-storeyed building, types of failures, Causes of failure, assessment of failure preventive & mitigating measures, Rehabilitation of structures, Disaster management: Disaster preparedness, mitigation and post failure management, Short-term relief measures- construction of prefabricated structures, water supply & sanitation, transportation of goods and population. Long term measures- preparation of contingency plans, lifeline structures, hospital, (fire fighting communication, food storage, shelters and other structural measures, hazard zoning, insurance, rehabilitation of structures and retrofitting, socio economic aspect, Use of remote sensing, GIS, GPS for disaster management.

**CE-851: Transportation Systems Planning and Engineering**

Introduction to transportation systems, Field of transportation engineering, transportation innovations, social and economic impacts of transportation; Transportation system and its environment: Transportation costs, Transportation Demand, Supply of Transportation; Network Equilibrium; Decision making in Transportation Planning; Long-range Transportation Planning; Sequential transportation systems planning: trip generation, trip distribution, modal split and traffic assignment, Transportation Systems Management (TSM); Systems Operation and Management, remote sensing, GIS & GPS applications

**CE-854: Analysis of Transportation Systems**

Basic physics of transportation; Transportation Planning Process: Transportation problems, goals and objectives, generation of alternative solutions; Demand modeling and predictions; Modeling transportation technologies; Major Transportation Systems Technologies; Transportation Systems Performance models; Transportation network; Network theory, Wardrops' external principle of traffic assignments, Analysis of network flows; Transportation systems evaluation, Transportation System travel and impact models; Concepts in transportation models and location models; Land-use models, Use of GIS in network analysis and implementation of transportation models using GIS.



DEPARTMENT OF CIVIL ENGINEERING  
MOTILAL NEHRU NATIONAL INSTITUTE OF TECHNOLOGY  
ALLAHABAD

CED/Letter No. 11/06 2006

Dated : Jan. 20, 2006

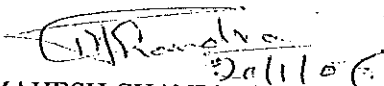
A meeting of DPGC was held on Jan. 19, 2006 at 3.00 P.M. in the Civil Engg. Deptt..  
The following members were present.

1. Prof. S.C. Prasad
2. Prof. Mahesh Charndra
3. Prof. R.K. Srivastava
4. Prof. S.K. Duggal
5. Prof. M.M. Gore
6. Dr. R.P. Singh
7. Dr. R.D. Gupta
8. Dr. R.M. Singh
9. Er. Kumar Venketesh
10. Er. Shalesh Kumar

Following are the minutes of the meeting:

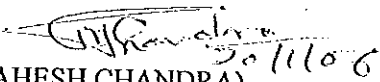
1. The application of Mr. Amit Kumar Mishra (Reg. 02 RCE02) and Mr. Syed Husain Abbos (Reg. 2003 RC E04 for semester leave were discussed and recommended the semester leave.
2. The application of Mr. Ashish Shukla (Reg. No. 2004 ST01) and Mr. Brijendra Singh (Reg. No. 2004 ST09) were discussed and recommended for off- campus thesis work.
3. A course of M. Tech. CIVIL Engg. (Remote Sensing & GIS) proposed by Dr. R.D. Gupta was discussed and passed & recommended for further approval by the senate.
4. It is discussed in DPGC meeting that a student may be allowed to choose a course out side the discipline and out side the Department.
5. It was discussed in the DPGC meeting that a course advisor should be appointed for M. Tech. for a year.

The meeting was ended with the vote of thanks to the chair.

  
(MAHESH CHANDRA)  
Convenor, DPGC

Copy to :

1. Chairman SPGC.
2. Dean, Academic Affairs.
3. All concerned faculty members.

  
(MAHESH CHANDRA)  
Convenor, DPGC