



DELHI TECHNOLOGICAL UNIVERSITY

**Minutes of the
9th Meeting
of the
Academic Council**

held on 30.10.2014

Shahbad Daulatpur, Bawana Road, Delhi-110042



DELHI TECHNOLOGICAL UNIVERSITY

Established under Govt. of Delhi Act 6 of 2009

(Formerly Delhi College of Engineering)

BAWANA ROAD, SHAHBAD DAULATPUR, DELHI-42

No. F.DTU/Org/AC/Meeting/01(1)/10/Vol-III/ 10962-82

Dated : 05.11.2014

Minutes of the 9th meeting of the Academic Council held on 30.10.2014 at 12.00 Noon in the Senate Hall of DTU.

The 9th meeting of the Academic Council of DTU was held on 30.10.2014 at 12.00 Noon in the Senate Hall of DTU.

The following members were present:

1. Prof. Pradeep Kumar, Vice Chancellor, DTU.
2. Prof. S.K. Jain, Vice Chancellor, MVDU, Katra, J&K-182320.
3. Prof. Vir Singh, Professor, Deptt. of Physics, IIT-Roorkee.
4. Prof. B.J. Alappat, Professor, Deptt. of Civil Engg., IIT-Delhi.
5. Prof. S.K. Garg, Dean (Academic) & HOD (T&P), DTU.
6. Prof. A. Trivedi, Dean (IRD) & HOD (Civil), DTU.
7. Prof. Naveen Kumar, Dean (I.C.) & HOD (Mechanical Engg.), DTU
8. Prof. Madhusudan Singh, Dean (SW) & HOD (E.E.), DTU.
9. Prof. O.P. Verma, Dean (C.E.) & HOD (I.T.), DTU
10. Prof. S.K. Singh, HOD (Env. Engg.), DTU.
11. Prof. R.S. Mishra, Professor, Mechanical Engg. Department
12. Prof. R.K. Sinha, Professor, Deptt. of Applied Physics
13. Prof. A.K. Gupta, Professor, Civil Engg. Department
14. Prof. S.C. Sharma, HOD (Applied Physics), DTU.
15. Prof. H.C. Taneja, HOD (Applied Mathematics), DTU.
16. Prof. D. Kumar, HOD (Applied Chemistry), DTU.
17. Prof. B.D. Malhotra, HOD (Biotechnology), DTU
18. Prof. P.K. Suri, HOD (DSM), DTU.
19. Prof. N.K. Jain, Electrical Engg. Department, DTU
20. Sh. O.P. Shukla (CEO), DTU.
21. Col. Neeraj Suri (Retd.), Registrar, DTU.

Prof. C.R. Babu, Mr. O.P. Bhutani, Mr. Sanjeev Kumar Gupta, Dr. Seema Singh and Prof. Rajeev Kapoor could not attend the meeting due to their pre-occupation. Prof. N.K. Jain, attended the meeting as invitee.

Agenda 9.1 : Chairman's opening remarks.

The Vice Chancellor introduced himself and extended a warm welcome to the learned members of the Council and expressed his happiness about the phenomenal progress made by the University. He also apprised the members about the preparation in progress regarding Second Convocation of the University to be held on 12.11.2014. The members also greeted the new Chairman with warm welcome on his joining as Vice Chancellor, DTU. Subsequently all the members of the Council got introduced themselves.

The Chairman also expressed his deep and sincere appreciation to the previous Chairman for his valuable contribution and services rendered to the University during his term.

Agenda 9.2 : Action taken report on the decisions taken in the 8th meeting of the Academic Council.

Decision : Action taken report was accepted and taken on record by the Council.

Agenda 9.3 : Matter for information:

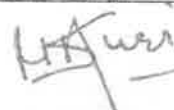
i. Review of Examination and Grading System.

A committee was constituted by the Academic Council in its 8th meeting held on 27.03.2014 to study the model of system of examination, grading and course feed back followed at IIT-Delhi for adaptation in DTU, comprises of following members:

1. Prof. Pragati Kumar, DTU ----- Convener
2. Prof. D.S. Nagesh, DTU ----- Member
3. Prof. T.R. Shri Krishna, IIT-Delhi ----- Member
4. Prof. S.R. Kale, IIT-Delhi ----- Member

The committee has held a series of meetings to recommend the introduction of grading system in this university. An interim report of the committee was discussed with the then VC Prof. Pankaj Jalote in a meeting of Heads of the Deptts. and Deans. HODs were requested to provide their feed back on this interim report, once the feed back is received from all the deptts. the matter would be placed before the Chairman, Academic Council for his perusal and approval.

Decision : HODs are advised to examine the interim report and submit a feedback on the matter so that the consolidated report be placed for approval of the competent authority.



Agenda 9.4 : Matter for ratification:

i. Modification in the mid semester examination of odd semester of Academic Session 2014-15.

It was informed to the Academic Council that as per the scheduled calendar duly approved by the council in its Emergent meeting held on 21.02.2014, academic calendar for the year 2014-15 was circulated. In the month of August, 2014 a meeting of the Deans and HODs was held to review the mid semester examination of odd Semester of Academic year 2014-15 and decided to partially modify the conduct of mid semester examination from September, 22-27, 2014 (Monday-Saturday) instead of 6-11, October, 2014. This decision was taken in the light of series of holidays falling during this period.

ii. Selection Committee of each department for the recruitment of faculty members in DTU.

It was submitted for information of the Academic Council that as per the DTU Act, 2009 and Statute (First) of 2009, the constitution of selection committees for the post of Professor, Associate Professor and Asstt. Professor shall consist of the following members:

1. Vice Chancellor
2. One of the Deans of the related discipline nominated by the Board of Management.
3. Three experts not connected with the university to be nominated by the Vice Chancellor from a panel of not less than 07 names approved by the Academic Council for each department.
4. Four members of the Selection Committee (who shall include at least two experts) less than a quorum for a meeting of the Selection Committee constituted under clause (2).

Accordingly, department wise list of Selection Committees were proposed by the Chairman, BOM which have been approved by the erstwhile Secretary, DTTE. As per the statutory requirement, the panel of subject wise experts shall be approved by the Academic Council. V.C. as Chairman, Academic Council had approved the list to carry forward the process of recruitment. The said list was circulated to the members of the Academic Council.

iii. Approval for 03 seats in Electrical Engg., B.Tech (Eve.) program.

It was submitted for the information of the Academic Council that 03 students were admitted in the Electrical Engg., B.Tech (Eve.) program over the sanctioned seats(46) due to ignorance of admission procedure on the part of three candidates. These students had submitted their fee in time but could not



submit their fee receipt on the due date. As a result the admission committee allotted vacant seats to the next candidates. However admission committee later on decided to admit these 03 students, resulting, an increase of seats beyond the sanctioned intake capacity. The Vice Chancellor in the capacity of Chairman, Academic Council has approved the proposal and remarked that due care must be taken in admission process so that this type of error must not be repeated in future.

iv. Completion of course work as well as comprehensive examination.

It was submitted for information of the Academic Council that 159 Ph.D. scholars have successfully completed course work as well as comprehensive examination as per the Ph.D. Ordinance clause 10.3, the Hon'ble V.C. has already approved their provisional registration.

Decision : The Academic Council has ratified the above actions of the University.

Agenda 9.5 : Confirmation of the admissions in B.Tech (Full time), B.Tech (Eve), M.Tech (Full time/Part time), MBA, Executive MBA and Ph.D programs in the year 2014-15.

The Academic Council was informed that this year also, the University conducted joint on line counselling for admission to all the 15 B. Tech. programs in 05 rounds, from 6th July to 11th August, 2014, followed by one spot counselling which was held 20-23rd August, 2014 strictly on the basis of merit/rank secured by the candidates in AIEEE-JEE (2014) examination. 1528 candidates are presently on roll in B. Tech programs including seats reserved for NRIs/PIOs/FNs against 1548 available seats.

This year, applications for admission to 18 M.Tech. program (Full time and Part Time) were invited online, list of shortlisted candidates eligible for interview were displayed on the web site of the University. The selection of the candidates was made by the Selection Boards constituted for each department/discipline as per procedure approved by the Academic Council. The Selection Boards of all the departments selected the candidates for M.Tech. programs.

Department-wise list of selected candidates was uploaded on website of the University. All the admissions to M.Tech. programs were completed between July-August, 2014.

The admissions to MBA program were made by the University as per pre-notified schedule as per the admission procedure approved by the Council. In all 83 candidates including seats reserved for SC/ST/OBC are on the rolls of the University during the academic year 2014-15.

The admission to MBA Executive program (a weekend program) was started from the academic session 2013-14 with intake 30. In all 25 candidates were admitted to this course during 2014-15 in this weekend program.

The admissions to Ph.D. program have been completed as per the admission procedure approved by the Academic Council. On the basis of written examination and interview, a total of 112 candidates were found eligible and 91 candidates have been admitted in the program in the year 2014-15.

The admission to B.Tech.(Evening) program was made on the basis of merit/rank secured by the candidates in the Entrance Examination conducted by the University. The counselling for B. Tech.(Evening) programs was held in the month of July, 2014. In all 145 candidates are on the rolls of the University against 212 seats in various 05 B.Tech.(Evening) Programs.

Further, it was informed that the University has provided 27% OBC reservation in admissions to all the UG/PG Programs as per the decision of the Govt. of Delhi.

Decision : The Academic Council has confirmed the admissions of the students in all the B.Tech, B.Tech(Eve.), M.Tech., MBA(Full-Time), MBA (Executive) and Ph.D. programs of the University for the academic year 2014-15.

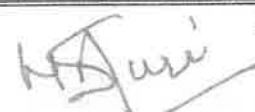
Agenda 9.6 : Approval of syllabi for elective courses of different deptts:

- i. **Syllabus of Ethics, Human Right and Human Value during the odd semester 2014-15 by the deptt. of Humanities.**

It was submitted to the Academic Council that on the demand of students of 4th year of Engineering Physics to introduce elective course on "Ethics, Human Right and Human Values", the BOS of the Department of Humanities in its 10th meeting on 02.09.2014, approved the syllabus of Ethics, Human Right and Human Values.

- ii. **Syllabus for Elective courses and Pre-Ph.D courses during the odd semester 2014-15 by the deptt. of Applied Mathematics.**

The department of Mathematics has proposed to introduce 02 elective courses (Elective-I, Elective-II) and 02 new pre-Ph.D courses being offered to the students during the odd semester 2014-15. The details of following elective courses and pre-Ph.D courses are as under :



Elective-I

- (i) MC-403-1 Numerical methods for Ordinary Differential Equation.
- (ii) MC-403-2 Finite Element Methods
- (iii) MC-403-3 Advanced Operational Research.
- (iv) MC-403-4 Fuzzy Set and Fuzzy Logic.

Elective-II

- (i) MC-412-1 Numerical Methods for Partial Differential Equation.
- (ii) MC-412-2 Optimization Techniques.
- (iii) MC-412-3 Petri Net Theory and Applications.
- (iv) MC-412-4 Applied Coding and Information Theory.

Pre-Ph.D Courses

- (i) AM-503 F Stochastic Calculus
- (ii) AM-503 G Financial Mathematics

The detailed syllabi for the above mentioned new elective courses were placed before the BOS of the deptt. on 18.07.2014, which after deliberations was approved.

iii. Syllabus for two open electives to initiate in 2015-16 by the department of Applied Physics.

The department of physics has proposed to introduce following open electives, to be floated in the academic year 2015-16:

1. Analog Electronics (7th Sem.)
2. Data Structures (8th Sem.)

The details of the syllabus were placed before the BOS of the deptt. on 11.09.2014, which after deliberations approved the same.

Decision : The Academic Council approved the syllabus of the Elective Courses for the above mentioned departments except for the elective course Analog Electronics (7th Sem.) of the Applied Physics Deptt.

The Council also modified the title of the Elective –II course - as ‘MC-412-4 Information Theory and Coding’. It was also suggested that Open electives should be considered for candidates of other departments and not for their own students.

K. B. Suri

Agenda 9.7 : Approval of course entitled “Data Analysis for Civil Engineers (CE-901)” by the deptt. of Civil Engineering.

It was submitted to the Academic Council that DRC of the department of Civil Engineering has proposed to introduce a course entitled “Data Analysis for Civil Engineers (CE-901)” with an objective to provide in depth understanding of data analysis and testing involving Statistical Parametric and non-parametric methods in civil engineering problems. The matter was placed before the BOS meeting of the depatt. on 01.09.2014 and recommended for the approval of the Academic Council. A copy of the course contents is attached as **Annexure at page 1.**

- Decision :** The Academic Council approved the above course with the following conditions:
- i. Minimum of 05 candidates belonging to UG/PG program and 03 students for Ph.D. program should be registered for any elective subject to be run by a department.
 - ii. Dean (Acad.) should issue a circular in this regard to all the departments.

Agenda 9.8 : Exemption to carry out course work on re-registration in Ph.D.

It was submitted for information of the Academic Council that an application in r/o Mr. Roop Lal, Asstt. Prof. Mechanical Engineering has been forwarded by the HoD, Mechanical Engg. Deptt. intimated that he was registered for Ph.D program with roll no 2k11/PhD/m/05 in the year 2011 and completed following courses.

1.	SM-901	Research Methodology	03 Credit	7.5 (CGPA)
2.	ME-6031	Advance Machining Process	03 Credit	7.5 (CGPA)

As per the UGC guidelines Research Methodology (SM-901) is compulsory for all Ph.D scholars whereas the subject of Advanced Machining Process (ME-6031) is relevant to his present research work.

As per Rule 6.4 of Ph.D Ordinance of DTU-2010 which is reproduced as under:

“In case of re-registration for Ph.D program, the Academic Council may consider giving credit to the courses already completed/passed by a candidate at this University as a part of his any earlier Ph.D registration, except in cases where the candidate has changed his area of research/change his department”.



Now the candidate has got himself re-registered with the Ph. D program-2014 (Part time) and intends to avail exemption from his course work.

Decision : The Council did not approve exemption to carry out course work on re-registration in Ph.D on the ground that it has not been examined by the DRC of the department. The matter may be placed for approval of the Chairman, Academic Council after the recommendations of the DRC.

Agenda 9.9 : i. Discontinuation of "Five year Dual Degree (B.Tech/MBA) Program".

It was informed to the Academic Council that Delhi School of Management has introduced 5 year Dual Degree (B.Tech & MBA) Program from the academic year 2013-14 with the following objectives: -

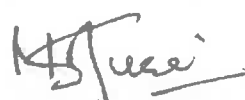
- To impart theoretical knowledge in the basic functional areas of management along with the technological knowledge.
- To develop analytical skills of the students by exposing them to real life business problems and case studies.
- To inculcate values and attitudes which contribute to high standards of corporate social responsibility and governance.
- To impart knowledge of both the programmes within five years without affecting the quality of both the programmes and also saving one year of the students.

The program will cater the dual degree program at the end of fourth semester and will be a part of the list of the courses and follow the same procedure for other B.Tech courses at DTU.

This program was approved by the academic council in its last meeting held on 5th April, 2013 with the following conditions:-

- No exit option will be available to the students after submitting their willingness to join the Program.
- The students will be awarded two degrees i.e. B.Tech and MBA after completion of the Five Year Dual Degree Program.

In the absence of the Exit Option, the response from the students was found to be poor because of the reason that they fail to take part in the placement process after completion of B.Tech program. Secondly, in case of withdrawal of



admission they will be awarded diploma in management which is not acceptable to them.

Subsequently the matter was taken up to introduce exit option in this program and was placed in the 7th Academic Council meeting held on 15.01.2014. The Academic Council approved the decision with the following conditions:

1. **No extra fee shall be charged up to the fourth year. However, in the fifth year of the program, the candidates will be required to pay fee equivalent to MBA program, applicable in the year.**
2. **Exit option shall be available to the students at the time of submitting their willingness.**

Out of total of 60 seats, only 07 students have been registered in the year 2014 for this program. As a result of poor response, the department proposed to discontinue the dual degree program. This has also been recommended by the BOS of the dept. in its meeting held on 30.09.2014.

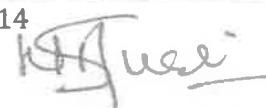
Decision : The Council deliberated on the matter and approved the discontinuation of 'Five year Dual Degree (B.Tech/MBA) Program' from the academic year 2015-16.

ii. Discontinuation of "Certificate/Diploma Program in Management" started in 2012 by DSM.

The deptt. of DSM had initiated the 'Certificate/Diploma Program in Management' for the under graduate and post graduate students from February onwards. It has observed a major decline in the number of applications received from the students for the 'Certificate/Diploma Program in Management' coupled with number of students successfully awarded during the last two sessions. The matter was placed before the BOS of the deptt. and has been advised to discontinue the course.

In view of the poor response from the students, it is now proposed to discontinue this program.

Decision : The Council approved the discontinuation of 'Certificate/Diploma Program in Management' from the academic year 2015-16.



Agenda 9.10 : Approval of Admission Policy and Proposed Schedule for admission to MBA and Executive MBA programs (2015-17 Batch).

Admission Policy

It was proposed that admission policy in respect of eligibility conditions for admission, selection procedure and application fee for MBA program as followed in the academic session 2014-15 shall also be followed in the session 2015-16. The date of eligibility shall be considered as the last date of receipt of the application.

ELIGIBILITY

B.E/B.Tech. in any branch of Engineering/ Technology with a minimum of 60% marks in aggregate or 1st class Master's Degree in any branch of Physical/ Chemical/ Mathematical Science like Physics, Chemistry, Mathematics, Statistics, Computer Application, Electronic Science, Environmental Science, Operation Research, Computation/Information Science or Master's Degree in Commerce/ Economics. However, a relaxation of 10 per cent to SC/ST/PWD and 5 per cent to OBC categories candidates shall be given in eligibility criteria. Those who are appearing in final semester examination may also apply.

INTAKE & RESERVATION OF SEATS

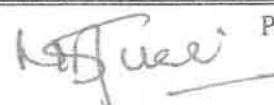
The annual intake of this programme is 91. With regard to reservation in respect of SC/ST/OBC it will be provided as SC : 15%, ST : 7.5% or as per policy of Govt. of Delhi and OBC : 27%.

PROGRAMME FEE

The annual fee of the programme for 2014-15 was Rs. 83,000/- (Eighty Three Thousand). However, in case of revision of fee for 2015-17 batch, the candidates are required to pay the revised fee.

Selection Procedure

All the applications received will be short-listed on the basis of performance in CAT 2014 and Qualifying Examination. The short-listed candidates are required to appear for a Personal Interview and Group Discussion.



HOW TO APPLY

Prospectus along with the Application Form can be downloaded from DTU website www.dce.edu. Downloaded Application Forms must be submitted along with DD of Rs 1000/- in favour of 'The Registrar, Delhi Technological University, Delhi' payable at Delhi by the specified date.

Incomplete application, due to any reason, is liable for rejection by the University. DTU shall not be responsible for postal delay, if any.

Weekend MBA Program

The Weekend Executive MBA Programme will cater to the needs of working executives who intend to learn cutting edge professional and managerial skills by pursuing such programs while continuing with their existing job assignments. The program is of two years duration spread over four semesters. The classes will be conducted on Saturdays and Sundays.

ELIGIBILITY CRITERIA

Candidates with following educational qualification and experience are eligible to apply for the programme:

(A) Educational Qualification

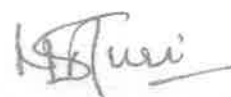
Graduation or its equivalent with minimum 50% marks or equivalent CGPA (10% relaxation to SC/ST/PH and 5% relaxation to OBC candidates).

(B) Experience

- Minimum 3 years work experience after four years degree (B.E., B.Tech., B.Arch. etc.)
- Minimum 4 years work experience after three years degree (B.A, B.Sc., B.Com, BCA, etc.)
- Working Executives are required to produce a 'No Objection Certificate' at the time of joining the program
- The last date of application shall be treated as cut off date in determining experience.

Selection Procedure:

Candidates are required to submit their applications to the University in the prescribed Application Form available on the University website. The selection of the candidates will be made on the basis of work experience, academic performance and performance in Group Discussion/Personal Interview to be conducted at Delhi Technological University Campus.



PROGRAMME FEE:

The fee for this programme is Rs. 1,22,000/-* for First Year and Rs.1,16,000* (approx.) for Second Year (in case of admission cancellation/withdrawal, the refund will be as per DTU norms).The above fee structure was applicable for EMBA batch 2013-15.In case of revision of fee for this batch (2015-17), candidates are required to pay the revised fee.

INTAKE AND RESERVATION OF SEATS:

The annual intake of this programme is 30. The reservation of the seats is as per the Policy of the Government of N.C.T. of Delhi. Two seats over and above the normal intake of the programme are for the faculty and staff of the University with exemption from payment of tuition fee.


***The above fee was applicable for 2014-16 batch.**

Proposed Schedule

The deptt. of DSM has released the proposed schedule for admission to MBA and Executive MBA program (2015-17 batch). The details are as under:

Proposed Schedule for MBA Admission batch 2015-17

S. No.	Events	Dates for 2015
1.	Uploading of Information bulletin and Application form on DTU website	01/12/2014 (Monday)
2.	Last date of submitting the completely filled application form	13/02/2015 (Friday)
3.	Date of release of short-listed candidates for GD and Interview	04/03/2015 (Wednesday)
4.	GD and Interview	From 16/03/2015 (Monday)
5.	Release of the list I of selected and waitlisted candidates	10/04/2015 (Friday)
6.	Date of depositing the fee by the selected candidate of List I	21/04/2015 (Tuesday)
7.	Release of List II for admission from the waitlisted candidates	05/05/2015 (Tuesday)
8.	Date of depositing the fee by the candidate of List II	15/05/2015 (Friday)
9.	Release of List III for admission from the waitlisted candidates against vacant/withdrawal seats	22/05/2015 (Friday)
10.	Date of depositing the fee by the candidate of List III	03/06/2015 (Wednesday)
11.	Release of list IV of selected candidates against vacant/withdrawal of seats	20/07/2015 (Monday)
12.	Date of counselling & fee deposit by List-IV candidates	30/07/2015 (Thursday)



13.	Display of vacant seats for final round of counselling	06/08/2015 (Thursday)
14.	Last date of Admission /Final counselling against the vacant seats if any	27/08/2015 (Thursday)

Proposed Schedule of Admission to Executive MBA Program (2015-17 Batch)

S. No.	Event	Proposed Dates
1.	Release of Application form	01/03/2015
2.	Last date of submitting the completely filled in application form	30/04/2015
3.	Date of release of short-listed candidates for Group Discussion/Personal Interview	12/05/2015
4.	Date of Written Test /Group Discussion/Personal Interview	Starting from 23/05/15
5.	Release of the first list of selected and waitlisted candidates	02/06/2015
6.	Date of depositing the fee by the selected candidates from first list	12/06/2015
7.	Release of second list for admission from the waitlisted candidates against vacant seats	26/06/2015
8.	Date of depositing the fee by the candidate selected in second list.	06/07/2015
9.	Release of the third list of candidates called against vacant/withdrawal of seats.	10/07/2015
10	Date of depositing the fee by the candidate selected in third list (last date of admission).	27/08/2015

Decision : The Academic Council approved Admission Policy as per existing admission procedure and Proposed Schedule for admission to MBA and Executive MBA programs (2015-17 Batch) with the following condition:

Eligibility Criteria (MBA Executive program) - Graduation or its equivalent with minimum 50% marks or equivalent CGPA (10% relaxation to SC/ST/PH and 5% relaxation to OBC candidates).

Agenda 9.11 : Approval of the Degree samples of B. Tech/B. Tech (Evening)/M. Tech/MBA/ Ph.D with specialization or other details.

It was submitted that the University is organizing second convocation on 12.11.2014. Hon'ble L.G./Chancellor of the University shall award the degrees to the students passing out various UG/PG programs. The degrees to the students of the following programs will be conferred in the forthcoming Convocation.

1. The students admitted in the year 2009 in four disciplines i.e.
 - I. Software Engineering
 - II. Electrical and Electronics Engineering
 - III. Automobile Engineering
 - IV. Engineering Physics
2. The students admitted in B. Tech program in the year 2010 in fourteen disciplines i.e.
 - I. Electronics and Communication Engineering
 - II. Computer Engineering
 - III. Electrical Engineering
 - IV. Mechanical Engineering
 - V. Civil Engineering
 - VI. Production & Industrial Engineering
 - VII. Environmental Engineering
 - VIII. Polymer Science & Chemical Technology
 - IX. Information Technology
 - X. Bio-Technology
 - XI. Software Engineering
 - XII. Electrical and Electronics Engineering
 - XIII. Mechanical and Automotive Engineering
 - XIV. Engineering Physics
3. The students admitted in the year 2010 in B. Tech (Evening) program in four disciplines i.e.
 - I. Civil Engineering
 - II. Mechanical Engineering
 - III. Electronics & Communication Engineering
 - IV. Electrical Engineering
4. The students admitted in M. Tech Program of following branches in the year 2011 and 2012:
 - I. Civil Engineering
 - II. Electronics and Communication Engineering
 - III. Electrical Engineering
 - IV. Mechanical Engineering
 - V. Information Technology
 - VI. Applied Chemistry



- VII. Computer Engineering
- VIII. Applied Physics
- IX. Bio-Technology

- 5. The students admitted in MBA program in the year 2011 and 2012.
- 6. One student to be awarded the Degree of Ph. D.

The Degree samples along with name of Branch/Program in English and Hindi name were tabled in the meeting.

Decision : The Academic Council approved the Degree sample of Ph.D in principle. The approved degree sample is placed as *Annexure at page 2.*

Agenda 9.12 : Confirmation of eligible students for award of degree of B.Tech/B.Tech (Evening)/ M.Tech (FT/PT)/MBA/ Ph. D.

As per Ordinance no. F.DTU/ORG/HOO/Notification/04(1)/2009/841-846 dated 20.09.2009 for award of B. Tech Degree, Para 15, sub para (1) and Para 16, sub para (6) respectively, it states:

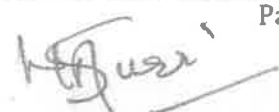
"B. Tech Degree shall be awarded to a student if he has earned a minimum of two hundred twenty eight credits as specified in each degree program subject to break up and compulsory credit as mentioned there in. However, a student may register in subjects leading to a maximum of two hundred forty credits in the entire course."

"The candidate securing a minimum of two hundred twenty eight credits shall be declared to have been qualified the B. Tech. final examination, provided they have not skipped or disqualified in more than four credits in Core or Allied Engineering or applied sciences and humanities."

As per Ordinance no. F.DTU/ORG/Notification/04(1)/2009/114 dated 02.02.2010 for award of M. Tech Degree, Para 19 states:

A student shall be awarded a Degree if:

- (a) He/she has registered him/herself undergone the courses of studies, completed the project report/training report specified in the curriculum of his/her program within the stipulated time, and secured the total credits (80) prescribed for award of the concerned degree.
- (b) There are no dues outstanding in his/her name to the department/course of studies of the University and
- (c) No disciplinary action is pending against him/her.



As per Ordinance no. F.DTU/ORG/Notification/04(1)/2009/115 for award of Master of Business Administration Degree, Para 19 states:

A student shall be awarded a Degree if:

- (a) He/she has registered him/herself undergone the courses of studies, completed the project report/training report specified in the curriculum of his/her program within the stipulated time, and secured the total credits (128) prescribed for award of the concerned degree.
- (b) There are no dues outstanding in his/her name to the department/course of studies of the University and
- (c) No disciplinary action is pending against him/her.

As per Ordinance no. F.DTU/ORG/Notification/04(1)/2009/ for award of Doctor of Philosophy Degree, Para R.17 states:

R.17.1 On receipt of satisfactory evaluation report by the examiners the Dean (IRD) in consultation with the Vice Chancellor will finalize the date of viva-voce which shall be openly defended. The inland examiner appointed as in R.14 shall conduct the viva-voce along with supervisor(s) and shall recommend to the D-IRD, one of the following courses of action:


- (a) That the degree be awarded;
- (b) That the candidate be re-examined at a later specified time in a specified manner;
- (c) That the degree shall not be awarded;

In case of (a) and (b) the examiners shall also provide to the candidate a list of all corrections and modifications in the thesis (if required) including suggestions made by the examiners during the thesis evaluation.

R.17.2 the Degree shall be awarded by the University, provided that:

- (a) The examiners appointed for viva-voce as in R.17.1(a) so recommends;
- (b) The candidate produces a 'No Dues Certificate' in the prescribed form.
- (c) The candidate has submitted two hard cover copies of the thesis; one for the Department's Library and one for the Central Library after incorporation of all necessary/corrections/modifications
- (d) The candidate has submitted one copy of the thesis in soft form written on CD/DEVD or other media after incorporation of all necessary corrections/modifications;
- (e) The hard bound copies of the Ph D thesis, submitted after the viva-voce examination, must contain the following copyright certificate in the beginning of the thesis, on a separate page on the left side:

© DELHI TECHNOLOGICAL UNIVERSITY, DELHI, 20...(say 2010)
ALL RIGHTS RESERVED



Accordingly, number of eligible students Course/Program-wise are given below:

Year of Admission	Course/Program	No. of Students
2009	(4 branches-B. Tech)	230
2010	(14 branches-B. Tech)	939
2010	(M. Tech (Part Time))	27
2011	(M. Tech (Part Time))	34
2010	(M. Tech (Full Time))	12
2011	(M. Tech (Full Time))	221
2012	(M. Tech (Full Time))	266
2011	(MBA)	60
2012	(MBA)	60
2009	(Ph.D)	01

It was reported by the controller of Examination that the number of students may vary as the consolidation process is under progress.

Decision : The Academic Council confirmed the list of students for award of Degree of B.Tech/B.Tech (Evening)/ M.Tech (FT/PT)/MBA/ Ph. D.

Agenda 9.13 : Approval of Semester mark-sheet of EMBA and Ph. D course work.

It was submitted to the Academic Council that with the upgradation of DCE into DTU by Delhi Act of 2009, the University introduced various under graduate, post graduate programs besides post doctoral programs in different discipline. The University has also started conducting its own examination coupled with declaration of results to the students pursuing various UG/PG programs. Degrees to the students are also conferred by the University. It is now proposed to issue mark sheet for Ph.D. course to the students from 2014 onwards. Accordingly, sample of mark-sheet for Ph. D Course work has been prepared.

The admission to MBA Executive (Weekend) program was started in the year 2013 with an objective to meet the requirements of working executives intend to learn managerial skills while performing assignments/jobs in the various reputed organizations/industry. The students under this program have completed their first year course (Two semesters) and have entered in to the final year to complete the program. Accordingly the mark sheets are to be issued to the students and sample of the same has been attempted for seeking approval of the academic council.

Decision : The Academic Council approved the semester mark sheet of EMBA and Ph. D course work in principle. Approved sample is attached as Annexure at page 3 to 4.

Agenda 9.14 : Approval of Consolidated mark-sheet of B. Tech (Evening).

The Academic Council was informed that the University is running 04 B.Tech (Eve.) programs. The duration of the program is 04 years with an intake of 30 in each discipline. The students admitted in the year 2010 in B.Tech (Eve.) programs in these disciplines have completed their course and have become eligible for award of consolidated mark sheet, which is normally issued just after the completion of the course.

Decision : The Academic Council approved the semester mark sheet of B. Tech (Evening) in principle. Approved sample is placed as Annexure at page 5.

Agenda 9.15 : Proposal for Conversion from Full Time to Part Time for M. Tech Students.

It was submitted to the Academic Council that applications are being submitted by the students of M.Tech for getting academic break since they have got job and are not getting leave to pursue the program. However, they intend to complete the M.Tech program, once they get leave from the employer. In the past, M.Tech students were allowed the academic break after due approvals.

At present Academic break cannot be given to M.Tech students because when they rejoin the course after break, there may be a change in curriculum. However, they may be permitted to convert from full time to part time program if they so desire after passing the theory papers.

Decision : The Academic Council deliberated at length and examined the various aspects of proposal. It was finally approved the proposal for conversion of full time to part time program for M.Tech students after passing the theory papers, subject to the condition that the students are required to submit No Objection Certificate from the employer.

✓ Agenda 9.16 : Renewal of MoU with Samsung India Electronics Pvt. Ltd. and DTU.

The department of Computer Engineering has a weekend M.Tech program in Software Technology in collaboration with Samsung Electronics India Pvt. Ltd. (SEIPL) for its employees since 2011 with an object to impart training in research and development area. The MoU was signed in the year 2011 for 03 years which has expired on 20th April, 2014. A request has been received for extension of MoU from SEIL. Now, the deptt. has sent a proposal to extend this MoU for 03 more years starting from 2014 onwards along with revision of syllabus and scheme of examination for this course in order to keep pace with the latest



technology and requirement by the industry. The duration of the course will be three years with minimum 20 participants shall be provided by the SEIL.

The fee for M.Tech (Software Technology) will be Rs.1,70,000/- p.a. which will be charged once at the time of admission. This fee structure will be applicable for all upcoming batches in the next 03 years.

Eligibility criteria for admission to M.Tech (Software Technology) is as under:

B.Tech/B.E. Degree in Computer Engineering/Software Engineering/ Information Technology/Electronics & Communication/ Electrical & Electronics Engineering/Electrical Engineering/Instrumentation & Control Engineering or M.C.A./M.Sc. (CS/IT)(with Mathematics at B.Sc./B.C.A. level).

Decision : The Academic Council examined the proposed MoU and suggested few modifications with regard to eligibility conditions to be incorporated with the following stipulations:

- i. At least 01 Lab. or 01 course or both of the programs should be conducted in the DTU campus.
- ii. Eligibility criteria for admission to M.Tech in Software Technology should be at par as applicable to admission in M.Tech regular course.
- iii. The duration of the course will be 03 years.
- iv. The fee for this course will be Rs.170000/- per annum.

Revised copy of the MoU is placed as Annexure at page 6 to 15 .

Supp. Agenda 1 : Approval for admission of NRI/FN/PIO through DASA and Revision of fee to be charged from NRI/FN/PIO from SAARC Nations.

It was informed to the Academic Council that DTU joined DASA 2014 which was being coordinated by NITK Surathkal for admission of NRI/FN/PIO candidates against NRI quota in B.Tech courses in DTU. The decision was recommended to DASA vide letter dated 31.03.2014. It was mentioned that the fee structure of DTU is to be aligned with guidelines of DASA.

DASA has got a different fee structure (US\$ 3500) whereas the existing fee structure, as per DTU prospectus, for SAARC citizens is US\$ 5000. On inquiring from DASA authorities, it has been informed that the fee structure of DASA has to be accepted in entirety by all the participating institutes. As the DASA fee structure is decided by MHRD, DTU has to follow the same if it has to participate in DASA.



The fee structure for NRI/FN/PIO candidates mentioned in DASA brochure, is as under:

1. Annual tuition fee for citizens of non-SAARC countries–US\$7000.
2. Annual tuition fee for citizens of SAARC countries excluding INDIA provided that they have passed their qualifying examination in SAARC country – US\$ 3500.

Vice Chancellor being Chairman of the Academic Council approved to adopt the DASA fee structure for students admitted under NRI/FN/PIO category for the year 2014-15.

The matter was placed before the Academic Council for ratification of decision taken by the Chairman, Academic Council.

Decision : The Academic Council approved the admission of NRI/FN/PIO through DASA and also agreed revision of fee to be charged from NRI/FN/PIO from SAARC nations.

Supp. Agenda 2 : Approval for amendment in Ordinance for B.Tech (Eve.) program.

It was informed to the Academic Council that many representations from B.Tech (Eve.) students have been received about skipping 04 credit theory subjects, each from Humanities, Allied Engineering and Core subjects. The candidates are required to secure minimum 228 credits out of 240 credits to qualify for the award of degree. Though the ordinance for both B.Tech (Regular) and B.Tech (Eve.) program is same but B.Tech (Reg.) program scheme provides all 04 credit theory subjects whereas B.Tech (Eve.) program scheme provides maximum 06 credit theory subjects. Therefore, it is proposed that a student may be allowed to skip 12 credits, not more than 06 credits from Humanities, Allied Engineering and Core subject in order to attain 228 credits required for award of degree. Accordingly, the relevant clause 16(iv) needs to be amended as under:

“The candidates securing a minimum of 228 credits shall be declared to have been qualified for the award of B.Tech (Eve.) final examination provided they have not skipped or disqualified in more than 06 credits in core or Allied Engineering or Applied Science and Humanities”.

Decision : The Academic Council approved the proposed amendment in ordinance for B.Tech (Eve.) program.




Agenda 9.17 : Any other matter with the permission of the Chair.

There was no any other item to be discussed in the meeting.

The meeting ended with a vote of thanks to Chair.

The minutes are issued with the approval of the Chairman for circulation to Hon'ble Members.


Col. Neeraj Suri (Retd.)
Registrar

Copy to :

1. S.O. to Vice Chancellor, DTU
2. Prof. S.K. Jain, Vice Chancellor, Mata Vaishno Devi University, Katra, J & K - 182320
3. Mr. O.P. Bhutani, Former Director BHEL, BHEL House, Siri Fort, New Delhi-110049
4. Prof. C.R. Babu, Professor Emeritus, Former Pro Vice Chancellor, University of Delhi-110007
5. Prof. Vir Singh (Nominee from UGC), Department of Physics, IIT, Roorkee, Uttarakhand-247667
6. Prof. B.J. Alappat (Nominee from AICTE), Department of Civil Engg., IIT, Hauz Khas, New Delhi-110016
7. Mr. Sanjeev Kumar Gupta (Nominee from FICCI), Managing Director (Corporate Affairs) M/S Accenture Services Pvt. Ltd., 7th Floor, Tower-C, Building No. 8, DLF Cyber City, Phase-II, Gurgaon-122002
8. Prof. Naveen Kumar, Dean (I.C.) & HOD (Mechanical Engg.)
9. Prof. A. Trivedi, Dean (IRD) & HOD (Civil)
10. Prof. S.K. Garg, Dean (Academic)
11. Prof. Madhusudan Singh, Dean (SW) & HOD (E.E.)
12. Prof. O.P. Verma, Dean (C.E.), HOD (I.T. & CoE)
13. Prof. D. Kumar, HOD (Applied Chemistry)
14. Prof. H.C. Taneja, HOD (Applied Mathematics)
15. Prof. B.D. Malhotra, HOD (Bio. Technology)
16. Prof. S.C. Sharma, HOD (Applied Physics)
17. Prof. S.K. Singh, HOD (Env. Engg.)
18. Prof. P.K. Suri, HOD (DSM)
19. Prof. Rajeev Kapoor, HOD (E & C)
20. Dr. Seema Singh, HOD (Humanities)
21. Prof. R.S. Mishra, Professor, Mechanical Engg. Department
22. Prof. R.K. Sinha, Professor, Deptt. of Applied Physics
23. Prof. A.K. Gupta, Professor, Civil Engg. Department
24. Prof. N.K. Jain, Electrical Engg. Deptt. (Special Invitee)
25. Sh. O.P. Shukla, COE
26. Col. Neeraj Suri (Retd.), Registrar

CE 901 DATA ANALYTICS FOR CIVIL ENGINEERS

Paper code: CE 901

Paper: Data Analytics for Civil Engineers

L	T	P	C
3	0	0	3

Hours: 40

***Objective:** This course is aimed at providing in-depth understanding of data analysis and testing involving statistical, stochastic, parametric and non parametric methods, application of fuzzy logic and artificial neural network in civil engg problems.*

Unit-1:

Preliminary Data Analysis: Graphical representation of data, stem and leaf plot, box plot and Q-Q Plots, random events, sample space, properties of random variables, discrete and continuous probability distribution, expectation and other population measures.

Unit-2:

Nonparametric Methods-Sign test applied to median, Wilcoxon signed-rank Test for association of paired observations, Tests on randomness: Runs test, Spearman's rank correlation coefficient, Chi-squared goodness-of-fit test.

Analysis of Variance: One-way analysis of variance, two-way analysis of variance.

Unit-3:

Box-Jenkins Models: Auto correlation function, the sampling distribution of auto correlations, Portmanteau test, stationarity of time series data, removing non stationarity, tests for stationarity, seasonal differencing, schematic representation of Box-Jenkins Methodology, ARIMA Models, estimating parameters and use of statistical software, diagnostic checking, forecasting with ARIMA models.

Unit-4:

Neuro Fuzzy Applications:

Basic concepts of Neural networks, network properties, node properties, sigmoid activation function, weights, inference and learning, single and multi layer perceptrons, back propagation algorithm, testing and validation of network performance.

Introduction to Fuzzy sets, rules and reasoning, Fuzzy Inference Systems (ANFIS) and Fuzzy optimization.

Text Books:

- | | | |
|------|---|--------------|
| [T1] | Michael E. Ginevan, Douglas E. Splitstone, "Statistical Tools for Environmental Quality Measurement", Chapman & Hall/CRC press. 2004. | (For Unit-1) |
| [T2] | Kottegoda N.T. and Rosso R., "Probability, Statistics and Reliability for Civil and Environmental Engineers", McGraw Hill, USA. 1997. | (For Unit-2) |
| [T3] | Spyros Makridakis, Steven C. Wheelwright, Rob J. Hyndman, "Forecasting-Methods and Applications" John Wiley & Sons, Inc, New York | (For Unit-3) |
| [T4] | Satish Kumar, "Neural Networks", Tata McGraw-Hill Pub. Com. Ltd", New Delhi | (For Unit-4) |
| [T5] | H.J. Zimmermann, "Fuzzy Set theory-And Its Applications", Allied Publishers Limited | (For Unit-4) |

Reference Books:

- | | |
|------|---|
| [R1] | Stokes M.E., Davis C.S., Koch G.G., "Categorical Data Analysis Using the SAS System". SAS Publishing, North Carolina. |
| [R2] | Ruppert D., "Statistics and Data Analysis for Financial Engineering", Springer, New York. |
| [R3] | Azzalini A., Scarpa B., "Data Analysis and Data Mining- An Introduction", Oxford University Press, New York. |
| [R4] | B. Yegnanarayana, "Artificial Neural Networks", Prentice Hall of India Pvt. Ltd. New Delhi |

क्रमांक

Serial No.

000001



अनुक्रमांक

Roll No.



डॉक्टर ऑफ् फिलॉसफी

की उपाधि

विश्वविद्यालय की शैक्षणिक परिषद् की अनुशंसा पर

को जिन्होंने इस उपाधि को प्रदान किए जाने हेतु विश्वविद्यालय के अध्यादेशों के तहत निर्धारित
अपेक्षाओं कोमें सफलतापूर्वक पूर्ण कर लिया है।

शोध प्रबन्ध शीर्षक:

इन्हें उक्त उपाधि से दीक्षान्त समारोह.....में विभूषित किया गया।

Doctor of Philosophy

upon the recommendation of the Academic Council of University

is awarded the degree of Doctor of Philosophy

who has successfully completed the requirements prescribed under the Ordinance of the
University for the award of the degree, in.....

Thesis Title:

He/She is admitted to the said Degree at Convocation held in.....

- 2 -

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1101 0110 1010 1100 0011 1010 0011 1001

S. No.

DELHI TECHNOLOGICAL UNIVERSITY

(Formerly Delhi College of Engineering)

STATEMENT OF MARKS

Executive MBA

(Delhi School of Management)

Name : ABHIJEET GOKHALE

Roll No. : 2K13/MBA/501

Month & Year of Examination : DECEMBER, 2013

Semester : FIRST

Subject Code	Subject Title	Sessional Marks		End Sem. Marks		Total Marks		Credits Secured	Grade
		Max.	Obt.	Max.	Obt.	Max.	Obt.		
EMBA-101	MANAGEMENT PROCESS & ORGANIZATIONAL BEHAVIOR	40	30	60	49	100	79	3	B+
EMBA-102	FINANCIAL ACCOUNTING	40	28	60	32	100	60	3	B
EMBA-103	MARKETING MANAGEMENT	40	33	60	35	100	68	3	B
EMBA-104	MANAGERIAL ECONOMICS	40	30	60	40	100	70	3	B+
EMBA-105	QUANTITATIVE METHODS	40	21	60	29	100	50	3	C+
EMBA-106	PRODUCTION & OPERATIONS MANAGEMENT	40	32	60	40	100	72	3	B+
EMBA-107	COMPUTER APPLICATIONS IN MANAGEMENT	40	34	60	46	100	80	3	A
EMBA-108	TERM PROJECT			100	85	100	85	5	A
EMBA-109	COMPREHENSIVE VIVA VOCE			100	87	100	87	4	A
						900	651	30	

A : Absent

D : Detained

Credits Secured / Total : 30 / 30

Aggregate Marks Obtained (in Words) : Six Hundred Fifty One

Oct 28, 2014

Date of Declaration of Result

Jan 1, 2014



- 3 -

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CONTROLLER OF EXAMINATIONS

C O P Y C O P Y



S. No.

DELHI TECHNOLOGICAL UNIVERSITY

(Formerly Delhi College of Engineering)

STATEMENT OF MARKS

Doctor of Philosophy

(Department of Bio Technology)

Course Work

Name :

Roll No. : 2K09/PHDBT/

Month & Year of Examination : DECEMBER, 2009

Subject Code	Subject Title	Sessional Marks		End Sem. Marks		Total Marks		Credits Secured	Grade
		Max.	Obt.	Max.	Obt.	Max.	Obt.		
BT-501	ADVANCED PROTEOMICS	50	38	100	60	150	98	3	B
BT-502	BIOINFORMATICS-I	50	29	100	82	150	111	3	B+
BT-503	POPULATION GENETICS	50	41	100	58	150	99	3	B
						450	308	9	

A : Absent D : Detained

-4-

Sep 2, 2014

Date of Declaration of Result Feb 20, 2014



DELHI TECHNOLOGICAL UNIVERSITY

(Formerly Delhi College of Engineering)

STATEMENT OF MARKS

Consolidated Report

Bachelor of Technology (Evening)

Civil Engineering

Name: ANKIT PAL

Roll no: 2K10/CECE/04

Paper Code	Subject Title	C	M	Paper Code	Subject Title	C	M
Semester : I SPI 70.60				Semester : II SPI 76.73			
CECE-101	ENGINEERING ECONOMICS	6	62	CECE-201	APPLIED MATHEMATICS	6	74
CECE-102	APPLIED PHYSICS	6	79	CECE-202	GEOLOGY & GEOTECHNICAL ENGINEERING	6	66
CECE-103	APPLIED CHEMISTRY	6	76	CECE-203	ENGINEERING MECHANICS	6	75
CECE-104	COMMUNICATION SKILLS	4	64	CECE-204	ENGINEERING MATERIALS	4	80
CECE-105	APPLIED PHYSICS LAB	4	60*	CECE-205	GEOLOGY & GEOTECHNICAL ENGINEERING LAB	4	82
CECE-106	APPLIED CHEMISTRY LAB	4	80	CECE-206	ENGINEERING MECHANICS LAB	4	91
Semester : III SPI 69.87				Semester : IV SPI 72.20			
CECE-301	NUMERICAL TECHNIQUES & COMPUTER PROGRAMMING	6	63	CECE-401	GEOTECHNICAL ENGINEERING-I	6	72
CECE-302	ELECTRICAL & ELECTRONICS ENGINEERING	6	64	CECE-402	BUILDING CONSTRUCTION & CONCRETE TECHNOLOGY	6	64
CECE-303	HYDRAULICS ENGINEERING-I	6	67	CECE-403	THEORY OF STRUCTURES-I	6	81
CECE-304	ENGINEERING SURVEY	4	79	CECE-404	HYDRAULIC ENGINEERING-II	4	76
CECE-305	ELECTRICAL & ELECTRONICS ENGINEERING LAB	4	79	CECE-405	ENGINEERING SURVEY & REMOTE SENSING LAB	4	83
CECE-306	COMPUTER PROGRAMMING LAB	4	75	CECE-406	HYDRAULIC ENGINEERING LAB	4	57*
Semester : V SPI 73.00				Semester : VI SPI 73.60			
CECE-501	THEORY OF STRUCTURES-II	6	82	CECE-601	DESIGN OF RCC STRUCTURE-II	6	79
CECE-502	DESIGN OF RCC STRUCTURE-I	6	73	CECE-602	ENVIRONMENTAL ENGINEERING-II	6	80
CECE-503	GEOTECHNICAL ENGINEERING-II	6	50	CECE-603	TRANSPORTATION ENGINEERING-I	6	83
CECE-504	ENVIRONMENTAL ENGINEERING-I	4	89	CECE-604	WATER RESOURCE ENGINEERING-I	4	53*
CECE-505	ENGINEERING MATERIALS & CONCRETE TECHNOLOGY LAB	4	81	CECE-605	STRUCTURE ANALYSIS LAB	4	63
CECE-506	GEOTECHNICAL ENGINEERING LAB	4	70	CECE-606	ENVIRONMENTAL ENGINEERING LAB	4	73
Semester : VII SPI 69.60				Semester : VIII SPI 67.20			
CECE-701	DESIGN OF STEEL STRUCTURE	6	47	CECE-801	CONSTRUCTION TECHNOLOGY MANAGEMENT & SPECIFICATIONS	6	57
CECE-702	WATER RESOURCES ENGINEERING-II	6	59	CECE-802	ADVANCED SOIL MECHANICS	6	56
CECE-703	TRANSPORTATION ENGINEERING-II	6	86	CECE-803	GROUND IMPROVEMENT TECHNIQUE	6	65
CECE-704	ESTIMATION & COSTING	4	65	CECE-804	GROUND IMPROVEMENT TECHNIQUE LAB	4	83
CECE-705	TRANSPORTATION ENGINEERING LAB	4	82	CECE-805	MAJOR PROJECT	8	154
CECE-706	DETAILING OF RCC STRUCTURES	4	87				

CREDITS EARNED/TOTAL CREDITS : 240/240

DIVISION : FIRST CLASS

CPI : 72.39

CPI has been calculated on the basis of best 228 earned credits. The marks (*) have not been taken into account for calculating CPI. "C" indicates subject credit earned. "M" indicates marks secured.

RESULT : PASSED

-5-

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Nov 4, 2014

Date of Declaration of Result 28/10/2014

Memorandum of Understanding

This MOU is entered into on this ____ day of November, 2014

Between

M/s Samsung India Electronics Pvt. Ltd., a Company registered under the companies Act, 1956 having its Registered office at Suites No.101-103, First Floor, Copia Corporate Suites, Plot No.9, Jasola District Center, New Delhi-110025 through its authorized signatory **Mr. Jeonghwan Lee, Chief Financial Officer (Mobile R&D Division)**, hereinafter referred to as "**SIEL**" which expression shall, unless repugnant to the context or meaning thereof, mean and include its successors, and assigns of the One part;

And

Delhi Technological University, [Formerly DELHI COLLEGE OF ENGINEERING] an University established under **Govt. of Delhi, Act 6, of 2009** having its office at **Shahbad, Daulatpur, Bawana Road, Delhi-110042, INDIA** through its authorized signatory **Prof. O.P. Verma , Dean(Continuing Education)** hereinafter referred to as "**DTU**", which expression shall, unless it be repugnant to the context or meaning thereof, be deemed to mean and include its successors and permitted assigns) of the OTHER PART;

Hereinafter SIEL and the DTU shall singularly be referred to as "Party" and collectively as "Parties".

Whereas SIEL and DTU are desirous of setting up a framework for Knowledge-Sharing/Tutorials, Company-Sponsored Higher Education Programs, Internship for Students, Joint Research Projects etc.

NOW THIS MOU WITNESSETH AS UNDER:

1. SCOPE OF MOU

1.1 Cooperation in Knowledge Sharing through In-house tutorials, workshops conducted by DTU for employees of SIEL.

1.2 SIEL sponsored doctoral and post graduate program at DTU for employees of SIEL.

1.3 Internship for the students of DTU in SIEL.

1.4 Joint Research projects.

— 6 —



2. SALIENT FEATURES of the Understanding

- 2.1 DTU shall conduct classes for M.Tech. & Ph.D. students of SIEL.
 - 2.1.1 Frequency of classes: At least twelve (12) per semester per Subject (can be more depending upon the course requirement)
 - 2.1.2 Duration of each Class: 3 Hrs. & Lab Class- 2 hrs.(approx.)
 - 2.1.3 Fees & Per Visit Charges: As mentioned in Clause 2 of this MoU, as may be mutually amended by Parties in writing.
 - 2.1.4 Curriculum for Tutorials: to be finalized after discussions between DTU and the technical team from SIEL.
- 2.2 DTU shall provide 2 seats per year for employees of SIEL for Ph.D. Program.
 - 2.2.1 Eligibility Criteria:
 - As per DTU Ordinance issued from time to time.
 - All the eligible employees will be required to pass through the admission process as followed by other Ph.D. candidates at DTU.
 - 2.2.2 Fees:

Fees for Ph.D. course will be Rs. 30,500 (Rupees Thirty Thousand Five Hundred Only) per annum per participant which includes onetime refundable security deposit of Rs. 5000 and enrollment fee of Rs 200. Fees may be reviewed year on year with mutual written agreement of Parties. SIEL shall sponsor the selected employees for first 3 years only. For any extension beyond 3 years, DTU shall take fees directly from the concerned employee.
 - 2.2.3 Duration of the course:

As per DTU ordinance issued from time to time.
 - 2.2.4 In case any employee undergoing the above mentioned Ph.D. program leaves the services of SIEL, he / she may continue with the said Ph.D. Program at the discretion of DTU. However, in such case SIEL shall not be liable to pay / sponsor any fees and DTU shall be responsible to take fees directly from such employee.

- 2.3. DTU shall provide customized M.Tech. program for SIEL employees. Classes for the same would be conducted on weekends. Approximately Twenty (20) participants shall be provided by SIEL per year.

2.3.1 Eligibility Criteria:

B.Tech./B.E. Degree in Computer Engineering / Software Engineering / Information Technology / Electronics & Communication / Electrical & Electronics Engineering /Electrical Engineering/Instrumentation & Control Engineering or M.C.A /M. Sc (CS/IT)(with Mathematics at B.Sc./B.C.A level) with minimum Cumulative Grade Point Average (CGPA) of 6.75 on 10 point scale or 60% marks in aggregate from a recognized university or any other examination recognized by DTU equivalent thereto.

2.3.2 Fees:

Fees for M.Tech. Course will be Rs. 1, 70, 000 (Rupees One Lac Seventy Thousand Only) per annum. In addition to this refundable security deposit of Rs. 5000 will be charged only once at the time of admission. This fee structure will be applicable for all upcoming batches in the next three years (2014 onwards). SIEL shall sponsor the selected employees.

2.3.3 Duration of the course:

3 Years

- 2.3.4 In case any employee undergoing the above mentioned M.Tech. Program leaves the services of SIEL before completion of 5th semester, he / she shall not be entitled continue with the said M.Tech. Program and SIEL shall not be liable to pay / sponsor any fees for such employee.

- 2.4 DTU shall explore opportunity to provide SIEL a higher status as a Company in its Recruitment process.

- 2.5 SIEL will recruit up to 5 Interns from DTU for 6 weeks as a special case. The students will be exposed to live projects of SIEL.

2.5.1 Eligibility Criteria:

-The student must have completed 3rd Year.

-The student must qualify the GSAT (Global Samsung Aptitude Test) and the Technical test conducted by SIEL to recruit Interns.

2.5.2 Stipend:

— 8 —

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- As mutually agreed between the Parties in writing and may be reviewed year on year.

- 2.6 SIEL may conduct up to 10 lectures for students of DTU to give them an Industrial perspective in DTU campus. Senior employees of SIEL will take these lectures in DTU campus free of cost.
- 2.7 SIEL may explore opportunity for joint project with DTU in the areas of Computer Engineering, Electronics & Communications, Information Technology and Software Engineering. A meeting shall be organized by SIEL with the senior DTU faculty to identify the project. The scope of the project shall be decided after identification of the project.
- 2.8 For every year during the term of the MoU, SIEL shall provide one sponsorship of upto Rs. 2,50,000/- (Rupees Two lacs and fifty thousand only) for Technical festival events to be conducted by DTU in its premises.
- 2.9 For every year during the term of the MoU, SIEL shall sponsor six (06) Ph.D. fellowships, two (02) each for Department of Electronics and Communications, Computer Engineering and Information Technology at DTU for the benefit of DTU's students. The process for this facilitation shall be mutually agreed upon in writing between the Parties. Admission process of above will be as per the DTU norms and will be conducted at DTU.
- 2.10 SIEL shall provide travelling allowance/visiting charges to the faculty (Rs. 4,000/- per visit) and lab assistants (Rs. 2,000/- per visit) of DTU who would be visiting the premises of SIEL.
- 2.11 SIEL shall conduct lectures through its senior employees/guests at DTU to build a knowledge sharing relationship, as per the schedule mutually agreed between the Parties. The material of such lectures shall be finalised by SIEL and SIEL will not disclose any information which is confidential or proprietary to SIEL.
- 2.12 SIEL shall provide infrastructure for conducting the classes at SIEL premises.
- 2.13 Some theory/lab/seminar or project classes in each semester will be held at DTU campus **on mutual consent between both the parties.**

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- 2.14 Any patent or intellectual property right developed/invented or created by any employee or intern of SIEL during his/her Ph.D. and M.Tech. course under this MoU or internship at SIEL shall be owned exclusively by DTU if the said work is part of the course curriculum of M. Tech/PhD.

3. TERM & TERMINATION

- 3.1 This MOU will initially be valid for a period of 3 (three) years from 15th November 2014 (the Effective Date) and the same can be extended on such other terms and conditions that may be mutually agreed upon in writing between the Parties.
- 3.2 Either party may terminate this MOU at any time without cause upon giving not less than Thirty (30) days prior written notice in that behalf.
- 3.3 The termination of this MOU shall be without prejudice to the rights and remedies of either Party which may have accrued upto the date of termination.
- 3.4 Any termination of this MOU (for whatever reason) shall not affect the coming into force or the continuance in force of any provision of this MOU which is expressly or by implication intended to come into or continue in force on or after such termination. Particularly, DTU shall be bound to complete the entire M. Tech and Ph. D program for all SIEL employees who got enrolled in the program upto the date of expiry or termination or upto the end of the program.

4. DISPUTE RESOLUTION & JURISDICTION

- 4.1 All disputes and differences of any kind whatsoever, any claim, cross-claim, counter claim or set-off regarding any right, liability, act, omission on account of any of the Parties hereto arising out of or in relation to this MOU or any matter incidental thereto shall be referred to sole arbitration of an arbitrator mutually agreed upon and appointed by SIEL and DTU. The arbitration proceedings shall be in accordance with Arbitration and Conciliation Act, 1996.
- 4.2 It is hereby expressly agreed that the powers of the Arbitrator appointed in the matter shall include the power to make interim order/awards as the circumstances of the case may justify, to appoint a receiver, commissioner or custodian, whatever name called to take the possession of property in dispute/unpaid sales during the pendency of the proceedings; and subject to such final

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order as may be passed by the Arbitrator and shall also have the power to issue such further orders from time to time as he may deem fit.

- 4.3 The award of the Arbitrator shall be final, conclusive and binding on all the Parties to the MOU.
- 4.4 The seat of arbitration shall be at New Delhi.
- 4.5 All such disputes which may form part of this MOU are subject to jurisdiction of competent Courts in Delhi only
- 4.6 None of the Parties shall be entitled to commence or maintain any action in a Court of Law upon any matter in dispute arising from or in relation to this MOU except for the enforcement of an arbitral award granted pursuant to this Clause.
- 4.7 During the period of submission of arbitration and thereafter until the granting of the award, the Parties shall, except in the event of termination, continue to perform all their obligations under this MOU without prejudice to a final adjustment in accordance with such award.
- 4.8 Neither of the Parties shall disclose the existence, content, or results of any arbitration hereunder without the prior written consent of each of the others.

5. GENERAL

5.1 Relationship

The DTU agrees that that this MOU is strictly on a principal to principal basis. Under no circumstance the Company shall be deemed to have directly instructed, communicated or corresponded with any of DTU's employees in relation to Services under this MOU. This MOU is not intended to and shall not be deemed to bring into existence a relationship of principal and agent between the Company and the DTU.

5.2 Confidentiality

DTU and its employees/Associates shall treat the terms and conditions of this indenture as strictly confidential and shall hold all information, data, material, instructions, communications, or, whether received in writing or oral form, from **SIEL** by **DTU**. The

breach of this clause shall be construed as a material breach and SIEL may terminate this MOU forthwith in case of breach on the part of DTU. The Parties also agree:

- (i) to maintain and use the confidential information only for the purposes of this MOU and only as permitted/authorized herein;
- (ii) to only make copies as specifically authorized by the prior written consent of the other party and with the same confidential or proprietary notices as may be printed or displayed on the original;
- (iii) to restrict access and disclosure of confidential information to such of their employees, associates and agents on a "need to know" as is basis, and upon the execution of a written undertaking from such employees, associates and agents to maintain confidentiality of the confidential information disclosed to them;
- (iv) The Parties hereby agree to maintain the confidentiality of the Confidential Information for a period of five (5) years from the date of receipt and three (3) years from the date of such termination, whichever is later.
- (v) DTU agrees that any of SIEL's technical or business or commercial information that DTU's employees, associates or agents acquire while on SIEL's premises, or through access to SIEL's computer systems or databases while on or off SIEL premises, shall be deemed Confidential information.
- (vi) All information provided by SIEL to DTU shall, at all times, remain the sole and exclusive property of SIEL. Upon termination/expiry of this MOU, confidential information shall be returned to SIEL or destroyed in accordance with the instructions of SIEL and evidence of such destruction provided to SIEL to its reasonable satisfaction. SIEL may at its sole option, witness the destruction.

5.3 Force Majeure

Upon the happening of a Force Majeure event preventing either Party from performing its respective obligations hereunder, the affected Parties obligation to perform such obligations shall be suspended during the period affected by Force Majeure. The Party suffering such event will promptly

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notify the other Party in writing and if the period of suspension lasts for longer than thirty (30) Days, then the either Party may decide at any time thereafter to terminate all or any part of this MOU.

5.4 Notices

The addresses and other information for service of notices to the Parties are as under

IF TO SIEL:

Samsung India Electronics Pvt. Ltd.

Ground to 10th Floor, Tower D and 8th to 10th Floor Tower C,
Logix Cyber Park, C-28&29
Sector – 62, Noida -201301
Uttar Pradesh

IF TO DTU:

DELHI Technological UNIVERSITY
[Formerly DELHI COLLEGE of ENGINEERING],
Shahbad, Daulatpur,
Bawana Road
Delhi-110042

- (i) Any changes in the above particulars of a Party shall be conveyed to the other Party in writing without delay.
- (ii) Any notices sent under this MOU must be in writing and may be served by personal delivery with due acknowledgment or by registered post at the address given above or at such other Indian address as the relevant Party may give for the purpose of service of notices under this MOU.

5.5 Assignment

Either Party shall not assign or subcontract its rights or obligations under this MOU or any part thereof without the prior written consent of the other party. Either Party shall be responsible for the acts, defaults and neglect of any assignee or any subcontractor performing any part or parts of the Services and also for the acts, defaults and neglect of the servants, agents, workmen and subcontractors of the assignee or subcontractor as if the said acts, defaults, and neglect were those of either Party.

5.6 Continuing Obligation

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Unless and until this MOU expires or is lawfully terminated pursuant to any other provision of this MOU, both Parties shall continue to perform their respective obligations under this MOU.

5.7 Indemnification

DTU undertakes to indemnify, defend, compensate and hold harmless SIEL from and against any and all third party claims, damages, demands, liabilities, costs and expenses, arising by reason of any:

- (i) Breach of maintaining confidentiality or infringement of any intellectual property rights or any provision of the MoU by DTU.
- (ii) Failure or non-compliance or negligence to comply with the applicable laws, rules or regulations by DTU.
- (iii) Negligent or willful acts or omissions of DTU resulting in bodily injury or death to any person or loss or damage to any property (tangible or intangible).

It is hereby warranted that DTU shall include its employees, directors, representatives, associates or agents or persons with whom it has contracted or dealt with in any way in connection with its performance hereunder.

5.8 Severability

If any section, paragraph or clause in this MOU shall be held to be invalid or unenforceable in any jurisdiction, in which this MOU is being performed, then the meaning of such section, paragraph or clause shall be so constructed so as to render it enforceable to the extent feasible and if not feasible interpretation would save such section, paragraph or clause it shall be severed from the MOU. If such paragraph or clause is considered an essential element of this MOU, the parties shall promptly negotiate a replacement thereof. In the event the parties are unable to agree upon the replacement within 30 (thirty) days of the final rendering such terms invalid or unenforceable, **SIEL** may terminate this MOU upon 90 (ninety) days written notice.

5.9 Entire Agreement

This MOU and documents attached herewith constitute the entire understanding between the Parties with respect to the subject matter hereof. No changes, amendments, modifications or waiver of any of the terms and conditions hereof shall be valid unless reduced to writing and signed by duly authorised representatives of both parties hereto.

IN WITNESS WHEREOF the Parties have executed these presents on the day and year herein above written.

For Samsung India Electronics Pvt. Ltd.	For Delhi Technological University
Jeonghwan Lee Chief Financial Officer (Mobile R&D Division)	Prof. O.P. Verma Dean, Continuing Education

WITNESSES

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