DELHI TECHNOLOGICAL UNIVERSITY

Minutes of

18th Meeting

of

Academic Council

held on 20.04.2018

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-VII/ 4418 – 68   Dated : 4|5|18

Minutes of the 18th meeting of the Academic Council held on 20.04.2018 at 11.00 A:M in the Senate Hall of DTU.

The 18th meeting of the Academic Council of DTU was held on 20.04.2018 at 11.00 A:M in the Senate Hall of DTU.

The following members were present:

1. Prof. Yogesh Singh, Vice Chancellor, DTU.
2. Prof. S.K. Garg, Pro Vice Chancellor (I).
3. Prof. Anu Singh Lather (Pro Vice Chancellor-II)
4. Prof. Surendra Yadav, Professor of Management, IIT, Delhi
5. Sh. Lokesh Mehra, (FICCI nominee)
6. Prof. Smriti Srivastava, Head-Division of ICE, NSIT, Delhi
7. Prof. R.S. Mishra, Dean (Outreach & Extn. Activities)
8. Prof. Madhusudan Singh, Dean Academic (UG), DTU
9. Prof. H.C. Taneja, Dean Academic (PG), DTU
10. Prof. Ashutosh Trivedi, Dean (IRD)
11. Prof. Samsher, Dean (SW) & Registrar, DTU
12. Prof. Vishal Verma, Dean (International Affairs), DTU
13. Prof. Pragati Kumar, Dean (Continuing Education)
14. Prof. Pravir Kumar, Dean (Alumni Affairs), DTU
15. Prof. Nirendra Dev, HOD (Civil Engg. Deptt.)
16. Prof. Vipin, HOD, Mechanical Engg. Department
17. Prof. S.C Sharma, HOD (Deptt. of Applied Physics)
18. Prof. Jai Gopal Sharma, HOD (Bio-Technology Deptt.)
19. Prof. Sangita Kansal (HOD- Applied Mathematics Deptt.)
20. Prof. S. Indu, HOD (E & C Deptt.)
21. Prof. Kapil Sharma, HOD (Deptt. of I.T.)
22. Dr. Rajni Jindal, HOD (Comp. Sc. Engg.)
23. Dr. Archana Rani, HOD (Applied Chem. Deptt.)
24. Dr. Nand Kumar, HOD (Humanities)
25. Dr. Rajan Yadav (HOD-DSM)
26. Dr. R.S. Walia, HOD (T&P)
27. Sh. Kamal Pathak, Controller of Examinations, DTU
28. Prof. Narendra Kumar-I, Electrical Engg. Deptt.
29. Dr. Rajesh Rohilla, Associate Professor
30. Dr. Nitin Puri, Assistant Professor

Following persons have also attended the meeting as Special Invitee:
1. Prof. G.C. Maheshwari, Professor, DSM
2. Prof. Narendra Kumar-II, Chairperson, Board of Discipline
3. Prof. P.K. Suri, Chairperson, JAC
4. Sh. D.P. Dwivedi, Consultant, Finance & Planning
5. Prof. Rajeshwari Pandey, Associate Dean (UG)
6. Prof. Amit Srivastava, Associate Dean (Outreach & Extension)
7. Dr. S.G. Warker, Associate Dean (Student Welfare)
8. Prof. M.M. Tripathi, Director, IQAC
9. Prof. Neeta Pandey, Coordinator, USIP
10. Dr. Naokant Deo, Chairperson, NSS
11. Dr. R.C. Singh, Chairperson, Sports Council
12. Sh. Anil Kumar, Deputy Registrar (PG/IRD)

Sh. S.G. Deshmukh, Director – IIITM, Gwalior, Prof. Tarun Kumar Das (Registrar, University of Delhi), Dr. Bhim Singh (IIT Delhi), Prof. S.K. Singh, HOD (Environmental Engg. Deptt.), Prof. Naveen Kumar and Prof. Rakesh Kumar could not attend the meeting due to their pre-occupation.

Agenda 18.1   :   Opening Remarks by the Chairman.

The Hon'ble Vice Chancellor welcomed the members of the Academic Council and informed the Council that as per NIRF ranking, the DTU has been placed at 41 in Engineering section, 70 in University section and overall ranking at 100. He further expressed that the present ranking is not as per our expectation and perception of people of Delhi. He made the detailed presentation about comparative marks scored by DTU, viz a viz BITS Pilani (a similar institute), and IIT Madras (Top Engineering Institute) to explore the possibility of improvement in 5 major parameters; teaching and learning, research and publication practice; graduation outcome and outreach and perception. It was evident from the presentation that we have got very less score in some of the areas such as IPR, foot print of project and professional practice, outreach activities, number of Ph.Ds produced, number of faculty having Ph.D degrees etc. Under the heading utilisation of financial resources, the DTU has scored very less compare to other institutions. However, as per financial statement of the previous years, it seems that the right data was not submitted to the NIRF. The Vice Chancellor expressed his displeasure for not putting the right data. He further requested all the HoDs for motivating the newly, contractual and regular faculty members who are not registered for Ph.D to register for Ph.D. Out of total 360 faculty members including guest faculty, around 80 are not Ph.D. He announced that the faculty who are taking admission for Ph.D this year, they will be exempted from appearing in the screening or admission test. This exemption is only for admission in the academic year 2018-19. He further, requested all HoDs that the guest faculty if required to be engaged, they should have Ph.D degree. Vice Chancellor emphasized that the faculty members should submit the projects to different funding agencies to enhance the research component.

Vice Chancellor further, informed that the second phase of DTU construction has been approved by the Govt. and also cleared by Urban Development and other departments of NCT of Delhi. PWD has also appointed Architect and is going to float the tender for the construction. DTU has also instituted award to motivate the faculty members for doing research. Total 82 papers are selected for award in the current year. Out of which 6 in the premium category and 76 in commendable paper category. He further informed that the DTU is going to float tender for construction of 10 lecture halls, faculty rooms, multipurpose hall and design department within 04 weeks. Online attendance system has been implemented successfully. More than 95% faculty are using the online attendance system which has improved the class room teaching environment.

Agenda 18.2 : **Confirmation of the minutes of the 17th meeting of Academic Council held on 01.12.2017.**

The Minutes of the 17th meeting of the Academic Council held on 04.12.2017, were circulated among all the members vide Ref. No.DTU/ORG/ AC/Meeting/01(1)/2010/Vol-VII/3607-27 dated 07.12.2017, no comments have been received from any of the members.

Decision : **The Academic Council confirmed the minutes of 17th AC meeting.**

Agenda 18.3 : **Action taken report on the decisions taken in the 17th meeting of the Academic Council.**

Action taken report was presented to the Academic Council.

Decision : **The Academic Council took the action taken report on record.**

Agenda 18.4 : **Approval for Course Structure, Syllabus of Four Year Bachelor of Design (B Des.) Programme and Vision & Mission of the Department of Design.**

The Board of Management in its 27th meeting held on 23.02.2018 has approved the following for B.Des. programme:

1. To **start a new under graduate program in Design named B.Des** to foster the needs of developing human resource who can transform the manufacturing and service sectors by visualizing and creating designs of products, services and systems to meet the requirements of the competitive market. In the recent past, a lot of emphasis has been placed on innovations, creativity, design and development by the business houses to remain relevant in the industry. A brief outline is placed as *Annexure at page 01 to 02.*

To have an intake at 60 students and admissions to be conducted through counseling by DTU based on UCEED score (UCEED- Undergraduate Common Entrance Examination for Design) conducted by Industrial Design Centre (IDC), IIT Bombay.

2. **Creation of a separate department named as Department of Design** to run the program B.Des planned to be started from Academic session 2018-19.

3. **Teaching and Non Teaching Staff for B. Des**: With an intake of 60 students, the total number of students in a 4 year program shall be 240 and keeping a Student Teacher ratio of 15:1, the program needs 16 faculty members. Further considering Cadre ratio of 1:2:6, the 16 posts can be divided as follows:

Professors	2
Associate Professor	3
Assistant Professor	11

Non-Teaching Staff: As per norms, the non-teaching to teaching staff ratio is 1.1 i.e., 16*1.1= 18. Further out of non- teaching posts, 0.6 is technical (18*0.6 = 11) and 0.4 is ministerial (18*0.4 = 7).
Technical posts to be created (Total 11)

Sr. Technical Assistant:	2
Technical Assistant:	3
Jr. Technical Assistant:	6

Non-Teaching Non-Technical Posts (Total 7) to be deployed in the University/ Department.

Section Officer:	1
Stenographer:	1
Office Assistant:	2
Junior Office Assistant:	3

4. **Temporary transfer of Existing Sanctioned Teaching post at DTU to Department of Design**: From the post sanctioned earlier for the Engineering and Management programs, four posts were kept unallocated primarily for future use depending upon new electives etc. It is proposed to allocate three out of these four posts to Design Department, the Faculty so appointed will teach to B. Des students as well as offer electives for engineering students. Further, it is proposed that to run the program with highest quality, right from the beginning, the board may approve transfer of one post of Professor of Computer Science Department on a temporary basis which will be returned to them after the posts of design department are sanctioned by the Government of Delhi.

Recruitment Rules: Recruitment rules in line with existing RR's of other disciplines and placed as **Annexure at page 03 to 08** for Assistant Professor, Associate Professor and Professor.

The advertisement for the recruitment of faculty has been released and the last date of applications has been fixed as 11.05.2018.

Decision : **The Academic Council approved the Course Structure, Syllabus for first 2 semesters of Four Year Bachelor of Design (B.Des.) Programme of the Department of Design and for the remaining semesters will be decided later on. The Council also authorized VC to make changes in the curriculum, if necessary.**

Agenda 18.5 : **Approval for Ordinance VII for 04 year Bachelor of Design (B.Des.) Programme.**

It was submitted to the Academic Council that the University has envisaged to introduce Bachelor of Design (B.Des.) 04 year degree programme in DTU from the Academic Session 2018-19 with a view to foster the needs of developing human resource who can transform the manufacturing sector taking place in the fields of technology, environment and management with confidence. It is proposed to create separate department named Department of Design to administer this programme accordingly an Ordinance VII, 2018 meant for 04 year undergraduate degree programme in Bachelor of Design (B.Des.) has been framed which was placed before the Council for its approval.

Decision : **The Academic Council deliberated and decided to constitute a committee comprising following members to examine and suggest suitable changes in the Ordinance and Regulations (if any):**
1. **Prof. S.K. Garg, Pro VC (I)**
2. **Prof. Madhusudan Singh, Dean Academic (UG)**
3. **Prof. H.C. Taneja, Dean Academic (PG)**
4. **Sh. Kamal Pathak, Controller of Examinations**
5. **Sh. D.P. Dwivedi, Consultant, (F&P)**
6. **Prof. Rajeshwari Pandey, Associate Dean, Academic (UG) - Secretary**

The Council also authorized VC to accept the recommendations of the committee and thereafter place the Ordinance (VII) and Regulations therein before the Board of Management for approval and its implementation in 04 Year Bachelor of Design (B. Des.) Programme from the academic session 2018-19.

Agenda 18.6 : Approval for Academic Calendar, 2018-19.

It was submitted to the Academic Council that the University has formulated the academic calendar for the academic year 2018-19 which is placed as *Annexure at page 09.*

Decision : The Academic Council approved the academic calendar for the year 2018-19. However, during odd/even semester break the classes will remain suspended but the University will remain open.

Agenda 18.7 : Approval for introduction of foundation courses in B.Tech. Programmes as per the CBCS guidelines of UGC.

It was submitted to the Academic Council that the university has envisaged to introduce foundation courses in B.Tech programme as per the CBSC guidelines of UGC. There are 14 B.Tech programmes running in the university. The total credit requirement in B.Tech programme is 173.

Decision : The Academic Council after detailed deliberations, approved the following:
1. Deletion of two courses namely FEC 33 (International Trade) and FEC 46 (Mass Communication Concepts & Processes).
2. Dean, Academic (UG) is authorized to do minor changes in FEC 35 i.e. Computer Fundamentals and also shifting of some of the courses from semester I to VI into the foundation electives.
3. Shifting of Environmental Sciences to Foundation Elective and every student will have to earn at least two credits from courses on Environmental Sciences/Engineering to be eligible for award of the degree of B.Tech. He/she may opt any of such courses from the basket of Fes/DEC/DCE/OEC/GEC category of courses. The details of the foundation courses added and the consequent changes in the existing scheme w.e.f. the Academic Session 2018-19 are placed as Annexure at page 10 to 35.

Agenda 18.8 : Approval for inclusion of an Elective Course in B. Tech. (Biotechnology) VIII Semester.

It was submitted to the Academic Council that a request for inclusion of an elective course on "Environmental Biotechnology" in B. Tech. (Biotechnology) VIII Semester has been received from HoD (Biotechnology) as under :

1. Subject Code: BT-426   Course Title: Environmental Biotechnology
2. Contact hours: L: 3   T: 1   P: 0
3. Examination Duration (H): Theory: 3   Practical: 0
4. Relative weightage: CWS: 25   PRS:- MTE: 25   ETE: 50 PRE: -
5. Credits: 4
6. Semester: VIII
7. Subject Area: DEC
8. Pre-requisite: Nil
9. Objective: To impart knowledge about the environment structure and its balance, Pollution and its measurement. The strategies to reduce the pollutant concentrations in the biosphere.

Details of Course :-

S.No.	Contents	Contact Hours
1.	**Environmental Pollution:** Types of pollution, methods for the measurement of pollution; Methodology of environmental management the problem-solving approach, its limitations.	6
2.	**Air Pollution and its Control through Biotechnology:** Active trace gases in air, reactive odd nitrogen, carbon, sulfur and Halogen compounds in air, aerosols in air, direct and indirect effect on radioactive forcing, Bio-filtration	8
3.	**Water Pollution and its Control:** Water resource management, waste water collection, Measurement of water pollution, sources of water pollution, waste water treatment - physical, chemical and biological treatment processes. Activated sludge, oxidation ditches, trickling filter, towers, rotating discs, rotating drums, oxidation ponds. Ananerobic processes of biological treatment- Anaerobic digestion, anaerobic filters. Upflow anaerobic sludge blanket reactors; Treatment schemes for waste waters of dairy, distillery, tannery, sugar, antibiotic industries	8
4.	**Microbiology of Degradation of Xenobiotics in Environment:** Ecological considerations, decay behavior and degradative plasmids: Hydrocarbons, substituted hydrocarbons, oil pollution, surfactants, pesticides.	6
5.	**Solid Wastes:** Treatment and Management: Sources of solid waste and management (composting, Vermiculture and methane production) Bioremediation of contaminated soils and waste land, Biopesticides in integrated pest management.	8
6.	**Global Environmental Problems:** Ozone depletion, greenhouse effect and acid rain, their impact and biotechnological approaches for management.	6
	Total hours	42

Text books:

1. Comprehensive Biotechnology by M. Moo- Young. 4-volume set Publisher: Pergarmon Press (1985)

2. Environmental Chemistry AK. De. Publisher: New Age Publications (Academic) India (2006)

Reference books:

1. Introduction to Biodeterioration by D. Allsopp and K.J. Seal. Publisher ELBS/Edward Arnold.(1986)
2. Waste Water Engineering - Treatment and Reuse by Metcalf, Eddy and G. Tchobanoglous. Publisher: Tata
McGraw Hill (2002)
3. Microbiology by Bernard D. Davis, Renato Dulbecco, Herman N. Eisen and Harold S. Ginsberg. Publisher:
Lippincott Williams & Wilkins (1990)
4. Biochemical Engineering Fundamentals by J.E. Baily and D.F. Ollis. Publisher: McGraw Hill. (1986).
5. Process Biotechnology Fundamentals by S.N. Mukhopadhyay. Publisher: Viva Books (2010)

Decision : The Academic Council approved the inclusion of an elective course 'Environmental Biotechnology' in B. Tech. (Biotechnology) VIII Semester.

Agenda 18.9 : Approval for addition of electives in the list of DEC3 and DEC4 in the B.Tech. Electrical Engineering Programme.

It was submitted to the Academic Council that the Department of Electrical Engineering Department of Electrical Engineering is offering two Departmental Electives (DEC1 and DEC 2) in V Semester, two Departmental Electives (DEC3 and DEC4) in VI semester, one Departmental Electives in VII Semester (DEC5) and three Departmental Electives in VIII Semester (DEC6, DEC7 and DEC8).

There are 51 subjects in the list of these electives. It is proposed to shift the following electives from V Semester (DEC1 and DEC2) and VII Semester to (DEC5) to VI Semester (DEC3 and DEC4) and from VI Semester (DEC3 and DEC4) to VII Semester (DEC5).

a. EE-323	:	CMOS Analog Integrated Circuits to VI Semester
b. EE-425	:	Advanced Analog Circuits Design to VI Semester
c. EE-322	:	IC Technology to VII Semester

Shifting/ Swapping of these courses will provide more relevant options to the student of VI and VII Semester students. The changed number of these courses is given as under:

a. EE-326   :   CMOS Analog Integrated Circuits
b. EE-322   :   Advanced Analog Circuits Design
c. EE-425   :   IC Technology

Decision : **The Academic Council approved the addition of electives in the list of DEC3 and DEC4 in the B.Tech Electrical Engineering Programme.**

Agenda 18.10 : **Approval for modification/addition in Elective Subject List for Department of Computer Science Engineering.**

It was submitted to the Academic Council that in the current list of electives for B.Tech. (CSE), Machine Learning (CO-425) is in the final year. It was decided in the BOS meeting held on 07.02.2018 that Machine Learning should be taught in third year of B.Tech. instead of in final year. It will help students in their placement and projects. CO-425 should be dropped from list of electives of final year and be added in electives for third year as CO-327 Machine Learning.

Decision : **The Academic Council approved the modification/addition in Elective Subject List for Department of Computer Science Engineering.**

Agenda 18.11 : **Approval for replacement of subject in the Department of Mechanical Engineering.**

It was submitted to the Academic Council that the department of Mechanical Engineering has proposed the swapping of two courses of VI & VII semester with each other as detailed below : -

Existing Scheme (B. Tech – AE)

Semester	Paper Code	Subject
VI	AE-306	Design of Automobile components
VII	AE-405	Alternative Fuels and Energy Systems

Revised Scheme (B. Tech – AE)

Semester	Paper Code	Subject
VI	AE-306	Alternative Fuels and Energy Systems
VII	AE-405	Design of Automobile components

Decision : **The Academic Council approved the replacement of subject in the Department of Mechanical Engineering as proposed.**

Agenda 18.12 : **Approval for seat matrix for DASA, Foreign Nationals and JAC admissions for academic year 2018-19.**

It was submitted to the Academic Council that the University has increased the quota for physically disabled students from 3% to 5% w.e.f. 2018-19. Accordingly, seat matrix indicating consolidated branch wise seats for JAC, DASA (5 percent of approved seats as supernumerary) and Foreign Nationals (10 percent of approved seats as supernumerary) is detailed below:

S. No	COURSE	Total Intake (JEE)	Over and Above seats		Total JEE Seats Including SG and TP	NRI/FN/PIO Seats			Foreign Nationals (DTU)
			Single Girl Child (SG)	State Board Topper (TP)		CIWG*	Others	Total Seats (DASA)	
1.	Electronics & Communication Engineering (ECE)	183	1	1	185	3	6	9	18
2.	Computer Engineering (COE)	360	1	1	362	6	12	18	36
3.	Electrical engineering (EE)	240	1	1	242	4	8	12	24
4.	Mechanical Engineering (ME)	240	1	1	242	4	8	12	24
5.	Civil Engineering (CE)	120	1	1	122	2	4	6	12
6.	Production & Industrial Engineering (PIE)	60	1	1	62	1	2	3	6
7.	Environmental Engineering (ENE)	60	1	1	62	1	2	3	6
8.	Polymer Science & Chemical Technology (PCT)	60	1	1	62	1	2	3	6
9.	Information Technology (IT)	120	1	1	122	2	4	6	12
10.	Bio-Technology (BT)	60	1	1	62	1	2	3	6
11.	Software Engineering (SE)	120	1	1	122	2	4	6	12
12.	Mechanical Engineering with Specialization in Automotive (MAM)	60	1	1	62	1	2	3	6
13.	Engineering Physics(EP)	93	1	1	95	2	3	5	10
14.	Mathematics and Computing (MCE)	120	1	1	122	2	4	6	12
	TOTAL	1896	14	14	1924#	32	63	95	190

*CIWG- Children of Indians Working in Gulf Countries (**As per DASA guideline 1/3rd seats of NRI/FN/PIO quota are reserved for CIWG**)

#One seat over and above sanctioned intake is reserved for Kashmere Migrants.

Total JEE Seats **1924+1=1925**.

Further to incorporate the change in PD quota from 3% to 5% the revised seat matrix for JAC 2018-19 is placed below:

Seat Matrix (2018) (PD reservation increased to 5%)															
Branch → / Category	ECE	COE	ME	EE	PIE	CE	ENE	PCT	IT	BT	SE	MAM	EP	MCE	Total
GNGND	70	139	93	93	23	46	23	23	47	23	47	23	36	46	732
GNCWD	4	7	5	5	2	3	2	1	2	1	3	2	2	2	41
GNPDD	4	8	5	5	1	2	1	2	3	2	2	1	2	3	41
SCGND	21	41	28	27	8	14	7	8	13	7	13	7	11	13	218
SCCWD	1	2	2	1	0	0	1	0	1	1	1	0	1	1	12
SCPDD	1	3	1	2	0	1	0	0	1	0	1	1	0	1	12
STGND	11	21	13	13	3	7	3	4	7	4	7	3	6	7	109
STCWD	1	1	1	1	0	0	0	0	0	0	1	1	0	0	6
STPDD	0	1	1	1	1	1	0	0	1	0	0	0	0	0	6
OBGND	38	75	50	49	12	25	13	12	24	12	25	12	19	25	391
OBCWD	2	4	3	3	1	1	1	0	1	1	2	1	1	1	22
OBPDD	2	4	2	3	1	2	0	1	2	1	1	1	1	1	22
GNGNO	12	25	16	16	4	8	4	4	9	4	8	4	6	9	129
GNCWO	1	1	1	1	0	0	0	0	0	0	0	1	1	1	7
GNPDO	1	1	1	1	0	1	1	0	0	0	1	0	0	0	7
SCGNO	4	7	5	5	1	3	1	2	2	1	2	1	2	3	39
SCCWO	0	1	1	0	0	0	0	0	0	0	1	0	0	0	2
SCPDO	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
STGNO	2	3	2	2	1	1	1	1	1	1	1	0	1	2	19
STCWO	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
STPDO	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
OBGNO	7	14	9	8	2	4	2	2	5	2	4	2	4	4	60
OBCWO	0	0	1	1	0	1	0	0	0	0	0	0	0	0	4
OBPDO	1	1	0	1	0	0	0	0	1	0	0	0	0	1	4
GNSGD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
GNTPD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
KM															1
TOTAL	185	362	242	242	62	122	62	62	122	62	122	62	95	122	1925

Total seats of JAC 2018-19 will remain same as for 2017-18.

Decision : The Academic Council approved the above seat matrix for DASA, Foreign Nationals and JAC admissions for academic year 2018-19. The Academic Council also decided that the topper of the board (XII standard) for the current year shall be considered for admission to under graduate programme only.

Agenda 18.13 : Ratification of admission of Mr. Abhinav Sinhmar in B.Tech. (Computer Science Engineering), IInd Semester.

It was submitted to the Academic Council that Mr. Abhinav Sinhmar (Roll No. 11600997, JEE (Main Rank): 208646 was allotted B.E. (Computer Engineering) Course of NSIT under Defence (CW) category, Priority IV through JAC-2017-18. The candidate was, however, denied admission by NSIT during physical verification of documents at the time of counselling. The candidate approached court and as per the judgment dated 30.10.2017 of Hon'ble High Court, the candidate was to be admitted in NSIT in the allotted course. Accordingly, NSIT was requested to admit the candidate. However, NSIT expressed their inability in doing so due to procedural issues. To avoid any further complexities and keeping in view the interest of the student, the competent authority of DTU granted admission to Mr. Abhinav Sinhmar in second semester in the discipline of Computer Science in DTU. During this period the student has taken admission in GGSIPU and completed his first semester. He has made a request for transfer of relevant credits for equivalent subjects and the same was considered by the Chairman, Academic Council as a special case. He has been allotted Registration No DTU/2K17/B15/1999.

Decision : The Academic Council ratified the admission of Mr. Abhinav Sinhmar in IInd Semester of B.Tech (Computer Science Engg.).

Agenda 18.14 : Approval for discontinuation of Supplementary Examination w.e.f. December 2018 for (a) B.Tech./B.Tech. (Evening) Old Schemes and (b) M.Tech., MBA and EMBA Programmes.

It was submitted to the Academic Council that Controller of Examination, DTU has proposed discontinuation of supplementary examination for (a) B.Tech./ B.Tech. (Evening) Old Schemes and (b) M.Tech., MBA and EMBA Programmes w.e.f. December, 2018 onwards. Details are as under :

(1) Supplementary Examination were introduced vide Notification dated 28th April 2015 wherein it was mentioned that there will be no Supplementary Examination for Back Papers.

(2) One time provision for Supplementary Examination of Back Papers was approved by Academic Council in its 11th meeting held on 24th June 2015. Since then Supplementary Examinations were conducted in April 16, Oct 16, Feb 17, Aug /Sept 2017 & Feb 2018 for regular as well as back papers.

In this connection, it is submitted that :-

(A) The last batch of old schemes of B Tech & B Tech (Evening) programmes shall be passing out in May 2018 and thus, it is proposed that the Students having any back paper shall appear in Nov-Dec (Odd Semester papers) & May- June (Even Semester papers) End Semester Examinations only . No Supplementary will be conducted for them.

(B) The PG programmes are of higher level and provision of Supplementary examination to them needs a review. The Dean PG has also suggested discontinuation of Supplementary Examination for M.Tech., MBA & EMBA programmes.

Decision : **The Academic Council considered and approved the discontinuation of Supplementary Examination w.e.f. December 2018 for (a) B.Tech./B.Tech. (Evening) for Old Schemes and (b) M.Tech., MBA and EMBA Programmes.**

Agenda 18.15 : **Approval for two new elective courses AC-603 (5) Elective II Polymers in Food & Healthcare applications and AC-701(5) (ELECTIVE-V)- Commercialization of Polymer & Chemical Technology Products for M.Tech. (Polymer Technology) programme.**

(i) **AC-603 (5) Elective II Polymers in Food & Healthcare applications**

L	T	P	C	Hours
3	0	0	3	40

It was submitted to the Academic Council that in recent years, polymer science & technology has experienced excellent expansion and maturation in its core fields and at the interface of Supramolecular Chemistry, Nano Science and Biology. Polymer science plays important role in Nano Science & Nanotechnology and major development has taken place at the interface of biological components into synthetic polymers and to understand the features and utilization of biological macromolecules. An extremely rich variety of novel building materials, processes and properties have resulted from the blending of polymer technology with biological science. That is why polymers now play central roles in healthcare, food and medicine. The long-chain nature of natural macromolecules allow them to carry genetic information, biochemical transformations and to provide the structural support to sustain life. The certain properties of polymers are very critically important in surgery, and these properties can be tailored for applications in gene therapy, drug delivery and regenerative medicine. The use of polymers in healthcare and food sector is important to prevent post-harvest losses, shelf life enhancement of perishables and eatables and development of active packaging and edible polymeric materials for our day to day societal need. This interface of biological sciences, healthcare and food sector have led to the commercial product

development, innovative product design, worldwide. This course gives an opportunity to our students to think innovatively in this direction which is at the interface of polymer technology, biology, food and health care. This kind, of course, would spur innovative projects at our master's level and hopefully create better employment opportunities for our students in India and abroad.

Objective: To provide information and knowledge on polymers playing central role in food and healthcare sector in addition to the chemical industry. This course would spur innovative thinking and product development utilizing naturals and synthetic polymers in growing food and healthcare industry.

Unit-1. Polymers in drug delivery: Monolithic delivery devices & polymer matrix. Controlled release (extended pulsatile, targeted), enhanced stability and bioavailability. Drug delivery based on biodegradable (lactide-co-glycolide) copolymer. Ion-exchange polymeric resin for medical use: Amberlite IRP69 in hyper leukemia, Cholestyramine resin (Duolite AP143) for cholesterol reduction and bile sequestering. The use of polymers in taste masking drug stabilizers, tablet disintegrating & sustained release. Biodegradable polymers & their role in drug delivery & biomedical applications. (8)

Unit-2. Polymeric Imaging agents. Polymeric contrast agents, for X-ray, MRI, Ultrasound contrast agents, Radio nucleotide imaging agents and optical imaging agents. Polymeric Implants. Key polymers like silicones, silicone elastomers, polyurethanes, polyethylene, PVC, fluoropolymers, PMMA, PHEMA, PNIPAM, natural polymers and biodegradable polyesters. Perspective & opportunitie. (8)

Unit-3. Biomimetic polymers & their role in biological environment. Cationic polymers (PEI, PAMAM, Polylysine in gene delivery. Polysaccharide based polymers in tissue engineering & drug delivery. Use of PCL in resorbable drug delivery devices, bone tissue engineering, cartilage tissue engineering and gene delivery. (8)

Unit-4. Eco-friendly coatings and commercial polymeric coatings on food products: Processed food, fruits, confectionery, and nuts. Encapsulation of flavors, nutracueuticals and antibacterials. Edible coatings: Based on lipids, waxes & resins, polysaccharide based coatings, cellulose derivatives, starch derivatives, pectin's, Chitosan, carrageenans, gums of plant & microbial origins. (8)

Unit-5. Methods of coating & key to successful application and the properties like moisture & gas barrier, surface characteristics, sensory attributes, etc. Role of plasticizers, emulsifiers, antioxidant and anti browning agents, application of nanoparticles and Nano composites. Regulatory aspects of polymeric coatings: As per FAO, Codex Alimentarius, WHO, USFDA, European Union, Japan, Australia and FSSAI India. (8)

Texts/References:
Polymers Science: A comprehensive Reference. Polymers in Biology and Medicine. Edited by D.A. Tirrell & R. Langer, Vol 9, 2012. Elsevier Press, USA.
Edible Coatings and Films to improve Food Quality, second edition by E.A. Baldwin, R. Hagenmaier and J. Bai, 2012, CRC press Florida, USA.

Latest review articles and publication on the subject.
Specialty Polymers, by Faiz Mohammad, 2007, IK International Publisher, New Delhi.

(ii) **AC-701(5) (ELECTIVE-V)- Commercialization of Polymer & Chemical Technology Products for M.Tech. (Polymer Technology) programme**

L	T	P	C	Hours
3	0	0	3	40

It was also submitted to the Academic Council that there is a need to understand commercial aspects of polymer based products to harness the economic potential of the technology or the products, which is lacking in our graduates and postgraduates, an essential qualification for our trained manpower to become an entrepreneur or a workforce of our industry. Topics like business proposal writing, venture capitalism, sources of funding, new product ideas, marketing of the products nationally and internationally, the role of management in the development of commercial products, leadership, role and selection of a CEO etc., will be taught in this course. The Students need to have this knowledge to become a successful entrepreneur and good business or corporate leaders. Interface with the industry and academia, technology transfer, royalty issues, patents and IPR issues in the commercial viability of the product. Innovative thinking and new product development will be taught in this course to our polymer students. Thinking in terms of commercial viability and what it takes to be a successful entrepreneur, business leader or CEO of a company, sources of new ideas, need to be taught and discussed along with case studies to empower our students to become successful business leader and trained manpower for the polymer industry.

Objective: To provide elementary knowledge on the social studies of science, technology and economy, and build concepts associated with entrepreneurship, business, and economic and social development through polymer & chemical. The course also is also intended to impart certain basic communication skills related to scientific, technical and business writing. Through this course, the students develop a perspective on the importance of interdisciplinary influences in the success of polymer & chemical technology products and services in the market and build on them further or apply them in a business environment.

Unit-1. Why there is a need to commercialize polymer & chemical. Discovery, market needs development process, success rates and costs etc. Creating and marketing the image of polymer & chemical company. Art of negotiation & effective communication.　　(8)

Unit-2. Role of venture capitalism, business plan, selection of CEO and personnel, real estate for a business start-up. How to portray management and role of a polymer & chemical manager, technology decision-making, and resource decision-making etc., Product marketing decision.　　(8)

Unit-3. Role of Research & development University-industry technology transfer arrangements, how and why a polymer & chemical company can benefit. Effective advertising and marketing. Opportunities international, marketing and lessons to be learned.　　(8)

Unit-4. Positioning, power and importance of positioning of a company name and product Positioning, power and importance of positioning of a company name and product. Workable marketing and the strength of distribution.　　(8)

Unit-5. Indian and foreign prospective of polymer, pharmaceutical & food industry, and current challenges. Case studies from polymer, pharmaceutical and food industries.　　(8)

Text / Reference Books:

Positioning: The battle for your mind, by All Rise and Jack Trout (2003), Tata McGraw Hill Publishing Company Ltd, New Delhi.
Science business by Gary P. Pisano (2006), Harvard Business Press, Boston.
Science lessons by Gordon Binder & Philip Bashe (2008), Harvard Business Press, Boston.
From Alchemy to IPO by Cythia Robbins Roth (2000), Basic Books, New York, USA.

Decision　:　The Academic Council approved the two new electives courses AC-603 (5) and AC-701(5).

Agenda 18.16 : **Approval for introduction of foreign language for DTU students.**

It was submitted to the Academic Council that the university wants to introduce two foreign language courses like; French and German for the university students to enhance their employment prospects and capabilities globally. These language courses duly recognized by their respective countries as level A_1, A_2, B_1, B_2 and are offered to Indian students at their Delhi centre by Alliance Francaise (France) and Goethe institut (German) hosted by respective Embassies of France and German at Delhi.

It was proposed that:-

1. The classes of the said language courses at different levels (A_1, A_2, B_1, B_2) shall be run in the evening w.e.f 6:00 PM onwards/weekends at DTU.
2. Each level of examination A_1, A_2, B_1 and B_2 be counted towards 1 credit in the degree program of our students and may be included either one by one or offered as 2/3/4 credits as a package at the end.
3. The continuous evaluation and the end level examination be conducted as per their (Alliance Francaise (France) and Goethe institut (German)) schedule throughout the semester and avoiding our schedule of examination as per the calendar of DTU for grading under chairmanship of Dean (UG)/Dean (PG).
4. Evaluation will be made by respective aforesaid institutes and the evaluation so done be passed on to Comptroller of Examination, DTU.
5. The inclusion of the credit so earned, be adjusted against MOOCS/open courses of their respective degree program per DTU ordinance.
6. The university shall provide lecture theatre/room and language lab facility for conduct of these courses.
7. The fee generated out of the theses courses be shared on mutually agreed terms & conditions.
8. Participants of these courses be allowed to receive certification for the achieving of the levels A_1, A_2, B_1, B_2 from the respective French/German institute.

Decision : The Academic Council withdrawn the matter of introduction of above mentioned two foreign languages for DTU students. Further the Council considered that the course may be put under "MOOCS" (online category).

Agenda 18.17 : Approval for conversion of status of Ph.D. from full time to part time of Foreign National students.

It was submitted to the Academic Council that many foreign national students are taking admissions in the DTU for Ph.D. program under direct mode or under MoU with foreign universities/institute. During the discussion with education attaché of many embassies of the foreign countries it was emphasized that either the tenure of Ph.D be tightly fixed within 3 - 3$^{1/2}$ years (Full time candidates) or if the conversion of Full time candidacy to part time candidacy be allowed, different government of respective countries will aggressively promote Ph.D admission of their teachers and deserving scholars to India/DTU, since their long stay may hamper academic at their institution of employment.

The Ph.D Ordinance of DTU permit FT to PT status (Ordinance-3(g) after completion of course work and approval of research plan before DRC with the approval of Dean (PG).

It is proposed to the council that:

1. The University may allow foreign national Ph.D students to change their status (Full time to Part time) after meeting the eligibility criteria as per the Ph.D Ordinance 3 (g).
2. The request letter of the candidates letter from Embassy duly endorsed by the candidate for such conversion should be substantiated through the endorsement from the Chancellor/Vice Chancellor/Director/Registrar/Dean of the respective foreign universities that all the necessary facilities related to his/her Research work is available in the University and he/she will be given appropriate time to pursue the research work in the said university/institute.
3. The Foreign national students who fulfil the eligibility criteria for conversion of their status as per Ph.D ordinance of DTU will submit the application through the respective supervisor addressed to the Chairman DRC.
4. The DRC of the respective department shall examine the application and put up before the Dean (Academic-PG) for obtaining his/her recommendation for seeking the approval of the Vice Chancellor.
5. The approval of the Council will be conveyed to the OIA for onward transmission to the Ministry of Education of respective country, through Embassy in India.

Decision : The Academic Council decided to withdraw the above proposal, as the same already exist in Ph.D. Ordinance.

Agenda 18.18 : **Approval for TA/RA Scholarship for foreign students.**

It was submitted to the Academic Council that University has been helping economically poor students with fee waivers, to enable them study in undergraduate programs of the University. Similarly PG and PhD students are given scholarship/ fellowship against teaching and research assistantship for engaging the laboratory classes, etc.

It is pertinent to mention that majority of the Universities around the world facilitates self financed meritorious registered students with teaching/research assistantships, based on the availability of the slots.

It is proposed that:

1   All self financed foreign national M.Tech students who do not have any back papers in the preceding semesters and PhD students who have satisfactory progress report and have a publication (conference/Journal of repute) in the proceeding semester shall be eligible to apply for the TA/RA slots offered by the department. Additionally, the candidate shall not be engaged in anti - disciplinary activities.

2.   TA/RA shall be offered to the students based on the merit for M.Tech and based on the merit of publication for PhD students (unpaid journal papers or conference indexed by web of science or equivalent for social science, humanities/management shall only be eligible), determined by the DRC of the respective department.

3.   The engagement can be maximum of 08 hours/week and the honorarium/remuneration shall be Rs.500/- per hour basis.

Decision : The Academic Council decided to withdraw the matter of TA/RA Scholarship for foreign students.

Agenda 18.19 :   Short duration team teaching by faculty of DTU, for the Regular Courses offered by foreign University under MoU with Delhi Technological University (DTU).

It was submitted to the Academic Council that Delhi Technological University aspires to figure in global ranking by establishing active and valued academic and research networking. The best possibilities of its active running exist through interaction of faculty members who are permanent stake holders of the University and expected to build long lasting relationship between the countries. It is also expected that such academic and research collaboration shall also culminate into global industrial outreach.

Besides these office of international affairs is also looking for promotion and branding of DTU to admit meritorious foreign students to its academic programs to build future ambassador/ alumnus of the University globally, for building lasting reputation.

In order to protect the academic interest of DTU and to build the aforesaid relations following is proposed.

1) Select DTU faculty be allowed to teach for short time (TWO/THREE WEEKS) at foreign University under MoU, and by doing so build brand DTU in the said University amongst students and faculty members for taking up Post-graduate studies/PhD/Joint supervision of PhD/ Collaborative Research projects, etc.

2) The faculty member shall also be entrusted to promote DTU in at least ten popular schools in that city by visiting them and interacting with school students to undertake, UG programs at DTU. The faculty shall be substantiated by 50% of the DA approved by MEA, GoI for the day(s) of such visit against submission of report, feedback form from the principal of the school, photographs of the gathering during interaction and particulars of participating/interested students. (Name, email, address of communication, etc.)

3) The expenditure towards TO/FRO journey, furnished accommodation, food etc shall be borne by the host institute. Besides that, host institute based on agreed terms and conditions on case to case basis shall provide honorarium for teaching part course(s) at the foreign University on per hour basis.

4) The selected faculty be allowed to avail his special leaves two weeks (10) already given by the University and beyond that, shall be allowed to use Earned leave available to him/her.

5) He/she shall make arrangement of their regular scheduled classes, which shall be arranged either prior to their going or after their return from the assignment.

Decision : The Academic Council decided to withdraw the above proposal.

Agenda 18.20 : Articulation of credit transfer between DTU and Engineering Institutes/University in France whose awarded degrees are recognized by UGC (MHRD), Govt. of India.

It was submitted to the Academic Council that HRD, Ministry of Govt. of India and Govt. of France have mutually recognized the degree awarded by UGC funded University in India and Govt. aided French Institutes/Universities, and to this, an agreement has also been signed during visit of French president in India. DTU has already signed general umbrella MoU with N+I institutes (25 engineering institutes) promoted by Govt. of France through their embassy. For furthering the activities different articulations are needed to be done. The one in this regards pertains to Mobility of PG and PhD students.

French Institutes have 2 ½ years duration of post graduation programs, which include ½ year industrial internships to promote employment of their students. Few handful engineering institutes like ENSEEIHT, EPF, HEI, etc. have agreed to have an MoU regarding mobility of M.Tech and PhD students on following terms and conditions.

1). Five to Seven DTU students/ French students shall be residing in other Institute/University on reciprocal basis for selected PG programs (Existing/New)

OR

(a)	1 semester (French Student) (academic course work or major thesis)	1 semester (Indian Student) (academic courses work or major thesis)	
(b)	1 semester (French Student) For Industrial Internship	1 semester (Indian Student) For Industrial Internships.	

OR

2). Fees of academic semesters

(a)	US $ 5000 shall be payable by French Student to DTU for two semester against tuition fee and US$2500 for one semester tuition fees	A maximum of US$ 4000 per semester shall be payable by Indian student against tuition fee. DTU shall waive off the tuition fee of Indian student for the semesters the student joins the French Institutes under mobility agreement.
(b)	Hostel fee + local charges for French student shall be determinable by DTU from time to time, but shall be limited to US$2500 per annum	Hostel fees + local charges for Indian students shall be borne by students. The French Institute shall arrange for subsidized accommodation for stay.

3) Short term Semester Courses

(a)	Good number of French student shall participate in the short term courses organized by DTU in summers. The registration fee shall be discounted for students under MoU by 10-25% on case to case basis.	Good number of DTU students shall participate in summer courses organized by French Institute under MoU. The registration fee shall be discounted by 10-25% on case to case basis.

4) Mobility PhD students and Joint Supervision

(a)	French PhD student may spend short time for conducting research at DTU with tuition fee and hostel fee waiver. However, he has to pay for food charges. No transportation fee shall be provided	Indian Ph.D. student can stay for one-two semester and use the research facilities as per agreed terms and conditions, viz, subsidized tuition fee in case he/she is enrolled in taught courses and fees for usage of specialized equipments for testing conducting research. If hostel is available, free hostel accommodation may be provided, in case hostel is not available he/she has to bear for subsidized accommodation (arranged by host institute). Food and local charges shall be paid by the student. DTU may relax the tuition fee of the research candidates for one or two semesters depending on the duration of stay.

(b)	The faculty member of French institute shall be at liberty to opt for joint supervision of French PhD student by opting supervisor from DTU.	The DTU faculty shall be at liberty to opt for Joint supervision of the PhD student of DTU by opting supervisor from French Institute.

Decision : The Academic Council constituted a committee to examine the matter of articulation of credit transfer between DTU and Engineering institute in France with following members:

1. Prof. Anu Singh Lather, Pro VC (II)
2. Prof. Vishal Verma, Dean (International Affairs)
3. Prof. H.C. Taneja, Dean Academic (PG)
4. Prof. Samsher, Registrar

The Council further authorized VC to approve the recommendation of the Committee.

Agenda 18.21 : Approval for formal registration of Ph.D. candidacy to Ph.D. Students upon successful completion of course work and comprehensive examinations and approval of Research Plan by respective DRCs.

It was submitted to the Academic Council that Dean Academic-PG has forwarded a list of 67 candidates to consider their formal registration for Ph.D. candidature upon successful completion of course work and comprehensive examinations and sought approval for research plan by the respective DRCs. A list of the candidates (department-wise) is placed as *Annexure at page 36 to 37.*

Decision : The Academic Council approved the formal registration and confer candidacy of 68 candidates for Ph.D. program.

Agenda 18.22 : Approval for withdrawal/cancellation of admissions in the Academic Year 2017-18 for Ph.D. programs.

It was submitted to the Academic Council that 45 admissions have been withdrawn during the Academic Year 2017-18 for Ph.D. and M.Tech. programs.

Decision : The Academic Council approved for withdrawal of admissions.

Agenda 18.23 : Approval for Admission Brochure for Ph.D. 2018.

It was submitted to the Academic Council that the University has formulated Admission Brochure for Ph.D. program for the session 2018-19. Some changes have been suggested by the Dy. Chairperson (Ph.D.) from the previous year which are indicated in the brochure for kind consideration of the Academic Council.

Decision : **The Academic Council approved the Admission Brochure for Ph.D. Programmes 2018-19 with some modifications and placed as *Annexure at page 38 to 59*. In future such matter should be approved by University Admission Committee and be considered as "Reported item" in Academic Council.**

Agenda 18.24 : Approval for Admission Brochure for M.Tech 2018.

It was submitted to the Academic Council that the University has prepared Admission Brochure for M.Tech. program for the session 2018-19. Some changes from previous years have been suggested by the Dy. Chairperson (M.Tech) which are indicated in the brochure for the kind consideration of the Council.

Decision : **The Academic Council approved the Admission Brochure for M.Tech. Programmes 2018-19 with some modifications and placed as *Annexure at page 60 to 86*. In future such matter should be approved by University Admission Committee and be considered as "Reported item" in Academic Council.**

Agenda 18.25 : Approval for enhancement of intake for Ph.D. programme with fellowship.

It was submitted to the Academic Council that at present the University is doing admissions on 150 seats of Ph.D Full Time programme with fellowship. NIRF ranking provides the handsome weightage to research programes. To perform better in ranking, it is proposed that the seats of Ph.D programme Full Time with fellowship may be increased from 150 to 200. The final slots for research fellows Ph.D Full Time with fellowship may be sanctioned as 200 seats (150 existing + 50 additional). The teaching load may be given to these research fellows will be 8hrs per week. The fellowship may be paid to these research fellows at the rate as approved by the BOM from time to time.

Decision : **The Academic Council approved for enhancement of intake for Ph.D. programme as below:**
50 seats in 2018-19
50 seats in 2019-20
50 seats in 2020-21
However, 05 superanumary seats are recommended for foreign students. The Council also recommends Board of Management to consider the proposal.

Agenda 18.26 : Approval for amendment in guidelines to act as independent Ph.D. Supervisor for Faculty of D.T.U. in Department other than his/her parent Department.

It was submitted to the Academic Council that in the last paragraph of guidelines as approved by Academic Council in its 17th meeting held on 04.12.2017, there was provision to constitute a committee comprising of: -

1. Vice Chancellor, Chairperson
2. Dean Academic, PG, Member
3. Chairman, Department Research Committee of the intended department, Member.
4. Head (in case Professor), of the intended department, Member
5. Three Outside subject experts as nominated by the Vice-Chancellor

It was now proposed that the point no. 5 (Three outside subject experts as nominated by the Vice-Chancellor) may be removed from the above committee.

Decision : The Academic Council approved the amendment in guidelines to act as independent Ph.D. Supervisor for Faculty of D.T.U. in Department other than his/her parent Department.

Agenda 18.27 : Approval for Quality Manual and Standard Operating Procedures (SOPs) for ISO 9001:2015 certification work.

It was submitted to the Academic Council that Delhi Technological University is under the process of obtaining ISO 9001:2015 certification. A team has been formed vide office order no. DTU/Reg/OO/2016-17/1315 dated 7/7/2017 with Pro VC-II as Chairperson of the team. Following committees were formed to prepare the required documents vide office order no. DTU/Reg./OO/2016-17/2459 dated 28/09/2017.

S.No.	Name of the Committee	Chairman
1	Preparation of Quality Manual	Director, IQAC

2	Preparation of SOPs for Academic Departments
	   i. Academic Departments
	  ii. Central Workshop
		Prof. A. K. Gupta

3	Preparation of SOPs for Administration and Finance Wing
	   i. Establishment
	  ii. Recruitment Cell
	 iii. Pension Cell
	 iv. Legal Cell
	  v. RTI Cell
	 vi. Finance & Accounts
	 vii. General Administration
	viii. Security
	 ix. Stores & Purchase
	  x. Health Centre
	 xi. Council Branch
	 xii. Planning Cell
		Prof. Samsher

4	Preparation of SOPs for Student Activities	Prof. Samsher

5	Preparation of SOPs for Exams and Academic Administration
	  i. Examination
	  ii. Academic Administration
		Prof. H.C. Taneja

6	Preparation of SOPs for Library	Dr. R. K. Shukla
7	Preparation of SOPs for Computer Center	Sh. Manoj Kumar
8	Preparation of SOPs for Training & Placement	Prof. R. S. Walia

9	Preparation of SOPs for Hostel/ Transit Hostel/ Guest House
	  i. Hostel
	  ii. Guest House
		Prof. Narendra Kumar-II

10	Preparation of SOPs for Engineering Cell
	  i. Engineering Cell
	  ii. Estate Office
		Prof. A. Trivedi

11	Preparation of SOPs for Research, Project & Consultancy and International relations
	  i. Industrial Research & Development
	  ii. IPR Cell
	  iii. International Affairs
	  iv. Alumni Affairs
		Prof. A. Trivedi

The draft of Quality manual and all the SOPs are prepared after wide consultation among different groups of faculty, Officers, Deans and HODs of different departments. The Quality manual and SOPs are placed for evaluation.

The documents (Quality Manual and SOPs) are submitted to Academic Council for consideration.

Decision : The Academic Council approved the Quality Manual and Standard Operating Procedures (SOPs) for ISO 9001:2015 certification work. The Council also authorized VC to make changes wherever necessary.

Agenda 18.28 : Matter for Ratification:

  i. **Constitution of University Level Admission Committee (2018-19).**

It was submitted to the Academic Council that University is offering various courses in Engineering, Management and allied areas in its main and East Delhi Campus. the admission in these courses is being carried out by different respective admission committees. However, there are various issues which are to be tackled at the university level. Therefore, to formulate the policy related to admissions and resolving the issues raised by different local committees time to time, a university level admission committee has been formulated vide order No. F.DTU/Reg/OO/2017-18/4557 dated 13.02.2018. The committee comprises of the following members:

1. Vice Chancellor	Chairman
2. Pro Vice Chancellor (I)	Member
3. Pro Vice Chancellor (II)	Member
4. Dean, Academic (UG)	Member
5. Dean, Academic (PG)	Member
6. Dean (IA)	Member
7. COE	Member
8. Chairman, B.Tech. Admn. Committee	Member
9. Head (Computer Centre)	Member
10. Registrar	Member Secretary

ii. Admission Brochure for MBA programme 2018-19.

It was submitted to the Academic Council that the admission process of MBA programme (2018-20 batch) for Delhi School of Management and University School of Management & Entrepreneurship has been initiated. The common admission brochure was prepared and submitted to the University Admission Committee. The committee in its meeting held on 20/02/2018 discussed the matter at length and decided that after inclusion of the complete revised fee structure and refund policy, the brochure was placed for ratification in the Academic Council.

iii. Establishment of Human Resource Development Centre.

It was submitted to the Academic Council that in consonance with the National Policy on Education (NPE), 1986 of University Grants Commission, Delhi Technological University established Human Resource Development Centre (HRDC) under section 7(13) of the Delhi Technological University Act, 2009, with effect from 1st January, 2018.

Accordingly, Chairman Academic Council approved the guidelines for Human Resource Development Centre (HRDC) based on the UGC guidelines and is placed as *Annexure at page 87 to 101.* In addition to this, staff- one Director, one Deputy Director, one Assistant Director, one Steno-Typist/Computer operator and one Peon/Attendant has approved for starting the activities of HRDC.

Decision : **The Academic Council ratified the above actions of the University. In the first matter, the Academic Council authorized University Admission Committee to approve the brochure for the coming academic year.**

Agenda 18.29 : Matter for Information:

    i.   Introduction of Student Code of Conduct for DTU.

It was submitted to the Academic Council that Delhi Technological University and East Delhi Campus of DTU aims to provide an environment which fosters academic and personal growth. The purpose of this Student Code of Conduct is to convey the standards of behaviour for students and student organizations at the University. The code applies to all students enrolled in any programme of the University. The Board of Management has already approved the Student Code of Conduct for DTU in its 27th meeting held on 23.02.2018. The Board also authorized the Vice Chancellor to make amendments, if any.

Decision : The Academic Council noted the above information and suggested some changes. The revised Student Code of Conduct for DTU is placed as *Annexure at page 102 to 106.*

Agenda 18.30 : Any other matter with the permission of the Chair

Suppl. Agenda 18.31 : Approval for Ordinance (8) for Three–year Under Graduate Programme of the University.

It was submitted to the Academic Council that the University has introduced Bachelor of Economics (Honours) and BBA, 03 year under graduate degree programmes in East Delhi Campus of DTU from the Academic Session 2017-18 with a view to foster the needs of students. Accordingly, an Ordinance (8), 2018 meant for 03 year undergraduate degree programme has been framed and was placed before the Council for its approval.

Decision : The Academic Council deliberated and recommended the matter may be placed before the same committee constituted for other Ordinances. Thereafter, the matter may be put up before the Board of Management.

Suppl. Agenda 18.32 : Approval for Admission Brochure of MBA (Executive) for 2018-19.

It was submitted to the Academic Council that the admission brochure of MBA (Executive) for the academic year 2018-19 has been finalized. The eligibility and other conditions are similar to the previous academic years.

Decision : The Academic Council approved the admission brochure of MBA (Executive) for the academic year 2018-19. In future such matter to be approved by the University Admission Committee.

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

(Prof. Samsher)
Registrar

No. F.DTU/Org/AC/Meeting/01(1)/10/Vol-VII/ 448-68   **Dated : 4|5|18**

Copy to:
1. Pr. Secretary to Hon'ble Lt. Governor (Delhi), 6, Raj Niwas, Civil Lines, Delhi.
2. PA to V.C. for kind information of the Vice Chancellor, DTU.
3. Prof. S. K. Garg, Pro VC (I), DTU
4. Prof. Anu Singh Lather, Pro VC (II), DTU
5. All Deans, DTU.
6. Prof. Surendra Yadav, Professor of Management, IIT, Delhi
7. Sh. S.G. Deshmukh, Director – IIITM, Gwalior
8. Sh. Lokesh Mehra, (FICCI nominee)
9. Prof. Smriti Srivastava, Head-Division of ICE, NSIT, Delhi
10. Prof. Tarun Kumar Das, Registrar, University of Delhi
11. Dr. Bhim Singh, IIT Delhi
12. All HODs, DTU.
13. Prof. Rakesh Kumar, Civil Engg. Deptt.
14. Prof. Narendra Kumar-I, Elec. Engg. Deptt.
15. Prof. Naveen Kumar, Mech. Engg. Deptt.
16. Controller of Examination.
17. Dr. Rajesh Rohilla, Associate Prof.
18. Dr. Nitin Puri, Assistant Prof.
19. Dy. Registrar (Acad.).
20. Dy. Registrar (Estt.)
21. Registrar, DTU

(Prof. Samsher)
Registrar

ANNEXURE

For

Minutes

of 18th Meeting of

Academic Council,

DTU

20-04-2018

DTU Campus, Shahbad Daulatpur, Bawana Road, Delhi-110042

1	Program	Bachelor of Design (B. Des); Four years undergraduate program from academic session 2018-19
2	Intake	60 students with 85% reservation for Delhi students. All other reservations and seat matrix same as for existing B. Tech programs at DTU.
3	Fees	Same as for B. Tech students
4.	Admissions	Based on the rank of UCEED through own Counseling by inviting applications.
4	Infrastructure Required	Four class rooms of capacity 70 each; two design studios; Studios for different focus areas (about 4-5) Along with having dedicated infrastructure, sharing with department of Mechanical Engineering, Electronics and Communication Engineering and Computer Science and Engineering
5	Faculty and Staff required	For intake of 60 students- 16 faculty members and 11 non-teaching technical staff and 7 non-technical at University/ Department level.
6	Admissions Eligibility and Admission criteria	The final examination of the 10+2 system, conducted by a Central or State Board recognized by the Association of Indian Universities (www.aiuweb.org). • Intermediate or two-year Pre-University examination conducted by a Board or University recognized by the Association of Indian Universities. • Final examination of the two-year course of the Joint Services Wing of the National Defence Academy. • Senior Secondary School Examination conducted by the National Institute of Open Schooling with a minimum of five subjects. • Any Public School, Board or University examination in India or in a foreign country recognized as equivalent to the 10+2 system by the Association of Indian Universities (AIU). • H.S.C. vocational examination. • A Diploma recognized by the All India Council for Technical Education (www.aicte-india.org) or a State Board of Technical Education of at least 3 years duration. • General Certificate Education (GCE) examination (London, Cambridge or Sri Lanka) at the Advanced (A) level. • High School Certificate Examination of the Cambridge University or International Baccalaureate Diploma of the International Baccalaureate Office, Geneva. • Candidates who have completed Class XII (or equivalent) examination outside India or from a Board not specified above should produce a certificate from the Association of Indian Universities to the effect that the examination they have passed is equivalent to the Class XII examination. • In case the Class XII examination is not a public examination, the candidate must have passed at least one public (Board or Pre-University) examination earlier.
	Key required traits in candidates tested through UCEED	**Visualization and spatial ability** Pictorial and diagrammatic questions to test, understanding of transformation and/or manipulation of 2D shapes and 3D objects and their spatial relationships, knowledge of practical and everyday mechanical and scientific concepts. **Observation and design sensitivity** Ability to detect concealed properties in ordinary things, people,

situations, and events, and thinking critically about them. Applying attention to certain details, analyzing, reasoning, classifying, inferring and predicting. Ability to discern subtle differences in visual properties and aesthetic outcomes.

Environmental and social awareness

General awareness of environmental factors such as climate, population, water, vegetation, pollution, weather, natural resources etc., and their implications on the design of products, images, infrastructure and environment. Awareness of social and cultural connection with design, history of the designed artifact, and socially responsible and environmentally sustainable design responses. History of art, sculpture and literature.

Analytical and logical reasoning

Ability to look at information, be it qualitative or quantitative in nature, and discern patterns within the information. Ability to weigh opinions, arguments or solutions against appropriate criteria. Ability to check for hidden bias or hidden assumptions and whether evidence and argument support conclusions. Ability to use logic and structured thinking to deduce from a short passage, which of a number of statements is the most accurate response to a posed question. Data Interpretation, brainteasers, and patterns.

Language and creativity

Ability to understand and use Standard English. Reading comprehension, knowledge of English grammar such as sentence structure and usage, the use of tenses, verb patterns, articles, and active and passive constructions etc., and vocabulary skills. Ability to think creatively in terms of alternatives, ability to distinguish innovative options and think out of the box.

Design thinking and problem solving

Ability to use visual analogies, metaphors, signs and symbols. Ability to understand complexity, identify problem, generate alternatives, evaluate options and select solutions.

6	Course Outline	Foundation Subjects: Introduction to Design; Representation Techniques; Form, order and structures; Visualization; Idea generation; Idea presentation (Drawing, sketch, prototyping); Ergonomics Broad Areas- Product Design; Animation; Communication Design; Interaction Design, Mobility and Vehicle Design
7	Premier Institutions in India having strong design department	NID Ahmedabad; MS University Baroda; IDC, IIT Bombay; IIT Guwahati; IIITDM Jabalpur; IIITDM Kanchipuram; IIT Hyderabad;
8	Global Premier Institutions having strong Design Department	Royal College of Arts London (RCA); RISD USA; NTU Singapore; Delft University, Netherland; Syracuse University USA; etc
For the engineering and management students, electives will be offered by the Department of Design to fill the gap in their curriculum.		

DELHI TECHNOLOGICAL UNIVERSITY
Established by Govt. of Delhi vide Act 6 of 2009
(FORMERLY DELHI COLLEGE OF ENGINEERING)
BAWANA ROAD, DELHI-110042

PAY SCALE, ESSENTIAL QUALIFICATIONS, RELEVANT BRANCH, AGE LIMIT AND RELAXATIONS FOR ASSISTANT PROFESSORS IN DISCIPLINE OF DESIGN

S. No	Designation, pay Band and Academic Grade Pay (AGP)	Essential Qualifications	Relevant Branch	Age Limit
1	Assistant Professor with AGP Rs. 6000/- in PB 3 (Rs. 15,600-39100/-)	B.Des. and M.Des. with 1st class or equivalent either in B.Des. or M.Des. from a recognized University OR B.E./B.Tech. and M.Des. with 1st class or equivalent either in B.E./B.Tech.or in M.Des. from a recognized University OR B.Arch. and M.Arch. with 1st class or equivalent either in B.Arch. or in M.Arch. from a recognized University OR 75% or equivalent in B.Des. and Ph.D. in the areas of Design from a recognized University OR Graduation in any branch and Master of Fine Arts (MFA)/Master of Visual Arts (MVA) with first class either in Graduation or MFA/MVA from a recognized University.	----------------	35 years 'Relaxations' 1. The age is relaxable for SC/ST/PH) candidates upto 5 years and upto 3 years for OBC candidates in respect of vacancies reserved for them 2. Relaxable for Government Servants upto 5 years in accordance with the instruction or orders issued by the Central Government 3. Relaxable for teachers of government funded institutions of higher education for 5 years.

Notes :

1. Any deviation in the nomenclature of the relevant branches as mentioned above may also be considered by the University.
2. AMIE/IETE qualifications in relevant branches mentioned in the RR are also eligible.
3. B.Sc. (Engineering), B.E., B.Tech, B.S. (Four years) shall be considered as equivalent.
4. M.Sc. (Engineering), M.E., M.Tech, M.S. shall be considered as equivalent.
5. Selection Committee, may in cases of exceptional merit, recommend additional increments in case of higher qualifications, experience and academic achievements by the candidates.
6. Persons already in employment in Government Department/Autonomous Bodies/Universities under Central/State Government should apply through proper channel.

7. The University shall conduct a screening test for short listing of candidates. The shortlisted candidates will make a presentation before a committee in the concerned department and other invitees of DTU, prior to appearing before the Selection Committee.

8. If a class/division is not awarded, minimum of 60% marks in aggregate shall be considered equivalent to first class/division. If a Grade Point in 10 point scale system is adopted the Cumulative Grade Point Average will be converted into equivalent marks as below :-

Grade Point	% of Marks
6.25	55%
6.75	60%
7.25	65%
7.75	70%
8.25	75%

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PAY SCALE, ESSENTIAL QUALIFICATIONS, RELEVANT BRANCH, AGE LIMIT AND RELAXATIONS FOR THE POST OF ASSOCIATE PROFESSOR IN THE DISCIPLINE OF DESIGN

Designation, Pay Band and Academic Grade Pay (AGP)	Essential Qualifications	Relevant Branch	Experience	Age Limit
Associate Professor with AGP Rs. 9000/- in PB - IV Rs. 37,400/- 67000/-)	(I) B.Des. and M.Des. with 1st class or equivalent either in B.Des or M.Des. from a recognized University. OR B.E./B.Tech. and M.Des. with 1st class or equivalent either in B.E./B.Tech. or in M.Des. from a recognized University. OR B.Arch. and M.Arch. with 1st class or equivalent either in B.Arch. or in M.Arch. from a recognized University. OR 75% or equivalent in B.Des. and Ph.D. in the areas of Design from a recognized University. OR Graduation in any branch and Master of Fine Arts (MFA)/Master of Visual Arts (MVA) with first class either in Graduation or MFA/MVA from a recognized University. (II) Qualifications as above with Ph.D or equivalent, in relevant areas. (III) A minimum score as stipulated in the Academic Performance Indicator (API) based on Performance Based Appraisal System (PBAS), set out by the AICTE/UGC.	--------------	Minimum of 5 years experience in teaching/research /industry at the level of Assistant Professor or equivalent. In case of research experience, good academic record and books/research paper publications/IPR/patents record shall be required as deemed fit by the expert members of the selection committee. If the experience in industry is considered, the same shall be at managerial level equivalent to Assistant Professor with active participation record in devising/designing, planning, executing, analyzing, quality control, innovating, training, technical books/research paper publications/IPR/patents , etc:, as deemed fit by the expert members of the Selection committee.	45 years 'Relaxations' 1. The age is relaxable for SC/ST/PH candidates upto 5 years and for OBC candidates upto 3 years in respect of vacancies reserved for them respectively. 2. Relaxable for Government Servants upto 5 years in accordance with the instructions or orders issued by the Central Government. 3. Relaxable for teachers of government funded institutions of higher education for 5 years.

Notes :

1. Any deviation in the nomenclature of the relevant branches as mentioned above may also be considered by the University.

2. AMIE/IETE qualifications in relevant branches mentioned in the RR are also eligible.

3. B.Sc. (Engineering), B.E., B.Tech, B.S. (Four years) shall be considered as equivalent.

4. M.Sc. (Engineering), M.E., M.Tech, M.S. shall be considered as equivalent.

5. Selection Committee, may in cases of exceptional merit, recommend additional increments in case of higher qualifications, experience and academic achievements by the candidates.

6. Persons already in employment in Government Department/Autonomous Bodies/Universities under Central/State Government should apply through proper channel.

7. If a class/division is not awarded, minimum of 60% marks in aggregate shall be considered equivalent to first class/division. If a Grade Point in 10 point scale system is adopted the Cumulative Grade Point Average will be converted into equivalent marks as below :-

Grade Point	% of Marks
6.25	55%
6.75	60%
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PAY SCALE, ESSENTIAL QUALIFICATIONS, RELEVANT BRANCH, AGE LIMIT AND RELAXATIONS FOR THE POST OF PROFESSOR IN THE DISCIPLINE OF DESIGN

Designation, Pay Band and Academic Grade Pay (AGP)	Essential Qualifications	Relevant Branch	Experience	Age Limit
Professor with AGP Rs. 10000/- in PB-IV (Rs. 37,400/- -6,000/-)	(I) B.Des. and M.Des. with 1st class or equivalent either in B.Des. or M.Des. from a recognized University OR B.E./B.Tech. and M.Des. with 1st class or equivalent either in B.E./B.Tech. or in M.Des. from a recognized University OR B.Arch. and M.Arch. with 1st class or equivalent either in B.Arch. or in M.Arch. from a recognized University OR 75% or equivalent in B.Des. and Ph.D. in the areas of Design from a recognized University OR Graduation in any branch and Master of Fine Arts (MFA)/Master of Visual Arts (MVA) with first class either in Graduation or MFA/MVA from a recognized University (II) Qualifications as above with PhD or equivalent, in relevant areas. (III) A minimum score as stipulated in the Academic Performance Indicator (API) based on Performance Based Appraisal System (PBAS), set out by the AICTE/UGC.	----------	Minimum of 10 years teaching/research/industrial experience of which at least 5 years should be at the level of Associate Professor or Minimum of 13 years experience in teaching and / or Research and/or Industry. In case of research experience, good academic record and books/research paper publications/IPR/patents record shall be required as deemed fit by the expert members of the selection committee. If the experience in industry is considered, the same shall be at managerial level equivalent to Associate Professor with active participation record in devising/designing, planning, executing, analyzing, quality control, innovating, training, technical books/research paper publications/IPR/patents, etc., as deemed fit by the expert members of the Selection committee.	50 years 'Relaxations' 1. The age is relaxable for SC/ST/PH candidates upto 5 years and for OBC candidates upto 3 years in respect of vacancies reserved for them respectively. 2. Relaxable for Government Servants upto 5 years in accordance with the instructions or orders issued by the Central Government 3. Relaxable for teachers of government funded institutions of higher education for 5 years.

Any deviation in the nomenclature of the relevant branches as mentioned above may also be considered by the University.

AMIE/IETE qualifications in relevant branches mentioned in the RR are also eligible.

. B.Sc. (Engineering), B.E., B.Tech, B.S. (Four years) shall be considered as equivalent.

. M.Sc. (Engineering), M.E., M.Tech, M.S. shall be considered as equivalent.

. Selection Committee, may in cases of exceptional merit, recommend additional increments in case of higher qualifications, experience and academic achievements by the candidates.

. Persons already in employment in Government Department/Autonomous Bodies/Universities under Central/State Government should apply through proper channel.

7. If a class/division is not awarded, minimum of 60% marks in aggregate shall be considered equivalent to first class/division. If a Grade Point in 10 point scale system is adopted the Cumulative Grade Point Average will be converted into equivalent marks as below :-

Grade Point	% of Marks
6.25	55%
6.75	60%
7.25	65%
7.75	70%
8.25	75%

ACADEMIC CALENDAR (2018-19)

ODD SEMESTER

27.04. 2018 (Fri) to	:Filling of online registration forms by all students for
15.05. 2018 (Mon)	**UG :** III, V and VII Semester regular courses and /or back papers / improvements/re-registration as applicable including all Ex-Students.
	PG: III Semester regular /back papers as applicable including all Ex- students
	PhD: Continuing PhD students/scholars
01.08.2018 (Wed)	: On campus registration in person by all UG and PG students (except I semester students); continuing PhD students/scholars & all Ex-Students (*for back papers, improvements, re-registration*). **Teaching starts** for UG: III, V and VII Semester courses; PG: III Semester courses.
01.08.2018 (Wed)	: Orientation Programme & on campus registration for 1st year students DTU East Delhi Campus, **Teaching starts** from 02.08.2018.
02.08.2018(Thu)	: Vice Chancellor's Address to newly admitted Students (Forenoon); DTU Main Campus Registration of first year students (Afternoon) and teaching starts from 03.08.2018 (Fri).
16.08.2018(Thu)	: Last date of registration of the courses, addition/deletion of courses for all regular and Ex-students (*except those students whose admission is confirmed later to this date*).

Supplementary/Make up Examination: 13th August 2018 (Monday) onwards

24.09.2018(Mon)	: Mid Term notification of shortage of attendance.

MID Semester Examination: 24th Sept-29th Sept 2018 (Monday-Saturday)

MID Semester Break: 05th Nov-09th Nov 2018 (Monday-Friday) Only for UG/PG students

Notification of Make up for MID Semester Examination: 15th Oct-19th Oct 2018 (Monday-Friday)

16.11.2018 (Fri)	: Teaching ends for all classes; Display of marks and shortage of attendance

END Semester Theory & Practical Examination: 19.11.2018 (Monday) onwards

10.12.2018 (Mon)	: Grade moderation and display of grades for UG/ PG courses.
17.12.2018 to 28.12.2018	: *Winter Vacation*
26.12.2018 (Wed)	: Declaration of End semester results

EVEN SEMESTER

12.11.2018 to 31.12.2018	: Filling of online registration forms by all UG, PG and Ph.D. students including Ex-Students (*for back papers, improvements re-registration*).
01.01.2019 (Tue)	: On campus registration in person by all students including Ex-Students (*for back papers, improvements, re-registration*) by submitting copy of online registration form & **Teaching starts** for all classes.
16.01.2019(Wed)	: Last date of registration for all students, including Ex-students.

Supplementary /Makeup Examination: 14th Jan 2019 (Monday) onwards

01.03.2019 (Fri)	: Mid Term notification of shortage of attendance

MID Semester Examination: 12th March -16th March, 2019 (Monday-Saturday)

Mid Semester Break 18th March-22nd March 2019 (Monday-Friday) Only for UG/PG students

Notification of Make up for MID Semester Examination 25th March-29th March, 2019 (Monday-Friday)

03.05.2019(Fri)	: Teaching ends for all classes; Display of sessional marks and shortage of attendance.

END Semester Theory & Practical Examination: 06.05.2019 (Monday) onwards

31.05.2019 (Fri)	: Grade moderation & display of grades for II.IV and IV semester (UG) courses.
10.06.2019 (Mon)	: Summer Vacation, Workshop Training, Industrial Training
17.06.2019 (Mon)	: Declaration of End semester results *except Major Project*-II for PG program.
22.07.2019 (Mon)	: University reopens after summer vacation

1. Technical Fest	: 11th -13th Feb, 2019 (Monday to Wednesday)
2. Engifest	: 14th -16th Feb, 2019 (Thursday–Saturday)
3. Sports Meet/Yuvaan Literary Fest	: 22nd -24th March 2019 (Friday to Sunday)

Introduction of foundation courses in B.Tech. Programmes as per the CBCS guidelines of UGC.

DTU offers 14 B. Tech. Programmes of 4 years duration. The total credit requirements for a B.Tech. programme in DTU is 173. Currently the various courses in a particular B.Tech. Programme are classified under the following category:-

1. Common courses- (HMC/AEC/ASC)
2. Departmental core courses (DCC)
3. Allied Engineering courses-AEC
4. Departmental Elective courses (DEC)/ General Elective courses- (GEC)/ Open Elective courses- (OEC)

As per the CBCS guidelines issued by the UGC all the courses being offered in a particular degree programme must be classified into the following categories:-

1. Core courses
2. Elective courses
3. Foundation courses
   The foundation courses may be of two types:-

(I)   Compulsory foundation courses
(II)   Elective foundation courses

In all the B.Tech. programmes offered by DTU the Ist year (both Semesters) courses are falling under the category of **compulsory foundation** courses. At present there is no provision for **elective foundation courses**. These 48 elective foundation courses are supposed to be value-based and are aimed at man-making education. It is proposed to add **Four Foundation Elective courses of two credits each**. Every student will have to take one foundation elective course in each of the I, II, III & IV semesters. The following changes in the credit distribution of the exciting courses have been made to accommodate the elective foundation courses:-

(i)   The Ist year 3 credit courses HU-101/102 (communication skills) and EN-101/102 (Introduction to Environmental Sciences) have been included in foundation electives of 2 credit each. A basket of 48 foundation electives have been prescribed by the University. Every student will have to select **one of these 48 electives in every semester till IV semester.**

(ii)   The IInd year 3 credit courses MG-201/202 Fundament of management and HU-201/202 Engineering Economics are being shifted to IIIrd year in respective semester and numbered accordingly as MG-301/302 & HU-302/303

(iii)   The IIIrd year 2 credit course HU-301/302 Technical communication and HU-303/304, professional ethics and Human values have been shifted in IInd year (respective semester) and are added to the basket of **elective foundation courses.**

(iv)   At least two credit must be earned by every student from courses on Environmental Sciences/ Engineering to become eligible for the award of B.Tech. Degree. The student may of such course/ course(s) from the basket of foundation electives/ DEC/ DCC/OEC/GEC category of courses.

Teaching and evaluation scheme for Foundation Electives is as under:-

Subject Code	Course Title	Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
			L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC	**Foundation Elective**	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

LIST OF FOUNDATION ELECTIVES

Course Code	Course Title
FEC1.	Sports-I
FEC2.	Sports-II
FEC3.	Physical Education, Health and Sports
FEC4.	NSS
FEC5.	NCC
FEC6.	Corporate Social Responsibility
FEC7.	Introduction to Environmental Sciences
FEC8.	Environment Development and Society
FEC9.	Spoken Skills in English
FEC10.	Communication Skills
FEC11.	Soft Skills and Personality Development
FEC12.	Business Communication and Presentation Skills
FEC13.	Public Speaking
FEC14.	Appreciation of Short Stories
FEC15.	Appreciation of Poetry & Prose
FEC16.	Appreciation of Fiction
FEC17.	Financial Literacy
FEC18.	Financial Statements Analysis
FEC19.	Basics of Accounting
FEC20.	Theatre
FEC21.	Dance
FEC22.	Yoga
FEC23.	Digital Film Making
FEC24.	Music
FEC25.	Universal Human Values 1: Self and Family
FEC26.	Universal Human Values 2: Self, Society and Nature
FEC27.	Professional Ethics & Human Values
FEC28.	Emotional Intelligence
FEC29.	Art of Happiness
FEC30.	Nutraceutical
FEC31.	Food Chemistry
FEC32.	Logical Reasoning
FEC33.	Corporate Governance and Business Ethics
FEC34.	Computer Fundamentals

FEC35.	Geography in Everyday Life	
FEC36.	Psychology for Everyday Living	
FEC37.	French	
FEC38.	Mandarin Chinese	
FEC39.	Japanese	
FEC40.	German	
FEC41.	Spanish	
FEC42.	Entrepreneurship Development	
FEC43.	Public Administration	
FEC44.	Cyber Law	
FEC45.	Engineering Exploration	
FEC46.	Technical Communication	

After incorporating the foundation Elective courses the credit distribution for in the B.Tech. programmes among various category of courses is given as under:-

Credits of different types of courses

	TYPES OF COURSES	Credits
	(a) Foundation Course (Common Courses)	
i.	Applied Sciences and Mathematics (ASC)	20
ii.	Allied Engineering (AEC)	16
iii.	Foundation Electives (Humanities, Social Sciences, Allied Engineering and Management etc.)	08
	Total	**44**
	(b) Departmental Core Courses (DCC)	
i.	Core Courses	60-64
ii.	Engineering Analysis and Design	04
iii.	B. Tech. Project	12
iv.	Industrial Training	02
	Total	**78-82**
	(c) Humanities, Social Sciences and Management Courses (HMC) *(other than first year & second year Common Courses)*	
i.	Humanities and Social Sciences	03
ii.	Management Studies	03
	Total	**06**
	(d) Allied Engineering Courses (AEC)	**08**
	(e) Open Elective Course (OEC)/ Departmental Elective Courses (DEC)/ Generic Elective Courses (GEC)	35-31
	Grand Total	**171**

The total credit requirement for the B.Tech. programme shall thus now be **171**. Submitted for necessary approval of Academic Council.

Detailed Syllabus of Different Foundation Electives

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC1	Sports I	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents (Any Two out of 4 Components)
1	**INTRODUCTION TO PHYSICAL EDUCATION IN THE CONTEMPORARY CONTEXT (Any Two)** • Learn and demonstrate the technique of Suryanamaskar • Develop Physical Fitness through Calisthenics / Aerobics / Circuit-Training / Weight-Training and demonstrate the chosen activity • Select any one game available in the college and learn different techniques involved in its play
2	**CORE PHYSICAL EDUCATION-: FITNESS, WELLNESS AND NUTRITION (Any Two)** • Measurement of Fitness Components – Leg-raise for Minimal Strength (Muscular Strength); Sit-ups Muscular Endurance); Harvard Step Test, Run and Walk Test (Cardiovascular Endurance); Sit and Reach Test (Flexibility) • Measuring height, weight, waist circumference and hip circumference Calculation of BMI (Body Mass Index) and Waist-Hip Ratio • Engage in at least one wellness programme and write a report on it.
3	**CORE PHYSICAL EDUCATION-: POSTURE, ATHLETIC CARE AND FIRST AID (Any Two)** • Demonstrate Stretching and Strengthening Exercises for Kyphosis, Scoliosis, Lordosis, Knock Knees, Bow Legs, Flat Foot, Back Pain and Neck Pain • Illustration and Demonstration of Active and Passive Exercises • Asanas with Therapeutic Value (Any five asanas): Karnapeedasana, Padmasana, Dhanurasana, Sarvangasana, Paschimottanasana, Chakrasana, Halasana, Matsyasana, Ardhmatsyendrasana, Usthrasana, Mayurasana, Shirshasana, Vajrasana • Practice P.R.I.C.E. in First Aid.
4	**SPORTS ADMINISTRATION & MANAGEMENT (Any Two)** • Demonstration of Supervision activities in Sports Management. • Demonstration of skills of Management. • Demonstration of fixtures of various kinds in sports competitions. • Demonstration of technical and non-technical purchase procedure.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Graham, G., Teaching Children Physical Education: Becoming a Master Teacher. Human Kinetics, Champaign, Illinois, USA.
2	Corbin, C. B., G. J. Welk, W. R Corbin, K. A. Welk, Concepts of Physical Fitness: Active Lifestyle for Wellness, McGraw Hill, New York, USA.
3	Anspaugh, D.J., G. Ezell and K.N. Goodman, Teaching Today Health, Mosby Publishers.
4	Beotra, Alka, Drug Education Handbook on Drug Abuse in Sports, Applied Nutrition Sciences, Mumbai
5	Ammon,R., Southall , R.M. and Blair, D.A., Sports Facility Management, West Virginia, USA: Fitness Information Technology Publishers

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC2	Sports II	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents (Any Two out of 4 Components)
1	**Sports for all (Any Two)** • To participate in any intramural Tournaments (one team game and one Individual Game) of choice. • To participate/ attend at least 15 hours in Fitness training at Field or at Gymnasium. • Participate in at least one track and one field event on Annual Sports day. • To participate in Inter College Tournament
2	**MEDIA AND CAREERS IN PHYSICAL EDUCATION (Any Two)** • Organize an event / intramural / tournament in your college. • Prepare a News Report of an observed Sports competition. • Create a presentation on any topic from Physical Education using an audio-visual aid. • Demonstrate Warming-up / Conditioning / Cooling-down exercises.
3	**MANAGEMENT OF AEROBICS & GROUP TRAINING (Any Two)** • Measurement of Fitness Components – Leg-raise for Minimal Strength (Muscular Strength); Sit-ups (Muscular Endurance); Harvard Step Test or Run and Walk Test (Cardiovascular Endurance); Sit and Reach Test (Flexibility) • Measurement of Pulse Rate / Heart Rate at Radial Artery and Carotid Artery, Calculation of Target Heart Rate • Developing a 5-10 minute routine of aerobics with appropriate music for each component of health related physical fitness
4	**SPORTS INDUSTRY & MARKETING (Any Two)** • Identify an issue or a trend in the sports industry: o Players in professional or college sports o Ownership • Marketing Plan: Environmental Factors and Product Plan Draft, Paper bibliography/works cited. • Sponsorship proposal • Developing a budget plan for an event • Athlete branding

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Covey, S., 7 Habits of Highly Effective People, Covey Publications, USA
2	Magill, R.A., Motor Learning and Control: Concepts and Applications, McGraw Hill Publication.
3	Masteralexis, L.P., C. Barr and M. Humms, Principles and Practices of Sport Management, Jones and Bartlett Publisher
4	Bishop, J.G., `Fitness through Aerobics, Benjamin Cummings USA.
5	Brown K.M., Physical Activity and Health: An Interactive Approach, Jones and Bartlett Publisher
6	Cornwell. T.B, Sponsorship in marketing: Effective communications through sports, arts and events, Routledge Publishers
7	DeGarris, L., Sports Marketing: A Practical Approach, Routledge Publishers, USA

Subject Code	Teaching and Examination Scheme	Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC3	**Physical Education, Health and Sports**	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents (Any Two out of 4 Components)
1	**PHYSICAL EDUCATION** • Concept of physical education, its relation with technical education, health and recreation • Scope and importance of physical education
2	**HEALTH** • Concept and factors affecting health • Physical fitness-Concepts and factors affecting physical fitness, sources of fitness • Types of physical fitness • Elements of fitness-speed strength, power, endurance, flexibility, agility • Warming up and cooling down
3	**POSTURE** • Concept and values of good posture • Causes of poor posture • Postural deformities, their causes and remedies
4	**SPORTS (Practical)** • Every student shall opt minimum of three athletics events. • Each student shall opt minimum one game major/minor i.e. athletics, badminton, basketball, cricket, football, table tennis, volleyball, kabaddi, Lawn Tennis, Chess • Participation in DTU mini marathon, annual athletics meet, physical fitness and cardio respiratory efficiency test

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Bishop, J.G., `Fitness through Aerobics, Benjamin Cummings USA.
2	Brown K.M., Physical Activity and Health: An Interactive Approach, Jones and Bartlett Publisher
3	Cornwell. T.B, Sponsorship in marketing: Effective communications through sports, arts and events, Routledge Publishers
4	DeGarris, L., Sports Marketing: A Practical Approach, Routledge Publishers, USA

Subject Code	Teaching and Examination Scheme	Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC4	**National Service Scheme (NSS)**	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**INTRODUCTION TO NSS** Orientation and structure of NSS, History of Social Reforms in Modern India: Brahmo Samaj, Arya Samaj, Satya hodhak Samaj: Principles and Functions
2	**REGULAR ACTIVITIES** Distribution of working hours- association between issues and programs- community project- urban rural activities, association- modes of activity evaluation
3	**CONCEPT OF SOCIETY** Development of Indian society: Features- Division of labors and cast system in India; Features of Indian constitution; Provisions related to social integrity and development
4	**N.S.S REGULAR ACTIVITIES** College campus activities, N.S.S. activities in Urban and Rural areas, Role of Non-Government Organisation (NGO) in social Reforms, Red Cross, Rotary

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	National Service Scheme Manual, Govt. of India.
2	Training Programme on National Programme scheme, TISS.
3	Orientation Courses for N.S.S. programme officers, TISS.
4	Ram Ahuja, "Social Problems in India," Rawat Publication.
5	History of Social Reforms in Maharashtra, Ed. J. Y. Bhosale, S. U. Kolhapur.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC5	National Cadet Corps (NCC)	2	2	0	0	3	0	25	0	25	50.	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**INTRODUCTION TO NCC** National Integration & Awareness: Religions, Culture, Traditions and Customs of India, National Integration: Importance and Necessity, Freedom Struggle.
2	**ADVENTURE TRAINING** Obstacle course, Slithering, Trekking, Cycling, Rock Climbing, Para Sailing, gliding, Scuba Diving- methods and use.
3	**ENVIRONMENT AWARENESS & CONSERVATION: NATURAL RESOURCES** Conservation and Management. Water Conservation and Rainwater Harvesting
4	**PERSONALITY DEVELOPMENT & LEADERSHIP** Introduction to Personality Development, Factors Influencing /Shaping Personality: Physical, Social, Physiological, Philosophical and Psychological, Self Awareness Know yourself/ Insight, Change Your Mind Set, Communication Skills: Group Discussion / Lecturettes (Public Speaking), Leadership Traits, Types of Leadership

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Bhogle Anita & Bhogle Harsha, "The Winning way, Learning from sports for managers," Westland Publications
2	Sharma Robin, " The leader had no title, " Simon and Schuster Ltd.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC6	Corporate Social Responsibilities	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**CORPORATE SOCIAL RESPONSIBILITIES IN INDIAN CONTEXT & INTERNATIONAL** CSR - Definition, concepts, Approaches of CSR, overview of corporate social responsibility and corporate social accountability, SR Tools, National and International CSR activities, corporate philanthropy, drivers of CSR, difference between corporate governance, corporate philanthropy and CSR
2	**BUSINESS ETHICS AND CORPORATE SOCIAL RESPONSIBILITY** Concept of business ethics – meaning, Importance and factors influencing business ethics. Corporate Governance – meaning, significance, principles and dimensions. Ethical decision – making in different culture, consumer protection, environment protection, gender issues in multiculturalism, ethics and corruption, ethics and safety. Business benefits of CSR
3	**LEGISLATIVE MEASURES OF CSR** Corporate, labor, stake holders, Environmental and pollution. Social Accounting, Social Auditing, SA: 8000 and Corporate Social Reporting.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Harsh Srivastava,The business of social responsibility, books for change
2	CV. Baxi and Ajit Prasad, Corporate social responsibility – concepts and cases, Excel Books
3	Dr. M. Mahmoudi, Global strategic management, Deep & Deep Publications Pvt. Ltd.
4	S K. Bhatia, International Human resource management – Global perspective, Deep & Deep Publications Pvt. Ltd.
5	J.P. Sharma, Governace, Ethics and Social responsibility of business, Ane books Ltd.
6	Kotler Philip and Lee Nancy, Corporate social responsibility; doing the most good for your company, John Wiley
7	Simpson, Justine and Taylor, John R, Corporate Governace Ethics and and CSR, Kogan Page Publishers

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC7	Introduction to Environmental Sciences	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**ENVIRONMENTAL STUDIES: ECOSYSTEMS, BIO-DIVERSITY & ITS CONSERVATION** • The Multidisciplinary Nature of Environmental Studies Definition, scope and importance of Environmental Studies. Biotic and a biotic component of environment, need for environmental awareness. • Ecosystems: Concept of an ecosystem, structure and function of an ecosystem, producers, consumers and decomposers, energy flow in the ecosystem, ecological succession, food chains, food webs and ecological pyramids. Introduction, types, characteristic features, structures and function of different ecosystem • Bio-diversity and its Conservation: Introduction to biodiversity —definition: genetic, species and ecosystem diversity, Bio-geographical classification of India, Value of biodiversity: Consumptive use, productive use, social, ethical, aesthetic and option values, Biodiversity at global, national and local levels, India as a mega-diversity nation, Hot-spots of biodiversity, Threats to biodiversity : Habitat loss, Poaching of wildlife, man wildlife conflicts, rare endangered and threatened species(RET) endemic species of India, method of biodiversity conservation: In-situ and ex-situ conservation.
2	**NATURAL RESOURCES: PROBLEMS & PROSPECTS** • Renewable and Non-renewable Natural Resources • Concept and definition of Natural Resources and need for their management • Forest resources: Use and over-exploitation, deforestation, case studies, timber extraction, mining, dams and their effects on forests and tribal people. • Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems, Water conservation, rain water harvesting, watershed management. • Mineral resources: Uses are exploitation, environmental effects of extracting and using mineral resources, case studies. • Food resources: World food problems, changes causes by agriculture and over-grazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. • Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, Urban problems related to energy, case studies. • Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.
3	**ENVIRONMENTAL POLLUTION CONTROL** Environmental Pollution, Definition, types, causes, effects and control measures of (a) Air pollution, (b) Water pollution, (c) Soil pollution, (d) Marine pollution, (e) Noise pollution, (f) Thermal pollution. Nuclear hazards. Solid waste and its management: causes, effects and control measures of urban and industrial waste.
4	Disaster Management, Social Issues, Human Population and the Environment, Social Issues, Human Population and the Environment, Sustainable development, Climate change, global warming, acid rain, ozone layer depletion, Environmental ethics: Issues and possible solutions, Consumerism and waste products, , Wasteland reclamation. Population growth, problems of urbanisation.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	E. Barucha, Textbook of Environmental Studies for Undergraduate Courses, Universities Press (India) Pvt. Ltd.
2	S. Chawla, A Textbook of Environmental Studies, McGraw Hill Education Private Limited.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC8	Environmental Development & Society	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**BASIC ISSUES & APPROACHES** • Importance of the study of ecology and society • The relation between Environment and Development • Conceptual clarifications: social ecology; sustainable development; sustainability. • Approaches: Realism, Appropriate Technology, Ecofeminism
2	**PEOPLE & NATURAL RESOURCES** Unequal Access and Shrinking Commons: • Water: depleting water resources & pollution; unequal distribution of water —(utilization of water for commercial crops, industrial use, power generation), the big dams debate. • Forest: Colonial policy, diverting resources for mining and other commercial and industrial use, monoculture and loss of biodiversity, rights of forest dwelling communities. • Land: modern technology, green revolution, biotechnology and impact on land, shrinking commons and its effects on rural poor

3	ENVIRONMENTAL ISSUES & PROBLEMS
	• Environmental Pollution: Air, Water, Noise, Land and Radioactive Pollution
	• Problems of urban environment (pollution, health, industrial accidents (e.g. Bhopal), occupational hazards)
	• Climate change/Global warming.
4	ROLE OF ENVIRONMENTAL MOVEMENTS & THE STATE
	Environmental Movements in India – Chipko, Narmada Bachao Andolan, Chilka Lake Orissa, are some examples.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Chandna R.C, Environmental Awareness, Kalyani Publishers.
2	Agarwal S.K, Environmental Issues and Themes, APH Publishing corporation.
3	Barry John, Environment and social theory, Routledge.
4	Gadigil, Madhav and Ramachandra Guha, Ecology and Equity: The use and Abuse of Nature in contemporary India," OUP.
5	Gole Prakash, Nature conservation and sustainable development in India, Rawat publications.

Subject Code	Course Title	Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
			L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC9	Spoken Skills in English	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Practice on listening and reading comprehension.
2	Language lab practice for group discussion and interviews.
3	Definition and discussion on communication & the barriers in communication with practical training to use language as a tool for sharing, discussing, handling and convincing others.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Everyday English I & II Cambridge University Press/ Foundation books

Subject Code	Course Title	Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
			L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC10	Communication Skills	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Communication: A. Communication: Process, Features, Barriers B. Language, Technology and Communication
2	Grammar and Usage A. Vocabulary-Words/Word Formation, Confusing Word Pairs B. Sentence Construction, Sentence Types, Direct/Indirect Speech C. Punctuation, Error Spotting, Idioms and Phrases
3	Oral Communication A. Phonetics of English, Vowels, Consonants, syllables, transcription of words and simple sentences using IPA: Speech Sounds and their articulation; phonemes, Syllable, Stress, Transcription of words and Simple Sentences B. Language Lab Practice for Oral Communication: Project Presentations, Group Discussions, Debates, Interviews etc.
4	Written Technical Communication A. Composition- Descriptive, Explanatory, Analytical and Argumentative B. Writing Paragraphs (Essay, Summary, Abstract) C. Reading and Comprehension, Providing working mechanism of instruments, appliances, description of processes, their operations and descriptions; Drawing Inferences from graphs, charts, Diagrams etc.
5	Texts for Appreciation and Analysis A. Improve your Writing by V. N. Arora and Lakshmi Chandra (OUP) B. Vijay Seshadri. 3 Sections (2014) orGestures: Poetry from SAARC Countries Ed. K. Satchidanandan. Sahitya Akademi: New Delhi ISBN-81-260-0019-8 C. Ursula K. Leguin. The Telling, Harcourt Inc. 2000 or Animal Farm by George Orwell (1945) ISBN: 9781502492791 or Frankenstein by Mary Shelley (1818) Harper Collins India Ltd.: NOIDA ISBN: 9780007350964

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC11	Soft Skills and Personality Development	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Suggested Books:

S. No	Name of Books/Authors/Publisher
1	Improve your writing by V. N. Arora and Laxmi Chandra, 2013.
2	Technical Communication: Principles and Practice by Meenakshi Raman and Sangeeta Sharma, 2014.
3	English Phonetics and Phonology: Apractical Course by Peter Roach, Cambridge University, 2014.
4	Vijay Seshadri, 3 Sections, Harper Collins India Ltd, India
5	Ursula K Leguin, The Telling, Harbourt Inc, 2000

Details of Course:

S. No.	Contents
1	Conceptual Understanding of Communication; Cognition and Re-Cognition; Types of communication: Oral, Verbal, Non-verbal, Kinesics, Interpersonal, Group and Mass Communication, Communion, Barriers to communication; Values and Belief system.
2	Spoken Communication; Art of debating, Elocution, Stage Anchoring, Group Discussion; Interviews; Quiz; Use of Jargon, Slangs and Vocabulary for effective Communication; Voice Modulation and Intonation; Clarity, Brevity; Articulation of thought and speech; Assertiveness; Affirmation.
3	Written Communication, KISS rule; Resume writing; Letter writing, Taking notes; Recording minutes and preparing proceedings of meetings; Role of empathy and compassion.
4	Self-assessment; Self awareness; Self-esteem, Self-confidence; Perception and observation skills, Benefits of Meditation and Self-Hypnosis, Goal setting and career planning. Practical: Debate, Declamation; Presentation exercises and written communication exercises.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Barker. A, Improve Your Communication Skills, Kogan Page India Pvt Ltd
2	Adrian Doff and Christopher Jones, Language in Use (Upper-Intermediate), Cambridge University.
3	John Seely, The Oxford Guide to Writing and Speaking, Oxford University Press.
4	Shiv Khera, You Can Win, Macmillan Books.
5	Stephen Covey, 7 Habits of Highly Effective People, Simon and Schuster
6	John Collin, Perfect Presentation, Video Arts Marshal.
7	Jenny Rogers, Effective Interviews, Video arts Marshal.
8	Robert Heller, Effective Leadership: Essential Manager Series, DK Publishing.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC12	Business Communication and Presentation Skills	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**IDENTITY MANAGEMENT COMMUNICATION** Face to Face Impression Management & Mediated Communication (Self Introduction & Self-Promoting– Over Stating and Under Stating – Strategies to Overcome Communicative Inhibitions – Creating Positive Self-image through words - Appearance- Verbal and Non-Verbal Manners) – Giving Polite Yet Assertive Responses – Responsive strategies to handle criticism - Accepting Failure and Declaring Success.
2	**BUSINESS PRESENTATION** Oral and Power Point Presentations; Preparing Successful Presentations; Assessing Audience, Making Effective Use of Visual Aids, Delivering Presentation, Using Prompts, Handling with Questions and Interruptions, Mock Presentations.
3	**ORATORY SKILLS** Group Discussion, Extempore, Mock Parliament and Mock Press.
4	**INTERVIEW MANAGEMENT** Resume Preparation, Types of Interviews, Preparing for Interviews, Facing Interviews, Handling Tough & Tricky Questions, Reviewing Performance, Participating in Mock Interviews.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Lori Harvill Moore, Business Communication, Bookboon
2	John Thill, Courtland L. Bovee , Excellence in Business Communication, Pearson Prentice Hall

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC13	Public Speaking	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**INTRODUCTORY SPEECH** This is a speech of **Self-Introduction** based on a national newspaper or magazine article from your actual date of birth (or birth week, if using a magazine). Select an item to speak about which relates to your life in some way. **Warning**: This assignment is about YOU - it is **not** about summarizing an article on the date of your birth. The other option is to bring an object and discuss how it relates to your life.
2	**INFORMATIVE SPEECH** The purpose of this extemporaneous speech is to inform the audience about some person, object, process, concept or event. A full-sentence outline and bibliography are required. The use of an audience analysis survey and visual aid is optional, but recommended, except for PowerPoint.
3	**PERSUASIVE SPEECH** This extemporaneous speech assignment is to persuade the audience *for* or *against* a question of policy. In addition to a full-sentence outline, audience analysis and bibliography, the use of a visual aid is highly recommended. *Note: PowerPoint* is mandatory for either the persuasive or final speech.
4	**SPECIAL OCCASION SPEECH** A speech designed to fulfill the objectives of a designated special occasion. Speakers may choose from the following options: (1) an "after-dinner" speech, using an imaginary professional career as the basis for the speech; (2) a commemorative speech honoring a famous historical person or event; or (3) a "grand narrative" speech – using a narrative to tell a family story that has been passed down to you which contains a particular moral or cultural insight. The front side of one 4"x 6" index card is allowed.
5	**FINAL SPEECH** The student may choose either a speech to inform or to persuade. An outline (speaker's choice), audience analysis, bibliography and visual aid are required. *Note: PowerPoint* is mandatory for at least one speech - either the persuasive or final speech.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	The Art of Public Speaking (Communication) Standalone Book by Stephen E. Lucas

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC14	**Appreciation of Short Stories**	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
	Prescribed Texts William Carlos Williams: "The Use of Force" James Thurber: "The Catbird Seat" Ernest Hemingway: "In Another Country" John Henry Noyes Collier: "The Enemies Dylan Thomas: "Wet Saturday" "In Another Country" [**Prescribed Book:** Brooks, Cleanth, John Thibaut Purser, and Robert Penn *An* Warren. *Approach to Literature.*5th ed.]

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Currie, Gregory. Narratives and Narrator
2	Davis, Robert Marry. Ed. The Novel: Modern Essays in Criticism
3	Dietrich, R.F. and Roger H. Sundell. The Art of Fiction
4	Miller, J. Hillis. On Literature
5	Nayar, Pramod. K. Studying Literature: An Introduction to Fiction and Poetry
6	Scholes, Robert, and H. Klaus and Michael Silverman. Elements of Literature

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC15	Appreciation of Poetry & Prose	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**Poetry** Wallace Stevens: "The Emperor of Ice-Cream" Thomas Hardy: "Last Words to a Dumb Friend" Ben Jonson: "To the Memory of my Beloved, the Author, Mr. William William Shakespeare: "Sonnet 66" Geoffrey Chaucer: "The Prioress" (From *The Prologue*) Robert Browning: "My Last Duchess"
2	**Essays** Charles Lamb: "The Two Races of Men" Virginia Woolf: "The Death of the Moth" Frances Bacon: "Of Studies" Joseph Addison: "Female Orators" Samuel Johnson: "Singularities Censured" (*Adventurer.No. 131. Tuesday, February*

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Inside Poetry by James Reeves and Martin Seymour-Smith]
2	Elements of Literature by Robert Scholes, H. Klaus and Michael Silverman

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC16	Appreciation of Fiction	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Leo Tolstoy: The Death of Ivan Ilych.
2	D.H. Lawrence: The Man Who Died

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Currie, Gregory. Narratives and Narrators.
2	Davis, Robert Murray. Ed. The Novel: Modern Essays in Criticism.
3	Dietrich, R.F. and Roger H. Sundell. The Art of Fiction.
4	Hudson, W.H. An Introduction to The Study of English Literature.
5	Miller, J. Hillis. On Literature.
6	Nayar, Pramod. K. Studying Literature: An Introduction to Fiction and Poetry.
7	Scholes, Robert, and H. Klaus and Michael Silverman. Elements of Literature.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC17	Financial Literacy	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**BANKING** Definition, Role of Bank in growth of saving and Investment, Types of banks, Services offered by banks, Deposits and Loans, Types of A/c, Opening a bank A/c, How to Transact with banks, KYC norms, (A/c opening form, Address Proof), How to read bank statement, Banking products and services, Calculating Interests – Saving, FD, Simple and Compound Interest, Power of compounding Loans, Types of loans, taking a home loan, Definition of EMI, Calculation of EMI, Post office-Account and transactions, Basic of foreign Exchange, Importance and Use of Foreign Exchange, Regulator Role of RBI, mutual funds.
2	**INVESTMENT** Principles of Investment – Safety, Liquidity and Return, Investment plans, Hybrid plans-Ulip, SIP and VIP of mutual funds, index funds
3	**FINANCIAL PLANNING** Meaning, Household financial health checkup, Important life stages, Medical and other Emergencies, ; Insurance, Meaning, Need and Wants, Loss protection, Life, non-life and health, Benefits of Insurance, Term plans, Social obligations Budgeting, Buying a house, Plan a vacation, Retirement planning, Price of procrastination, Market and financial instruments, Primary market, Secondary market, Financial Statement analysis
4	**SCAMS, FRAUD SCHEMES** Insider trading, Money laundering; Consumer protection and redressal mechanism, Rights of Consumers, Applicable to financial services, Filing a complaint, Complain to entity concerned, Regulators, Arbitration, Consumer courts, Govt. Websites-(PG Portals), Investor Associations, Taxes, Meaning, Need of Taxes, Types of taxes, How taxes impact income, Income, wealth and gift tax, Service tax, STT, Stamp Duty, Tax planning v/s tax evasion, Tax rates, Tax free bonds, Tax saving investment

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Braunstein, Sandra, and Carolyn Welch, Financial literacy: An overview of practice, research, and policy, Fed. Res. Bull.
2	Cole, Shawn A., and Gauri Kartini Shastry, Smart money: The effect of education, cognitive ability, and financial literacy on financial market participation, Harvard Business School, 2009.
3	Study material of NSE.
4	Gitman, joehnk and Billingsley, Personal financial planning, Cengage Learning.
5	Madura Jeff, Personal finance student edition, Prentice Hall PTR.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC18	Financial Statements Analysis	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**INTRODUCTION TO FINANCIAL STATEMENTS** Understanding Financial Statements – P&L, Balance Sheet, Cash Flow, AnalyzingFinancial Statements, Interpreting Financial Statements, Ratio Analysis
2	**BUSINESS ANALYSIS** Understanding Businesses, Overview of Key Industries, Revenue Drivers, Profitability Drivers/Cost Drivers
3	**FINANCIAL FORECASTING** Methods of Forecasting, Balance Sheet & P&L Relationship, Understanding the Future Projections, Preparation of Forecasted Balance Sheet & Income Statement

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	How to Read A Balance Sheet: An ILO Programmed Book, Publisher: Oxford & IBH Publishing Co Pvt Ltd
2	Techniques of Financial Analysis, Erich A. Helfert, Jaico Publishing House

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC19	Basics of Accounting	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Meaning of Accounting, Accountancy and Book Keeping, Objectives of Accounting, Scope of Accounting, Types of Accounting, Limitations, Basic Accounting Terms, Double Entry System of Book Keeping, GAAP (Generally Accepted Accounting Principal), Basic accounting Equations
2	Journalizing: Classification of Accounts, Personal, Real and Nominal, Recording & posting of simple transactions only.
3	Preparation of Subsidiary Books: Cash Book(single column cash book) Purchase Book, Sales Book, Purchase Return, Sales Return Book, B/R and B/P Book.
4	Preparation of Trial Balance, Preparing the Financial Statements Trading Account, Profit and Loss Account and Balance Sheet of sole proprietary business (Without Adjustment).

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	D.K. Goyal: Financial Accounting, Arya Publications Pvt Ltd.
2	S.N. Maheshwari: An introduction to Accounting, Vikas Publishing House Pvt. Ltd.
3	Nishat Azmat and Andy Lymer: Basic Accounting: The step-by-step course in elementary accountancy, Kindle Edition
4	Anthony, R.N., and J.S. Reece, "Accounting Principles", Richard D. Irwin, Inc.
5	Monga, j.R., "Financial Accounting: Concepts and Applications", Mayoor Paper Backs, New Delhi.
6	Shukla, M.C., T.S. Grewal and S.C Gupta, "Advanced Accounts", Vol-I, S.Chand & Co., New Delhi.
7	Gupta, R.L. and M. Radhaswamy, "Advanced Accountancy", Vol-I, Sultan Chand & Sons, New Delhi.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC20	Theatre	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Concept of Acting in Indian Classical theatre. Western styles of theatre acting.
2	Basics of the following: Acting in Grotowski's Poor Theatre, Modern concept of Actor training with reference to Meyerhold, Bertold Brecht and Constant in Stanislavesky; Artaudian acting, Theatre of Cruelty; Theatre of Absurd.
3	Acting for Camera –Knowledge of camera frames and movement within the confines of a frame, blocking, difference between theatre and Camera acting, Concentration.
4	Acting consistently for different takes, acting scenes out of order, Auditions, acting exercises. Art of Dubbing.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Boleslavsky, Richard, Acting: the First Six Lessons, New York Theatre Arts.
2	Hagen, Uta, Respect for Acting, Macmillan Press.
3	Hodge, Alison, Twentieth Century Actor Training, London and New York.
4	Routledge ,Stanislavski, Konstantin, An Actor's Work: A Student's Diary, Trans. and ed. Jean
5	Jeremiah Comey , The Art of Film Acting, Focal Press.
6	Philips B Zarrilli, Acting (Re) Considered, Routeledge
7	Cathy Hassey, Acting for Film, Allworth Press

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC21	Dance	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Basic workout Introduction to Hip Hop and B-Boying with a simple choreography Exercise like: Rolling, jumping, moving shoulders. Footwork, Floor steps, Beat knowledge. Freestyle combination along with House dance style. Expressions class: Body expressions, Face expressions. Introduction of Contemporary Dance. Basic exercise of Contemporary Dance. Exercise for flexibility, Floor steps, Spinning and Balancing. Introduction to Jazz. Basic exercise and proper routine practice.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Jonathan Burrows, A Choreographer's Handbook, Routledge
2	Jacqueline M. Smith-Autard, Dance Composition: A Practical Guide to Creative Success in Dance Making, Routledge

Teaching and Examination Scheme			Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
			2	0	0	3	0	25	0	25	50	0
FEC22	Yoga	2	1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Origin of Yoga & its brief development, Meaning of Yoga & its importance, Yoga as a Science of Art (Yoga Philosophy),Meaning of meditation and its types and principles.
2	Classification of Yoga/Types of Yoga, Hatha Yoga , Raja Yoga, Laya Yoga, Bhakti Yoga, Gyan Yoga, Karma Yoga, Asthang Yoga.
3	Principles of Yogic Practices, Meaning of Asana, its types and principles, Meaning of Pranayama, its types and principles, Meaning of Kriya its types and principles.
4	Yogic therapies and modern concept of Yoga, Naturopathy, Hydrotherapy, Electrotherapy, Messotherapy, Acupressure, acupuncture, Meaning and importance of prayer, Psychology of mantras, Different mudras during prayers.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	William Broad, The Science of Yoga: The Risks and the Rewards, Simon and Schuster
2	Swami Vishnu Devananda, The Complete Illustrated Book of Yoga, Harmony

Teaching and Examination Scheme			Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
			2	0	0	3	0	25	0	25	50	0
FEC23	Digital Film Making	2	1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**HISTORY OF CINEMA, RESEARCH & SCRIPT** Early Cinema, Development of Classical Indian & Hollywood Cinema, History of Global Film including European Film (1930-present), Origin of Classical narrative cinema-Soundless film, Exploration of film and analysis of the three-part beginning, middle and end of story, Research (Finding and Collecting materials and facts related to your story. Where and How to find the materials related to your story. Things to consider before sketching down your story), Script (Scriptwriting Process and its various phases), Film Grammar for Scriptwriting.
2	**DIGITAL VIDEO CINEMATOGRAPHY: PRE□PRODUCTION** Introduction to Digital Video Cinematography Cinematography, Interactivity and emotions through Cinematography, Building blocks, Compositions, Lenses and Cameras, Types of lenses: Zoom-Lens, Prime Lens, Types of Cameras: HD Cameras, Basics of Film Camera, Difference between, Film Camera and Digital Camera, DSLR and HDSLR Cameras, Lighting, Psychology of light, Visual Environment, Directional Effect of Light, Lighting design process, Three-point lighting, High-Key lighting, Low Key lighting, Construction of a Shot, Color, Contrast, Deep Focus, Shallow Focus, Depth of Filed, Exposure, Racking focus, Frame Rate, Telephoto shot, Zoom shot.
3	**DIGITAL VIDEO EDITING** Effective Editing, Principles of Video Editing, Non-Linear Editing (NLE) Concept, The Three-Point Edit, Non□Linear Editing (NLE) Techniques, working in the Timeline, Transitions, Key framing, Applying Filters, Ingesting.
4	**ADVANCED EDITING TECHNIQUES** NLE Compositing, Color Correction & Color Grading, Working on Audio, Titling

Suggested Books

S. No.	Name of Books/Authors/Publisher
1	Mark Brindle and Chris Jones, The Digital Filmmaking Handbook, Quercus

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC24	Music	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Study of the following terms: - Mela (Thāt), ĀshrayRāga, Rāga, Lakshana, Shruti, Alankar, Gamak, Vadi-SamvādiAnuvādi-Vivādi, VakraSwara, Varjit-Swara.
2	Biographies & contributions of the following: - Jaidev, MansinghTomar, Abdul Karim Khan, Tyagaraja, Pt. Bhatkhande, Pt. Ravi Shankar
3	Study of following Rāgas&TālaRāga- Yaman, Jaunpuri, Khamaj. Tāla- Ektāl, Jhaptāl
4	Genaral discussion and definition of the following: - a. Khyāl, MaseetKhani – Razakhani gat, Dhrupad, Tarana, Meend, Soot, Murki, Kan, Khatka, Krintan, Harmony, Melody. b. Writing of Bhatkhande Swarlipi Paddhati. c. Writing of Tālasand Compositions in Notation. d. Detailed study of Rāgas (Rāga- Bihag, Malkauns, Vrindavani Sarang) and comparative study of Rāgas. e. Essay, Shastriya Sangeet (Classical Music) & Sugam Sangeet (Light Music)
5	Vedic Music – Samvedic Sangeet, Swara, Vadya, Bhakti, Vikār . General study of Natyashastra, SangeetRatnakar.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Vasant and Laxmi Narayan Garg, Sangeet Visharad, Sangeet Karyalay
2	Sarat Chandra Pranjpayee and Chowbhamda , BhartiyaSangeetkaItihas, Surbharti Prakashan
3	Bharat Muni, NatyaShastra,
4	Sharangdeva , SangeetRatnakar
5	Sharad Chandra Pranjpayee , Sangeet Bodh,
6	Thakur Jaidev Singh, Indian Music, Sangeet research academy
7	V. N. Bhatkhande, Mallika Part II & III, KramikPustak.
8	V. N. Patwardhan, RaagVigyan
9	RaginiTrivedi, Ragvibodha Mishrabani, Vol. I & II

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC25	Universal Human Values 1: Self and Family	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Motivation and Objectives of Human Values Course, Introduction to the objectives of the course. Content and process of the course including mode of conduct. Daily life as lab for the course. Activities in the course.
2	Purpose of Education How human being has a need for Knowledge, what should be the content of knowledge, how the content should be discussed in education. Complimentarily of skills and values, how the current education system falls short.
3	Peers Pressure, Social Pressure In various dimensions of life, how do these things work. What is the way out? In the context of education, peer pressure etc. movie —TaareZameen Parl can be used.
4	Concept of Competition and Excellence How competition leads to degradation of self and relationships. How excellence is the basic need of a human being. What is excellence? Movie —Fearlessl can be used to discuss the concept.
5	Time Management:How does one deal with myriads of activities in college? Focus of the mind.

6	Concept of Preconditioning. How preconditioning affects our thinking, behavior, work, relationships, society and nature. How do we develop pre-conditioning? What are the various sources of preconditioning? How do we evaluate our Preconditioning? How do we come out of it?
7	Concept of Natural Acceptance in Human Being. What is natural acceptance? How can the concept of natural acceptance be used to evaluate our preconditioning. Universal nature of natural acceptance. Are anger, jealousy, hatred natural? How do we feel when we experience them? Which feelings are natural for a human being and which are not?
8	Understanding Relationships, a) Are relationships important? What is the role of relationships in our life? If relationships are important then why they are important? If they are important then why it is the case that we are not discussing them? What are the notions/conditions and factors which stop us to explore more into relationships. Relationships in family and extended family, Dealing with anger. Show film —Right Here, Right Now. b) Basic expectations in relationships. Seven types of relations. c) Gratitude as a universal value in relationships. Discuss with scenarios. Elicit examples from students' lives. d) Nine universal values in human relationships. Trust as the founding value. e) Concept of acceptance. Unconditional acceptance in relationships. f) Our preconditioning affecting our relationships. Our relationships with subordinate staff, with people of opposite gender, caste, class, race. Movie —Dharm (set in Varanasi) can be used to show the conflict between reconditioning and relationships. How relationships have the power to force a person to change his preconditioning.
9	Concept of prosperity Material goods and knowledge of one's physical needs is essential for feeling of prosperity. What role others have played in making material goods available to me: Identifying from one's own life.
10	Idea of Society. What is a society? What constitutes a society? What systems are needed for a society to work? What is the purpose of society and various systems which are working in it? How understanding of Human Nature is important in order to understand the purpose of Society and various social systems? And what happens when this understanding is lacking?
11	Idea of decentralization of politics, economics, education, justice etc. Its comparison with centralized systems. The idea of Swaraj. Various social initiatives by NGOs, social organizations and other people. (If time permits)
12	Balance in nature a) Balance which already exists in nature. b) How human beings are disturbing the balance. Resource depletion and pollution. Our own role in wastage of electricity, water and in use of plastics. Waste management. (Show episode on city waste from Satyameva Jayate c) Issues like global warming, animal extinction. Show —Story of Stuff documentary film. —Home film can also be used.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Annie Leonard, " The Story of Stuff," Free Press
2	Mohandas Karamchand Gandhi," The Story of My Experiments with Truth," Beacon Press
3	J Krishnamurthy," On Education," Official repository
4	Hermann Hesse ," Siddhartha," Bantam Books
5	ThichNhatHanh," Old Path White Clouds," Parallex Press
6	On Education - The Mother Aurobindo Ashram Publication
7	Anne Frank," Diaries of Anne Frank ,"
8	G S Banhatti" Life and Philosophy of Swami Vivekananda," Atlantic
9	Swami Vivekanand" Swami Vivekananda on Himself," Advaita Ashram
10	E. F Schumacher," Small is Beautiful: Economics as if people mattered,"Harper Pereinnial.
11	Cecile Andrews ," Slow is Beautiful," New society publishers
12	A.Nagaraj," JeevanVidya: EkParichaya," Jeevan Vidya Prakashan.
13	A.N. Tripathi," Human Values," New Age Intl. Publishers.
14	Dharampal," Rediscovering India," Other India Press
15	Mohandas K. Gandhi," Hind Swaraj or Indian Home Rule," Navjeevan publication house
16	Maulana Abdul Kalam Azad," India Wins Freedom," Stosius Inc
17	Ramakrishna kijeevani ," Romain Rolland
18	Romain Rolland , "Vivekananda" Advait ashram.
19	Romain Rolland , "Gandhi" Srishti Publishers & Distributors.
20	ParamhansaYogananda," Autobiography of a Yogi," ," Rider publication.
21	Sahasrabudhe, "Gandhi and Question of Science,"Other India Press.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC26	Universal Human Values 2: Self, Society and Nature	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	In Universal Human Values 2 course, the focus is more on understanding society and nature on the basis of self and human relationships. and motivation for the course.-conditioning, and natural acceptance, existence of self and body. Identifying needs and satisfying needs of self and body. Self-observations. Handling peer pressure family. Hostel and institute as extended family. Real life examples, student relationship. Shraddha. Guidance. Goal of education, material order, plant order, animal order and human order, Salient features of each. Human being as cause of imbalance in nature. (Film "Home" can be used.), water, food, mineral resources, Pollution. Role of technology. Mutual enrichment not just recycling, on of needs of the self and needs of the body. Right utilization of resources. Understanding the purpose they try to fulfil, Recapitulation on society. Five major dimensions of human society. Fulfilment of the individual as major goal. Justice in society. Equality in human relationships as naturally acceptable. Establishment of society with abhaya (absence of fear). being through holistic education in just order.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	R R Gaur, R Sangal, G P Bagaria, "Human Values and Professional Ethics "Excel Books, New Delhi, 2010
2	A Nagaraj , "Jeevan Vidya: Ek Parichaya,"Jeevan Vidya Prakashan, Amar kantak.
3	A.N. Tripathi , "Human Values," New Age Intl. Publishers, New Delhi,
4	Annie Leonard, "The Story of Stuff" Simon and Schuster.
5	Mohandas Karamchand Gandhi, "The Story of My Experiments with Truth Becon Press.
6	J Krishnamurthy, " On Education" Official repository.
7	Hermann Hesse, "Siddhartha " Bantan press.
8	ThichNhatHanh, " Old Path White Clouds " parallax press.
9	On Education - The Mother Aurobindo Ashram Publication.
10	Diaries of Anne Frank – Anne Frank
11	G.S Banhatti, "Life and Philosophy of Swami Vivekananda," Atlantic publisher.
12	Swami Vivekananda , "Swami Vivekananda on Himself," Advait publication.
13	E. F Schumacher , "Small is Beautiful: Economics as if people mattered,"Harper Pereinnial.
14	Cecile Andrews , "Slow is Beautiful" New society publishers.
15	J C Kumarappa, "Economy of Permanence" Serve seva sangh prakashan.
16	Pandit Sunderlal , "Bharat Mein Angreji Raj"
17	Mahatma and the Rose plant
18	M.Gandhi, "The Poet and the Charkha" Mani Bhavan
19	Dharampal, "Rediscovering India" other India press.
20	Mohandas K. Gandhi , "Hind Swaraj or Indian Home Rule," Navjeevan publication house.
21	Arvind Kejriwal , "Swaraj" Harper publication.
22	Maulana Abdul Kalam Azad, "India Wins Freedom."Stosius Inc.
23	Romain Rolland , "Ramakrishna kijeevani,"Advait Ashram.
24	Romain Rolland , "Vivekananda" Advait ashram.
25	Romain Rolland , "Gandhi" Srishti Publishers & Distributors.
26	ParamhansaYogananda, " Autobiography of a Yogi," Rider publication.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC27	Professional Ethics & Human Values	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Human Values and Ethics: Morals, Values, Ethics and Integrity, Need for Value Education for Engineers, Happiness, Prosperity, Harmony.
2	Code of Ethics and Professionalism: Professionalism and the Code of Ethics, Technical Education, Human Values and Coexistence, Universal Human Order, Natural acceptance.
3	Professional Ethics and Technology: Science, Technology and Professional Ethics Engineering Ethics, Environmental Ethics, Safety, Responsibility and Rights.
4	Case Studies: Holistic Technologies, Eco-friendly production systems, The role of responsible engineers and technologists, Global Issues concerning Engineers.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Professional Ethics, Subramanian, R, Oxford University Press, ISBN13: 978-0-19-808634-5
2	Professional Ethics and Human Values, Govindarajan, M. S. Natarajan, V.S. Senthil kumar PHI, ISBN: 978-81-203-4816-5
3	Constitution of India and Professional Ethics, Reddy, G.B. and Mohd. Suhaib, IK International Publishing House. ISBN: 81-89866-01-X
4	Introduction to Engineering Ethics (2nd Ed.) Martin, Mike W. and Roland Schingzinger McGraw-Hill ISBN 978-0-07-248311-6

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC28	Emotional Intelligence	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**INTRODUCTION** What is emotional intelligence? Its elements/characterisitcs/attributes and importance. How to improve emotional intelligence? What is the difference between emotional intelligence and IQ.
2	Personal competences (Self-Awareness, Self-Management etc). Social competences (Social Awareness, Relationship Management etc).
3	Implications for Personal, Social, Academic, and Workplace Success.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Emotional Intelligence Daniel Goleman, Available at Course era created by Indian School of Business

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC29	Art of Happiness	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	The purpose of life: The right to happiness, the sources of happiness, Training the mind for happiness, Reclaiming our innate state of happiness
2	Human warmth and compassion: A new model for intimacy, Deepening our connection to others, The value and benefits of compassion
3	Transforming suffering: Facing suffering, Self-created suffering, shifting perspective, finding meaning in pain and suffering
4	Overcoming obstacles: Bringing about change, dealing with anger and hatred, dealing with anxiety and building self-esteem
5	Closing reflections on living a spiritual life: Basic spiritual values

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	The How of Happiness, by Sonja Lyubomirsky (Penguin Press, 2008)
2	Born to Be Good, by Dacher Keltner (W.W. Norton, 2009)
3	The Compassionate Instinct, Dacher Keltner, Jason Marsh, Jeremy Adam Smith (eds.) (W.W. Norton, 2010)

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC30	Nutraceutical	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**INTRODUCTION TO NUTRACEUTICALS** Definitions, synonymous terms, basis of claims for a compound as a nutraceutical, regulatory issues for nutraceuticals
2	**FUNCTIONAL FOODS** Definition, Relation of functional foods & Nutraceutical (FFN) to foods & drugs. Applications of herbs to functional foods. Concept of free radicals and antioxidants; Nutritive and Non-nutritive food components with potential health effects. Effect of processing on Nutrients.
3	**FOOD AS REMEDIES** Nutraceuticals bridging the gap between food and drug, Nutraceuticals for cardiovascular diseases, cancer, diabetes, cholesterol management, obesity, joint pain, immune enhancement, age-related macular degeneration, endurance performance and mood disorders – compounds and their mechanisms of action, dosage levels, contraindications if any etc.
4	**ANTI-NUTRITIONAL FACTORS PRESENT IN FOODS** Types of inhibitors present in various foods and how they can be inactivated. General idea about role of probiotics and prebiotics as nutraceuticals. Recent advances in techniques & feeding of substrates. Assessment of nutritional status and Recommended Daily allowances.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Dietary supplements and functional foods/ Geoffrey P. Webb/ Blackwell Publishing, 2006.
2	Bioprocesses and Biotechnology for Functional Foods and Nutraceuticals/ Neeser, JR and German, BJ. Marcel Dekker, 2004.
3	Handbook of Nutraceuticals and Functional Foods/ Robert E.C. 2nd Ed./Wildman, 2006.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC31	Food Chemistry	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**INTRODUCTION OF FOOD CHEMISTRY** Introduction to major food components(water, proteins, carbohydrates, oil and fat) and their importance, prescribed daily intake of each constituent, coloring and flavoring agents, preservatives
2	**WATER** Water in Food, Physical properties of water, Characteristics of potable water, Water activity, Moisture content of various foodstuff
3	**PROTEIN** Amino acids: definition, Structure, Classification and properties Protein: peptide bond ,structure , physical and chemical properties, Analysis , Protein content of some common animal and plant food stuff, Denaturation of proteins
4	**CARBOHYDRATE** Definition, Classification, Structure of monosaccharides, disaccharides, oligosaccharides and Polysaccharides, Sources of Carbohydrate, Analysis, Glycogen(animal Starch), glycosidic linkage,
5	**OILS AND FATS** Chemical nature of Oils and Fats, classification , fatty acid composition of common Oils and Fats, Rancidity of Oils , Analysis
6	**VITAMINS, MINERALS AND ADDITIVES** Introduction, Classification, Occurrence, Structure and function in brief ,Food Coloring and Flavoring agents, Food preservatives, Stabilizers

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Fennema, O.R. (2008) Fennema's Food Chemistry 4th Edition, CRC Press
2	Belitz, H-D., Grosch, W. & Schieberle, P. (2004) Food Chemistry 3rd Ed. (translation of fifth German edition). Springer (TX545 .B3513 2004)

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC32	Logical Reasoning	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**BASIC CONCEPT** Premises, Conclusion and Agruments, Deduction and Induction, Validity, Truth and Soundness
2	**CATEGORICAL PROPOSITIONS** The Components of Categorical Propositions, Quality, Quantity and Distribution, The Traditional Square of Opposition, Conversion, Obversion and Contraposition
3	**CATEGORICAL SYLLOGISMS** Standard Form, Mood and Figure, Rules and Fallacies (Formal and Informal Fallacy)
4	**PROPOSITIONAL LOGIC** Symbols and Translation, Truth Functions (Logical Connectives), Truth Tables for Statements and Statement-Forms, Truth Tables for Arguments and Arguments-Forms

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Copi.I.M (2014), Introduction to Logic, Pearson, India
2	Copi.I.M (2014), Introduction to Logic, Pearson, India

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC33	Corporate Governance and Business Ethics	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**CORPORATE GOVERNANCE** Governance Theories and Evolution of Corporate Governance; Concept and Features of Good Governance, Corporate Board- Role of Directors, Stakeholders and their Responsibilities, Corporate Governance Issues and Consequences, Whistle-Blowing, Evaluation of Boards
2	**BUSINESS ETHICS** Introduction, Ethical Theories and Ethical Dilemmas in Business, Ethical Decision Making, Individual and Situational Influences on Decision Making, Ethical Conduct, Ethics in Action
3	**CORPORATE SOCIAL RESPONSIBILITY** Business &Society: Concept of Corporate Social Responsibility (CSR), Evolution of CSR, Profit Maximization vs. Social Responsibility, Formulating Socially Responsive Business Strategies, Law and CSR, Major CSR Initiatives in India

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Velasquez, M.G. and Velazquez, M., 2002. Business ethics: Concepts and cases (Vol. 111). Upper Saddle River, NJ: Prentice Hall
2	Crane, A. and Matten, D., 2016. Business ethics: Managing corporate citizenship and sustainability in the age of globalization. Oxford University Press.
3	Fernando, A.C., 2012. Corporate Governance: Principles, Polices and Practices, 2/e. Pearson Education India.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC34	Computer Fundamentals	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**Historical Evolution of Computing Systems:** Overview of Data Processing, History of Computing, Computer Generations; Characteristics of Computer, Anatomy of Computer, Classification of Computers. **Number Systems and Codes:** Introduction, Number Systems and its types, and inter-conversion of Number Systems; ASCII and EBCDIC codes. **Input and Output Devices:** Concept of Input/Output, Types of Input Devices; Output Devices – Printers, Plotters and Monitors.

2	**Memory and Storage Devices:** Characteristics of memory systems, memory hierarchy, Types of Memory – RAM, ROM, etc.; Magnetic Disks, Magnetic Tapes, Optical Disks; Concept of Cache Memory and Virtual Memory **Software and Operating System Concepts:** Introduction, Software Types, Language translators, System Utility Software, Application Software; Operating System – Characteristics, its functions, and its classification; User Interfaces – CUI and GUIs. DOS and Windows Operating systems.
3	**Using Word Processing:** Opening and Closing of documents, Text creation and Manipulation, Moving Around in a Document, Formatting of text, Table handling, Spell check, language setting and thesaurus, Handling Multiple Documents, Printing of word document. Using Spreadsheet tool: Basics of Spreadsheet; Manipulation of cells, Formulas and Functions, Editing of Spread Sheet, Page setups, header and footer, printing of Spread Sheet. Using Slide Presentation Tool: Basics of powerpoint, Preparation and Presentation of Slides, Slide Show, Formatting and Clip Arts, Taking printouts of presentation / handouts
4	**Communication and Networks:** Data Communication, Transmission Modes, Basics of Computer networks, types of computer network - LAN, MAN, WAN; Network Topologies and Applications of Computer Networks. **Internet Basics:** Concept of Internet, Application of Internet, WWW, Web-sites and URLs, Search Engine, Using Electronic mails, Instant Messaging, Web Browsing software, Surfing the Internet. **Social Concern:** Positive and Negative Impacts of Computer Technology, Computer Crimes, Computer Virus: Definition, Types of viruses, Characteristics of viruses, anti-virus software. **Computer Applications:** Data Analysis, Sports, Research, Education, Business, Medicines & Health Care, Weather Forecasting, Military

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Nasib Singh Gill: Handbook of Computer Fundamentals, Khanna Books Publishing Co. (P) Ltd., New Delhi, 2016.
2	P.K Sinha: Computer Fundamentals, BPB Publications
3	Nasib Singh Gill: Computing Fundamentals and Programming in C, Khanna Books Publishing Co. (P) Ltd., New Delhi.
4	V. Rajaraman: Fundamentals of Computers, PHI
5	Microsoft Office – Complete Reference – BPB Publication
6	Norton Peter: Introduction to Computer, McGraw-Hill.
7	Leon, Alexis & Leon, Mathews: Introduction to Computers, Leon Tech World.
8	C.S. French: Data Processing and Information Technology, BPB Publications

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC35	Geography in Everyday Life	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Geography and Environment; Geography and Social Sciences; Geography and Development; Geography and Planning
2	Geography and Governance; Geography and Globalization; Geography and Disasters; Geography and Cartography

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Daniels, Peter, Michael Bradshaw, Denis Shaw, and James Sidaway. 2012. An Introduction to Human Geography. 4th edition. Pearson Education Ltd. Harlow, England.
2	Herod, Andrew. 2009. Human Geography: the basics, Routledge, New York.
3	Hopper, Paul. 2012. Understanding Development: Issues and Debates, Polity Press, Cambridge, UK.
4	Kant, Surya and Nina Singh ed. 2015. Geography Development Public Policy: Select Essays of Gopal Krishan. RK Books, New Delhi.
5	Kapur, Anu. 2010. Vulnerable India, Sage Publications, New Delhi.
6	Knox, Paul. 2014. Atlas of Cities. Princeton University Press.
7	Oxford Atlas of the World. 2015. 22nd edition. Oxford University Press.

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC36	Psychology for Everyday Living	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**Science of Psychology** Definition, Goals, Basic and Applied areas of Psychology. **Self** Nature of self, Self-Regulation and Personal Growth.

S. No.		Contents
2	**Intelligence** Definition; Theories: Theory of multiple intelligences, Triarchic theory, Emotional Intelligence. **Administration** Any one test of Intelligence/Emotional Intelligence.	
3	**Personality** Definition, Theories, Trait and Type, Eysenck; Psychoanalytical, Freud **Humanistic:** Maslow. **Administration:** Any one objective test of Personality.	
4	**Stress and Coping:** Nature of Stress; Sources; Stress reactions; Factors that influence reactions to stress. **Coping with stress:** Modifying environment; Altering lifestyle.	

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Khatoon, N. (2012). General Psychology. Pearson: Delhi.
2	Baron, R.A. and Misra, G. (2016). Psychology. Pearson: Delhi.
3	Ciccarelli, S.K. and Meyer, G.E. (2006). Psychology. Pearson: Noida

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC37	French	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**GRAMMAR AND VOCABULARY** Familiar expressions and basic phrases eg. Number, time, Directions etc; Tense forms, Sentence formation.
2	**ORAL COMMUNICATION** Pronunciation, Interaction in formal situations, Presentation and Negotiation Skills.
3	**READING SKILLS** Reading French language texts with basic level proficiency, finding information from paragraph and relevant answers to questions.
4	**WRITTEN COMMUNICATION** Describing events, experiences, providing reasons and explanations for opinions or decisions, Writing formal letter and drafting proposals.

Suggested Books: To be decided by the Instructor

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC38	Mandarin Chinese	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**INTRODUCTION TO MANDARIN** Introduction to Chinese languages, history and culture; Professional communication in the 21st C China
2	**SPOKEN FLUENCY** Vocabulary, Phrases, Tones and Pronunciation; Telephone Skills; Common Phrases and Etiquettes
3	**WRITTEN COMMUNICATION** Reading and Writing Emails, Business and Formal Letters
4	**CROSS-CULTURAL COMMUNICATION** Formal Greetings and standard Expressions; sector specific terminology; Essential Presentation and negotiation Skills

Suggested Books: To be decided by the Instructor

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC39	Japanese	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Japanese Greetings; Basic sentence patterns to be applied in self-introduction, identifying things; time of the day; calendar; counting using Japanese numerical classifiers; describing things; making comparisons; talking of daily activities; kinship terms used for address and reference; seasons; giving and receiving; shopping; making requests; talking of one's likes and dislikes Objective:To introduce Japanese language at the basic level, to enable students to read and write the phonetic scripts, Hiragana and Katakana, and approx.100 Kanji, to teach some aspects of Japanese society and culture
2	Simple conversation in situations such as describing things, making comparisons, talking of daily activities, giving and receiving of gifts, talking of illnesses and visit to a doctor, shopping, making requests, talking of one's likes and dislikes, talking on telephone etc. Objective: To enable students to comprehend and make simple conversation in different situations using basic sentence patterns.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Nihongo I, Kokusaigakuyukai, and other supplementary material

Teaching and Examination Scheme			Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC40	German	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**Grammar and Vocabulary** Familiar expressions and basic phrases eg. Number, time, Directions etc; Tense forms, Sentence formation.
2	**Oral Communication** Pronunciation, Interaction in formal situations, Presentation and Negotiation Skills.
3	**Reading Skills** Reading German language texts with basic level proficiency, finding information from paragraph and relevant answers to questions.
4	**Written Communication** Describing events, experiences, providing reasons and explanations for opinions or decisions, Writing formal letter and drafting proposals.

Suggested Books: To be decided by Instructor

Teaching and Examination Scheme			Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC41	Spanish	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**GRAMMAR AND VOCABULARY** Familiar expressions and basic phrases eg. Number, time, Directions etc; Tense forms, Sentence formation.
2	**ORAL COMMUNICATION** Pronunciation, Interaction in formal situations, Presentation and Negotiation Skills.
3	**READING SKILLS** Reading Spanish language texts with basic level proficiency, finding information from paragraph and relevant answers to questions.
4	**WRITTEN COMMUNICATION** Describing events, experiences, providing reasons and explanations for opinions or decisions, Writing formal letter and drafting proposals.

Suggested Books: To be decided by Instructor

Teaching and Examination Scheme			Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC42	Entrepreneurship Development	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**ENTREPRENEURSHIP** Concept, knowledge and skills requirement; characteristics of successful entrepreneurs; role of entrepreneurship in economic development; entrepreneurship process; factors impacting emergence of entrepreneurship.
2	**STARTING THE VENTURE** Generating business idea – sources of new ideas, methods of generating ideas, opportunity recognition; environmental scanning, competitor and industry analysis; feasibility study – market feasibility, technical/operational feasibility, financial feasibility; drawing business plan.
3	**FUNCTIONAL PLANS** Marketing plan – marketing research for the new venture, steps in preparing marketing plan, contingency planning; organizational plan – form of ownership, designing organization structure; financial plan – cash budget, working capital.
4	**SOURCES OF FINANCE** Debt or equity financing, commercial banks, venture capital; financial institutions supporting entrepreneurs; legal issues – intellectual property rights patents, trademarks, copyrights, trade secrets, licensing.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Hisrich, Robert D., Michael Peters and Dean Shephered, Entrepreneurship, Tata McGraw Hill, New Delhi
2	Barringer, Brace R., and R. Duane Ireland, Entrepreneurship, Pearson Prentice Hall, New Jersy (USA)
3	Lall, Madhurima, and Shikha Sahai, Entrepreneurship, Excel Books, New Delhi
4	Charantimath, Poornima, Entrepreneurship Development and Small Business Pearson Education, New Delhi
5	Kuratko, Donand and Richard Hodgetts, Entrepreneurship, Cengage Learning India Pvt. Ltd., New Delhi

Subject Code	Course Title	Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
	Teaching and Examination Scheme		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC43	Public Administration	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**Introduction:** Meaning, scope and significance of Public Administration; Wilson's vision of Public Administration; Evolution of the discipline and its present status; New Public Administration; Public Choice approach; Challenges of liberalization, Privatization, Globalization; Good Governance: concept and application; New Public Management.
2	**Evolution of Indian Administration:** Kautilya's Arthashastra; Mughal administration; Legacy of British rule in politics and administration – Indianization of public services, revenue administration, district administration, local self-government.
3	**Philosophical and Constitutional framework of government:** Salient features and value premises; Constitutionalism; Political culture; Bureaucracy and democracy; Bureaucracy and development.
4	**Union Government and Administration:** Executive, Parliament, Judiciary – structure, functions, work processes; Recent trends; Intragovernmental relations; Cabinet Secretariat; Prime Minister's Office; Central Secretariat; Ministries and Departments; Boards; Commissions; Attached offices; Field organizations.
5	**State Government and Administration:** Union-State administrative, legislative and financial relations; Role of the Finance Commission; Governor; Chief Minister; Council of Ministers; Chief Secretary; State Secretariat; Directorates.
6	**Civil Services:** Constitutional position; Structure, recruitment, training and capacity-building; Good governance initiatives; Code of conduct and discipline; Staff associations; Political rights; Grievance redressal mechanism; Civil service neutrality; Civil service activism.
7	**Rural Development & Urban Local Government:** Institutions and agencies since independence; Rural development programmes: foci and strategies; Decentralization and Panchayati Raj; 73rd Constitutional amendment. Municipal governance: main features, structures, finance and problem areas; 74th Constitutional Amendment; Global local debate; New localism; Development dynamics, politics and administration with special reference to city management.
8	**Law and Order Administration:** British legacy; National Police Commission; Investigative agencies; Role of central and state agencies including paramilitary forces in maintenance of law and order and countering insurgency and terrorism; Criminalization of politics and administration; Police-public relations; Reforms in Police.
9	**Significant issues in Indian Administration:** Values in public service; Regulatory Commissions; National Human Rights Commission; Problems of administration in coalition regimes; Citizen-administration interface; Corruption and administration; Disaster management.

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Introduction To The Constitution of India, D D BASU
2	Public Administration – Laxmikanth.
3	New Horizons Of Public Administration – Mohit Bhattacharya.
4	Contemporary Debates in Public Administration – Dhameja Alka.
5	Indian Administration – Maheswari.
6	Indian Public Administration: Institutions and Issues- R.K. Arora
7	Public Administration and Public Affairs-Nicholas Henry

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC44	Cyber Law	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Introduction, Computers and its Impact in Society, Overview of Computer and Web Technology, Need for Cyber Law, Cyber Jurisprudence at International and Indian Level.
2	Cyber Law - International Perspectives, UN & International Telecommunication Union (ITU) Initiatives, Council of Europe - Budapest Convention on Cybercrime, Asia-Pacific Economic Cooperation (APEC), Organization for Economic Co-operation and Development (OECD), World Bank, Commonwealth of Nations
3	Constitutional & Human Rights Issues in Cyberspace, Freedom of Speech and Expression in Cyberspace, Right to Access Cyberspace – Access to Internet, Right to Privacy, Right to Data Protection
4	Cyber Crimes & Legal Framework, Cyber Crimes against Individuals, Institution and State, Hacking, Digital Forgery, Cyber Stalking/Harassment, Cyber Pornography, Identity Theft & Fraud, Cyber terrorism, Cyber Defamation, Different offences under IT Act, 2000

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Chris Reed & John Angel, Computer Law, OUP, New York, (2007).
2	Justice Yatindra Singh, Cyber Laws, Universal Law Publishing Co, New Delhi, (2012)
3	Verma S, K, Mittal Raman, Legal Dimensions of Cyber Space, Indian Law Institute, New Delhi, (2004)
4	Jonthan Rosenoer, Cyber Law, Springer, New York, (1997).
5	Sudhir Naib, The Information Technology Act, 2005: A Handbook, OUP, New York, (2011)
6	S. R. Bhansali, Information Technology Act, 2000, University Book House Pvt. Ltd., Jaipur (2003).
7	Vasu Deva, Cyber Crimes and Law Enforcement, Commonwealth Publishers, New Delhi, (2003).

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRÉ
FEC45	**Engineering Exploration**	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	Introduction to engineering design process - problem space of engineering, engineering design process, multidisciplinary facet of design
2	Mechanism: different types of mechanisms (focus on linkages), introduction to linkage software, four bar mechanisms
3	Platform based development – introduction to Arduino and Arduino IDE, working with LED and switches, ADC for data processing, Sensor and its types, Actuators control and Bluetooth interfacing with Ardinuino
4	Project Management – importance of teamwork, project life cycle, project management, different type of charts and their importance, using software tools: MS excel, Gannt project, format of project
5	3D printing technology
6	Sustainability and ethics

Suggested Books: To be decided by the Instructor

Teaching and Examination Scheme		Credit	Hours/Week			Exam Duration (Hrs)		Relative Weights (%)				
Subject Code	Course Title		L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
FEC46	**Technical Communication**	2	2	0	0	3	0	25	0	25	50	0
			1	0	2	3	2	15	15	30	40	0
			0	0	4	0	3	0	50	0	0	50

Details of Course:

S. No.	Contents
1	**English for Professional Purposes:** 1.Technical Communication- Methods, Strategies and Skills 2. Communication in Global Contexts- Social, Cultural, Political and Technical, especially in formal set up
2	**Communication at the Workplace: Oral and Written:** Written Communication- Letters, Orders (Sale/Purchase) Report Writing, Technical proposals Resume, SOP, Memo, Notice, Agenda, Minutes, Note Taking/Making, Oral Communication: Seminars, Conferences, Meetings, Office Etiquettes/ Netiquettes, Presenting Written Material Negotiation, Demonstration, Group Discussion, Interview

3	**Group Discussion and Report Writing:**
	Group Discussion (Continous assessment through the semester)
	Minor Report Writing(to be submitted before Mid- Semester Examination)
	Major Report writing (To be submitted before End Semester Examination)

Suggested Books:

S. No.	Name of Books/Authors/Publisher
1	Technical Communication: Principles and Practice Raman, Meenakshi and Sangeeta Sharma, Oxford University Press, ISBN-13: 978-0-19-806529-6
2	Writing to Get Results, (3rd Ed) Blicq, Ron S., Lisa A. Moretto, John Wiley and Sons, Inc. ISBN 0-7803-6020-6
3	Effective Technical Communication: A Guide for Scientists and Engineers , Mitra, Barun K. OUP: Delhi ISBN-13: 978-0-19-568291-5
4	Personality Development and Soft Skills, Mitra, Barun K. New Delhi:Oxford University Press.ISBN-9780198060017
5	The Essence of Effective Communication, Ludlow, Ron and Fergus Panton. Prentice Hall: PHI. ISBN-81-203-0909-X
6	Advanced Technical Communication, Gupta, Ruby. Foundation Books, CUP. ISBN 978-81-7596-733-5
7	Soft Skills: Enhancing Employability, Rao, M.S. Connecting Campus with Corporate ISBN: 978-93-80578-38-5
8	Developing Communication Skills (2nd Ed), Mohan, Krishna and Meera Bannerji, Macmillan Publishers India Ltd. ISBN 13: 978=0230-63843-3

Sr. No.	Name of the Candidate	Roll No	Name of the Department	Date of the SRC
1	Mr. Deepak	2K16/PH.D/ME/58	Mechanical Engineering	17.10.17
2	Mr. Nipun Ahuja	2K16/PH.D/ME/25	Mechanical Engineering	17.10.17
3	Ms. Uma Gautam	2K16/PH.D/ME/54	Mechanical Engineering	17.10.17
4	Mr. Naveen Solanki	2K16/PH.D/ME/51	Mechanical Engineering	03.11.17
5	Mr. Aditya Narula	2K16/PH.D/EE/07	Electrical Engineering	23.09.17
6	Ms. Vandana Arora	2K16/PH.D/EE/16	Electrical Engineering	23.09.17
7	Mr. Aman Prasad	2K15/PH.D/AP/03	Applied Physics	10.10.17
8	Ms Juhi Jain	2K16/PH.D/CO/03	CSE	30.11.17
9	Mr. Anmol Bhatia	2K16/PH.D/ME/36	Mechanical Engineering	07.06.17
9	Mr. Himmat Singh	2K16/PH.D/ME/12	Mechanical Engineering	23.11.17
10	Mr. Rajesh Kumar Asthana	2K16/PH.D/AM/01	Applied Mathematics	14.12.17
11	Mr. Tej Singh	2K16/PH.D/EC/05	ECE	28.09.17
12	Mr. Gaurav Tripathi	2K16/PH.D/EC/12	ECE	11.10.17
13	Ms. Priyanka Garg	2K16/PH.D/EC/16	ECE	11.10.17
14	Ms. Chhavi Dhiman	2K16/PH.D/EC/07	ECE	11.10.17
15	Mr. Ajay Kumar	2K16/PH.D/AM/02	Applied Mathematics	12.12.17
16	Mr. Ranjeet Kumar Singh	2K16/PH.D/ME/29	Mechanical Engineering	26.12.17
17	Mr. Nitin Sharma	2K16/PH.D/ME/20	Mechanical Engineering	26.12.17
18	Mr. Neeraj Kumar	2K16/PH.D/EE/18	Electrical Engineering	25.10.17
19	Ms. Payal	2K16/PH.D/AM/03	Applied Mathematics	21.12.17
20	Mr. Ram Pratap	2K16/PH.D/AM/04	Applied Mathematics	29.11.17
21	Mr. Vijay Kumar Yadav	2K16/PH.D/AM/08	Applied Mathematics	30.11.17
22	Ms. Kanica Goel	2K16/PH.D/AM/11	Applied Mathematics	30.11.17
23	Mr. Manoj Kumar Singh	2K16/PH.D/ME/10	Mechanical Engineering	21.09.17
24	Mr. Hardial Singh	2K16/PH.D/ME/38	Mechanical Engineering	23.11.17
25	Mr. Sunil Kumar Gupta	2K16/PH.D/ME/17	Mechanical Engineering	23.11.17
26	Mr. Ashutosh Kumar Rai	2K16/PH.D/ME/09	Mechanical Engineering	23.11.17
27	Ms. Yashika Taneja	2K16/PH.D/ME/39	Mechanical Engineering	23.11.17
28	Mr. Abhishek Sharma	2K15/PH.D/EE/01	Electrical Engineering	01.12.17
29	Ms. Pallavi Verma	2K16/PH.D/EE/22	Electrical Engineering	13.12.17
30	Ms Simmi Sharma	2K15/PH.D/EE/03	Electrical Engineering	21.09.17
31	Ms. Rupam Singh	2K16/PH.D/EE/11	Electrical Engineering	28.09.17
32	Mr. Jitender Kumar	2K16/PH.D/EE/01	Electrical Engineering	27.12.17
33	Mr. Sunil Kumar Sinha	2K14/PH.D/ME/12	Mechanical Engineering	16.12.16
34	Ms. Mridula Mundalia	2K16/PH.D/AM/10	Applied Mathematics	19.12.17
35	Mr. Arun Kumar	2K13/PH.D/CE/05	Civil Engineering	12.12.17
36	Mr. Keshav Gupta	2K16/PH.D/CO/10	CSE	18.10.17
37	Ms. Ansu Malhotra	2K16/PH.D/CO/09	CSE	30.11.17
38	Ms. Surabhi Kapoor	2K14/PH.D/HU/01	Humanities	20.03.17
39	Mr. Manish Sharma	2K16/PH.D/ME/23	Mechanical Engineering	15.01.18
40	Mr. Ravi Butola	2K16/PH.D/ME/56	Mechanical Engineering	22.12.17
41	Mr. Dadge Mukesh Shamrao	2K16/PH.D/ME/21	Mechanical Engineering	13.11.17
42	Mr. Sudhakar Yadav	2K16/PH.D/AM/07	Applied Mathematics	10.01.18
43	Mr. Hemant Saxena	2K16/PH.D/EE/10	Electrical Engineering	11.01.18

4	Mr. Ankit Agarwal	2K16/PH.D/ME/67	Mechanical Engineering	30.01.18
	Mr. Vikas Kumar Singla	2K16/PH.D/ME/50	Mechanical Engineering	30.01.18
5	Ms. Piu Jain	2K16/PH.D/ME/40	Mechanical Engineering	01.02.18
7	Mr. Abhinav Pandey	2K14/PH.D/EN/04	Environmental Engineering	11.12.15
8	Mr. Astitva Kumar	2K16/PH.D/EE/12	Electrical Engineering	11.01.18
9	Mr. Anand Sharma	2K16/PH.D/ME/01	Mechanical Engineering	30.01.18
0	Mr. Rajesh Kumar Maurya	2K16/PH.D/ME/52	Mechanical Engineering	30.01.18
1	Mr. Dharamveer	2K16/PH.D/ME/53	Mechanical Engineering	18.01.18
2	Mr. Naveen J	2K16/PH.D/ME/42	Mechanical Engineering	15.02.18
3	Mr. Deepak Sharma	2K16/PH.D/ME/14	Mechanical Engineering	19.02.18
4	Mr. Suryakant	2K16/PH.D/EE/08	Electrical Engineering	23.02.18
5	Ms. Anuja Agrawal	2K16/PH.D/AC/03	Applied Chemistry	04.05.17
6	Mr. Parvesh Kumar	2K16/PH.D/CE/06	Civil Engineering	27.02.18
7	Mr. Sidharth	2K16/PH.D/ME/24	Mechanical Engineering	26.04.18
8	Mr. Ajendra Singh	2K16/PH.D/EE/15	Electrical Engineering	13.03.18
9	Ms. Abhilasha Sharma	2K14/PH.D/IT/02	Information Technology	09.03.16
0	Mr. Rakesh Goswami	2K16/PH.D/EE/14	Electrical Engineering	12.03.18
51	Ms. Bani Gandhi	2K16/PH.D/EC/06	ECE	15.02.18
52	Mr. Himanshu Prakash Rajput	2K16/PH.D/EC/15	ECE	27.02.18
53	Ms. Jyoti	2K16/PH.D/EC/02	ECE	09.02.18
54	Ms. Parveen Rani	2K16/PH.D/EC/08	ECE	20.02.18
55	Mr. Aynalem Shita Muluneh	2K17/PH.D/HU/05	Humanities	27.03.18
56	Ms.Addissie Melak Muluneh	2K17/PH.D/HU/08	Humanities	27.03.18
57	Mr. Ajit Kumar Sharma	2K15/PH.D/EE/05	Electrical Engineering	28.02.18
58	Ms.Neha Khanduja	2K15/PH.D/EE/02	Electrical Engineering	21.09.17

Delhi Technological University

Admission Brochure

Ph.D. 2018-19

Govt. of NCT of Delhi

DELHI TECHNOLOGICAL UNIVERSITY

(Formerly Delhi College of Engineering)

Shahbad Daulatpur, Bawana Road, Delhi-110042

IMPORTANT DATES

S.NO.	Activity/ Event	Date
1.	Advertisement in newspapers.	03.05.2018
2.	Opening of website for Online Registration	08.05.2018 from 10:00 AM onwards
3.	Last date for Online Registration and fee deposit	13.06.2018, 12:00 Midnight
4.	Display of list of shortlisted candidates for written test on DTU website	20.06.2018
5.	Date of screening test	23.06.2018 and 24.06.2018, Saturday & Sunday
6.	Declaration of result on DTU website www.dtu.ac.in	24.06.2018, Sunday
7.	Dates for Interview	05.07.2018 & 06.07.2018, Thursday & Friday
8.	Declaration of final result on DTU website	10.07.2018 Tuesday
9.	Date of admission	13.07.2018
10.	Last date of admission	29.07.2018
11	Display of vacant seats for wait listed candidates on DTU website	06.08.2018 at 5:00 pm
12	Spot round of admissions (Candidates are required to report along with original documents and bank draft for fee deposit)	14.08.2018 at 10:00 am

DTU Website: www.dtu.ac.in

Note: Candidates are advised to read the brochure carefully and to visit the website **www.dtu.ac.in** regularly for updates and other details about the entire online admission process.

Delhi Technological University (formerly known as Delhi College of Engineering) is one of the most well-known engineering institutions of India, with over 76 years of glorious tradition behind it. A non-affiliating, teaching and research University, DTU is poised to create an environment of synergetic partnership between academia and industry. It aims to cause a major departure from the conventional system of education and research and aspires to imbibe a culture of scientific research in its technology disciplines and technology temper in its scientific research and education by providing a seamless environment for integration of science and engineering. The University also endeavours to provide the thrill of a corporate R&D environment with a planned focus on industrially relevant projects and technology incubation. DTU has consistently been ranked among the top engineering institutions of the country in reputed surveys.

Currently the University offers 17 Full time UG programs, 20 Full time and Part Time M. Tech. programs, one Full time MBA program and one Executive MBA Weekend program and Ph.D. in various disciplines. Further, teachers from various engineering colleges also join University for the doctoral programmes under Quality Improvement Programme (QIP). The University on an average admits 1800 candidates for the Undergraduate Programmes and about 500 candidates for different Postgraduate programmes and Doctoral programmes every year.

Located in about 164 acres of natural flora and fauna, DTU is one of the greenest residential campuses in the country. It has added the dimension of research and caused innovations in plenty, which has received high national and international acclaim. The University has the desired autonomy to excel and shape itself as a world class Technological University.

More information about DTU can be accessed at www.dtu.ac.in.

Vision

To be a world class university through education, innovation and research for the service of humanity.

Mission

- To establish centres of excellence in emerging areas of science, engineering, technology, management and allied areas.

- To foster an ecosystem for incubation, product development, transfer of technology and entrepreneurship.

- To create environment of collaboration, experimentation, imagination and creativity.

- To develop human potential with analytical abilities, ethics and integrity.

- To provide environment friendly, reasonable and sustainable solutions for local & global needs.

1. RESEARCH FACILITIES at DTU

All the academic departments of the university have well equipped research laboratories and workshop facilities. In addition, there are a number of central facilities such as Central Workshop, Solar Energy Centre, Central Instrumentation, Centres for Advanced Studies & Research in Automotive Engineering, TIFAC-CORE, Central Library and Computer Centre. The Central Library has more than 2 lakhs books, a large collection of back volumes of periodicals, standard specifications and other literature. It subscribes more than 36,000 current journals in Science, Engineering, Humanities and Social Sciences as e-resources. DTU has a well equipped centralized Computer Centre which provides state of art high-end networked computing facilities to students and staff.

The University has many research collaborations with leading universities and Institutes in Korea, Singapore, France, Florida USA, Africa and China. As part of these collaborations, the students get opportunities to carry out joint research projects with faculty and students from these institutions.

The location of DTU in close proximity to several leading R&D Centers namely NPL, INMAS, FICCI, CSIR, etc. and other major industrial establishments offers excellent opportunities to interact with them and plan research programmes and projects in collaboration with them.

2. STUDENTS AMENITIES at DTU

The University has 9 Boys and 6 Girls hostels in the campus that can accommodate around 1600 students. Each hostel is an independent entity with its own mess facilities, recreation areas, etc. However students are also permitted to have their own arrangements for accommodation outside campus.

Every hostel has its own common room and gymnasium. Additionally every hostel subscribes to the latest magazines and newspapers for the residents. The hostels are connected to the campus via the campus wide wi-fi network and LAN which enables the residents to browse the internet and access the online library resources for their academic and research related work.

A well-planned Students' Welfare societies routinely organize several vibrant extracurricular events. These activities include Sports, Cultural programmes, technical festival and Social Service.

3. Ph.D. PROGRAMME

The University is inspired by talent and driven by innovations and is firmly committed to provide industry-relevant, socially-responsible manpower to meet the challenges of 21st Century. The vibrant culture of research and innovations in DTU campus inspires students from UG level onwards to engage in cutting edge technology development and discover the value and worth of the knowledge acquired by them during their studies.

The University offers Ph.D. programme in a wide range of areas in Engineering, Sciences and Humanities. The academic programme leading to the Ph.D. degree is broad-based and involves a course credit requirement and a research publications leading to thesis submission. Facilities for research work leading to the Ph.D. degree are available in departments of

Mechanical Engineering., Information Technology, Environmental engineering, Electrical engineering, Electronics & communication engineering, Humanities, Delhi school of management, Computer Science & Engineering, Civil engineering, Biotechnology, Applied Physics, Applied Mathematics, Applied chemistry & Polymer Science & Technology.

4. ADMISSION CATEGORIES

The applicant for admission to the Ph.D. programme shall be classified under any one of the following categories which will be decided and recommended by DRC/SRC.

4.1 Full-time Research student/Candidate

(a) Full Time University Research student/candidate (with scholarship or without scholarship).

Full-Time students without scholarship can be admitted over and above the seat matrix. The number of such seats will be based on suitability of candidates and availability of slot with prospective supervisors.

(b) Full Time Sponsored Research student/candidate fully financed by the Govt./Semi-Government Organizations like QIP, CSIR, UGC, NET, DAE, DST, DBT, NBHM, ICCR, ICAR, ICMR, GPAT, NDF, INSPIRE etc., Govt./ Private funded Research/Development Organisation, Public Sector Undertaking, Educational Institution or a reputed industry.etc. These seats with scholarship from other agencies shall be over and above the seat matrix with University scholarship.

(c) Full Time. Sponsored Research student/candidate nominated by the organization having MOU with the University, foreign students who apply through Ministry of Human Resource Development or under a Cultural Exchange Scholarship Programme by Government of India.

4.2 Part-Time Research student/candidate

a) Research student/Candidate working in other organizations which have MOU with Delhi Technological University

b) Faculty or Scientists from Educational Institutions, R&D organizations, and Govt. Department/Govt. Undertaking, provided that the application possesses the minimum eligibility qualifications for the degree.

4.3 Candidate/ Staff under R & D project

Project staff under projects sponsored by DST/ UGC/ any government agency, industry or centres established from grant in aid from government or international agencies at University.

4.4 Research student/Candidate working as a regular employee

Permanent academic staff of the Delhi Technological University (*including the academic staff of erstwhile Delhi College of Engineering*).

5. ADMISSION ELIGIBILITY

1) An applicant possessing a Master's degree in Engineering/Technology/ Sciences/ Management/Humanities and Social Sciences in relevant discipline or equivalent with a minimum 55% marks in aggregate or equivalent Cumulative Grade Point Average (CGPA) as determined by the Delhi Technological University shall be eligible to apply for admission to a Ph.D. programme of the University.

2) In exceptional cases applicant with Bachelor's degree in Engineering or Technology having a minimum of 75% marks in aggregate or equivalent CGPA and having proven research capability may also be considered eligible.

3) Five percent (5%) relaxation in marks at the level of qualifying degree will be given to SC/ST category students for determining the eligibility conditions to apply for Ph.D admission.

4) Part-time applicants will be considered as per 4.2 and will be eligible if

- the applicant possesses the minimum eligibility qualifications for the degree as given as per 5(1).
- the applicant is in position to complete mandatory course requirements along with regular counterparts;
- the applicant proves to the satisfaction of the University that his official duties permits him to devote sufficient time to research;
- facilities for research are available at the applicant's place of work in the chosen field of research or the applicant can spare sufficient time to pursue research in the Department of the Delhi Technological University on daily basis, residing in the vicinity of the University; and
- he will be required to reside at the Delhi Technological University for a period of not less than 6 months during his admission period for the Ph.D. programme. (This condition of minimum residence will be automatically waived for candidates who are working in National Capital Region (NCR) of Delhi or in organisations/institutions located within a distance of 50 km from the Delhi Technological University).

5) The candidate seeking admission to Ph.D. programme as project fellow at Delhi Technological University may be given administrative clearance to seek admission on full time / part time basis subject to recommendations of the concerned Principal Investigator of the said project/centre and approval of the Vice Chancellor, if the candidate is selected in project as project fellow through proper selection. However, he must fulfil the minimum eligibility criteria. No relaxation will be given in screening test.

6) Permanent academic staff of the Delhi Technological University (*including the academic staff of erstwhile Delhi College of Engineering*) may be given administrative clearance to seek registration on part-time basis subject to

recommendations of the concerned head of the department and approval of the Vice Chancellor. However, the applicant must fulfil minimum eligibility criteria. No relaxation will be given in screening test, except for the special cases as given below at 6(3) in selection procedure.

6. SELECTION PROCEDURE

1) The short listing of applications possessing the minimum educational qualifications, for the purpose of screening test & interview will be done by respective departments in consultation with the Ph.D. Coordinator nominated by the Vice-Chancellor.

2) The Departmental Research Committee (DRC) of the respective department shall decide the cut off for the screening test for short listing the candidates for the interview in consultation with Dean PG. Based on the academic record and the performance of the candidates in the interview, the DRC will recommend to the Dean PG the names of candidates.

3) Screening test shall be waived only for UGC/CSIR/DST/JRF fellowship holders, foreign students who apply through MHRD and foreign students under cultural exchange scholarship programme (ICCR).

4) All the shortlisted candidates on the basis of screening test are required to come along with small power point presentation on the topic of their interest during the interview.

RESERVATION OF SEATS

1) Reservation of seats with fellowships for applicants in each of the categories of the research scholars shall be in accordance with the policies of Govt. of NCT of Delhi. The percentage of reservations for various categories and relaxation in minimum eligibility conditions as applicable for the academic session 2018-19 is tabulated below.

Sl. No.	Category	Seats reserved	Relaxation in Essential Qualification
1	Scheduled Castes (SC)	15%	5%
2	Scheduled Tribes (ST)	7.5 %	5%
3	Persons with Disability	5% (Horizontal)	5%

The reservations for persons with disabilities will be implemented department wise. Candidates seeking admission must fulfil the eligibility conditions as detailed earlier. The 5% reservation horizontally in seat matrix for persons with disability may be allocated as follows.

Against the seats identified for each disabilities, of which, one percent each shall be reserved for persons with benchmark disabilities under clauses (a), (b), and (c) and one percent, under clauses (d) and (e)...

(a) Blindness and low vision;

(b) Deaf and hard of hearing;

(c) Locomotor disability including cerebral palsy, leprosy cured, dwarfism, acid attack victims and muscular dystrophy;

(d) Autism, intellectual disability, specific learning disability and mental illness;

(e) Multiple disabilities from amongst persons under clauses (a) to (d) including deaf-blindness.

If the seats remain vacant in some specific categories, with no waiting list available in that category, the seats shall be converted as per the details given below on the day of spot round of counselling.

Guidelines for conversion of seats

Existing Seats	Seats converted into
Person with Disability (PWD) seat of General/OBC/SC/ST Categories	General/OBC/SC/ST Category (i.e. in respective categories)
OBC Seat	General Category Seat
SC Seat	ST Seat
ST Seat	SC Seat

2) Physically handicapped applicants are permitted 5% marks or equivalent CGPA relaxation in eligibility requirement in line with the policies of Govt. of NCT of Delhi. They will not be allowed any other relaxation beyond this limit even if they belong to SC/ST category.

3) Detailed seat matrix indicating seats in various departments under different categories is available at Annexure-1.

7. Information about Academic Departments

1. **Department of Applied Chemistry**

   The department aims to provide state-of-art knowledge and practical skills to the UG and PG students in the diverse subjects of Applied Chemistry, Polymer Science and Chemical Technology. The department runs four year course of B.Tech Polymer Science and Chemical Technology and post graduate course in Polymer Technology. Department has produced nearly 60 Ph.Ds, 230 M. Tech. students and 400 B.Tech students. The Department has well–established laboratories in Applied Chemistry, Polymer Science and Chemical Technology. The department has undertaken and completed successfully large numbers of research and industry projects funded by AICTE, CSIR, UGC, DRDO, DST, BARC etc. Active national and International collaborations for R&D activities in different fields have been established by the department.

Research Areas: Chemistry including synthetic organic chemistry, Bio inorganic chemistry, Bio organic chemistry, Inorganic Chemistry, Material Chemistry, Green Chemistry Cheminformatics; Medicinal Chemistry; including gene delivery applications, Bio Materials, Drug Delivery systems; Polymer Science including fiber Technology, Conducting Polymers, Composites, Hydrogels; Chemical Engineering including Reaction engineering, Multi phase reactor systems and design, Pollution abatement technology and gene; Advance materials development, Separation processes, Transport Phenomena, Pharmaceuticals sciences, Food Science.

2. Department of Applied Mathematics

The Department runs a four year B. Tech. program in Mathematics & Computing. This program is an amalgamation of Mathematics with Computer Science and Financial Engineering. More than 25 research students are registered in the Department for Ph.D program. The department has a team of committed faculty members from the disciplines of Pure Mathematics, Applied Mathematics, Computer Engineering, Statistics and Operation Research.

Research Areas: Information Theory, Graph Theory, Discrete Mathematics, Numerical Analysis, General Relativity and Cosmology, Optimization Technique, Complex Analysis, Mathematical Modelling, Approximation Theory, Stochastic Processes, Fuzzy logic and optimization, Algebra and Mathematical Finance.

3. Department of Applied Physics

Applied Physics Department is providing cutting edge research, innovation and education in the emerging areas of science and technology. Department offers the undergraduate Academic Program in Engineering Physics and Post Graduate program in Nanoscience and Technology and one Interdisciplinary M.Tech. program in Microwave and Optical Communication Engineering (MOCE) is offered from the Department in association with Electronics and Communication Engineering Department. The department has well-equipped state of art laboratories for undergraduate, postgraduate and Ph.D students.. Faculties of the department are actively involved in National and International collaborations for R & D activities.

Research Areas: Nanotechnology: Carbon Nanotube / Carbon Nanofibre and Graphene. Plasma Physics/Dustry plasma/THz Radiation Emission/High power microwave devices, Photonics and Photonic Crystals. Glass Science and Technology Phosphors, Photoluminescence, Organic & Nano-Material, Time-resolved spectroscopy, Semiconductor Devices and Solar Cells-Application Oriented Modeling and Simulation, Waveguide based devices. Fibre and Integrated optics, Luminescent Material, Material science, Experimental Lithium Ion battery, Multiferroic materials, Atomic physics, Gas sensors, Atmosphere Science, Memory Devices.

4. Department of Biotechnology

The main objective of the Department is to provide academic training and conduct research in the interdisciplinary areas of biotechnology with particular emphasis on extending the knowledge generated from these studies towards the development of technologies of commercial significance.

The Department is running postgraduate programmes in Biotechnology, Bioinformatics, Biomedical Engineering and Industrial Biotechnology. Department of Biotechnology is also running research oriented Ph.D. programme. The department has undertaken sponsored projects funded by ICMR, CSIR, DST, UGC, etc. The department has 10 state-of-the-art laboratories.

Research Areas: Aquaculture, Algal Biotechnology, Bioremediation, Biosensor, Functional Genomics, Genome informatics, Immunology, Immunostimulation, Molecular Neuroscience, Nan biotechnology, Neuro-oncology, Radiation Biology, Water Quality Management.

5. Department of Civil Engineering

The Department offers undergraduate program with an intake of about 120. The post graduate programs are offered in Hydraulics and Flood Control, Structural Engineering, Environmental Engineering, and Geotechnical Engineering with the intake of about 90 students. The Department is well equipped with laboratories related to Structure, Concrete testing, Soil Mechanics, Highway Engineering, Experimental Stress Analysis, etc. The department lays greater emphasis on quality research of industrial design and development, Structural Engineering and Structural Dynamics.

Research Areas: Structural Engineering, Concrete Technology, Cementitious Materials, Prestressed Concrete, Tall Structures and Rehabilitation of Structures, Geotechnical Engineering, Rock Mechanics, Soil Mechanics, Geo-Environment Engineering, Water Resources Engineering, Pavement Engineering. Hyper Spectral Microwave and LIDAR Remote Sensing.

6. Department of Computer Science and Engineering

The Department of Computer Science and Engineering endeavors to provide the thrill of a corporate R&D environment with a planned focus on industrially relevant projects and technology incubation. The department has been offering two M.Tech. Degree level Programme in computer science & engineering and software engineering. Department has developed state-of- the-art laboratories in the various fields of Computer Engineering-Computer Architecture Lab, Network Lab, Web Designing Lab, Computation and programming Lab, Operating System Lab, Artificial Intelligence Lab and many others. The Department offers doctoral (Ph.D.) degree programmes in diverse areas and large numbers of problems have been taken up in close collaboration with industries.

Research Areas: Software Testing & Quality, Software Metrics, Machine Learning, Software Reliability, High Performance Computing, Soft Computing, Optimization Techniques, Parallel Computing, Web Technology, Image Processing, Soft Computing, Evolutionary Computing, Artificial Intelligence, Information Security.

7. Delhi School of Management

DSM aims at extending the seven-decade long legacy of Delhi College of Engineering by incubating and developing techno-managers, who are adept at identifying pertinent and critical business problems and apply their technical skills and competencies in solving those issues. DSM offers dual specialization in MBA programme and offers

post doctoral degree program. It focuses on developing a strong foundation and right attitude by teaching general subjects, Technical and Functional area of Management.

Research Areas: Managerial themes such as E-Governance, Information Technology Management & Strategy, Marketing Management, Distribution and Retail Management, Organizational Behaviour & Human Resource Management, Corporate governance and Ethics, Public Policy and Governance, Accounting and Finance, Portfolio Management, Mergers and Acquisition and Corporate Restructuring, Knowledge Management.

8. Department of Electronics and Communication Engineering

The vision of the department is to focus on the incubation of innovations in the areas of electronic design/ fabrication, and communication technologies, which are needed to address the growing challenges of tomorrow. The department offers UG and PG programmes with annual intake of 230 students in the B.Tech programme in Electronics and Communication Engineering and the PG programs include M. Tech. in VLSI Design and Embedded Systems; Signal Processing and Digital Design; and Microwave and Optical Communication. The Department has focused attention on quality research and offers Ph. D. programs in the area of Electronics and Communication namely VLSI, DSP, Image Processing, Micro strip antenna design, Sensor Networks, Analog and digital system design.

Research Areas: VLSI Design, Computer Vision, Pattern Recognition, Object Tracking, Image Processing, Human Computer Interaction, Wireless Sensor Network, Microwave Engineering, Antenna Design, Digital Signal Processing, Wireless Communication, RF Devices, Nano-electronics, Network Security, and Cloud Computing, Optical Communication, R F Circuit Design.

9. Department of Electrical Engineering

The goal of the department is to provide quality education at undergraduate and postgraduate levels and undertake cutting edge research in various areas of Electrical Engineering. The department also aims to develop active collaboration with various industries in the power sector. The department has an annual intake of 150, 100 and 46 students in the B.Tech programmes in Electrical Engineering and Electrical and Electronics Engineering and B.Tech (Evening) respectively. At the post graduate level, the department is offering two M.Tech programmes in Control and Instrumentation and Power Systems. The department is also running part time (evening) PG program in Power Electronic Systems for DMRC (under MOU) since 2012-13. In addition to the above, the department offers regular Ph. D programs in various areas of specialization in Electrical Engineering. The department is involved in carrying out several sponsored R & D projects funded by national agencies like AICTE, DST, etc.

Research Areas: Power system Optimization, AI Techniques, Modeling & Analysis of Electrical machines, Power Electronics & Drives Intelligent control of non linear systems, FACTS, SSR, voltage stability, power Quality Improvement, Grid Integration, Micro grid, smart Grid, BPL Analog Signal processing(Linear & Non Linear), Power system & control, system Engineering, Power system Analysis, Intelligent control, Power electronics, renewable energy, HVDC, Power Quality, power system restructuring, AI in Electricity market forecasting, Wind Energy forecasting, Embedded

system, Information security, design of power supply. Electric traction systems. Analog signal processing Energy conversion and micro grid.

10. Department of Environmental Engineering

The Department of Environmental Engineering have been offering M.Tech in Environmental Engineering Degree and B.Tech in Environmental Engineering. The department conducts cutting-edge research, in developing the vital areas that address societal needs for environmentally sustainable life style and offer doctoral degree. In addition to this, the department also provides opportunity to working engineers for upgrading their qualification under Continuing Education Programme on part time basis for PG level. The departmental laboratories (Water Pollution, Air & Noise Pollution, Microbiology, GIS & Remote Sensing and Solid Waste) for teaching and research are among the best in the nation, providing opportunities for hands-on experience for all students.

Research Areas: Water Pollution, Waste Water Treatment, Environment Modelling, Phytoremediation, Water Management, Air Pollution, Geoenvironmental Engineering, Solid Waste Management and Noise Pollution.

11. Department of Humanities

The Department of Humanities offers courses in Communication Skill, English , Economics and Accountancy for engineering and management students in an effort to train them for the global economic environment of the 21st Century. Besides giving them in-depth understanding of the labour market in which they are expected to work as well as emerging employment trends among engineers, students are sensitized towards the specific technological needs of urban slums and rural areas and socio economic impact of engineering projects on the masses. The Department has competent faculty members with a high degree of excellence who keeps pace with the current developments in their fields of specialization for the fulfilment of its teaching and research goals.

Research Areas: Women Education and Inclusive Growth, Banking and finance, International Trade and other areas of economics.

12. Department of Information Technology

Department offers an undergraduate B.Tech. Course in Information Technology with an intake of 75 students every year. Also, to meet the growing demands of present day technologies, DTU has started post graduate studies in Information Systems. Designed in a way so as to provide the students with fundamental concepts and tools related to the field, the courses emphasizes on all basic subjects such as operating systems, computer architecture and design, software development, networking, multimedia and graphics, analog and digital communication and computer Communications. Specialized knowledge on analysis and design of Information system, information security, mobile communication, soft computing, artificial intelligence, digital signal processing, computer vision and expert systems, web engineering is also imparted. The department provides well-equipped and well-connected state of the art laboratories in the areas of RF engineering and Web Engineering, Computer Networking, Advance Signal Processing, Information Security, Biometric lab, etc.

13

Research Areas: Pattern Recognition, Soft computing, Biometric security system, Neural Networks/ Deep learning, Fuzzy- Neural Networks, Computer Vision, Big date Analytics Web Mining Internet Technologies, Data Mining Social Networks Machine learning Human behaviour, Multimedia Systems Human Computer interaction, Image processing, Evolutionary Computing.

13. Department of Mechanical Engineering

The department of Mechanical engineering also offers undergraduate and Post Graduate courses with specialization in Thermal Engineering and Production Engineering. Ph.D Programs in all fields of Mechanical Engineering are also offered. The department possesses modern laboratories equipped with latest experimental set-ups and research facilities for instrumentation, experimental stress analysis, strength of materials, fluid mechanics, tic, engines, automotive engineering, robotics, heat transfer, solar energy, flexible manufacturing system, computational fluid dynamics supported by Software like view-flex, CAD-CAM and I.e. engine design. Cad lab has Softwares like NX-LAD, NXCAM, AUTOCAD Inventor, Katia, Techomatix , Abus, ladino, NX-Narran, Hyper mesh, hyper works, MDADAMS, Dynaform etc. The department has many research projects which are sponsored by different government organizations.

Research Areas: Turbo Machinery, Fluid Mechanics, Power Plant Engineering, I.C. Engines, Automobile Engineering, Refrigeration and Air conditioning, Computational Fluid Dynamics, Solar Energy, Bio Fuels, Power Plant, Industrial Engineering & Supply Chain Management, Robotics, CAD/CAM, Welding, Production Engineering, System Dynamics, Structural Vibration, Modeling & Simulation, Automation, Advanced Manufacturing Process, Human Factor Engineering, Quality Engineering.

8. Fee and Documents to be submitted

The selected candidates will be required to pay the admission fee as per the details given below:.

S.No.	Particulars	Annual Fee				
		At the time of Admission			2nd year onwards	
	Code ⇒	A	B	C,D,E,F	A,B	C,D,E,F
1.	Tuition Fee	Nil	7500	15000	Nil	5200
2.	**Non Govt. Component**					
2.1	Student Welfare Fee (Co-curricular activities, Training & placement, Extra Curricular Activities, Annual Gathering, Students welfare, Institutional Development, outsourcing, conference, seminar, workshop, innovative projects, skill development activities and, Misc. Expenditure on Unspecified Items)	5000	5000	5000	2800	2800
2.2	Facilities & Services Charges (Research initiatives, training programmes, Awards, automation, facilities, entrepreneurship activities and any misc. expenditure on unspecified items)	1500	1500	1500	500	500
2.3	Economically weaker section fund	1000	1000	1000	1000	1000
2.4	Examination fee (Examination Infrastructure strengthening, expenditure on examination activities, confidential printing etc.	2000	2000	2000		
2.5	Premium amount for mediclaim of student (per–annum)	500	500	500	500	500
	GRAND TOTAL	10000	17500	25000	4800	10000

S.No.	Particulars	Code
1.	The academic staff of DTU DCE staff (R.19.1)	A
2.	Project staff pursuing Ph.D as in R.19.11	B
3.	Self financial Students / Candidates from DST, CSIR, NPL and other Govt. organization, Govt. Institution, Public sector undertakings	C
4.	Self financed Students / Candidates from private organization R&D Laboratories under MoU with DTU	D
5.	Self financed regular faculty members of the private Educational Institution.	E
6.	Other Full Time / Part Time candidates	F

The admission fee must be paid in the form of a DD issued in favour of <u>"Registrar, DTU Ph.D. New Admission"</u> payable at Delhi.

Original Documents to be submitted for verification at the time of Admission

(a) Printed copy of online registration application

(b) All the semesters Mark sheet/grade card / provisional / degree certificates beginning from first degree towards proof of qualification.

(c) Caste Certificate in the case of SC/ST/OBC-NCL candidates issued by the respective State Government as per format annexed at 2.

(d) Authorised Doctor's Certificate with disability descriptions in the case of Person with Disabled (PwD) candidates as per format annexed at 3.

(e) Copy of GATE score or Original UGC - JRF/NET/CSIR/ DAE-JEST or other fellowship award.

(f) Project Co-ordinator's certificate in the prescribed format

(g) Date of Birth Proof

(h) two passport sized recent photographs

IMPORTANT INSTRUCTIONS

1) The candidates are advised to read each and every instruction given in this Information Brochure very carefully before applying Online.

2) All entries should be carefully made while applying online. DTU will not be responsible for wrong entries. Candidates shall be sole responsible for the correctness and authenticity of the information / documents provided in the online application.

3) Online application found incomplete in any form will be summarily rejected. No correspondence / communication will be entertained in this regard.

4) The last date for submission of online application shall not be extended. Accordingly, no request shall be entertained for accepting the application after the last date. Therefore, candidates are advised to submit their application well in advance and not to wait for the last moment.

5) The University has the right to cancel, at any stage, the admission for the candidate who is found admitted to a course to which he/she is not entitled, being unqualified or ineligible in accordance with the statues and regulations in force.

6) The list of the shortlisted candidates for screening test, interview and finally selected for admissions to Ph.D. program will be displayed on the DTU website: www.dtu.ac.in .

7) Candidates have to bring a valid photo-identity card for the purpose of written test along with the printed application form.

8) There is no need to send any part of application form to DTU by post.

9) Incomplete applications are likely to be rejected.

10) No separate call letter will be dispatched.

11) The candidates are advised to make their own arrangements for travelling and lodging accordingly. They must come prepared for admission (in case they are selected) as per the schedule.

12) Candidate should check the Institute website for results / important announcements.

13) Candidates called for the interview should bring with them (i) Photo ID Card, (ii) Printed copy of the application submitted online, (iii) Thesis / dissertation / report / publications (iv) copy of certificates and mark-sheets.

14) The candidates may contact faculty members/Head of the concerned academic departments for selecting their area of research work.

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Seat matrix for full time Ph.D. admission with University Scholarship (2018-19)*

Name of the department	Code of the deptt.	General	OBC	SC	ST	Total
Applied chemistry & Poly. Tech.	AC	-	-	-	-	-
PWD		-	-	-	-	
Applied Physics	AP	-	1	-	1	2
PWD		-	-	-	-	
Applied Mathematics	AM	-	-	1	1	2
PWD		-	-	-	-	
Biotechnology	BT	1	-	-	-	1
PWD		-	-	-	-	
Civil engineering	CE	2	-	-	1	3
PWD		-	-	-	-	
Computer Science & Engg	CoE	5	3	-	2	11
PWD		1	-	-	-	
Electronic & communication engineering	EC	3	-	1	-	4
PWD		-	-	-	-	
Electrical engineering	EE	-	-	-	1	2
PWD		-	-	-	1	
Environmental engineering	EN	1	-	-	-	1
PWD		-	-	-	-	
Mechanical engineering	ME	3	3	-	1	8
PWD		-	1	-	-	
Delhi school of management	DSM	-	1	-	-	1
PWD		-	-	-	-	
Humanities	Hum	1	1	-	-	2
PWD		-	-	-	-	
Information Technology	IT	1	1	-	-	2
PWD		-	-	-	-	
USME		3	-	1	1	5
Total:		**21**	**11**	**3**	**9**	**44**

AUTHORITIES WHO CAN ISSUE CASTE/TRIBE CERTIFICATE

SC/ST/OBC candidates should submit certificate issued by any of the following authorities:

District Magistrate/Additional District Magistrate/Collector/Deputy Commissioner/Additional Deputy Commissioner/Deputy Collector/1st Class Stipendiary Magistrate/City Magistrate/Sub-Divisional Magistrate/Taluka Magistrate/Executive Magistrate/Extra Assistant Commissioner/Chief Presidency Magistrate/Additional Chief Presidency Magistrate/Presidency Magistrate/Revenue Officer not belowthe rank of Tehsildar/Sub-Divisional Officer of the area where the candidate and/or his/her family normally resides/Administrator/Secretary to Administrator/Development Officer (Lakshadweep Island).

(Certificate issued by any other authority will not be accepted.)

Prescribed Format for OBC Certificate

FORM OF CERTIFICATE TO BE PRODUCED BY OTHER BACKWARD CLASSES

This is to certify that Shri / Smt. / Kum. _____ Son /

_____ of

Daughter of Shri / Smt. _____
Village/Town

_____ District/Division _____ in the

_____ Community which is
State belongs to the _____

recognized as a backward class under:

(i)Resolution No. 12011/68/93-BCC(C) dated 10/09/93 published in the Gazette of India Extraordinary Part I Section I No. 186 dated 13/09/93.
(ii)Resolution No. 12011/9/94-BCC dated 19/10/94 published in the Gazette of India Extraordinary Part I Section I No. 163 dated 20/10/94.
(iii)Resolution No. 12011/7/95-BCC dated 24/05/95 published in the Gazette of India Extraordinary Part I Section I No. 88 dated25/05/95.
(iv)Resolution No. 12011/96/94-BCC dated 9/03/96. (v)Resolution No. 12011/44/96-BCC dated 6/12/96 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 11/12/96.
(vi)Resolution No. 12011/13/97-BCC dated 03/12/97.
(vii)Resolution No. 12011/99/94-BCC dated 11/12/97.
(viii)Resolution No. 12011/68/98-BCC dated 27/10/99.
(ix)Resolution No. 12011/88/98-BCC dated 6/12/99 published in the Gazette of India Extraordinary Part I Section I No. 270 dated 06/12/99.
(x)Resolution No. 12011/36/99-BCC dated 04/04/2000 published in the Gazette of India Extraordinary Part I Section I No. 71 dated04/04/2000.
(xi)Resolution No. 12011/44/99-BCC dated 21/09/2000 published in the Gazette of India Extraordinary Part I Section I No. 210dated21/09/2000.
(xii)Resolution No. 12015/9/2000-BCC dated 06/09/2001.
(xiii)Resolution No. 12011/1/2001-BCC dated 19/06/2003.
(xiv)Resolution No. 12011/4/2002-BCC dated 13/01/2004.
(xv)Resolution No. 12011/9/2004-BCC dated 16/01/2006 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 16/01/2006.

Shri / Smt. / Kum. _____ and / or his family ordinarily reside(s) in the _____ District / Division of _____ State. This is also to certify that he/she does not belong to the persons/sections (Creamy Layer) mentioned in Column 3 of the Schedule to the Government of India, Department of Personnel & Training O.M. No. 36012/22/93-Estt.(SCT) dated 08/09/93 which is modified vide OM No. 36033/3/2004 Estt.(Res.) dated 09/03/2004.

Dated: _____

District Magistrate / Deputy Commissioner / Competent Authority

Seal

NOTE:

(a) The term 'Ordinarily' used here will have the same meaning as in Section 20 of the Representation of the People Act, 1950.

(b) The authorities competent to issue Caste Certificates are indicated below:

(i) District Magistrate / Additional Magistrate / Collector / Deputy Commissioner / Additional Deputy Commissioner / Deputy Collector / Ist Class Stipendiary Magistrate / Sub-Divisional magistrate / Taluka Magistrate / Executive Magistrate / Extra Assistant Commissioner (not below the rank of Ist Class Stipendiary Magistrate).

(ii) Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate.

(iii) Revenue Officer not below the rank of Tehsildar' and

(iv) Sub-Divisional Officer of the area where the candidate and / or his family resides.

Declaration/undertaking - for OBC Candidates only

I, _____ son/daughter of Shri _____ resident of village/town/city _____ district _____ State _____

hereby declare that I belong to the _____ community which is recognized as a backward class by the Government of India for the purpose of reservation in services as per orders contained in Department of Personnel and Training Office Memorandum No.36012/22/93- Estt. (SCT), dated 8/9/1993. It is also declared that I do not belong to persons/sections (Creamy Layer) mentioned in Column 3 of the Schedule to the above referred Office Memorandum, dated 8/9/1993, which is modified vide Department of Personnel and Training Office Memorandum No.36033/3/2004 Estt.(Res.) dated 9/3/2004.

Signature of the Candidate

Place: _____

Date: _____

Certificate for Person with Disability To be issued by Medical Board from Government Hospital

Name of the candidate: Mr./Ms.* ....: ....

Father's Name: ....

Permanent Address: ....

Percentage loss of earning capacity (in words): Whether the candidate is otherwise able to carry on the studies and perform the duties of an engineer/architect satisfactorily: ....

Name of the disease-causing handicap: ....

Whether handicap is temporary or permanent: ....

Whether handicap is progressive or non-progressive: ....

The candidate is FIT / UNFIT to pursue further studies.

(*Strike out whichever is not applicable)

Member   Member   **Principal Medical Officer**
                                              (Orthopaedic Specialist)

Date:

Seal of Office :

NOTE: 1. The medical board must have one orthopaedic specialist as its member.

         2. Candidate having temporary or progressive handicap will not be considered against the seats.

Dean Academic (PG) / DR (PG)
Delhi Technological University
Shahbad Daulatpur, Bawana Road, Delhi-110042
Website: www.dtu.ac.in
Helpdesk Email ID: phdcoordinator@dtu.ac.in

DELHI TECHNOLOGICAL UNIVERSITY

Govt. of NCT of Delhi

(formerly Delhi College of Engineering)

Shahbad Daulatpur, Bawana Road, Delhi-110042

Admission Brochure

M.Tech Program 2018-19

Website:

www.dtu.ac.in

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About DTU

Delhi Technological University (formerly known as Delhi College of Engineering) is one of the most well-known engineering institutions of India, with over 75 years of glorious tradition behind it. A non-affiliating, teaching and research University, DTU is poised to create an environment of synergetic partnership between academia and industry. It aims to cause a major departure from the conventional system of education and research and aspires to imbibe a culture of scientific research and education by providing a seamless environment for integration of science and engineering. The University also endeavours to provide the thrill of a corporate R&D environment with a planned focus on industrially relevant projects and technology incubation. DTU has consistently been ranked among the top engineering institutions of the country in reputed surveys. More information can be accessed at www.dtu.ac.in.

Vision

To be a world class university through education, innovation and research for the service of humanity

Mission

- To establish centres of excellence in emerging areas of science, engineering, technology, management and allied areas.

- To foster an ecosystem for incubation , product development, transfer of technology and enterpreneureship.

- To create environment of collaboration, experimentation, imagination and creativity.

- To develop human potential with analytical abilities, ethics and integrity.

- To provide evnrionment friendly, reasonable and sustainable solutions for local & global needs.

1. M. Tech Programs

The university offers 20 M. Tech programmes in various disciplines of Engineering and Technology as listed below in Table-1A and 1B respectively.

Table-1A

S. No.	Name of Department	Program Name & Code	Number of GATE Fellowships for full time candidates
1.	Applied Chemistry	1. Polymer Technology(PTE)	20
2.	Applied Physics	2. Nano Science & Technology(NST)	20
3.	Bio Technology	3. Bioinformatics (BIO)	20
4.	Civil Engineering	4. Geotechnical Engineering (GTE)	20
		5.Hydraulics & Water Resources Engineering(HRE)	19
		6. Structural Engineering (STE)	20
5.	Computer Science Engineering	7. Computer Science & Engineering (CSE)	20
		8. Software Engineering (SWE)	20
6.	Information Technology	9. Information System (ISY)	20
7.	Electronics & Communications Engineering	10.Microwave & Optical Communication Engineering (MOCE) *(jointly with Applied Physics Department)*	20
		11. Signal Processing & Digital Design (SPD)	20
		12. VLSI Design and Embedded System (VLS)	20
8.	Electrical Engineering	13. Control & Instrumentation (C&I)	20
		14. Power System (PSY)	20
9.	Environment Engineering	15. Environmental Engineering (ENE)	20
10.	Mechanical Engineering	16. ProductionEngineering (PIE)	20
		17. Thermal Engineering (THE)	20

Table 1B Admision will be made on the basis of written test to be conducted by the DTU. <u>Fellowship will not be granted</u> to these candidate (GATE or Non GATE) admitted in these programmes.

S. No.	Name of Department	Program Name & Code
1.	Bio Technology	18. Bio Medical Engineering (BME)
		19. Industrial Bio Technology (IBT)
2.	Mechanical Engineering	20. Computational Design (CDN)

2   Educational Qualifications and Eligibility Conditions for Admissions

The details of the essential qualifications required for different M. Tech programmes in each programme is given in Annexure-1. Candidates who possess the minimum educational qualifications are eligible to seek admission to these M. Tech programmes. In addition, candidates of General category must have secured at least 60% marks in qualifying degree or equivalent CGPA provided by the concerned Institute/ University. In case CGPA or conversion formula has not been provided by the concerned Institute/ University then equivalent CGPA will be computed as per the following table:

CGPA= (% of Marks + 7.5) / 10

Percentage of Marks= (10 X CGPA) - 7.5

Grade Point	% of Marks
6.25	55
6.75	60
7.25	65
7.75	70
8.25	75

Relaxation in minimum percentage requirement will be granted to candidates belonging to SC/ST/PD/OBC categories as given in Table 2. The aggregate marks awarded for the qualifying degree will be considered for eligibility.

2.1. Full Time Candidates

(a) Admission to M. Tech programmes leading to M.Tech degree as given in Table-1A, will be open to the candidates qualified in GATE on the basis of valid GATE score only in the subjects as given in Annexure 1 to prepare the merit list for programmes of a department, except for the three branches listed in Table 1B. For these three branches, admission will be made on the basis of the merit of the written test conducted by the DTU.

(b) Final year students who will be completing all the requirements of their qualifying examination including backpaper(s)/ supplementary(ies) before the date of admission may also apply. Such candidates will be required to submit a certificate as per the proforma given in Annexure-2 along with the application form. Such candidates may be admitted provisionally but they will be required to produce the proof of having passed the qualifying degree with the required percentage of marks or CGPA latest by **September 30, 2018,** failing which their admission shall be cancelled.

(c) Candidates having AMIE/AMIS/AMIICHE/AMIIM/Grad IETE, who possess B.Sc. or Diploma in engineering are also eligible to apply for admission to M.Tech. courses.

(d) Detailed seat matrix indicating seats in various departments under different categories is available at Annexure-6.

2.2 Full-Time Sponsored Candidates

05 seats (supernumerary) each are available in all the 20 M. Tech programmes offered by the University subject to the provisions given below.

(a) Only employees of Public Sector Undertakings or Government Departments or Educational & Research Institutions are eligible for admission to these programmes. All candidates should have a minimum experience of one year as on 31st July, 2018 for admission in August 2018. Minimum qualifications for these candidates is the same as for full time candidates except that the requirement of qualifying in GATE examination is waived off. The selected candidates are need to submit the minimum one year completion employment certificate on 01.08.2018; failing which their admission will be cancelled.

(b) Sponsored (full-time) candidate seeking admission to a M.Tech. programme on the basis of study leave, must submit a "Sponsorship certificate"as per Annexure-3 on a proper letter head from the appropriate authority in the organization clearly stating the following:

1. For the period of his/her studies in the programme, the candidate would be treated as on duty with usual salary and allowances, and
2. That he/she will be fully relieved and granted study leave for a minimum period of 02 years.

(c) A few candidates are also admitted through Defence Research & Development Organization Schemes, for which the admission procedure is separate. The candidates who meet the above mentioned eligibility conditions, along with the minimum educational qualifications as given in Annexure-1 should contact DRDO authorities for sponsorship.

(d) Admission to the Sponsored Full-Time M. Tech programmes (except for DRDO sponsored candidates) will be made on the basis of merit by the respective department from amongst the candidates who have registered online. **These candidates in merit list will have to score at least 50% marks in the written test conducted by University in addition to having fulfilled all other eligibility criteria as specified for that program.**

(e) List of eligible full time sponsored candidates for the written examination shall be made available on the University website www.dtu.ac.in as per schedule. No individual communication will be sent.

2.3 Part-Time Candidates (Three years duration)

University also offers Part time program in all the 20 M. Tech programmes of Engineering and Technology listed in above Tables. The number of part time seats are 10 (supernumeray) in each course subject to the provisions given below. The detailed seat matrix indicating seats in various departments under different categories is available at Annexure-7.

(a) These candidates must satisfy condition 2.2 (a) as for full time sponsored candidates, with the additional requirement that such organizations must be located within the NCR region.

(b) Admission to the Part-Time M. Tech programs will be made on the basis of merit by the respective department from amongst the candidates who have registered online. **These candidates in merit list will have to score at least 50% marks in the written test conducted by University in addition to having fulfilled all other eligibility criteria as specified for that program.**

(c) The part-time students will be required to attend all lectures, tutorials and practical classes for the courses prescribed for them and must satisfy the attendance requirements. The classes for part-time students will be held along with regular students.

(d) The status of a part-time student will not be changed from part-time to full-time student.

(e) Part-time candidates are required to submit a "No Objection Certification" as per Annexure-4 on a letter head from the appropriate authority in the organization clearly stating the following:

- The candidate is permitted to pursue studies on a part-time basis.
- That his/her official duties permit him/her to devote sufficient time for studies.
- That he/she will not be transferred to any other place during the period of study.

(g) List of eligible part-time candidates for written test shall be made available on the University website www.dtu.ac.in as per schedule. No separate call letters wil be dispatched.

(e) 01 (one) seat in all the 20 M. Tech. programmes is available for NRIs/PIO/FN candidates subject to the eligibility conditions and GRE scores. Admissions under this category of seats will be done separately by the University.

3. Reservation of Seats for Different Categories and Relaxation in Essential Qualifications

Admissions to the PG programs as mentioned in Annexure-1 will be made on All Indian basis. The university follows the reservations rules of Govt. of NCT of Delhi. Table 2 given below indicates the percentage of reservations for various categories and relaxation in minimum eligibility conditions as applicable for the academic session 2018-19.

Table-2

S. No.	Category	Seats reserved	Relaxation in Eessential qualification
1	Scheduled Castes (SC)	15%	10%
2	Scheduled Tribes (ST)	7.5 %	10%
3	Other Backward Classes	27%	5%
4	Persons with Disability	5% (Horizontal)	10%

The reservations for persons with disabilities will be implemented departmentwise. Candidates seeking admission must fulfil the eligibility conditions as detailed earlier. The 5% reservation horizontally in seat matrix for persons with disability may be allocated as follows.

Against the seats identified for each diabilities, of which, one percent each shall be reseaved for persons with benchmark disabilities under clauses (a), (b), and (C) and one percent, under clauses (d) and (e).

(a) Blindlness and low vision;

(b) Deaf and hard of hearing;

(c) Locomotor disability including cerebal palsy, leprosy cured, dwarfism, acid attck victims and muscular dystrophy;

(d) Austim, intellectual disability, specific learning disability and menal illness;

(e) Multiple disabilities from amongst persons under clauses (a) to (d) inlcuding deaf-blindness.

If the seats remain vacant in some specific categories, with no waiting list available in that categories, the seats shall be converted as per the details given below on the day of spot round of counselling.

Formula for conversion of seats

Existing Seats	Seats converted into
Person with Disability (PWD) seat of General/OBC/SC/ST Categories	General/OBC/SC/ST Category (i.e. in respective categories)
OBC Seat	General Category Seat
SC Seat	ST Seat
ST Seat	SC Seat

01 seat (supernumerary) each is available in all the 20 M.Tech programmes offered by the University. There will be no relaxation in the minimum eligibility criteria. The merit will be made among the Kashmiri migrant applicants on the basis of GATE score.

4.   Application Process

For admission to M. Tech programmes 2018, all candidates need to register and fill the application ONLINE only by accessing www.dtu.ac.in from May 8, 2018 to on or before June 13, 2018. The application process is completed only when a print out of the filled ONLINE application form is taken after paying online the registration fee. The candidate must bring a duly signed copy of the same along with two good quality photo (same as uploaded on online application form) affixed in the appropriate place on the form on the day of counselling.

Candidates are requested to ensure that they must fulfil all such requirements before filling and applying for such programmes as their choices. Incomplete application due to any reason is liable for rejection by the University. In this regard, no communication will be entertained.

4.1   Application Fee

The registration fee of Rs. 1000/- for Gen/OBC and Rs. 500/- for SC/ST/PwD, is to be paid online through credit/debit card /netbanking at the time of registration and choice filling. The registration shall not be complete without the payment of registration fee which is non-refundable and would not be adjusted towards any other fee. A convenience charge (online transaction) will be extra as per banking gateway on every online registration fee payment.
If a candidate wishes to apply for admission in a program offered by different departments then he/she will have to register separately in that department by paying separate online registration fee.

4.2   Rules for Seat Allotment

➢ Merit list will be prepared on the basis of GATE score, except for the three branches listed in Table 1B.

➢ To resolve and determine inter-se-merit of candidates having same GATE score, following criterion will be used in the stated order of preference.

1. Candidates having GATE score in 2016 will be given preference over candidates having score of 2017, or 2018.

2. Candidates having GATE score in 2017 will be given preference over candidates having score of 2018.

3. If the year of GATE score is same, then preference will be given to that candidate who has obtained higher GATE marks out of 100.

4. In unlikely event of their GATE marks out 100 and the year of GATE score being the same, then preference will be based on the All India Rank (AIR)

5. In highly unlikely event of candidates having same GATE Year, GATE marks out of 100, and AIR, then Date of Birth will be considered. Elder candidate will be given preference.

6. In highly unlikely event of Date of Birth is same, then rank will be decided on the basis of marks/CPGA obtained in the qualifying degree.

4.3 First round of admission

(a) The list of selected candidates will be displayed for first round of admissions along with first round admission schedule on the university website www.dtu.ac.in and department notice boards. In case some seats remain unfilled then second round of counselling may be conducted.

(b) The selected candidates in every round of admission shall deposit the requisite fee as per the given schedule in the Account Section of DTU through DD in the favour of **"Registrar, Delhi Technological University payable at New Delhi"** and submit Fee Receipt back to the Department. Admission shall not be valid without payment of fee and submitting the fee receipt to the department.

(c) The candidates shall have to produce the relevant documents (as notified in Section 7) for verification at the time of admission. If a candidate fails to report for admission on the scheduled date OR he/she is not able to submit the required documents or fee, he/she shall forfeit his/her claim for admission and the seat shall be offered to the next eligible candidate in the order of merit. Further, the candidate will not be eligible for subsequent rounds.

(d) A candidate can send his authorized representative with all the required documents and fee to report for admission in case he is unable to report for admission in person. The authorized representative must come with the duly signed authorization letter.

(e) The candidates may freeze their admission in a particular M. Tech program by filling up a freezing form and submitting the same in the department concerned as per the schedule displayed on the admission website. All such candidates who have freezed their admission in a particular program will not be considered for automatic up gradation in other programs.

(f) If a candidate is upgraded to another program which is offered by a different department then he/she will have to take an NOC from the parent department and deposit the original fee receipt along with the other documents in the new department. He/She will not have to deposit fresh fee for the admission in the new department.

4.4 Second/ subsequent rounds of admission (Subject to availability of seats)

(a) A list of seats available for admission during second/spot round of admission will be displayed on the DTU admission website as per the schedule given.

(b) The second/ subsequent rounds for all the programmes will be held at the same venue i.e. respective department. No separate communication will be sent in this regard.

(c) No admission will be made directly to second or higher semester of any program.

5. Fee Structure

The annual fee of the M. Tech programme will have to be deposited by the candidate at the time of admission in the form of a DD drawn in favour of the "**Registrar, Delhi Technological University payable at New Delhi**". Candidates must note that the admission fee must be paid in single instalment failing which the admission offer will be withdrawn immediately. Waitlisted candidates (if offered admission during counselling) will be given one day time to deposit the admission fee.

If the admission fee is not paid within the stipulated date then the offer of admission given to them will be withdrawn automatically and the seat will be offered to the next eligible candidate.

The detailed fee structure is given below.

Master of Technology (M.Tech) (Full Time)

S.No.	Particulars	AY 2018-19 1st Year (Rs.)	AY 2019-20 2nd Year (Rs.)
1.	Tuition Fee	90,500/-	1,05,500/-
2.	**Non Govt. Component**		

2.1	Student Welfare Fee (Co-curricular activities, Training & placement, Extra Curricular Activities, Annual Gathering, Students welfare, Institutional Development, outsourcing, conference, seminar, workshop, innovative projects, skill development activities and, Misc. Expenditure on Unspecified Items)	18,000/-	18,000/-
2.2	Facilities & Services Charges (Research initiatives, training programmes, Awards, automation, facilities, entrepreneurship activities and any misc. expenditure on unspecified items)	25,000/-	25,000/-
2.3	Economically weaker section fund	5,000/-	5,000/-
2.4	Examination fee (Examination Infrastructure strengthening, expenditure on examination activities, confidential printing etc.	12,000/-	12,000/-
2.5	Premium amount for mediclaim of student (per-annum)	500/-	500/-
	GRAND TOTAL	**1,51,000/-**	**1,66,000/-**

Master of Technology (Part Time)

S.No.	Particulars	AY 2018-19 1st Year (Rs.)	AY 2019-20 2nd Year (Rs.)	AY 2020-21 3rd Year (Rs.)
1.	Tuition Fee	90,500/-	99,500/-	99,500/-
2.	**Non Govt. Component**			
2.1	Student Welfare Fee (Co-curricular activities, Training & placement, Extra Curricular Activities, Annual Gathering, Students welfare, Institutional Development, outsourcing, conference,	18,000/-	20,000/-	20,000/-

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		seminar, workshop, innovative projects, skill development activities and, Misc. Expenditure on Unspecified Items)			
2.2		Facilities & Services Charges (Research initiatives, training programmes, Awards, automation, facilities, entrepreneurship activities and any misc. expenditure on unspecified items)	25,000/-	28,000/-	28,000/-
2.3		Economically weaker section fund	5,000/-	5,000/-	5,000/-
2.4		Examination fee (Examination Infrastructure strengthening, expenditure on examination activities, confidential printing etc.	12,000/-	13,000/-	13,000/-
2.5		Premium amount for mediclaim of student (per-annum)	500/-	500/-	500/-
		GRAND TOTAL	**1,51,000/-**	**1,66,000/-**	**1,66,000/-**

6. Withdrawal / Refund Policy

The Universtiy follows the following policy for the remittance and refund of fee, if a student chooses to withdraw from programme of study in which he / she is enrolled:

S.No.	Percentage of Refund of aggregate fee*	Point of Time when Notice of admission is served to HEI
1.	100%	15 days before the formally notified last date of admission i.e.29.07.2018.
2.	80%	Not more than 15 days after the formally notified last date of admission.
3.	50%	More than 15 days but less than 30 days after formally notified last date of admission.
4.	00%	More than 30 days after formally notified last date of admission.

inclusive of course fee and non tution fee but exclusive of caution money and security deposits

7. Documents Required

The candidates should report at the venue mentioned by the respective departments on the specified date and time for admission round in person (or through an authorized representative) along with the following original documents and one set of self attested photocopies, two photographs, printout of the registration form and demand draft for the annual fee made in the favour of **"Registrar, Delhi Technological University payable at New Delhi"**.

(a) Date of Birth proof

(b) All mark sheets and certificate of qualifying examination (Graduation).

(c) SC/ST/OBC/Persons with disability Certificate(s) whichever applicable, on the basis of which reservation is claimed. OBC candidates must produce necessary financial document to support their category as per Annexure-5.

(d) Valid GATE Score Card in Original for full time candidates.

(e) Experience Certificate (Original), for part time and full time sponsored candidates.

(f) Sponsorship certificate in the prescribed format by Full-time sponsored candidates.

(g) A 'No objection Certificate' for Part-time candidates.

8. Admission Schedule with Important Dates

S.No.	Activity/ Event	Date
1.	Advertisement in newspapers.	03.05.2018
(i)	Opening of website for Online Registration	08.05.2018 from 10:00 AM onwards
2.	Last date for Online Registration	13.06.2018 at 12:00 pm midnight
3.	**Schedule for Full time /PT/SFT**	
(i)	Display of eligible candidates list for 1st round on DTU Website for branches in Table-1A	26.06.2018
(ii)	Display of eligible candidates list for written examination for PT/SFT/FT (BME, IBT, CDN branches)	26.06.2018
(iii)	Written examination for PT/SFT/FT (BME, IBT, CDN)	30.06.2018 at 11:00 am
(iv)	List of shortlisted PT/SFT/FT (BME, IBT, CDN branches) candidates, as in (iii), on the basis of written examination conducted by DTU for Ist round admission on DTU website.	07.07.2018
(v)	1st Round admissions at DTU for all branches (Selected candidates are required to report along with original documents and bank draft for fee deposit)	10.07.2018 at 10:00 am
(vi)	Submission of Freezing Forms in the department	10.07.2018 by 5 pm
(vii)	Display of vacant seats for 2nd round on DTU admissions website	24.07.2018 at 5:00 pm
(viii)	2nd Round admissions also the last date of admission at DTU (Selected candidates are required to report along with original documents and bank draft for fee deposit)	29.07.2018 at 10:00 am
(ix)	Display of vacant seats for spot round on DTU admissions website	06.08.2018
(x)	Spot round of admissions at DTU (Selected candidates are required to report along with original documents and bank draft for fee deposit)	14.08.2018

Note: Candidates are advised to read the brochure carefully and to visit the website www.dtu.ac.in regularly for uptdates and other details about the entire online admission process.

Annexure-1

Details of the eligibilty conditions and qualifying degree requirements.

Assistantship as per AICTE norms will be awarded to candidates for the duration of the programmes i.e. two years to the full time students for M.Tech within the sanctioned intake excluding the three branches listed in Table 1B which are marked as * here.

S. No.	Department/ Program Name	Qualifying GATE Subjects	Qualifying Degree *
1.	**Applied Chemistry**		
	Polymer Technology (PTE)	CY/CH/BT/ME/PE/PI/TF/XE/XL	M.Sc. in Chemistry/ Chemical Sciences/ Material Science/ Polymer Sciences **OR** B.Tech/ B.E. in CH/ PT/ Paint/ Plastic/ Rubber/ Textile/ Food/ Petroleum/ Petrochemical/ Paper&Pulp/ EN/ BT/ Bio-Medical/ ME /PE
2.	**Applied Physics**		
	Nano Science & Technology (NST)	PH/CY/XE/EE/EC/MT/CY/CH/BT/ME/TF/CH/PI/XL/CE/CS/IN/AE	M.Sc./B.E./B.Tech. inPhysics/ Applied Physics/ Chemistry/ Material Science/ Nuclear Physics/ Solid State physics/ Astrophysics/ Electronics/ Electrical/ Biotechnology/ Allied life Science/ Engineering Physics / Biophysics/ Biochemistry/ Environmental Science/ M.Sc. (CS/IT with Mathematics, Physics and Chemistry at B.Sc.)
3.	**Bio Technology**		
	Bioinformatics (BIO)	BT/XL/PY/CS/EC	B.Tech/ M.Sc. degree in Biotechnology / Bioinformatics / Biomedical Engineering / Biochemical Engineering / Life Sciences / Biochemistry / Computer Science / Electronics & Communications / Pharmaceutical Sciences & Technology.
	Biomedical Engineering (BME) *	GATE is **NOT** mandatory	B.Tech/M.Sc. degree in Biomedical Engineering / Biotechnology / Biochemical Engineering / Life Sciences / Biochemistry / Chemical Engineering / Chemical Technology / Materials Sciences / Polymer Science or Polymer Technology / Physics / Chemistry / Computer Science / Electronics & Communication / Instrumentation Engineering / Pharmaceutical Sciences & Technology.
	Industrial Bio technology (IBT) *	GATE is **NOT** mandatory	B.Tech/ M.Tech / M.Sc. degree degree in Biotechnology / Bioinformatics / Biomedical Engineering / Biochemical Engineering / Life Scineces / Biochemistry / Zoology / Botany / Plant Molecular Biology / Microbiology / Environmental Sciences / Agriculture Sciences / Pharmaceutical Sciences & Technology.

4.	Civil Engineering		
	Geotechnical Engineering (GTE)	CE	
	Hydraulics & Water Resources Engineering(HRE)	CE	B. Tech./B.E. Degree in CE
	Structural Engineering(STE)	CE	
5.	Computer Engineering		
	Computer Science & Engineering (CSE)	CS / IT / SW	B.Tech./B.E. Degree in CS / SE / IT / MC/ E& CE/ EEE or M.C.A /M. Sc (CS/IT) (with Mathematics at B.Sc./B.C.A level).
	Software Engineering (SWE)	CS / IT	
6.	Inforamation Technology		
	Information System (ISY)	CS/SW/IT	B.Tech./B.E. Degree in CS / SE / IT /MC/ E&CE/ EEEor M.C.A /M. Sc (CS/IT) (with Mathematics at B.Sc./B.C.A level).
7.	Electronics & Communications Engineering		
	Microwave and Optical Communication (MOC)	EC/PH	B.E./B.Tech.Exam in E&CE/ EP/ M.Sc. Electronics/ M. Sc.In Physics with Electronics/ RadioPhysics/ Solid State Physics.
	Signal Processing & Digital Design (SPD)	EC	B.E./B.Tech Exam in E&CE
	VLSI Design and Embedded System (VLS)	EC	
8.	Electrical Engineering		
	Control & Instrumentation (C&I)	EE/EC/IN/EEE	B. Tech./B.E.Exam in EE/EEE/E&CE C&I
	Power System (PSY)	EE/ EEE	B. Tech./B.E.Exam in EE/EEE
9.	Environment Engineering		
	Environmental Engineering (ENE)	CE/ XL/CH	B.Tech./B.E. Exam in EN/CE/BT/CH/PT
10.	Mechanical Engineering		
	Computational Design (CDN)*	GATE is NOT mandatory	B. Tech/B. E in ME/ PE/ Industrial/ AE/ Manufacturing Science/ Welding Technology/ Aerospace Engineering/ Aeronautical Science
	Production Engineering (PIE)	ME/PI	B. Tech/B. E in ME/ PE/Industrial / Manufacturing Science/ Welding Technology/Automation Engineering.

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	Thermal Engineering (THE)	ME/PI	B. Tech/B. E in ME/PE/AE/ Manufacturing Science /Automation Engineering

\# Candidates having AMIE/AMIS/AMIIChE/AMIIM/Grad IETE, who possess B.Sc. or Diploma in engineering are also eligible to apply for admission to M.Tech. courses.

* Admission to these branches are open to all eligible (GATE or Non GATE) candidates. Admissions will be made on the merit of the written examination to be conducted by DTU on 30.03.18.

Details of the abbreviations used

Electrical Engineering	EE	Mechanical Engineering	ME	
Civil Engineering	CE	Environmental Engineering	EN	
Information Technology	IT	Electrical & Electronics Engineering	EEE	
Software Engineering	SE	Mathematics and Computing	MC	
Automobile Engineering, Automotive Engineering	AE	Engineering Physics	EP	
Production, Production & Industrial Engineering, Industrial Engineering	PE	Metallurgical and Material Science, Metallurgical Engineering	MT	
Control & Instrumentation, Instrumentation & Control Engineering	C&I	Biotechnology,IndustrialBiotechnology, Bioinformatics	BT	
Biochemical Engineering	BE	Chemical Engineering	CH	
Electronics & Communication Engineering, Electronics Engineering	E&C	Computer Science, Computer Technology,Computer Science & Engineering, Computer Engineering	CS	
Engineering Physics	EP	Polymer Technology	PT	

List of GATE Disciplines/Papers and their codes

S.No.	Paper	Code	S.No.	Paper	Code
1	Aerospace Engineering	AE	11	Instrumentation Engineering	IN
2	Agricultural Engineering	AG	12	Mathematics	MA
3	Architecture and Planning	AR	13	Mechanical Engineering	ME
4	Biotechnology	BT	14	Mining Engineering	MN
5	Civil Engineering	CE	15	Metallurgical Engineering	MT
6	Chemical Engineering	CH	16	Life Sciences	XL
7	Computer Science and Information Technology	CS	17	Physics	PH
8	Chemistry	CY	18	Production and Industrial Engineering	PI
9	Electronics and Communication Engineering	EC	19	Textile Engineering and Fibre Science	TF
10	Electrical Engineering	EE	20	Engineering Sciences	XE

Engineering Sciences (XE) Papers	Life Sciences (XL) Papers
A. Engineering Mathematics B. Fluid Mechanics C. Materials Science D. Solid Mechanics E. Thermodynamics F. Polymer Science and Engineering G. Food Technology H. Atmospheric and Oceanic Sciences	P. Chemistry Q. Biochemistry R. Botany S. Microbiology T. Zoology U. Food Technology

CERTIFICATE FOR APPEARING IN THE FINAL SEMESTER/YEAR EXAMINATION
(Required from candidates who are yet to appear in the qualifying examination)

In connection with the application of Mr./Ms. .... for admission to PG programme(s) at Delhi Technological University Delhi, I hereby certify that he/she is a bonafide student of our institution. He/She is yet to complete the requirements of qualifying examination includingtheory, practical project examination and backpaper(s)/supplementary(ies) for B.E./B.Tech./M.Sc./................................. which is to be scheduled later on(Strike out the non-applicable ones and write in the blank space if the degree is not mentioned) and the result is likely to beannounced by .... 2018. The percentage of aggregate marks/CGPA obtained by him/her upto prefinal year examination is ....His/her conduct and character during his/her stay at the University/University has been "GOOD".

Place: ....Signature of the Principal/Dean/Registrar/ Dy. Registrar /Proctor/Administrative
Officer

Date:.............................

UNDERTAKING BY THE CANDIDATE REGISTERED WITHOUT PRODUCTION OF PROOF OF PASSING THE QUALIFYINGEXAMINATION/APPEARED IN THE BACKPAPER(S)/SUPPLEMENTAR(IES) TILL DATE OF REGISTRATION

I, ... son /daughter/ward of Mr./Ms... hereby give an undertaking that I have appeared in all the examinations including practicals/projects/theory/backpaper(s)/supplementary(ies) before the date of registration and only the result is awaited, which is likely to bedeclared by

....

Place: .... Signature ....

Date: .... Name ....

Address

SPONSORSHIP CERTIFICATE

(Required from full-time sponsored candidates only)

The undersigned is pleased to sponsor Mr./Ms. .... who is working in this organization for the last .... years and is presently holding the rank/position of .... for pursuing the M. Tech programme (course) at Delhi Technological University, Delhi in the Department of .... with specialization in the following areas:

1. .... 2. ....

3. .... 4. ....

His/her conduct and character has been good.

Place: .... Signature of Head of the Institution/Organization with seal

Date: .... Name ....

Designation...

NO OBJECTION CERTIFICATE

(Required from candidates seeking admission on part-time basis)

The undersigned is pleased to permit Mr./Ms. .... who is working in this organization for the last .... years and is presently holding the rank/position of .... for pursuing the M. Tech programme at Delhi Technological University,Delhi with specialization in the following areas:

1. .... 2. ....

3. .... 4. ....

His/her conduct and character has been good.

The Institution/Organization would relieve him/her immediately for joining the above course, if selected for admission. If admitted the candidate will be permitted to be present at the University as required by the academic schedule for a period of three years andwill continue to remain in service of this organization for the duration of the course.

Place: .... Signature of Head of the Institution/Organization with seal

Date: .... Name ....

Designation..

AUTHORITIES WHO CAN ISSUE CASTE/TRIBE CERTIFICATE

SC/ST/OBC candidates should submit certificate issued by any of the following authorities:

District Magistrate/Additional District Magistrate/Collector/Deputy Commissioner/Additional Deputy Commissioner/Deputy Collector/1st Class Stipendiary Magistrate/City Magistrate/Sub-Divisional Magistrate/Taluka Magistrate/Executive Magistrate/Extra Assistant Commissioner/Chief Presidency Magistrate/Additional Chief Presidency Magistrate/Presidency Magistrate/Revenue Officer not belowthe rank of Tehsildar/Sub-Divisional Officer of the area where the candidate and/or his/her family normally resides/Administrator/Secretary to Administrator/Development Officer (Lakshadweep Island).

(Certificate issued by any other authority will not be accepted.)

Prescribed Format for OBC Certificate

FORM OF CERTIFICATE TO BE PRODUCED BY OTHER BACKWARD CLASSES

This is to certify that Shri / Smt. / Kum.

_____ Son /

Daughter of Shri / Smt. _____ of
Village/Town

_____District/Division _____ in the

State belongs to the _____Community which is
recognized as a backward class under:

(i)Resolution No. 12011/68/93-BCC(C) dated 10/09/93 published in the Gazette of India Extraordinary Part I Section I No. 186 dated 13/09/93.
(ii)Resolution No. 12011/9/94-BCC dated 19/10/94 published in the Gazette of India Extraordinary Part I Section I No. 163 dated 20/10/94.
(iii)Resolution No. 12011/7/95-BCC dated 24/05/95 published in the Gazette of India Extraordinary Part I Section I No. 88 dated25/05/95.
(iv)Resolution No. 12011/96/94-BCC dated 9/03/96. (v)Resolution No. 12011/44/96-BCC dated 6/12/96 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 11/12/96.
(vi)Resolution No. 12011/13/97-BCC dated 03/12/97.
(vii)Resolution No. 12011/99/94-BCC dated 11/12/97.
(viii)Resolution No. 12011/68/98-BCC dated 27/10/99.
(ix)Resolution No. 12011/88/98-BCC dated 6/12/99 published in the Gazette of India Extraordinary Part I Section I No. 270 dated 06/12/99.
(x)Resolution No. 12011/36/99-BCC dated 04/04/2000 published in the Gazette of India Extraordinary Part I Section I No. 71 dated04/04/2000.
(xi)Resolution No. 12011/44/99-BCC dated 21/09/2000 published in the Gazette of India Extraordinary Part I Section I No. 210dated21/09/2000.
(xii)Resolution No. 12015/9/2000-BCC dated 06/09/2001.
(xiii)Resolution No. 12011/1/2001-BCC dated 19/06/2003.
(xiv)Resolution No. 12011/4/2002-BCC dated 13/01/2004.
(xv)Resolution No. 12011/9/2004-BCC dated 16/01/2006 published in the Gazette of India Extraordinary Part I Section I No. 210 dated 16/01/2006.

Shri / Smt. / Kum. _____ and / or his
family ordinarily reside(s) in the _____ District / Division of
_____ State. This is also to certify that he/she does not belong to the
persons/sections (Creamy Layer) mentioned in Column 3 of the Schedule to the Government of India.
Department of Personnel & Training O.M. No. 36012/22/93-Estt.(SCT) dated 08/09/93 which is
modified vide OM No. 36033/3/2004 Estt.(Res.) dated 09/03/2004.

Dated: _____

District Magistrate / Deputy Commissioner / Competent Authority

Seal

NOTE:

(a) The term 'Ordinarily' used here will have the same meaning as in Section 20 of the Representation
of the People Act, 1950.

(b) The authorities competent to issue Caste Certificates are indicated below:

(i) District Magistrate / Additional Magistrate / Collector / Deputy Commissioner / Additional
Deputy Commissioner / DeputyCollector / Ist Class Stipendiary Magistrate / Sub-Divisional
magistrate / Taluka Magistrate / Executive Magistrate / Extra Assistant Commissioner (not below the
rank of Ist Class Stipendiary Magistrate).

(ii) Chief Presidency Magistrate / Additional Chief Presidency Magistrate / Presidency Magistrate.

(iii) Revenue Officer not below the rank of Tehsildar' and

(iv) Sub-Divisional Officer of the area where the candidate and / or his family resides.

Declaration/undertaking - for OBC Candidates only

I, _____ resident of _____ son/daughterof _____ Shri

village/town/city _____ district _____

State _____

hereby declare that I belong to the _____ community which is recognized as a
backward class by the Government of India for the purpose of reservation in services as per orders
contained in Department of Personnel and Training Office Memorandum No.36012/22/93- Estt.
(SCT), dated 8/9/1993. It is also declared that I do not belong to persons/sections (Creamy Layer)
mentioned in Column 3 of the Schedule to the above referred Office Memorandum, dated 8/9/1993,
which is modified vide Department of Personneland Training Office Memorandum No.36033/3/2004
Estt.(Res.) dated 9/3/2004.

Signature of the Candidate

Place: _____

Date: _____

Certificate for Person with Disability To be issued by Medical Board from Government Hospital

Name of the candidate: Mr./Ms.*..

Father's Name: ....

Permanent Address: ....

Percentage loss of earning capacity (in words): Whether the candidate is otherwise able to carry on the studies and perform the duties of an engineer/architect satisfactorily:...

Name of the disease-causing handicap: ....

Whether handicap is temporary or permanent: ....

Whether handicap is progressive or non-progressive: ....

The candidate is FIT / UNFIT to pursue further studies.

(*Strike out whichever is not applicable)

Member   **Member**   **Principal Medical Officer**
                                                             (Orthopaedic Specialist)

Date:

Seal of Office :

NOTE: 1. The medical board must have one orthopedic specialist as its member.

2. Candidate having temporary or progressive handicap will not be considered against the seats.

Seat Matrix for M.Tech. (Full Time) Programmes for the Session 2018-19

Category	Department/Branch	AC	AP	BT			CE			CSE		
		PTE	NST	BIO	BME	IBT	GTE	HRE	STE	CSE	SWE	ISY
General	Open	10	9	10	08	09	9	10	9	10	09	10
	PD	--	01	--	01	--	01	--	01	--	01	--
Total Gen Seats		10	10	10	09	09	10	10	10	10	10	10
SC	SC	03	03	03	03	03	03	02	03	03	03	03
	SC-PD	--	--	--	--	--	--	01	--	--	--	--
Total SC Seats		03	03	03	03	03	03	03	03	03	03	03
ST	ST	01	02	02	01	02	01	01	02	02	01	02
	ST-PD	--	--	--	--	--	--	--	--	--	--	--
Total ST Seats		01	02	02	01	02	01	01	02	02	01	02
OBC	OBC	06	05	05	04	05	06	05	04	05	06	05
	OBC-PD	--	--	--	01	--	--	--	01	--	--	--
Total OBC Seats		06	05	05	05	05	06	05	05	05	06	05
Total Seats		20	20	20	18	19	20	19	20	20	20	20
Sponsored (SFT)		5	5	5	5	5	5	5	5	5	5	5

Category	Department/Branch	ECE			EE		ENV	ME			Total
		MOC	SPD	VLS	C&I	PSY	ENE	CDN	PIE	THE	
General	Open	9	10	10	10	09	10	08	10	9	188
	PD	01	--	01	--	01	--	01	--	01	10
Total Gen Seats		10	10	11	10	10	10	09	10	10	198
SC	SC	03	03	02	03	03	03	03	03	02	57
	SC-PD	--	--	01	--	--	--	--	--	01	3
Total SC Seats		03	03	03	03	03	03	03	03	03	60
ST	ST	02	00	01	02	01	02	01	01	02	29
	ST-PD	--	01	--	--	--	--	--	--	--	01
Total ST Seats		02	01	01	02	01	02	01	01	02	30
OBC	OBC	04	06	05	05	05	05	05	06	04	101
	OBC-PD	01	--	--	--	01	--	--	--	01	05
Total OBC Seats		05	06	05	05	06	05	05	06	05	106
Total Seats		20	20	20	20	20	20	18	20	20	394
Sponsored (SFT)		5	5	5	5	5	5	5	5	5	100

Supernumerary Seat Matrix for M.Tech (Part Time) Programmes for the Session 2018-19

Category	Department/Branch	AC	AP	BT			CE			CSE		
		PTE	NST	BIO	BME	IBT	GTE	HRE	STE	CSE	ISY	SWE
		1	2	3	4	5	6	7	8	9	10	11
General	Open	05	05	05	04	05	05	05	04	05	05	05
	Gen PwD	-	-	-	01	-	-	-	01	-	-	-
Total Gen Seats		05	05	05	05	05	05	05	05	05	05	05
SC	SC	2	2	1	2	1	2	1	2	1	2	1
	SC-PwD	-	-	-	-	-	-	-	-	-	-	-
Total SC Seats		2	2	1	2	1	2	1	2	1	2	1
ST	ST	0	1	1	1	1	0	1	1	1	0	1
	ST-PwD	-	-	-	-	-	-	-	-	-	-	-
Total ST Seats		0	1	1	1	1	0	1	1	1	0	1
OBC	OBC	2	2	3	2	3	3	2	2	3	3	3
	OBC-PwD	1	-	-	-	-	-	1	-	-	-	-
Total OBC Seats		3	2	3	2	3	3	3	2	3	3	3
Total Seats		10	10	10	10	10	10	10	10	10	10	10

Supernumerary Seat Matrix for M.Tech (Part Time) Programmes for the Session 2018-19

Category	Department/Branch	ECE			EE		ENV	ME			Total
	Branch	MOC	SPD	VLS	C&I	PSY	ENE	CDN	PIE	THE	
		12	13	14	15	16	17	18	19	20	
General	Open	04	05	05	05	05	05	05	05	04	96
	Gen PwD	01	-	-	-	01	-	-	-	01	05
Total Gen Seats		05	05	05	05	06	05	05	05	05	101
SC	SC	2	1	2	1	2	1	02	01	00	29
	SC-PwD	-	-	-	-	-	-	-	-	1	01
Total SC Seats		2	1	2	1	2	1	02	01	1	30
ST	ST	0	1	1	1	1	0	0	1	1	14
	ST-PwD	-	-	-	-	-	1	-	-	-	01
Total ST Seats		0	1	1	1	1	1	0	1	1	15
OBC	OBC	3	3	1	3	1	3	3	3	03	51
	OBC-PwD	-	-	1	-	-	-	-	-	-	03
Total OBC Seats		3	3	2	3	1	3	3	3	03	54
Total Seats		10	10	10	10	10	10	10	10	10	200

Dean Academic (PG)/M.Tech. Coordinator/ Dy. Registrar (PG)
Delhi Technological University
Shahbad Daulatpur, Bawana Road, Delhi-110042
Website: www.dtu.ac.in
Email: mtechcoordinator@dtu.ac.in

HUMAN RESOURCE DEVELOPMENT CENTRE (HRDC)-DTU

Introduction

The University needs to focused reference to the crucial dependence of quality ensured delivery of education to continuous knowledge up-gradation, capacity building and motivation of teachers for accepting challenges arising from new research and advancement in technology and recent trends of breaking barriers of subject related to science and technology.

Thus, university recognized the urgent need for the creating effective systems to provide opportunities for profession and career development of teachers, necessary for quality education and research so that they are well equipped and motivated to accept new challenges emerging form growth of new technologies, knowledge, international competitiveness and changing requirements of learners, especially in the institutions of higher education. Therefore, it was proposed to enhance their motivation skills and knowledge through systematic orientation in specific subjects, techniques and methodologies, and thereby inculcate in them the right kind of values that would in turn encourage them to take initiatives for innovative and creative work.

At present there are 66 Human Resource Development Centre (HRDC) established by UGC in different universities over a period of time since 1986. The cluster of HRDC in India is given in Annexure - I.

Therefore, a Human Resource Development Centre has been established at Delhi Technological University.

Objectives

Objectives of the Human Resource Development Centre are following:

1. To create world class professional teachers, equipped with latest state of the art tools and skills for the teaching profession.
2. To produce excellent teachers who have good ICT skills, communication skills, team building spirit and have the ability to deliver quality and value based education to the students of higher education.
3. To inculcate sound research competencies in the teachers who come to attend the training programmes.
4. acquire and improve art of teaching at the college/university level to achieve goals of higher education
5. Understand the organization and Management of College/University and to pursue the role of teachers in the total system.
6. Keep abreast of the latest developments in their specific subject.

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Philosophy

HRDC's main philosophy is to keep in mind that teacher is central to the system. While it is universally accepted that teacher is the pivot of the educational system, our system does not provide adequate opportunities for their professional development. It is, therefore, necessary to develop inbuilt mechanisms to provide opportunities for teachers within the framework of knowledge society. It is also accepted that teachers must not be confined only to transmitting information; they must also orient students to meet the challenges of life, to become not merely a trained professional, but also a better citizen. It was believed in the past that teachers learnt the 'art' of teaching on the job by emulating outstanding models such as their own teachers or senior colleagues. The stock-in-trade of teachers has always motivated students. Today, it is no longer adequate to expect a newly appointed teacher to acquire the 'art' of teaching by emulating their peers.

There has been huge Expansion of the Education System in India. From the very beginning our country had moved away from an elitist approach to higher education. We can truly claim that our system of higher education is mass based. This is a great achievement, more so, if we call that this has been achieved in a developing country. While the expansion of the system of higher education is creditable, it has been achieved at a cost to itself. As the system moved away from the idea of higher education of the select few to higher education for all, there has been a decline in overall standards. Initially this was inevitable, but is nonetheless disturbing, especially when one considers the rapid advances being made in knowledge and the explosion of information worldwide. This trend must be reversed. This places greater responsibilities on teachers, and we owe it to them and to ourselves to make it possible for them to perform better in these changing times.

Programs at HRDC will not be rigid but flexible. Under the program, it will be intended to inculcate in young Lecturers the quality of self-reliance through their awareness of the social, intellectual and moral environment. HRDC will organize the programs in such a way that it enable teachers to discover themselves and their potential through a positive appreciation of their role in the total social, intellectual and moral universe within which they function and of which they are important members. Only in a country where teachers are able to fulfill their responsibility with awareness and confidence, the educational system becomes relevant and dynamic.

Program must engender in the teacher awareness of the problems that Indian society faces, and that education is the solution to these problems. It must also focus on the achievement of the goals set out in Indian Constitution. Matters relating to subject knowledge and pedagogy, although important in them, would only be meaningful when understood in the total context of national development. It is equally important to recognize that no scheme for orientation of teachers can succeed if the decision-makers and administrators of higher education do not understand the importance of such programs. Therefore, along with the courses for newly appointed teachers, we plan to conduct programs for heads of departments, principals of Colleges, officers, etc. with a view to acquaint top-level administrators with what teachers are learning in programs. This exposure will enable decision makers to actively participate in the scheme; at the same time, these administrators would be able to

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modify their own roles as supervisors of higher education by demanding newer role behavior from the teachers.

Exchange of Ideas in Academic and Educational Environment is very significant. A Human Resource Development Centre with adequate number of teachers and resource persons is required to create a good academic and educational environment in the university. This helps the HRDC to have a place for exchanging ideas and topics of interest in the subject area. Lectures from participating teachers are also arranged for mutual benefit. We are also planning to request university department to organize lectures by eminent resource persons for the benefit of other students and researchers. This will create a decent amount of academic interest in the university. Director/Coordinator of BHU-HRDC prepares a plan well in advance, including the list of names of eminent persons to be invited as resource persons, for the concerned department/school for taking suitable measures.

Functions

The functions of Human Resource Development Centre are to plan, organize, implement, monitor and evaluate orientation courses for newly appointed college/university faculties. HRDC also organizers refresher courses for serving teachers, and orientation programmes for senior administrators and heads of departments, faculties and non-teaching staff etc. Specifically, the main functions of the HRDC are to:

- ➢ Formulate a programme of orientation along the broad guidelines given above.
- ➢ Identify resource persons in various fields of specialization for running the orientation programmes and refresher courses, and familiarize such resource persons with the philosophy and guidelines for the courses.
- ➢ Set up a documentation-Centre-cum-library for reference and source materials necessary for the courses.
- ➢ Produce specially designed material required for effective implementation of the courses. Organize, monitor and evaluate the courses for teachers.
- ➢ Create a culture of learning and self-improvement among teachers so that it becomes an integral part of the educational system at the tertiary level.
- ➢ Organize orientation programmes for senior administrators, heads of departments, principals, deans and other decision-makers to familiarize them with the philosophy of orientation intended to facilitate reform in higher education through appropriate modification of the management systems at various levels.
- ➢ Provide opportunities for teachers in service to exchange experience with their peers and to mutually learn from each other.
- ➢ Provide a forum for serving teachers to keep themselves abreast of the latest advances in various subjects.
- ➢ Provide opportunities to further widen their knowledge and to pursue research studies.
- ➢ Provide an introduction to new methods and innovations in higher education so that the participants can in turn develop their own innovative methods of instruction.

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➤ Bring out publications relevant for enhancing the teaching and research capabilities of teachers. Conduct capability enhancement programmes for non-academic staff so as to strengthen the teaching-learning environment.

Organization and Responsibility

The HRDC caters to the needs of teachers and academic administrators of the colleges/universities. In future HRDC will have its own website and all the necessary information will be posted regularly. In order to make an orientation program (OP) and refreshers course (RC) optimally effective, the HRD center will maintain a systematic record of all participants, their achievement, their professional growth and change in their capabilities as teachers. The HRDC will maintain course-wise systematic record of resource persons, participants and year-wise list of courses conducted, although maintain a proper record of the reading material produced, and keeps copies of such material in the library.

Educational Programme

A. Preparation for Refreshers courses

The course curriculum of refresher courses will be developed in consultation with the concerned departments. The course will be prepared that the content has essential percentage of the core material in the subject along with required percentage of areas of emergence and priority, essential laboratory and practical components, and computer. application with relevant advancement of the subject.

B. Components of Orientation Programs

This component aim at helping teachers to realize the larger context of education and the role of a teacher in society. Some illustrative topics to be covered are:

1. Role and responsibility of a teacher
2. Urbanization and modernization
3. Value-based education
4. Human rights
5. Sustainable development
6. Globalisation, privatization and liberalization
7. Role of social and educational institutions, comparative educational systems, internationalization of education
8. Indian education system, policies, programs and planning; organizational structure, university autonomy
9. Economics of education and human resource development: resource mobilizations
10. Quality assurance in higher education: Indicators of quality assurance, assessment and accreditation, quality assurance agencies viz; UGC, AICTE, NCTE, NAAC, etc.
11. Learner and the learning process: Understanding the adolescent learner, motivation, interests, human development, memory, aptitudes, intelligence, learning styles
12. Methods and materials of teaching: Prescribed texts, effective classroom teaching techniques, and assignments

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13. Technology in teaching: Concept of teaching, levels of teaching and phases of teaching; audio, video, educational films, ICT, computers, etc.

14. Curriculum design: Approaches, curriculum development, needs-based courses and remedial courses

15. Evaluation and feedback: Measurement and examination reforms, including setting question papers

16. Alternate methods of learning: Distance and open learning, self-learning, informal learning, virtual classrooms, etc.

17. Information and Communication Technology: New modes of information storage and retrieval, computer application, communications, multimedia, computer-aided learning, Internet, etc.

18. Documentation centre: Information networks, information super highway, national and international databases

19. Libraries: Reference material, bibliographies, encyclopedia, periodicals

20. Institutions: Apex and specialized institutions, museums, laboratories, centers of excellence, etc.

21. Research: Research projects, sponsoring agencies, academic writing and publication, etc.

22. Industry-university linkages.

23. Communication skills: Verbal and non-verbal

24. Leadership, team building and work culture

25. Administrative skills: Decision-making, service rules, human relations and interpersonal effectiveness

26. Educational management: Institutional management, management of committees, examinations, hobby clubs, sports and co-curricular activities

27. Student guidance and counseling

28. Mental health: Attitudes and values

29. Career planning, time management

30. Teacher effectiveness: Qualities of an effective teacher, code of conduct, accountability and empowerment.

Structure of HRDC (staffing norms/patterns)

(a) Academic Staff
1. Director (in the pay scale of Professor): 1
2. Deputy Director (in the pay scale of Associate Professor): 1
3. Assistant Director (in the pay scale of Assistant Professor): 1

(b) Non-teaching Staff
1. Technical Officer : 1
2. Section Officer: 1
3. Senior Assistant: 1
4. Computer Assistant/Junior Assistant: 1
5. Librarian or Technician: 1
6. Steno-typist/Computer Operator: 1
7. Peon: 1

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8. Hostel Attendant: 1

Main Categories of Human Resource Development

The HRDC will mainly organize the following main category of human resource development programmes.

Orientation / First Level Programmes: Every new faculty member in higher education will be required to undergo a four week Orientation / First level Programme which will be focused on some **broad area of knowledge** spanning a few allied disciplines.

The objective of the orientation programme is to make teachers an agent of socioeconomic change and put them in centre stage of national development. The programme shall have the following components:

- 10% weight for topics in higher education such as issues of ethics, gender, marginalized communities, plagiarism etc.
- 10% weight for issues related to environment.
- 10% weight for issues concerning service matters of teachers.
- 20% for broad cross discipline topics to motivate the trainees for development of interdisciplinary understanding and interest including basic legal awareness.
- 10% weight for Research Methodology.
- 15% weight for Communication Skills and Information Technology.
- 10% weight for Microteaching

The remaining 15% of content of the First Level Programme will be focused on broad understanding of various subjects with recent global trends and developments.

Refresher / Second Level Programmes: These will be mainly focused for those faculty members who have already undergone through the Orientation/First Level Programme in an identified broad area. The programme will be discipline specific with advanced developments in an identified subject under the concerned broad area. In addition, there will be Refresher Programmes, geared towards emerging cross discipline advanced studies to enable the participants of relevant disciplines to work together or contemporary application of new knowledge for industrial and social development and other allied aspects. The goal would be to equip and motivate the participants with advanced knowledge to accept challenges of quality teaching and research.

Workshops: These will be organized for shorter duration of one week(6 working days, 36 contact hours) and will be covering mainly for capacity building of academics, administrators and other stakeholders.

Short-term course of 3-6 days duration especially on research methodology and specialized themes of interest.

Some suggestive areas for Programme development and delivery:

The HRDC will plan the programmes as above on the basis of needs and requirements of the institutions to be covered. However some suggestive inputs are given below.

- Internal and External Accreditation
- Technology Enabled Learning through online demos and support for capacity building for development of e-content, virtual labs and their effective use for teaching and research

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- Holistic approach to the whole sector of education without fragmentation.
- Broad and dynamic collaborative models for encouraging interdisciplinary and inter institutional collaboration in teaching and research
- Engagement with Industry and relevant social sectors
- Change in regulatory and governance structures of institutional system in a way that promotes research, innovation, creativity with incentives
- Content design and development and curriculum reform focused on innovations and creativity
- Faculty development and enrichment.
- Reforms in assessment and certification methods
- Knowledge up-gradation for effective teaching and research
- Seminars and Workshops for some specialized emerging trends of advanced learning

Delegation of Powers

The Director of the HRDC will be the Academic, Administrative and Financial Executive officer of the Centre. He/she will be responsible for its functions and activities and will have the powers to sanction expenditure upto Rs. 50,000/- at a time. In addition he/she will have the powers to make payments of TA/DA to resource persons and participants of the programmes.

The Vice-Chancellor of the University will have the following powers:

(i)   To appoint academic staff in the HRDC.
(ii)   To appoint non-teaching staff in the HRDC on the recommendations of the Director.
(iii)   To relax the provision of these guidelines in view of special circumstances of any case, on the recommendation of the Director, to be recorded in writing, for allowing activities in the interest of smooth functioning of HRDC.

Opening of Bank Account

Separate university-approved bank accounts will be opened for HRDC and operated by Director and Registrar/Accounts Officer jointly and the grants paid by the university for the HRDC may be transferred to the account for the functioning of HRDC and running of programmes shall be drawn in the name of Director, HRDC.

Registration Fee

Every outside participant shall pay an admission fee (non-refundable) of Rs. 1000/- at the time of admission to the course. The amount so generated will be kept at the disposal of the HRDC for the augmentation of HRDCs infrastructure.

Assets and Liabilities

HRDC will prepare a list of facilities, assets and liabilities that are under its direct control. It will provide a list of academic staff, non-teaching and other staff, and their minimum annual expenditure. If, for any reason, the HRDC is discontinued, the University will decide on the assets and liabilities created by the University under the Scheme.

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Scope of the HRDC

The **HRDC** will cater to the needs of teachers and academic administrators of the colleges/universities as decided by the University from time to time.

Posting on Website

HRDC will have its own website and all the necessary information may be posted/up dated regularly.

Record Keeping

In order to make an Orientation / First Level Programmes /Refresher Second level Programmes optimally effective, the HRDC will maintain a systematic record of all the participants, their achievement, their professional growth and change in their capabilities as teachers.

Each HRDC may ensure maintenance of a course-wise systematic record of resource persons, participants, and year-wise and subject-wise list of courses conducted. Also HRDC will maintain a proper record of the reading material produced, and keep copies of such material in their respective libraries/websites.

Eligibility, Target Group and Duration

Teachers working in universities and colleges that are included under Section 2(f) of the UGC Act, even though they may not yet be fit to be included under Section 12 (B), may be invited to participate in the Orientation Programmes and Refresher Programmes. The teachers of colleges that do not yet come within the purview of Section 12(B), but have been affiliated to a university for at least two years, will be permitted to participate in the programmes/courses. However, they won't be paid TA/DA and other allowances for attending these courses.

For the Orientation Programmes, newly appointed Assistant Professors within two years of continuous service and all those teachers who require orientation for getting a higher grade will be allowed. Attendance in Orientation programmes would be must for placement in the higher grade pay.

For the Refresher Courses, participation in the Orientation Programme is a prerequisite for admission. However, in exceptional cases a teacher may be allowed to complete a Refresher Course prior to completion of an Orientation Programme. Also, there should be a minimum gap of one year between two courses, though it may be relaxed if adequate number of participants is not available or it is essential for the teacher to fulfill eligibility conditions for career advancement.

The Orientation Programme will be of four weeks duration, with minimum of 24 working days (excluding Sundays) and 144 contact hours (six hours a day). The refresher course will be of three weeks duration, with minimum of 18 working days (excluding Sundays) and 108 contact hours (six hours a day). If a participant fails to complete the requisite contact hours in a programme, he may be permitted to make up for the backlog hours at his/her own cost in another programme by the HRDC concerned.

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Reading Material:

Up to Rs.500/- per participant in the form of books/compilations in the form of printed published work or in electronic format.

Resource Persons

Outstation resource persons may be paid TA/DA as per the norms. Honorarium to outstation/local resource person may be paid @ Rs 2000/- per person per session of 60 minutes subject to advanced submission of the full content or at least detailed abstract along with a ppt. Only two lectures per day will be allowed by a single resource person. This will be subject to a maximum of Rs.6,000/- per course. Outstation resource persons may be invited only once in a programme. Local resource persons may be paid upto @ Rs. 1500/- as actual conveyance charges each way.

Course Coordinator

The University may appoint, if required, one coordinator in case of Refresher Course only. A lump sum honorarium of Rs.6,000/- will be admissible to the Coordinator. However, in special circumstances, more than one coordinator may be appointed. The Honorarium amount will be equally shared by them.

The coordinators will not be entitled to draw honorarium for taking classes in the same course.

In case of Orientation Programme, Director may appoint one of the academic staff members as Coordinator of the programme. He/she will not be entitled for any honorarium.

Evaluation of Participants

When possible, experts, preferably external, may be asked to assess the participants on the basis of multiple-choice objective tests, and give grades to participants, taking also into account other evaluations already done. The grading should be as follows:

i. A: 75 per cent and above
ii. B: 60 per cent to less than 75 per cent
iii. C: 50 per cent to less than 60 per cent
iv. D: Below 50 per cent

Those teacher participants who get Grade D are required to repeat the programme after a gap of one year without financial commitment to the HRDC.

The total marks are to be fixed at 100 and the same is distributed in the following manner:

I.	Multiple-choice objective tests	30
II.	Seminars/participant presentation	15
III.	Project/survey/others	20
IV.	Micro-teaching/participation	10
V.	Holistic response (punctuality, regularity, initiative, conduct, responsiveness, etc.)	25

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The above distribution may be adjusted to meet specific requirements.

The certificate issued to the teacher participant will only be valid if supported by the Grade based on the evaluation made during the programme.

Provision of Guest House in HRDC

The HRDC will use the Guest House facilities available in the University. In case non availability accommodation in the University Guest House, the HRDC may hire the accommodation outside the University.

Miscellaneous Provisions

No candidate will be allowed to attend the orientation/refresher programme if he/she does not attend the inaugural lecture of the said programme.

As this is a contact based programme, no teacher will be allowed to leave during the operation of the programme. However, in case of emergency with the permission of the Director of HRDC, the participant can be allowed in exceptional circumstances to attend the similar number of hours in the next programme to complete the course. No certificate is to be issued to any participant unless adequate numbers of hours are completed by the concerned participant.

For students participants, no honorarium/TA/DA to be paid.

Programme Components

1. **Short Term Training Program:**
   a. Training of professionals working in the Delhi Technological University, Delhi.
   b. Training of professionals working with State Nodal Agencies/Governments/utilities on different aspects of technology, its development and project management.
   c. Training of manpower on social, economic, trade, legal, trade, IPR, administration, managerial and environmental aspects as also the manpower working on various aspect of engineering and technology in research & development institutions, NGOs, community based organizations, banking and financial institutions etc.
   The University will continue with the skill development program of professionals and their own staff as well as the staff of the State Nodal Agencies. For this University will be deputing officers and staff of the University, State Nodal Agencies and related organizations to various training 2 programmes, workshops and seminars organized by institutions, both on scientific/technical and administrative nature, in India and Abroad. The support from the HRD Budget committee will be to the extent of meeting the course fee and related expenditure. The TA/DA for such deputation of officials and related departments will be borne by their departments/organizations.

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2. **Development of training modules including pedagogy through expert(s)/expert institution(s)**

University will engage the services of experts/expert institutions in developing the course modules/ syllabus/study materials from time-to time both for short-term and regular certificate/degree courses related to advance technology and research in various field. The proposal for the same would be called on open advertisement basis/ specific search committee mode.

3. **Enhancement / Establishment of Infrastructure facilities for HRDC- DTU**

Considering the new challenges of research and technology in the National Economy, HRDC –DTU need infrastructure and facilities to start functioning within the university premises. There is either a need of upgrading the existing lab facilities and library facilities for research based education in the DTU or establish new laboratories.

4. **Training of personnel to develop Technicians for system design, installation, operation, maintenance and repair of laboratories instrument systems at grass root level:**

University is supporting teacher and staff to impart training on system design, installation, operation, maintenance and repair of laboratories instrument systems at grass root level. Such programmes are intended to create trained manpower in such areas where intensive research programmes are being implemented. In addition university will also support running the training programmes by Skill Development Centers being created/set-up on public-private partnership mode. University would call the proposals from educational institutions/training institutions/reputed NGOs having necessary infrastructure and expertise to undertake training activities in different dimensions such as technical, economic, financial, legal and management aspects.

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Clusters of HRDCs

Cluster 1: (9 ASCs)	Cluster 2 (9 ASCs)
Jammu Kashmir	**Delhi**
1. University of Jammu, Jammu	1.University of Delhi, Delhi
2. University of Kashmir, Srinagar	2. Jamia Millia Islamia University, Delhi
Himachal Pradesh	3. Jawaharlal Nehru University, Delhi
3.Himachal Pradesh University, Shimla	**Uttar Pradesh**
Punjab	4.Aligarh Muslim University, Aligarh
4.Guru Nanak Dev University, Amritsar	5.University of Allahabad, Allahabad
5.Panjab University, Chandigarh	6. Banaras Hindu University, Varanasi
6.Punjabi University, Patiala	7. DDU Gorakhpur University, Gorakhpur
Haryana	8. University of Lucknow, Lucknow
7.Kurukshetra University, Kurukshetra	**Uttarakhand**
8.BPS Mahila Vishwavidyalaya, Sonepat	9.Kumaun University, Nainital
9.Guru Jambheshwer University, Hissar	
Cluster 3 (9 ASCs)	**Cluster 4** (9 ASCs)
Gujarat	**Karnataka**
1.Gujarat University, Ahmedabad	1.Bangalore University, Bangalore
2.Saurashtra University, Rajkot	2.Karanataka University, Dharwad
3.Sardar Patel University, Anand	3. University of Mysore, Mysore
Maharashtra	**Andhra Pradesh**

4.Dr. B.A. Marathwad University, Aurangabad	4. Andhra University, Visakhapatnam, (A.P)
5.Univeristy of Mumbai, Mumbai	5.University of Hyderabad, Hyderabad
6.Nagpur University, Nagpur	6.Osmania University, Hyderabad
7.Univerity of Pune, Pune	7.Sri Venkateshwara University, A.P.
8.Sant Gadge Baba Amarawati University, Maharastra	8.Jawaherlal Nehru Technological University, Hyderabad
Goa 9.Goa University, Goa	9.Maulana Azad National Urdu University, Hyderabad

Cluster 5 (8 ASCs)	Cluster 6 (7 ASCs)
Tamil Nadu	**Madhya Pradesh**
1.Bharathiar University, Coimbatore	1. Laxmi Bai National Institute of Physical Education University, Gwalior
2.Bhartidasan University, Tiruchirapalli	2.Rani Durgawati Vishwavidyalaya, Jabalpur
3.University of Madras,Chennai	3.Devi Ahilya Vishwavidyalaya, Indore
4.Madurai Kamraj University, Madurai	4.Dr. H.S. Gaur Vishwavidyalaya, Madhya Pradesh
Pondicherry	
5.Pondicherry University, Pondicherry	**Rajasthan**
Kerala	5. Jai Narayan Vyas University, Jodhpur
6.University of Calicut, Kerala	6.Univeristy of Rajasthan, Jaipur
7.University of Kerala, Thiruvananthapuram	7.Maharshi Dayanand Saraswati Univeristy, Ajmer
8.Kannur University, Kannur	
Cluster 7 (8 ASCs)	Cluster 8 (7 ASCs)
Assam	**Orissa**
1.Guhati University, Assam	1. Utkal University, Bhubaneswar
Manipur	2. Sambalpur University, Sambalpur, Orissa
2.Manipur University, Manipur	**Bihar**
Mizoram	3. B.R. Ambedkar Bihar University, Muzaffarpur
3.Mizoram University, Mizoram	
Meghalaya	4. Patna University, Patna

4.North-Easten Hill University, Shillong	**Jharkhand**
West Bengal	5. Ranchi University, Ranchi
5.University of Burdwan, Burdwan	**Chhattisgarh**
6.Univerity of Calcutta, Kolkata	6.Pt. Ravi Shankar Shukla University, Raipur
7.Jadavpur University, Kolkata	7.Guru Ghasidas University, Bilaspur
8.North Bengal University, Darjeeling, Siliguri	

Delhi Technological University

STUDENT CODE OF CONDUCT

Delhi Technological University aims to provide an environment which fosters academic and personal growth. The purpose of this Student Code of Conduct is to convey the standards of behavior for students and student organizations at the University. The code applies to all students enrolled in any Programme of the University.

Prohibited General Conduct

The examples of prescribed conduct set forth in this code of conduct are illustrative and should not be considered as a comprehensive list. Nor, however, should this code be interpreted to cover any general category of behavior not mentioned herein unless that conduct is otherwise prohibited by law.

All students are expected to abide by the following rules and regulations while on or off campus:

1. **Fire Safety:**
   a) Unauthorized setting of fire in the campus or its property.
   b) Possession and/or use of candles, incense, incense burners, oil burners, oil lamps, or any similar items.
   c) Tampering with any fire safety equipment, including but not limited to fire extinguishers, heat and smoke detectors, pull stations, pre-alarm covers, electrical conduit and wiring.
   d) Activation of an alarm as a result of use of an unapproved appliance or inappropriate behavior.
   e) The failure to leave the building in a timely fashion as a result of a fire alarm.
   f) Students who are found to have falsely activated a fire alarm (including a local alarm station) can expect serious disciplinary action, including suspension or expulsion from the institution.

2. **Drugs :**
   a) The possession, use and/or sale or transfer of illegal drugs or controlled substances is prohibited on or off university property. This prohibition applies to the misuse, distribution, sale or transfer of legally obtained prescription drugs. The University will uphold laws currently in effect in Delhi.
   b) Students found to be engaged in the sale of drugs or in possession of misdemeanor or felony amounts of drugs (including marijuana) will face severe disciplinary sanctions, which would likely include suspension or expulsion from the institution.
   c) Students should be aware that their presence in an area where this drug policy is in violation will result in disciplinary action, regardless of their actual involvement in the use of drugs.
   d) Drug paraphernalia is not permitted on campus.

3. **Alcoholic Beverages**
   a) The possession, consumption, sale or transfer of alcoholic beverages by all students (regardless of age) or visitors on campus is not permitted. Exceptions to this policy apply only to academic programs and functions sanctioned by the University authority.
   b) The University authority also holds students accountable for violations of law related to alcoholic beverages on or off campus.
   c) Students and/or visitors should be aware that their presence in an area where this alcohol policy is in violation will result in disciplinary action, regardless of their actual involvement in the consumption of alcohol.
   d) Possession of or the display of empty or refilled alcohol containers, and the display of alcohol posters, signs or advertising outside doors and windows is not permitted.
   e) Alcohol paraphernalia is not permitted on campus.

4. **Smoking**
   Smoking is prohibited in campus and within 15 feet of campus building.

5. **Prohibited Items :**
   When in campus, individuals are not permitted to use nor have in their possession the following items:
   a) Any weapon, including but not limited to, spring-fired, gas-fired, electrically-fired or explosively-fired devices or fire arms, which includes rifles, pistols, BB or Pellet guns, bows, slingshots, "stun-guns", blow guns and/or darts, any ammunition associated with these devices (ie. paintballs, BB's, blow darts, etc.) or use of any object with intent to harm or intimidate another individual including knives and/or any similar devices.
   b) Firecrackers, explosives, explosive ammunition, or dangerous chemicals.
   c) Knives of any sort (including "box cutters") with the exception of approved knives or tools used for academic purposes. Any tools or knives approved for academic purposes that are stored in residence hall rooms or carried on campus must be kept secure in locked tool boxes, trunks or appropriate storage units.
   d) Toy guns, water guns, cap guns or any type of imitation pistol or rifle.

6. **Dishonesty**: Acts of dishonesty, including but not limited to the following:
   a) Cheating, plagiarism, or other forms of academic dishonesty.
   b) Furnishing false information to any university official or employee.
   c) Forgery, alteration or misuse of any university document, record or instrument of identification.
   d) Tampering with the documents related to election of any University recognized student organization.

7. Harassment

No student shall threaten assault, haze or otherwise physically, verbally, or psychologically abuse any other person. This includes, but is not limited to, incidents of bias, acts of assault or abuse, or incidents of verbal, physical, or psychological harassment or abuse. It is a violation of university regulations to engage in harassment, or to retaliate against anyone bringing forth an honestly perceived complaint of harassment. It is also a violation of university policy to engage in a course of conduct or by repeatedly committing acts, which places a person in reasonable fear of physical injury, such as stalking or unwanted following.

The act of retaliation and/or assisted retaliation against any individual including but not limited to students, university officials, faculty and staff is strictly prohibited.

8. Bias-Related Harassment

The University does not tolerate harassment based on an individual's race, religion, ethnic origin, gender, sexual orientation or physical condition. The University treats bias related incidents very seriously and any student found responsible for a bias related incident can expect severe disciplinary action. Moreover, the University will use its influence to encourage the entire community to treat its students, faculty, staff and visitors in a manner consistent with the principles of this policy. Any bias actions, verbal or physical, that interfere with an individual's personal liberty or that may lead to injury, emotional distress, humiliation or discomfort are prohibited.

9. Sexual Harassment

Sexual harassment is defined as unwelcome verbal or physical sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when, (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or academic standing; (2) submission to or rejection of such conduct by an individual is used as the basis for employment or academic decisions affecting the individual; or (3) such conduct has the purpose or effect of substantially interfering with an individual's work or academic performance, or creating an intimidating, hostile, or offensive environment. Sexual harassment includes unsolicited and unwelcome contact of a sexual nature. This includes:

a) Written contact, such as suggestive or obscene letters, notes, invitations, or electronic communication;

b) Verbal contact, such as sexually suggestive or obscene comments, threats, slurs, epithets, jokes about gender-specific traits, sexual propositions;

c) Physical contact, such as intentional touching, pinching, brushing against another's body, impeding or blocking movement; and

d) Gestures or public display of suggestive objects or pictures, cartoons, posters or magazines:

10. **Vandalism,** which includes any of the following:

   a) Attempted or actual damage to property of the University, or property of a member of the university community, or other personal or public property.

   b) Tampering with doors such as disabling a locking mechanism, electronic card system or entrance-phone system or propping open a door intended to be closed or locked.

   c) Tampering with or modifying any campus electrical, telephone or cable system or vending machine or game.

   d) Failure to use proper trash and/or recycling containers or the dumping of trash in inappropriate locations.

11. **Disrespect** for, or the failure to comply with the directives of a university official, faculty or staff member, or law enforcement officer acting in the performance of their duties and/or the failure to produce identification to these persons when requested to do so.

12. **Theft,** attempted or actual of property belonging to the University, or property of a member of the University community, or other personal or public property. Persons who possess property other than his/her own without the consent of the owner or who intentionally impede recovery by the owner, or University officials acting on behalf of the owner, will be considered as knowingly participating in the use of stolen property.

13. **Computer Usage:** It is a violation of University policy to engage in any of the following activities:

a) The use of Campus Technology Resources to publicly display or promote obscene messages, images and/or sounds, or to send threatening, obscene or harassing messages, images and/or sounds to any individual, regardless of whether he/she is a student is prohibited. This includes not just e-mail and the Internet, but the use of any university computer facility, personal computer, or off-campus computer system. Students should be aware that the University's policies on harassment apply equally to electronic communications as well as the more traditional means of display and communication.

b) Users should be aware that Indian Law specifies penalties for harassment, the transmission of indecent material to all people, and the transmission and availability of indecent materials to persons under the age of 18 even at their request. Inappropriate display of offensive material may be considered harassment.

c) The University policy forbids the use of any computer to obtain access to the following: confidential information, grades, pin numbers, personal computers, or any computer system on or off campus to which students do not have access. It also forbids viewing or using another person's username, password, computer programs, files or data without authorized permission, and/or changing another person's password.

d) Setting up or attempting to set up an unauthorized server, modifying any computer system or software, or engaging in any activity that would interfere with normal computing operations or networking in any unauthorized manner is prohibited. This would include any use of invasive or malicious software such as: "worms", "viruses", "spyware" and/or "SPAM".

e) The use of Campus Technology Resources and/or facilities for private monetary gain is prohibited.
The Campus Technology Resources and facilities are for the exclusive use of students, faculty and staff belonging to Delhi Technological University.

14. Other Prohibited Activities:

a) The operation of any business/protest/activity in any room or campus without the authorization of the Dean/Competent Authority.

b) Hanging unapproved banners, flags or displays from windows or doors of campus rooms/offices.

c) Conduct not mentioned above, which threatens or endangers the health or safety of any person, including but not limited to students, university officials, faculty, including, but are not limited to: 1. Assault, 2. Physical abuse, 3. Verbal abuse, 4. Threats, 5. Intimidation, 6. Harassment, 7. Coercion, 8. Sexual Violence 9. Domestic Violence

d) Occupying rooftops, open window sills or building ledges, or suspending antenna or other items from building.

e) Unauthorized possession, duplication or the use of keys to any university premises or unauthorized entry to or use of university premises, including but not limited to, unauthorized entry to student rooms or unauthorized sharing of any University key or Identification Card by students or their guests that compromises the security of personal or University property. All students found in possession of such items who intentionally impede recovery of same by the owner or University officials will be considered knowingly participating in the use of these unauthorized items.

e) The turning in or activation of a false fire alarm or bomb threat.

f) The opening of window security screens and/or the use of open windows for any reason other than as an emergency exit.

g) Violation of Indian law or university regulations, on- or off-campus, including university sponsored or supervised activities and trips. A finding of a violation under this rule does not require proof of a conviction in any non-campus legal proceeding.

h) Any obscene gesture/objectionable posture shown by student.

i) Any in-disciple action.

j) Any activity disturbing the peace of DTU.

k) Any other activity considered/decided by Hon'ble V.C. as prohibited activity.

Procedures for Resolving General Conduct

Participation in any of the activities mentioned above, or otherwise prohibited by law may result in suspension of student, University disciplinary action, and criminal or civil prosecution.

Prof. Rajesh Rohilla