सीनेट की 54^{वीं} बैठक का कार्यवृत्त

MINUTES OF THE 54TH MEETING
OF THE SENATE

19 फरवरी 2014 एवं 4 मार्च 2014
19TH FEBRUARY 2014 & 4TH MARCH 2014

भारतीय प्रौद्योगिकी संस्थान रूड़की
रूड़की – 247 667 (भारत)
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE – 247 667 (INDIA)

INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE
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I N D E X

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Minutes of the 54th Meeting of the Senate held on 19th February 2014 and 4th March 2014 in the Senate Hall of the Institute.

Following were present:

1.	Prof. Pradipta Banerji	Director & Chairman
2.	Prof. S.P.Gupta	Dy. Director
3.	Prof. (Mrs.) Pushplata	(Architecture & Planning)
4.	Prof. R.P. Singh	(Biotechnology)
5.	Prof. Ramasare Prasad	(Biotechnology)
6.	Prof. I.M. Mishra	(Chemical Engineering)
7.	Prof. Shri Chand	(Chemical Engineering)
8.	Prof. Vijay Kumar Agarwal	(Chemical Engineering)
9.	Prof. Ravi Bhushan	(Chemistry)
10.	Prof. Anil Kumar	(Chemistry)
11.	Prof. (Mrs.) Mala Nath	(Chemistry)
12.	Prof. A.K.Singh	(Chemistry)
13.	Prof. U.P. Singh	(Chemistry)
14.	Prof. M.R. Maurya	(Chemistry)
15.	Prof. S.S. Jain	(Civil Engineering)
16.	Prof. Deepak Kashyap	(Civil Engineering)
17.	Prof. Pradeep Kumar	(Civil Engineering)
18.	Prof. P.K.Garg	(Civil Engineering)
19.	Prof. Pradeep Bhargava	(Civil Engineering)
20.	Prof. Satish Chandra	(Civil Engineering)
21.	Prof. S.K. Ghosh	(Civil Engineering)
22.	Prof. Mahendra Singh	(Civil Engineering)
23.	Prof. M.Parida	(Civil Engineering)
24.	Prof. Praveen Kumar	(Civil Engineering)
25.	Prof. N.K.Samadhiya	(Civil Engineering)
26.	Prof. K.S.Hariprasad	(Civil Engineering)
27.	Prof. Akhil Upadhyay	(Civil Engineering)
28.	Prof. Padam Kumar	(Computer Science)
29.	Prof. Manoj Mishra	(Computer Science)
30.	Prof. M.L.Sharma	(Earthquake Engineering)
31.	Prof. D.K.Mukhopadhyay	(Earth Sciences)
32.	Prof. A.K. Saraf	(Earth Sciences)
33.	Prof. R.G. Sastry	(Earth Sciences)
34.	Prof. G.J. Chakrapani	(Earth Science)
35.	Prof. S. Mukhopadhyay	(Earth Science)
36.	Prof. Sandeep Singh	(Earth Science)
37.	Prof. A.K.Sen	(Earth Science)

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38.	Prof. Vinod Kumar	(Electrical Engineering)
39.	Prof. Pramod Agarwal	(Electrical Engineering)
40.	Prof. Sajjan Pal Singh	(Electrical Engineering)
41.	Prof. R.P. Maheshwari	(Electrical Engineering)
42.	Prof. S.P.Srivastava	(Electrical Engineering)
43.	Prof. Rajendra Prasad	(Electrical Engineering)
44.	Prof. R.S. Anand	(Electrical Engineering)
45.	Prof. A.K.Saxena	(Electronics & Communication Engg.)
46.	Prof. M.J. Nigam	(Electronics & Communication Engg.)
47.	Prof. M.V. Kartikeyan	(Electronics & Communication Engg.)
48.	Prof. Dharmendra Singh	(Electronics & Communication Engg.)
49.	Prof. N.K.Goel	(Hydrology)
50.	Prof. Pashupati Jha	(Humanities & Social Sciences)
51.	Prof. D.K. Nauriyal	(Humanities & Social Sciences)
52.	Prof. S.P.Singh	(Humanities & Social Sciences)
53.	Prof. (Mrs.) Rashmi Gaur	(Humanities & Social Sciences)
54.	Prof. A.K.Singh	(Paper Technology)
55.	Prof. Satish Kumar	(Paper Technology)
56.	Prof. S.P.Singh	(Paper Technology)
57.	Prof. Y.S. Negi	(Paper Technology)
58.	Prof. Dharam Dutt	(Paper Technology)
59.	Prof. S.P. Sharma	(Mathematics)
60.	Prof. (Mrs) Rama Bhargava	(Mathematics)
61.	Prof. R.C.Mittal	(Mathematics)
62.	Prof. V.K. Katiyar	(Mathematics)
63.	Prof. Roshan Lal	(Mathematics)
64.	Prof. Sunita Gakkhar	(Mathematics)
65.	Prof. Kusum Deep	(Mathematics)
66.	Prof. Satish C. Sharma	(Mechanical & Industrial Engg.)
67.	Prof. P.K. Jain	(Mechanical & Industrial Engg.)
68.	Prof. Akhilesh Gupta	(Mechanical & Industrial Engg.)
69.	Prof. B.K. Gandhi	(Mechanical & Industrial Engg.)
70.	Prof. Ravi Kumar	(Mechanical & Industrial Engg.)
71.	Prof. P.K.Ghosh	(Metallurgical & Materials Engg.)
72.	Prof. Vijaya Agarwala	(Metallurgical & Materials Engg.)
73.	Prof. S.K. Nath	(Metallurgical & Materials Engg.)
74.	Prof. Anjan Sil	(Metallurgical & Materials Engg.)
75.	Prof. Ravindra Nath	(Physics)
76.	Prof. Vir Singh	(Physics)
77.	Prof. M.L.Kansal	(WRD&M)
78.	Prof. Deepak Khare	(WRD&M)
79.	Dr. R.P. Saini	(AHEC)
80.	Dr. S. N. Rangnekar	(DOMS)
81.	Dr. C.B. Majumdar,	Associate Dean, Sponsored Research & Consultancy
82.	Dr. Apurbba Kumar Sharma	Associate Dean, Academic Studies
83.	Dr. R.K.Peddiniti	Associate Dean, Academic Research
84.	Dr. Yogendra Singh, Librarian	
85.	Dr. (Mrs.) Smita Jha, Associate Professor, Humanities & Social Sciences	
86.	Dr. M.Shrikhande, Associate Professor, Earthquake Engineering	

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87.   Dr. Pravinder Kumar, Associate Professor, Biotechnology
88.   Dr. Anil K. Gouri Shetty, Assistant Professor, Physics
89.   Dr. Rajat Rastogi, Associate Professor, Civil Engineering
90.   Dr. Inderdeep Singh, Associate Professor, Mech. & Ind. Engg.
91.   Dr. A. Swamianthan, Associate Professor, Mathematics
92.   Lt. Col. (Retd) A.K. Srivastava, Registrar & Secretary, Senate

The Chairman (Director) welcomed the members to the emergent 54th Meeting of the Senate.

Before taking up the agenda, the Chairman thanked the under-mentioned outgoing Senate members and recorded its appreciation for their valuable contribution in the meetings of the Senate.

1.   Prof. R.P. Gupta, Department of Earth Sciences
2.   Prof. I.D.Mall, Department of Chemical Engineering
3.   Prof. Ashwani Kumar, Department of Earthquake Engineering
4.   Prof. T.R. Gulati, Department of Mathematics
5.   Prof. (Mrs) Renu Bhargava, Department of Civil Engineering
6.   Dr. (Mrs.) Bina Gupta, Associate Professor, Department of Chemistry
7.   Dr. D.K. Dwivedi, Associate Professor, Department of Mechanical & Industrial Engineering.
8.   Dr. Vikas Pruthi, Associate Professor, Department of Biotechnology

The Chairman also welcomed the under-mentioned new members to the Senate and hoped for their valuable contributions and active participation in its functioning:

(i) Dr. (Mrs.) Smita Jha, Associate Professor, Department of Humanities & Social Sciences

(ii) Dr. M. Shrikhande, Associate Professor, Department of Earthquake Engineering

(iii) Dr. Pravindra Kumar, Associate Professor, Department of Biotechnology

(iv) Dr. Anil K. Gourishetty, Assistant Professor, Department of Physics

(v) Dr. Rajat Rastogi, Associate Professor, Department of Civil Engineering

(vi) Dr. Inderdeep Singh, Associate Professor, Department of Mechanical & Industrial Engineering

The Senate noted the communications received from the following members for not attending the current meetings:

1.   Prof. A.K. Jain, Department of Physics
2.   Prof. Rajesh Srivastava, Department of Physics
3.   Prof. Amita Sinvhal, Department of Earthquake Engineering
4.   Dr. Ajay Gairola, Head, Centre of Excellence in Disaster Mitigation & Management

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The Agenda was then taken up:

Item No. 54.1: **To confirm the minutes of the 52ⁿᵈ meeting held on 12.11.2013 and 53ʳᵈ meeting held on 02.12.2013 of the Senate, respectively.**

The minutes of the 52ⁿᵈ meeting held on 12.11.2013 and 53ʳᵈ meeting held on 02.12.2013, respectively were confirmed.

Item No. 52.2: **To receive a report on the actions taken to implement the decisions of the Senate in its 49ᵗʰ meeting held on 15.07.2013, 50ᵗʰ meeting held on 26.07.2013 and 51ˢᵗ meeting held on 11.09. 2013, respectively.**

The Senate noted the actions taken on the resolutions of the 49ᵗʰ meeting held on 15.07.2013, 50ᵗʰ meeting held on 26.07.2013 and 51ˢᵗ meeting held on 11.09. 2013, respectively.

Item No.54.3 : **To consider the syllabi of new course WR-568: Power Electronics Controlled Hydro-Electric Systems as Elective Course proposed by Head, Department of WRD&M**

The Senate considered the syllabus of WR-568: Power Electronics Controlled Hydro-Electric Systems as Elective Course proposed by the Department of WRD&M and approved the same. The approved syllabus is given at **Appendix 'A'**.

Item No.54.4 **To consider the report of the P.G. Programmeme Review Committee and thereon comments received from the Departments.**

The Senate in its 52ⁿᵈ meeting constituted a committee under the Chairmanship of Prof. S.K. Ghosh, to review the P.G. programmeme of the Institute. The committee submitted its report, which was sent to all the Departments for feedback. The report of the committee and the feedback received from the Departments were considered by the IAPC and after detailed discussion it was resolved to send the recommendations of the IAPC for the consideration of the Senate. As desired by the members of the Senate, Dr. S.K. Ghosh, Chairman of the Review Committee, presented the report in the Senate and highlighted the main recommendations. After detailed discussion, the Senate approved the following:

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M.Tech. Structure:

1. The credit requirement for the award of M.Tech. degree be kept between 66-70.

2. The CGPA requirement for the award of a degree be kept the same i.e. 5.50.

3. The number of programme core courses (theory courses) be kept between 4 to 5 such that the total credits, ranging between 16-20. It would include courses on Mathematics, Modelling & Simulation, if proposed by the Department for a programme.

4. The number of programme elective courses be kept between 4 to 5, such that the total credits, ranging between 16-20.

5. The Departments are free to keep the programme core and programme elective courses in any semester of the I (first) year. However, it is desirable to keep the electives in the spring semester, provided the Department can float enough electives against the number of electives proposed in a semester.

6. A seminar of 2 credits be kept in the II (second) semester and evaluated by the end of the II (second) semester.

7. The topics and the supervisors for the M.Tech. students are to be finalized by January 15.

8. The dissertation credits be kept 30 and should be evaluated in both the semesters.

9. In the III (third) semester 40% of the dissertation be evaluated for 12 credits, and the evaluation is to be completed by 15th November. The dissertation report for the first stage is to be submitted by 30th October.

10. In the IV (fourth) semester, the remaining 60% dissertation be evaluated for 18 credits. The students would be required to submit the work by the first of May and the evaluation is to be completed by the 3rd week of May.

11. The students are permitted to go for internship or for collaborative research to industry or national laboratories for a period of 2-4 months, if required, after the I (first) Year, but it should be related to his/her dissertation work. This would also be applicable to the IDD students.

12. A student can take 1 or 2 audit courses during the III (Third) semester, if proposed by the Supervisor,

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to help him/her in carrying out the dissertation work.

13. Table-A below shows the distribution of credits under the various course components.

Table-A: Course Curriculum for M.Tech. Programme

S.No.	Course Components	Credits
1.	Programme Core Courses (including courses on Advanced Mathematics and Modelling and Simulation , if required) *	16-20
2.	Programme Elective Courses	16-20
3.	Seminar	2
4.	Dissertation Stage-I	12
5.	Dissertation Stage-II	18
	Total Credits	**66-70**

M. Arch. /MURP Structure:

1. The credit requirement for the award of M.Arch/MURP degrees be kept between 72-76.
2. The CGPA requirement for the award of degree be kept the same i.e. 5.50.
3. The dissertation credits be kept between 24 to 26 and evaluated in both the semesters.
4. The students should be encouraged to go to industry as a part of their dissertation work.
5. A student can take 1 or 2 audit courses during the III (Third) semester, if proposed by the Supervisor, to help him in carrying out the dissertation work.
6. Table-B below shows the distribution of credits under the various course components.

Table-B: Course Curriculum for M.Arch/MURP Programme

S.No	Course Components	Credits
Semester-I		
1.	Programme Core Courses	20
	Total Credits	20
Semester-II		
1.	Programme Core Courses	12-14
2.	Programme Elective Courses	8-10
	Total Credits	20-24
Semester-III		
1.	Programme Core Course	4
2.	Seminar	2

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3.	Dissertation Stage I	10
	Total Credits	16
Semester-IV		
1.	Dissertation Stage II	16
	Total Credits	16
	Total Credits	**72-76**

Arising out of the discussion it was also resolved that a workshop/ crash course on Technical Communication would be organized for the students of M.Tech./M.Arch/ MURP by the Department of Humanities and Social Sciences, at least once in a session. The evaluation of dissertation shall include one component of presentation.

M.Sc. structure:

1. The credit requirement for award of M.Sc. degree be reduced to 76 – 80.
2. The CGPA requirement for award of M.Sc. degree be kept the same i.e. 5.50.
3. The number of programme core courses be kept between 8 to 12.
4. The number of programme elective courses be kept between 4 to 7.
5. The Departments are free to arrange the programme core and programme elective courses in different semesters, but the total credits should be between 60 to 64.
6. A seminar of 02 credits be kept in the III (third) semester.
7. The 2-year M.Sc. programme stands delinked from the Integrated M.Sc. programme.
8. Table-C shows the distribution of credits under the various course components.

Table-C: Course Curriculum for M.Sc Programme

S.No	Course Components	Credits
1.	Programme Core Courses	32-48
2.	Programme Elective Courses	16-28
3.	Seminar	2
4.	Technical Communication	2
5.	Project including field training, if any.	8-12
	Total Credits	**76 – 80**

Further, on the recommendations of the Departments, Senate has resolved to close the following programmes from the session 2014-15:

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1. Civil Engineering Department	M.Tech. Building Technology
2. Electronics & Communication Engineering Department	M.Tech. System Modelling and Control
3. Metallurgical & Materials Engineering Department	M.Tech. Corrosion Engineering
4. Mathematics Department	M.Sc. Industrial Mathematics and Informatics.

It was also resolved that proposed new programmes by the Departments will be considered later on.

Item No.54.5: **To re-consider the proposal of starting a Dual Degree Programme (M.Tech. + Ph.D.).**

A proposal for starting a Dual Degree Programme (M.Tech.+ Ph.D), received from Prof. & Head, Department of Electrical Engineering, was considered by the IAPC in its 31st meeting held on November 26, 2013 vide item No. 31.2.4 and it was resolved that the proposal with full details be referred to all Departments for consideration in their DFC before placing it in the IAPC again. The Departments considered the proposal in their DFC and sent their feedback. The IAPC reconsidered the proposal and the feedback received from the Departments and its recommendations were sent to the Senate for consideration. After due deliberation, the Senate approved the following:

1. The dual degree programme (M.Tech. + Ph.D) will be started by all the Engineering Departments and the Architecture & Planning Department.

2. The students will be admitted in M.Tech. only, as per the present practice followed by the Departments.

3. After completing two semesters of M.Tech. I Year, the students having a CGPA exceeding 7.50, will be given the choice to apply for the Ph.D. programmeme, if he/she so desires.

4. Once admitted for the Ph.D. programme, the normal Ph.D. rules, including fellowship, leave etc., will be admissible.

5. These students will get two degrees, i.e. both M.Tech. and Ph.D. after successful completion of Ph.D.

6. The students admitted for Ph.D. may have to do extra courses as recommended by the SRC to carry out the research work.

7. These students will have to go through a comprehensive written and a comprehensive oral

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examination after completing the extra courses, if any.

8. Only after successfully completing the comprehensive examination, a student can present the research proposal.

9. The date of candidacy will be considered as the date on which the research proposal is presented by the student and accepted by the SRC.

10. The minimum duration for submitting the thesis is TWO years from the date of candidacy.

11. These students will not be eligible for campus placement alongwith the M.Tech. students. However, they can appear for campus placement alongwith Ph.D. students.

12. If a student fails in comprehensive examination, he/she may continue with M.Tech.

13. In case, if a student is asked to leave the Ph.D. programme in between due to some reason, after the candidacy, he/she can leave the programme with M.Tech. degree only provided he/she submits the work completed till then as the M.Tech. dissertation work, satisfying the requirement of being awarded a M.Tech. degree. However, if a student leaves the programme on his/her own, he/she will not be entitled to any degree.

It was also resolved that even for regular full-time and part-time candidates, date of presenting the research proposal and acceptance by the SRC be considered as date of candidacy and minimum period of submission shall be TWO YEARS from the date of candidacy.

Item No. 54.6   **To consider the Report of the Ph.D. Programme Committee.**

A committee was constituted by the Dean, Academics under the Chairman ship of Prof. Pradeep Kumar, Department of Civil Engineering to suggest the changes in the admission criteria to enhance the quality of Ph.D. admission and to improve the overall environment of research in the Institute. The committee submitted its report. The IAPC considered the report and after detailed discussion sent the recommendations for the consideration of the Senate. After detailed discussion, the Senate resolved the following:

1. The Ph.D. admission should be conducted in two stages:

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A. Institute level eligibility criteria :

Masters degree in related discipline with a CGPA of 6.50 on a 10 point scale or equivalent, or 65% for the GENERAL (UR) category and qualified national level graduate entrance test: GATE/UGC-NET/CSIR-NET or equivalent. The condition for national level graduate admission test is not applicable to sponsored and part-time research candidates.

However, candidates having a Bachelors' degree in the related discipline with an excellent academic record, the minimum CGPA being 7.50 on a 10 point scale or equivalent or 70% from non-CFTIs and are in possession of a valid GATE score, shall be considered eligible for admission to the Ph.d. programme.

The admission eligibility requirements may be relaxed to 5.5 on a 10 point scale or equivalent or 55% to the candidates of following categories:

(a)   SC/ST candidates with a Master's degree.
(b)   Any category of PD (Persons with disabilities) candidate, holding a B.Tech. degree or an equivalent degree.

B. Department level shortlist/screening and selection:

(a)   The initial screening of applications shall be based on the merit list prepared on the basis of marks/grades/ranking/score obtained in UG, PG and GATE/UGC-NET/CSIR-NET/equivalent.
(b)   The weights for the individual marks in (a) can be decided by the Departments.
(c)   The Departments may, at any time, specify higher cut-off for short listing the candidates.
(d)   The candidates in the merit list with the criteria/cut-off decided by the Departments in (b) above, are to be then called for selection according to one of the following choices decided by the Department:-

(i)   Written test followed by an interview of candidates with 40% weight for the written test and 60% weight for the Interview.
(ii)   Only interview with 100% weight.

The final list of the selected candidates shall be based on either (i) or (ii) above stated criteria.

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(e)   Interviews may be held specialization-wise in the Departments, if required. However, a single merit list will be prepared by the Department for approval. All faculty members of the Department can participate in the interview and his/her feedback about the candidate should be considered in the selection process.

2.   Selection process for Ph.D. will be completed by May 31 and December 15, respectively for the autumn and the spring semester admissions, and the list of the selected candidates shall be published online after due approval.

3.   The candidates pursuing Master's programmes in IIT Roorkee having a CGPA of at least 7.50 (after the first year/ completing all courses), shall have a choice of internal lateral entry in to the Ph.D. programme after completing all requirements of the first two semesters of the I (First) Year of the Master's Programme.

4.   Candidates with a CGPA of 7.00 at Master's level or more having a Masters/Bachelors degree from CFTIs, shall be directly called for interview.

5.   The candidates shall have to take a minimum of 03 (three) theory courses or a minimum of 09 credits' theory courses as pre-Ph.D. courses requirement, as decided by the SRC. The candidates will have to score a minimum CGPA of 7.00, failing which his/her registration shall be terminated. However, it will not be applicable to the candidates admitted to the Ph.D. under dual degree programme.

6.   The candidates who are working as Project Fellows in the Institute may be allowed to register for Ph.D., if they meet the general eligibility criteria specified in (1-A) above. However, their selection process will be based on the guidelines framed by the Department concerned. Course work/CGPA requirement will be the same as the regular candidates. The candidates entering through this route will not be entitled to a MHRD fellowship at a later date.

7.   The candidates from reputed non-academic public/private organizations with proven infrastructure and fulfilling the basic degree requirements shall be allowed to apply for PhD.

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Such candidates shall be considered on case-by-case basis. The candidate should present his/her case/research area before a Committee appointed by the Department whose recommendations would then be considered by the Department and Institute Academic Committees. Such candidate will have to fulfill course and seminar credit requirements as is applicable to the full time candidates. There will be an annual progress seminar delivered at the institute in the presence of the appointed Research Committee, in order to enhance interaction with industry and lead to research in practical/applied fields/field problems.

8. The Committee deliberated at length on the present pre-requisite of 02 (two) research papers to be eligible for submission of a Ph.D. thesis by a candidate. Generally, the first year is required for course-work, comprehensive examination and preparation of a workable proposal, and second year for some meaningful research output/ results. It was felt that it takes a year to get the paper published in a reputed journal. Under such conditions, the pre-requisite of one paper is reasonable. Candidates may, however, be encouraged to publish more paper. It was suggested that at the time of submission the candidates shall have at least one publication in one of the top five journals in his/her area of research. At the time of presentation of the proposal, SRC/ DRC may identify the ISI/Scopus indexed journals in his/ her proposed area. This would encourage students to go for quality publications; and not merely add to the number of publications.

9. Co-guidance from industry and outside academia (maximum of 01) can be allowed with prior approval from the Department and Institute Academic Committees to encourage collaboration and applied research. The Senate the approved the report of Ph.D. Programme Committee.

Item No.54.7: **To consider the minimum earned credits for B.Arch. for continuation of registration.**

Considered the proposal of minimum earned credits for B.Arch. for continuation of registration and approved the same as given in **Appendix-'B'.**

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Item No.54.8: **To consider the syllabi of the courses to be floated in the III Year of the new UG scheme under the HSSMEC basket.**

Considered the syllabi of the following courses to be floated in the III (Third) Year of the new UG scheme under the HSSMEC basket and approved the same:

1) HS-301: Positive Psychology
2) HS-302: Introduction to Philosophy
3) HS-303: Issues in Indian Economy
4) HS-304: Macro Economic Environment
5) HS-305: Psycholinguistics
6) HS-306: Psychology of Self and Personal Growth
7) HS-307: Organizational Behaviour and Human Performance
8) HS-308: Gender Culture Studies
9) HS-309: Concept and Practices of Leadership

The syllabi of the above courses are given at **Appendix 'C'.**

Item No.54.9: **To consider the constitution of Department/Centre Administrative Committees (DAC/CAC).**

The proposal of Department Administrative Committee (DAC) was considered in the ECS meeting held on February 11, 2014. Certain points raised by the members of ECS were clarified by the Director on the floor. The Senate considered the recommendations of the ECS and after discussion resolved the following:

(a) There shall be a Department Administrative Committee/ Centre Administrative Committee (DAC/CAC) in each Department/ Centre consisting of the full-time faculty of the Department/ Centre.

(b) The Head of the Department /Centre will propose the names of the members of the DAC/CAC to the Director, for approval.

(c) DAC/CAC will not exceed 30% of the strength of the faculty in position in the Department /Centre with almost equal representation at all cadre levels.

(d) The members of the DAC/CAC will be nominated on the basis of their seniority at their respective cadre levels i.e. as Professor or Associate Professor or Assistant Professor, as applicable.

(e) The DAC/CAC members will be nominated for a period of two years. If a faculty member is promoted during his/her tenure as a member of the DAC/CAC,

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he/ she will vacate the position and the next faculty member at the same cadre level (Professor/Associate Professor/ Assistant Professor) in the order of seniority will be invited to be a member of the DAC/CAC. The tenure of such member shall be of two years from the date of nomination.

(f) The Head of the Department / Centre shall be the Chairman of the Department/ Centre Administrative Committee.

Duties and Responsibilities of the DAC/CAC

(i) The Administrative Committee shall be responsible for all the administrative matters of the Department/Centre which may include:-

(a) Allocation of allotted manpower (technical and ministerial) to different laboratories / offices, etc.;

(b) Allocation of administrative responsibilities to the faculty members;

(c) Construction and space allocation within the Department/ sections including faculty office rooms, Department/Centre office, laboratory, library, etc.;

(d) Policies (long-term and short–term) for the academic development of the Department;

(e) Security, maintenance and upkeep of the Department/ Centre including Laboratories, building(s), lawns, etc.;

(f) Budgetary allocations of Departmental Operating Expenses (DOE) and other plan allocations and funds received by the Department/Centre to Various sections/ laboratories, facilities, etc.;

(g) General discipline of the students/ staff in the Department/Centre etc.;

(h) Management of Department Development Fund;

(i) Invited lectures from Indian/Foreign Experts;

(j) Processing proposals of faculty for attending International Conferences and availing long leave for various purposes.

(k) Any other item on which the Head of the Department/Centre may like to seek advice/ opinion of the Department/Centre Administrative Committee.

(ii) The Administrative Committee shall take all decisions in a collegiate manner with due care to improve the academic and research ambience and academic and research output of the Department / Centre.

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(iii) The Department / Centre Administrative Committee shall meet as and when required and 50% of its members shall form the quorum for its meetings. The agenda item(s) of the DAC/CAC meeting may be sent by any faculty which shall be taken up by the Committee in its next meeting and shall be disposed off in a collegiate fashion. The confirmed minutes of the meeting shall be sent to the Director and all the faculty members of the Department / Centre.

It was also resolved that Departmental Professorial Committee will continue to look after the Faculty recruitment, short listing criteria, panel of experts, voluntary retirement, appointments after superannuation, appointment of Visiting Professors, Guest Faculty, etc.;

Item No.54.10: **To consider the constitution of the Faculty Search Committee**

The proposal of Faculty Search Committee (FSC) in each Department was considered in the ECS meeting held on February 11, 2014. After discussion the ECS recommended the same for the consideration of Senate. The Senate considered the recommendation of ECS and after due deliberation approved the following:

Composition of FSC:

(a) The Head of the Department will propose a Faculty Search Committee (FSC) from the existing fulltime faculty members of the Department for the approval of the Director.

(b) There shall be four or five members in the FSC. The search committee shall be composed of individuals from diverse research and teaching backgrounds, and at various cadre levels. Preferably it should have at least one Professor, one Associate Professor and two Assistant Professors of the Department. There shall be one member from each of the other related Department(s) in the search committee.

(c) One member of the committee shall act as Convener and shall be a faculty member with leadership ability who can deal with conflicting situations.

(d) Active involvement of every member of the committee is a must. Search committee members

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must agree to participate in the recruitment efforts, including personal outreach to the candidates.

Responsibilities of FSC:

The main tasks of the FSC are:

(a) Assisting in inviting applications from prospective candidates.
(b) Reducing the overall time of the recruitment process.
(c) The Committee will keep track and get in touch with prospective candidates.
(d) Processing the applications as they are received (a few applications at regular intervals).
(e) Reviewing applications with the help of other faculty members.
(f) Collecting the feedback.
(g) Making arrangements for research presentation and interview.
(h) Hosting the candidates during the research presentation and interview.
(i) Arranging a mentor/escort whenever a prospective candidate visits the Department.
(j) Maintaining confidentiality.

Item No.54.11: **To consider the policy for the Post Doctoral Fellows (PDFs).**

The proposal of Post Doctoral Fellows (PDFs) was considered in the ECS meeting held on February 11, 2014 and recommended the same for the consideration of the Senate. After discussion, the Senate approved the following:

Guidelines for the Post Doctoral Fellows

(a) Faculty members may request the Director for PDF positions to pursue a specific research plan in the Department.
(b) The Department / Centre will advertise the approved PDF positions through the Institute website and/or through professorial journal & newsletters.
(c) A Committee consisting of the concerned faculty member, one faculty expert from the Department and one faculty member from another associated Department, with the Head of the Department as Chairperson will screen all the applications received against the above advertisement and recommend the

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short listed candidates to the Director for approval and further necessary action.

(d) The Director may constitute a Standing Committee* with Dean of Faculty Affairs as the Chairperson to consider the resumes of all the short listed candidates and recommend the names of those candidates who may be offered the Post Doctoral Fellowships to the Director for approval.

(e) It should be noted that the PDF is not for the continuation of the candidates who have done Ph.D from IIT Roorkee in the recent past but to attract such researchers to join this Institute who have done a Ph.D from the other premier Institutes like IITs, IISc Bangalore, IIMs, IISER etc. All the Post Doctoral Fellows will be registered as IIT Roorkee students for availing the facilities of accommodation, hospital, medical insurance scheme, Computer Centre, Library, Sports etc. They will also be governed by the leave rules as applicable to the Post-Graduate students.

(f) As the PDF positions are purely temporary, the benefits that are applicable to the permanent employees of the Institute (LTC, PDA etc.) will not be applicable to them. Personal files of PDFs will be maintained by the office of the Dean of Faculty Affairs.

* (The Standing Committee consists of the DOFA, HOD and the concerned faculty member)

(g) The duration of the fellowship will be of two years extendable to three years, if necessary.

Item No.54.12: To consider the status of the B.Tech.(Pulp & Paper) programme at the Saharanpur Campus

An ECS meeting was held on March 06, 2013 to consider the status of B.Tech. (Pulp & Paper) programme and observed that approximately 50% seats remain vacant in B.Tech. (P&P) programme in the last few years. The issue was discussed in depth and the following options were considered to ensure that the seats are filled to the maximum:

1. The B.Tech. (Pulp & Paper) programme be closed.
2. The number of seats in B.Tech. (P&P) programmes be reduced.

It was also discussed that more PG programmes be floated at the Saharanpur Campus to make effective use of infrastructure to the extent possible, and a request was made to the Prof. In-Charge Saharanpur Campus to make a

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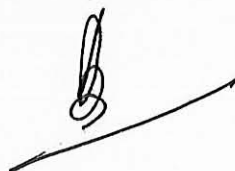
presentation about the above issues in the forthcoming Senate so that an appropriate decision could be taken.

Prof. In-charge Saharanpur Campus made a presentation about the status of students admitted in different programmeme, infrastructure developed at Saharanpur Campus in the last few years and other related issues and after detailed discussion it was resolved that B.Tech. (Pulp & Paper) programme be closed from the session 2014-15. It was also resolved that a committee consisting of the following be constituted for adjustment of seats and making effective use of the infrastructure at the Saharanpur Campus:

1. Director
2. Prof. I.M. Mishra
3. Prof. In-charge, Saharanpur Campus
4. Prof. Satish Kumar, DPT
5. Dean Academics

The meeting ended with a vote of thanks to the Chair.

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE: **Deptt. of Water Resources Development and Management**

1. Subject Code: **WR-568**   Course Title: **Power Electronics Controlled Hydro-Electric Systems**

2. Contact Hours: **L: 3**   **T: 1**   **P: 2/2**

3. Examination Duration (Hrs):   **Theory: 3**   **Practical : 0**

4. Relative Weightage: **CWS: 15**   **PRS: 15**   **MTE: 30**   **ETE: 40**   **PRE: 0**

5. Credits: **4**   6. Semester: **Both**   7. Subject Area: **Program Elective Course**

8. Pre-requisite: **Nil**

9. Objective: The course aims to give the students a broad understanding of the vital role of power electronics in variable speed hydroelectric systems.

10. Details of Course:

S. No.	Contents	Contact Hours
1	Introduction, Interdisciplinary nature of power electronics, interconnection of renewable energy sources and energy storage, Power semiconductor devices: Diode, Thyristor, Triac, GTO, BJT, Power MOSFET, IGBT, SIT, IGCT, commutation, line commutated diode and thyristor rectifiers: single phase and three phase, practical limitations, application of line commutated rectifiers	10
2	Gate commutated inverters (DC to AC converter), single phase square wave inverter, single phase PWM inverter, three phase inverters, cycloconverters, AC voltage regulators.	5
3	Static excitation systems, Variable speed operation of electric generators (synchronous and asynchronous): Equivalent circuit, operation at the power grid, autonomous operation, electrical losses and efficiency, modeling of synchronous and squirrel cage and doubly-fed induction machines in d-q frame, static power converters for induction generators, vector control of machine-side and source-side converters.	11
4	Voltage, active power and reactive power control in variable speed hydro generators, parallel operation of induction generators, static capacitor exciter stand-alone induction generator for pumping applications, power control strategies for pumped storage system: load following and frequency droop control, power factor and displacement factor.	8
5	Electromagnetic compatibility: analysis of harmonic distortion, acceptable levels of distortion in main supply system, voltage and current in the machine side converters, methods of reducing harmonic voltages, protection of ac converters and generators, installation and commissioning of converters	8
	Total	42

11. Suggested Books:

S. No.	Name of Authors/Books/Publishers	Year of Publication/ Reprint
1.	Ned Mohan, T.M. Undeland, W.P. Robbins, "Power Electronics-Converters, Applications and Design," John Wiley Publications, Third Edition,	2003
2.	Ion Boldea, "Variable Speed Generators," Taylor and Francis, CRC Press,	2006
3.	Ion Boldea, "Synchronous Generators," Taylor and Francis, CRC Press,	2006
4.	Malcolm Barnes, "Practical Variable Speed Drives and Power electronics," Elsevier Publications,	2003
5.	A. Keyhani, M.N. Marwali, M. Dai, "Integration of Green and Renewable Energy in Electric Power System," John Wiley Publications,	2010

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Table: MINIMUM REQUIREMENT OF EARNED CREDITS FOR CONTINUATION OF REGISTRATION

S. No.	Year	B. Tech. Programs			Integrated Programs#			B. Arch.
			With Minor Specialization	With Honours	Dual Degree (IDD)	M. Tech. (IMT)	M. Sc. (IMS)	
1.	I Yr*	22	22	22	22	22	22	22
2.	II Yr	46	46	46	46	46	46	46
3.	III Yr	72	72	72	72	72	72	72
4.	IV Yr	100	106	106	100	100	100	100
5.	V Yr	130	142	142	130	130	130	130
6.	VI Yr	160 – 170**	178 – 190**	178 – 190**	162	162	162	162
7.	VII Yr	-	-	-	192 – 200**	192 – 200**	192 – 200**	226**

* Excluding NCC/NSO/NSS Discipline credits,
** The figure should not be less than the minimum prescribed for the program including Co-curricular Activities (CCA).
# Without Honours and Minor specialization

NOTE: These Credits include credits earned through Re-examination.

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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE :   **Department of Humanities & Social Sciences**

1. Subject Code: **HS-301**   Course Title: **Positive Psychology**

2. Contact Hours: **L: 02**   **T: 01**   **P: 0**

3. Examination Duration (Hrs.):   **Theory : 2**   **Practical : 0**

4. Relative Weightage: **CWS : 25   MTE : 25   ETE : 50   PRE : 0**

5. Credits: **3**   6.   Semester: **Both**   7.   Subject Area: **OEC**

8. Pre-requisite: **Nil**

9. Objective of the Course: To help students to identify human strengths and positive emotions that promotes the enhancement of life at individual and group levels.

10. Details of Course:

S. No.	Contents	Contact Hours
1.	**Introduction to Positive Psychology:** Definitions, history, background and the various perspectives-assumptions and goals.	04
2.	**Positive Emotional States:** Principles of pleasure, positive and negative affect, happiness--its effects and causes; Well-being, emotional, social and psychological, emotional intelligence (EI) and its different perspectives.	04
3.	**Positive Cognitive States:** Identifying human strengths through values in action (VIA): Wisdom, courage, humanity, justice, temperance, transcendence; Hope optimism, mindfulness and spirituality.	05
4.	**Prosocial Behaviors:** Altruism, empathy and forgiveness.	04
5.	**Psychological Resilience:** Growth and adversity, factors associated with resiliency, savoring, quality of life, transcendence.	04
6.	**Positive Self:** Self; Self-esteem and self-efficacy-locus of control, defense mechanism.	05
7.	**Positive Psychological Therapies:** Quality of life therapy, post-traumatic growth-based therapy.	02
	Total	28

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11. Suggested Books:

S.No.	Name of Authors / Books / Publishers	Year of Publication/ Reprint
1.	Baumgardner S.R. and Crothers M.K., "Positive Psychology", Pearson Education.	2009
2.	Carr A., "Positive Psychology: The Science of Happiness and Human Strengths", 2nd Ed., Routledge-Taylor& Francis Group.	2011
3.	Lopez S. J., "The Encyclopedia of Positive Psychology", Wiley-Blackwell Publications.	2009
4.	Peterson C, "A Primer in Positive Psychology (Oxford Positive Psychology Series)", Oxford University Press, USA.	2006
5.	Seligman M, "Authentic Happiness: Using the New Positive Psychology to Realize Your Potential for Lasting Fulfillment", Atria Books.	2003

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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE: **Department of Humanities and Social Sciences**

1. Subject Code: **HS-302**   Course Title: **Introduction to Philosophy**

2. Contact Hours: **L: 02**   **T: 0 1**   **P: 0**

3. Examination Duration (Hrs.):   **Theory : 2**   **Practical : 0**

4. Relative Weight: **CWS : 25**   **PRS : 0**   **MTE : 25**   **ETE : 50   PRE : 0**

5. Credits: **3**   6. Semester: **Both**   7. Subject Area: **OEC**

8. Pre-requisite: **NIL**

9. Objective: To introduce the key concepts and basic concerns of philosophical approach and relating them to contemporary problems.

10. Details of Course:

S. No.	Contents	Contact Hours
1	**Introduction**: Introduction to philosophy; nature of philosophy; its relations with, and differences from, science, religion, art, and culture.	4
2	**Philosophy of Science:** Philosophy of science, observation, explanation, problem of induction, problem of demarcation, Thomas Kuhn: paradigm change and scientific revolutions.	6
3	**Philosophy of Mind:** Mind/body problem, Descartes' dualism, behaviorism, identity theories, functionalism problems, knowledge argument.	6
4	**Logic:** Argument and inference; truth, validity and soundness; sentence and proposition; argument and explanation: forms and fallacies/dilemma; deduction and induction; Aristotelian logic.	6
5.	**Applied Ethics:** Contemporary moral problems: human rights, social justice, animal rights, sustainability, environment and climate change, liberty, equality, globalization	6
	Total	28

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11. Suggested Books:

S.No.	Name of Authors / Books / Publishers	Year of Publication/Reprint
1.	Blackburn S., "Think! A Compelling Introduction to Philosophy", Oxford University Press.	1998
2.	Chalmers, D. J., "Philosophy of Mind: Classical and Contemporary Readings", Oxford University Press.	2002
3.	Copi I. M., "Introduction to Logic", 14th Ed., Pearson,	2012
4.	James R., "The Elements of Moral Philosophy", 4th Edition, McGraw Hill.	2002
5.	Ladyman, J., "Understanding Philosophy of Science", Routledge.	2002
6.	Singer, P., "Applied Ethics", Oxford University Press.	1986

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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE: **Department of Humanities and Social Sciences**

1. Subject Code: **HS-303**   Course Title: **Issues in Indian Economy**

2. Contact Hours: **L: 2**   **T: 1**   **P: 0**

3. Examination Duration (Hrs):   **Theory : 3**   **Practical : 0**

4. Relative Weight: **CWS : 25**   **PRS : 0**   **MTE : 25**   **ETE : 50**   **PRE : 0**

5. Credits: **3**   6. Semester: **Both**   7. Subject Area: **OEC**

8. Pre-requisite: **Nil**

9. Objective: To acquaint the students with emerging issues in the Indian Economy

10. Details of Course:

S. No.	Contents	Contract Hours
1	**Introduction:** Changes in the pattern and structure of Indian economy	2
2	**Economic Reforms:** Structural adjustment programmes; Liberalization, globalization and privatization; FDI	3
3	**Growth, Employment, Poverty, and Inequality:** Growth trends in national income and per capita income, various concepts and estimates of poverty, income inequality, problem of unemployment, trends in employment, interface among growth, poverty and employment, poverty alleviation and employment generation strategies	5
4	**Population and Human Development:** Demographic trends, size of working population and its implications for development; Human Development Index	3
5	**Issues in Agriculture:** Productivity, technology and R& D expenditure, diversification, price policy, public and private sector investment, agricultural credit, marketing, contract farming, subsidies, water and food security	7
6	**Issues in Industry:** Growth trends and changing patterns of Indian industries, privatization through disinvestment, new manufacturing policy, SEZs.	4
7	**Foreign Trade Performance:** Import-export growth, changing pattern and direction of trade, Convertibility of currency, WTO related issues	4
	Total	28

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11. Suggested Books

S.No.	Name of Authors / Books / Publishers	Year of Publication/ Reprint
1.	Economic Survey, Government of India, Ministry of Finance, Annual Issue.	latest
2.	Ghate C., "Oxford Handbook of the Indian Economy", Oxford University Press.	2012
3.	Kapila U., "Two Decades of Economic Reforms: Towards Faster, Sustainable and More Inclusive Growth" Academic Foundation.	2012
4.	Kumar A., "Indian Economy Since Independence: Persisting Colonial Disruption", Vision Books.	2013
5.	Mahajan A., Datt, G., and Sundaram, K.P.M ., " Indian Economy", S. Chand.	2013
6.	Panagariya A. " India: The Emerging Giant" Oxford University Press.	2010

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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE: **Department of Humanities and Social Sciences**

1. Subject Code: **HS-304**   Course Title: **Macro-Economic Environment**

2. Contact Hours: **L: 2**   **T: 1**   **P: 0**

3. Examination Duration (Hrs):   **Theory : 2**   **Practical : 0**

4. Relative Weightage: **CWS: 25**   **PRS : 0**   **MTE : 25**   **ETE : 50**   **PRE : 0**

5. Credits: **3**   6. Semester: **Spring**   7. Subject Area: **OEC**

8. Pre-requisite: **Nil**

9. Objective: To enhance the understanding the broader macro-economic factors that tend to influence the economy, businesses and economic prospects.

10. Details of Course:

S.No.	Contents	Contact Hours
1	**Introduction:** Understanding macro-economic environment, global and Indian macro-economic indicators, economic and non-economic factors governing macro-economic environment.	6
2	**Development and Disparities:** International and inter-regional issues.	3
3	**Demographic Factors:** Size, growth rate, age composition, sex composition etc. of population, family size, economic stratification of population, educational level, inflation and employment, implications of demographic factors for international and national macro-economic environment.	4
4	**State of Infrastructure:** Performance and gaps.	3
5	**Macro-Economic Policies:** Industrial policy, trade policy, monetary and fiscal policies and their implications for businesses and economy.	4
6	**External Sector:** Trade, foreign investment, and multilateral and bilateral trade agreements.	5
7	**Intellectual Property Rights:** Concepts and level of protection, impacts on investment, technology development/absorption and growth.	3
	Total	28

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11. Suggested Books/Databases:

S.No.	Name of Authors / Books / Publishers	Year of Publication/ Reprint
1.	India Infrastructure Report, Routledge.	Annual Issues
2.	Maskus, K. E., "Intellectual Property Rights in the Global Economy", Peterson Institute.	2000
3.	"Foreign Direct Investment for Development: Maximising Benefits, Minimising Costs : Overview", OECD.	2002
4.	Acharya, S., "Essays on Macroeconomic Policy and Growth in India: Macroeconomic Policy and Growth in India", Oxford University Press.	2008
5.	Paul, J., "Business Environment: Text and Cases", Tata McGraw Hill.	2010
6.	Laurent, C., "Tomorrow's World: A Look at the Demographic and Socio-economic Structure of the World in 2032", Wiley.	2013

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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE: **Humanities and Social Sciences**

1. Subject Code: HS-   Course Title: **Entrepreneurship Development Strategies**

2. Contact Hours: **L: 2**   **T: 1**   **P: 0**

3. Examination Duration (Hrs): **Theory2**   **Practical0**

4. Relative Weightage: **CWS:25**   **PRS:0**   **MTE:25**   **ETE:50**   **PRE:0**

5. Credits: 3   6. Semester: Autumn   7. Subject Area: **HSSMEC**

8. Pre-requisite: **Nil**

9. Objective:
The objective of the course is to help the students to understand concept and importance of entrepreneurship and to help them to develop necessary skills to cope with the rigours of an entrepreneur.

10. Details of Course:

S.No.	Contents	Contact Hours
1.	**Introduction to Entrepreneurship Development:** Entrepreneurial Motivation Training through EMT, Objectives, Exercises	8
2.	**Source of help for Entrepreneurs:** Identification and Selection of Good Business Opportunity: Search for an opportunity and selecting the right product, market Survey and research, Techno-economic feasibility Assessment: Preliminary Project Report (PPR).	4
3.	**Raising Money for Your Venture:** Sources of Finance, Your Business Plans: Detailed Project Report (DPR), Presenting Your Case for a Term Loan	3
4.	**Establishing Your Venture:** Selecting Right infrastructure, Buying machinery, Sources of Technology and its Evaluation, Recruiting the Right people, project Implementation	3
5.	**You and Your Market:** Marketing Management for Small Business, Selling and Sales Promotion	1
6.	**Managing for Production and Productivity:** Production Management	2
7.	**Managing Your Scarce Resources 'FINANCE':** Management of Working Capital, Costing, Break-even Analysis: Concept and Implications for planning and Decision making	3
8.	**Knowing Your Directions:** Management in Small Scale Enterprise, Book Keeping, Financial Accounting for Technical Entrepreneurs, Guidance norms for new entrepreneurs	2
9.	Plans for Survival, Case Studies	2
	Total	**28**

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Suggested References:

S.No.	Name of Authors / Books / Publishers	Year of Publication/ Reprint
1.	'A Handbook for New Entrepreneurs', Entrepreneurship Development Institute of India (EDII), Gandhinagar, Oxford University Press	2003
2.	'Developing New Entrepreneurs', Entrepreneurship Development Institute of India (EDII), Gandhinagar	2000
3.	'Trainers' Manual on Developing Entrepreneurial Motivation', National Institute for Entrepreneurship & Small Business Development, New Delhi	2000
4.	'The Entrepreneurial Connection' by Narula, Gurmeet, Tata McGraw-Hill Publishing Company Ltd. New Delhi.	2001

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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Name of the Deptt/Centre: **Department of Humanities & Social Sciences**

1. Subject Code: **HS-305**   Course Title: **Psycholinguistics**

2. Contact Hours: **L: 02**   **T: 01**   **P: 0**

3. Examination Duration (Hrs.): **Theory : 2**   **Practical : 0**

4. Relative Weight: **CWS : 25**   **MTE : 25**   **ETE : 50**   **PRE : 0**

5. Credits: 3   6. Semester: **Autumn**   7. Subject Area: **OEC**

8. Pre-requisite: **Nil**

9. Objective: The course aims at giving the understanding of basic theories and findings in the study of the psychological processes of language learning, with a focus on the comprehension, production, acquisition, and representation of language.

10. Details of Course:

S.No	Contents	Contact Hours
1.	**Introduction:** What is psycholinguistics, psycholinguistics theories, mentalists and behaviorist aspects of language learning, speech perception in adults and in infants, speech segmentation in adults and in infants, the internal lexicon.	6
2.	**Internal Lexicon:** Speech perception in adults and in infants, speech segmentation in adults and in infants.	4
3.	**Syntactic processing:** Sentence comprehension and memory, discourse comprehension and memory, ambiguity resolution.	4
4	**Processes of Language Acquisition:** Early language acquisition, later language acquisition, cognitive process and innate mechanism.	4
5.	**Neuro-linguistic Programming:** Human brain and language learning process, biological foundations of language , natural language processing, Aphasiology and Dyslexia	6
6.	**Parsing:** Linguistic theories.	2
7.	**Bilingualism:** Second language acquisition.	2
	Total	**28**

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11. Suggested Books:

S.No.	Name of Authors/Books/Publishers	Year of Publication/ Reprint
1	Chomsky, N., "New Horizons in the Study of Language and Mind", Cambridge: Cambridge University Press.	2000
2	Fodor J., Bever A., Garrett T. G. and F. M., "The Psychology of Language: An Introduction to Psycholinguistics and Generative Grammar", McGraw-Hill.	1974
3	Gaskel G., (ed.), "Oxford Handbook of Psycholinguistics", Oxford University Press.	2009
4	Gibbs, R. W., "The Poetics of Mind: Figurative Thought, Language, and Understanding", Cambridge University Press.	1994
5	Pinker S., "The Language Instinct", William Morrow.	1994
6	Steinberg D. D. and Sciarini, N., "Introduction to Psycholinguistics", 2nd Ed., Longman.	2006

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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE: **Department of Humanities and Social Sciences**

1. Subject Code: **HS-306**   Course Title: **Psychology of Self and Personal Growth**

2. Contact Hours: **L: 2**   **T: 1**   **P: 0**

3. Examination Duration (Hrs.):   **Theory : 2**   **Practical : 0**

4. Relative Weight: **CWS : 25**   **PRS : 0**   **MTE : 25**   **ETE : 50**   **PRE : 0**

5. Credits: **3**   6. Semester: **Spring**   7. Subject Area: **OEC**

8. Pre-requisite: **NIL**

9. Objective : To facilitate the understanding of self and planning for personal growth and well-being.

10. Details of Course:

S.No.	Contents	Contact Hours
1.	**Introduction**: Self-Reflection and its Consequences; Self as a psycho-social dynamic processing system; Development of Self-representation during childhood and adolescence; Cultural models of self.	5
2.	**Self-related Processes**: Self-Awareness; Facilitating Self-Control; Bringing out the Best in the Self; Reducing Egotism and Ego Defensiveness.	5
3.	**Emotional and motivational aspects of self**: Self evaluation, Self esteem and self enhancement, Self verification; Self regulation; Self-relevant emotions.	5
4.	**Self-Disclosure**: Concept and its Functions; Self-Understanding: The Johari Window; Barriers to Self-Disclosure; Emotional Expression; Strategies for Emotional Control.	5
5.	**Positive Energy**: Need and Sources; Positive Reinforcement; Confirmation Behaviors, Managing Relationship; Personal Values and Ethical Choices.	4
6.	**Change for Personal Development**: Opportunities and Challenges; Stages of Change: Pre Contemplation, Contemplation, Planning, Action, Maintenance, and Termination.	4
	Total	28

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11. Suggested Books:

S.No.	Name of Authors / Books / Publishers	Year of Publication/ Reprint
1.	Carr Alan, "Positive psychology: The Science of Happiness And Human Strengths", Routledge.	2010
2.	Leary M. R. and Tangney J.R., "Handbook of self and identity", Guilford Press.	2003
3.	Leary Mark, "The Curse of Self: Self-Awareness, Egotism and the Quality of Human Life", Oxford University Press.	2004
4.	Reece B. L. and Brandt R, "Effective Human Relations: Personal and Organizational Applications", Houghton Miffin Company.	2005
5.	Snyder C. R. , Lopez S. and Pedrotti, J. T, "Positive psychology: The scientific and practical explorations of human strengths", Sage.	2011

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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE: **Department of Humanities and Social Sciences**

1. Subject Code: **HS- 307**   Course Title: **Organizational Behavior and Human Performance**

2. Contact Hours: **L: 2**   **T: 1**   **P: 0**

3. Examination Duration (Hrs):   **Theory : 3**   **Practical : 0**

4. Relative Weightage: **CWS : 25**   **PRS : 0**   **MTE : 25**   **ETE : 50**

5. Credits: **3**   6. Semester: **Both**   7. Subject Area: **OEC**

8. Pre-requisite: **Nil**

9. Objective: To familiarize students with Organizational Behaviour and Human Performance so that jobs and people at work can be managed properly

   ✓

10.   Details of Course:

S. No.	Contents	Contact Hours
1.	**Introduction: Basic Concepts:** Scientific and Human Relation Approach.	02
2.	**Personality:** Meaning and development of personality, Allport's Trait-Theory of Personality, Freudian and Neo Freudian theory.	05
3.	**Motivation:** Needs, drives and motives; Work motives; Maslow's Need-Hierarchy theory; Herzberg's Two-Factor theory and Alderfer's ERG Theory.	05
4.	**Organizational Communication:** Meaning and importance of communication, its process, barriers in communication; Its network and strategies for improving its effectiveness.	04
5.	**Leadership:** Meaning of leadership; Types of leadership; Contingency theories of leadership, transformational leadership.	04
6.	**Selection Process:** Interviews; Employment tests; Recruitment and Placement.	03
7.	**Performance Evaluation and its methods:** Purpose of performance evaluation, problems in performance evaluation, methods of performance appraisal- Rating and ranking method, common errors in performance appraisal.	05
	Total	28

11. Suggested Books:

S.No.	Name of Authors / Books / Publishers	Year of Publication/ Reprint
1.	Dessler G. and Varkkey B., "Human Resource Management", 11th Ed., Person Prentice Hall.	2009
2.	Greenberg J., "Behavior in Organizations", 10th Ed., Pearson Education.	2010
3.	Mamoria C.B. and Pareek U., "Personnel Management: management of Human Resource", 12th Ed., Himalaya Publishing House.	1999
4.	Morgan C.T., King R.A., Weiz J.R and Schopler J., troduction to, Psychology", 7th Ed., Tata McGraw-Hill.	2009
5.	Baron R. A., "Psychology", 5th Ed., Prentice Hall of India Pvt. Ltd.	2003
6.	Wilson J.P., " Human Resource Development", 2nd Ed., gan Page Ltd.	2005

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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPT/CENTRE: **Department of Humanities & Social Sciences**

1. Subject Code: **HS-308**   Course Title: **Gender and Culture Studies**
2. Contact Hours: **L: 2**   **T: 1**   **P: 0**
3. Examination Duration (Hrs.):   **Theory : 2**   **Practical : 0**

4. Relative Weight: **CWS: 25**   **PRS : 0**   **MTE : 25**   **ETE : 50**   **PRE : 0**

5. Credits: **3**   6. Semester: **Both**   7. Subject Area: **OEC**

8. Pre-requisite: **Nil**

9. Objective: To enhance students' understanding of gender and culture and to broaden their perception of these categories in an international context.

10. Details of Course:

Sl. No.	Contents	Contract Hours
1	**Introduction**: Development of Gender Theories, Correlation between Gender and Culture Theories, History and Concept of Feminism, Understanding Post-modernism and its Intersection with Feminist Theories, Fracturing Binarisms. Discussion of relevant texts.	6
2	**Theories of the Construction of Gender**: Materialist and Discursive Theories, Gender and Language. Discussion of relevant texts.	4
3	**Gender and Society**: Gender as a Social Construct, Gender differences and inequalities, Gender and/as Caste, Class, Family, Work, Property Rights. Discussion of relevant texts.	4
4	**Gendered Identities**: Role of Gender in Individual Cognition of Social Roles, Production of Masculinity and Femininity, Experience vs. Institution, Understanding third Genders. Discussion of relevant texts.	6
5	**Culture through Gender**: Post-modernist Cultural Theories, Impact of Culture on Women's Movements. Discussion of relevant texts.	4
6	**International Issues**: Migration and Women, Multiculturalism, Gender and Media Representation, Gender and Science/Technology. Discussion of relevant texts.	4
	Total	28

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11. Suggested Books:

S. No.	Name of Authors /Books / Publishers	Year of Publication/ Reprint
1.	Alsop R., Fitzsimous A., and Lennon K., "Theorizing Gender", Blackwell Publishers.	2002
2.	Barker C. "Cultural Studies: Theory and Practice", Sage.	2003
3.	Butler J., "Gender Trouble: Feminism and the Subversion of Identity", Routledge.	1990
4.	De Beauvoir S., "The Second Sex", Penguin Books.	1984
5.	Glover, D and Kaplan C. "Genders", (Ed.), Routledge.	2000
6.	Jackson S. and Scott S., "Gender: A Sociological reader", (ed.), Routledge.	2002
7.	Mary W., Donna G., Mary B., Hatice O., and Wayne, M., "Women, Science and Technology: A Reader in Feminist Science Studies", 2nd Ed. , Routledge.	2009

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INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF DEPTT./CENTRE: **Department of Humanities and Social Sciences**

1. Subject Code: **HS-309**   Course Title: **Concept and Practices of Leadership**

2. Contact Hours: **L: 2**   **T: 1   P: 0**

3. Examination Duration (Hrs.):   **Theory : 2**   **Practical : 0**

4. Relative Weight: **CWS : 25**   **PRS : 0**   **MTE : 25   ETE : 50   PRE : 0**

5. Credits: **3**   6. Semester: **Spring**   7. Subject Area: **OEC**

8. Pre-requisite: **NIL**

9. Objective: To help students learn the concepts and skills of leadership for improving their managerial potential.

10. Details of Course

S. No.	Contents	Contact Hours
1.	**Introduction:** Nature of Leadership, Leaders and Managers; Subordinates' Characteristics; Leaders' Characteristics; Abilities, Skills, Dispositions, Roles and Styles, Key Processes; Influencing, Motivating, Enabling.	5
2.	**Traditional theories of Leadership:** The Great Man theory, Authoritarian and democratic leadership, The Ohio State and Michigan University studies, LPC and Situational Favorableness, Path goal leadership theory, Vroom-Yetton theory, Hersey and Blanchard's Life cycle or situational approach.	4
3.	**Modern approaches to Leadership:** Implicit Theory of Leadership, Transactional and Transformational Leadership, Charismatic Leadership, Leader-member exchange, Servant leadership, Authentic leadership, Level 5 leadership.	5
4.	**Cultural Perspectives on Leadership:** Pioneering-innovative (PI) style, Nurturant Task- Participative (NT-P) model, B-C-D theory	6
5.	**Emerging Perspectives on Leadership:** Internality, Creativity, Humility, Values and Networking; Emotional Intelligence and Leadership; Ethical Leadership; Mentoring, Self-Leadership.	3
6.	**Mechanisms for Leadership Development:** Recruitment, training and delegation; 360 –Degrees Appraisal; Some Models of Leadership Development; Skill building: Creative problem solving; setting goals, Negotiation, Delegation.	5
	Total	28

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11. Suggested Books:

S. No.	Name of Authors / Books / Publishers	Year of Publication/ Reprint
1.	Dayal I., "Can organizations develop leaders: A study of effective leaders", Mittal Publications.	1999
2.	Kanungo R. N. & Mendonca M, "Ethical dimensions of leadership", Thousand Oaks, Sage .	1996
3.	Luthans F, "Organizational Behavior", McGraw-Hill.	2005
4.	Sinha J.B.P, "The cultural context of leadership and power", Sage.	1995
5.	Yukle G, "Skills for managers and leaders", Prentice –Hall.	1990

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