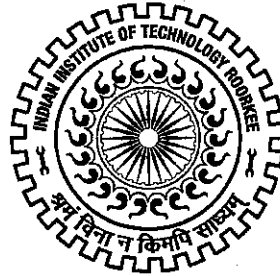


सीनेट की छप्पनवीं बैठक का कार्यवृत्त  
**MINUTES OF THE 56<sup>TH</sup> MEETING OF THE SENATE**

10 जुलाई 2014  
10<sup>TH</sup> JULY 2014



भारतीय प्रौद्योगिकी संस्थान रुड़की  
रुड़की - 247 667 (भारत)

**INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**  
**ROORKEE- 247 667 (INDIA)**

**INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE**  
**ROORKEE-247 667 (INDIA)**




**Minutes of the urgent meeting (56<sup>th</sup> meeting) of the Senate held on  
10<sup>th</sup> July 2014 at 03.00 P.M. in the Senate Hall of the Institute.**

**INDEX**

<b>Item No.</b>	<b>Particulars</b>	<b>Page(s)</b>
56.1	To consider the proposal for awarding degree to Undergraduate students whose CGPA is less than 5.00.	3
56.2	To consider the proposal for awarding degree to M.Tech. students whose CGPA is less than 5.50.	4
56.3	To consider the request of Mr. Veer Pratap Singh Gautam, Ex-student of B.Arch to restore his registration after lapse of 2 years.	4
56.4	To consider the recommendations of the IAPC on the problems faced by the Departments in recently Ph.D. admission due to inclusion of CFTs clause in the admission.	5
56.5	To consider the changes in Clause (a) and (b) of Appendix-N 'Guidelines for Training of Outside Students' of Academic Programmes Ordinances & Regulations 2013.	6
56.6	To consider the report of the committee constituted under the convenership of Prof. V.K. Agarwal, Department of Chemical Engineering to review the present rules of Unfair-means.	6
56.7	To consider the following new Institute Electives offered by the Department of Management Studies and recommended the same after corrections as given in Appendix-A:	7

  
22 JUL 2014

56.8	To consider the issue of giving ranks to passing out students.	7
56.9	To report the proposal of reviving Institute Academic Research Committee to consider the policies related to research.	7
56.10	To report the matter related to leave of Supervisor for more than 12 months.	8
56.11	To report the matter related to up-gradation of JRF to SRF	8
56.12	To report the matter related to taking students under SURA or for summer internship	9
56.13	To report the minor changes in the new approved structure of the 5-year PE & MBA programme of the Department of Polymer and Process Engineering.	9
56.14	To report the approval of the final structure of B.Arch. degree course of the Department of Architecture & Planning under new curricula.	9
56.15	To consider the proposal for the NCC by all the Undergraduate students except Physically Disabled students.	9
App. 'A'	Rules of Unfair-means	10-11
App. 'B'	New Electives offered by the Department of Management of Studies	12-17
App. 'C'	Structure of five year PE & MBA programme	18-22
App. 'D'	Final structure of B.Arch. degree	23-29

  
 22 JUL 2014

**MEETING SECTION**  
**INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**



**Minutes of the 56<sup>th</sup> Meeting (urgent meeting) of the Senate held on 10<sup>th</sup> July 2014 in the Senate Hall of the Institute.**

Following were present:

- |     |                              |                                     |
|-----|------------------------------|-------------------------------------|
| 1.  | Prof. Pradipta Banerji       | Director & Chairman                 |
| 2.  | Prof. V. Devdas              | (Architecture & Planning)           |
| 3.  | Prof. Ramasare Prasad        | (Biotechnology)                     |
| 4.  | Prof. Bikash Mohanty         | (Chemical Engineering)              |
| 5.  | Prof. Anil Kumar             | (Chemistry)                         |
| 6.  | Prof. U.P. Singh             | (Chemistry)                         |
| 7.  | Prof. M.R. Maurya            | (Chemistry)                         |
| 8.  | Prof. Deepak Kashyap         | (Civil Engineering)                 |
| 9.  | Prof. P.K. Garg              | (Civil Engineering)                 |
| 10. | Prof. Satish Chandra         | (Civil Engineering)                 |
| 11. | Prof. S.K. Ghosh             | (Civil Engineering)                 |
| 12. | Prof. M. Parida              | (Civil Engineering)                 |
| 13. | Prof. Praveen Kumar          | (Civil Engineering)                 |
| 14. | Prof. N.K.Samadhiya          | (Civil Engineering)                 |
| 15. | Prof. Akhil Upadhyay         | (Civil Engineering)                 |
| 16. | Prof. Bhola Ram Gurjar       | (Civil Engineering)                 |
| 17. | Prof. Manoj Mishra           | (Computer Science)                  |
| 18. | Prof. Bal Krishna Maheshwari | (Earthquake Engineering)            |
| 19. | Prof. Pankaj Agrawal         | (Earthquake Engineering)            |
| 20. | Prof. Manish Shrikhande      | (Earthquake Engineering)            |
| 21. | Prof. A.K. Saraf             | (Earth Sciences)                    |
| 22. | Prof. Sandeep Singh          | (Earth Sciences)                    |
| 23. | Prof. Vinod Kumar            | (Electrical Engineering)            |
| 24. | Prof. Pramod Agarwal         | (Electrical Engineering)            |
| 25. | Prof. S.P. Srivastava        | (Electrical Engineering)            |
| 26. | Prof. G.N. Pillai            | (Electrical Engineering)            |
| 27. | Prof. M.V. Kartikeyan        | (Electronics & Communication Engg.) |
| 28. | Prof. Himanshu Joshi         | (Hydrology)                         |
| 29. | Prof. M. Perumal             | (Hydrology)                         |
| 30. | Prof. Pashupati Jha          | (Humanities & Social Sciences)      |
| 31. | Prof. D.K. Nauriyal          | (Humanities & Social Sciences)      |
| 32. | Prof. (Mrs.) Rashmi Gaur     | (Humanities & Social Sciences)      |

  
22 JUL 2014

- |     |   |   |
|-----|---|---|
| 33. | Prof. Dharam Dutt   | (Paper Technology)  |
| 34. | Prof. S.P. Sharma   | (Mathematics)   |
| 35. | Prof. R.C.Mittal  | (Mathematics)   |
| 36. | Prof. Kusum Deep  | (Mathematics)   |
| 37. | Prof. S.P. Yadav  | (Mathematics)   |
| 38. | Prof. P.K. Jain   | (Mechanical & Industrial Engg.)                           |
| 39. | Prof. Navneet Arora   | (Mechanical & Industrial Engg.)                           |
| 40. | Prof. P.K.Ghosh   | (Metallurgical & Materials Engg.)                         |
| 41. | Prof. S.K. Nath   | (Metallurgical & Materials Engg.)                         |
| 42. | Prof. Anjan Sil   | (Metallurgical & Materials Engg.)                         |
| 43. | Prof. B.S.S. Daniel   | (Metallurgical & Materials Engg.)                         |
| 44. | Prof. Tashi Nautiyal  | (Physics)   |
| 45. | Prof. Ghanshyam Das Varma   | (Physics)   |
| 46. | Dr. R.P. Saini  | Head, AHEC  |
| 47. | Dr. P. Jeevanandam  | Associate Dean of Students' Welfare<br>(Foreign Students) |
| 48. | Dr. R.K.Peddiniti   | Associate Dean, Academic Research                         |
| 49. | Dr. Yogendra Singh  | Librarian   |
| 50. | Dr. Kamal   | Chief Warden, Radhakrishnan Bhawan                        |
| 51. | Dr. (Mrs.) Smita Jha, Associate Professor, Department of Humanities & Social Sciences |   |
| 52. | Dr. Anil K. Gouri Shetty, Assistant Professor, Physics                                |   |
| 53. | Dr. Inderdeep Singh, Associate Professor, Mech. & Ind. Engg.                          |   |
| 54. | Lt. Col. (Retd) A.K. Srivastava, Registrar & Secretary, Senate                        |   |

The Chairman (Director) welcomed the members to the 56<sup>th</sup> Meeting (urgent 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. S.M.Sondhi, Department of Chemistry
2. Prof. Kamaluddin, Department of Chemistry
3. Prof. R.R.Bhargava, Department of Mathematics
4. Dr. R.D. Garg, Chief Warden, Jawahar Bhawan

The Chairman also welcomed Dr. Kamal, Chief Warden, Radhakrishnan Bhawan, new member to the Senate and hoped for his valuable contributions and active participation in its functioning.

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

1. Prof. Rajesh Srivastava, Department of Physics
2. Prof. V.K.Agarwal, Department of Chemical Engineering

3. Prof. Deepak Khare, W.R.D.& M.

The Agenda was then taken up:

**Item No. 56.1: To consider the proposal for awarding degree to the Undergraduate students whose CGPA is less than 5.00**

The Senate considered the recommendation of the IAPC for awarding a degree to the Undergraduate students including IDD and IMT whose CGPA is less than 5.00 but who have earned the required credits for the award of a degree by the Institute, and after detailed discussion approved the following:

a) The existing table of "**Minimum Requirement of Earned Credits for Continuation of Registration**" shall also include the additional criteria of having "**Minimum CGPA of 5.00 for Continuation of Registration Every Year**". It will be effective for the new batches admitted from the 2014-15 session, onwards.

b) The undergraduate students of the present batches will have to complete all the requirements of credits and the CGPA as per the existing policy. However, if a student has not secured the CGPA of 5.00 but has completed the credits requirement, the student would have to do extra courses as a penalty, as advised by the faculty advisor, in an extra semester or maximum in an extra year, to secure the CGPA of 5.00 for the award of a degree. If the student is still unable to improve his/her CGPA to 5.00 even after one extra year, the degree will be awarded with the secured CGPA, at that point of time. In no case will the Undergraduate students be told to study more courses after sixth year for four year programmes and after seventh year for five year programmes.

It was also reiterated that every student will be mentored by a faculty member for all the years while he/she is studying in the Institute. If the student's performance is going down, the faculty member mentoring the student may be asked to provide reasons for the same.

  
22 JUL 2014

**Item No. 56.2: To consider the proposal for awarding degrees to M.Tech. students whose CGPA is less than 5.00**

The Senate considered the recommendation of the IAPC for awarding degrees to the M.Tech. students whose CGPA is less than 5.00, but who have earned the required credits for the award of a degree, as well as for continuation of study even if their SGPA is less than 5.00 at the end of the first semester or less than 5.50 at the end of subsequent semesters. After detailed discussion Senate approved the following:

- (a) The M.Tech. students shall be allowed to continue their studies if their SGPA at the end of first semester or CGPA at the end of subsequent semesters, is 5.00 or more.
- (b) For award of the M.Tech. degree, the minimum required CGPA will be 5.00.
- (c) The M.Tech. students will get full financial support if they are allowed to continue from one semester.

It was also resolved that this provision will be effective from the Session 2014-15.

**Item No. 56.3: To consider the request of Mr. Veer Pratap Singh Gautam, Ex-student of B.Arch. to restore his registration after lapse of 2 years.**

The Senate considered the request of Mr. Veer Pratap Singh Gautam, Ex-student of B.Arch. to restore his registration after lapse of 2 years. Mr. Gautam was admitted in 2011 through JEE but left in June 2012 to join NDA. He met an accident there and was disqualified from continuing in the NDA, in June 2014 on medical grounds. After discussion it was resolved that Mr. Veer Pratap Singh Gautam be permitted to join the Institute afresh in the B.Arch. course in the first year, in the Academic Session 2014-15, only after verifying the medical board proceedings conducted by the concerned Military Hospital at Pune.

It was also resolved that, in future, if any UG/PG/Ph.D. student leaves the course in between to join some other course and comes back after some time, re-admission will be



22 JUL 2014

considered on case to case basis provided the maximum duration of the programme is not violated.

**Item No. 56.4: To consider the recommendations of the IAPC on the problems faced by the Departments in Ph.D. admission due to inclusion of CGTIs clause in the admission.**

The Senate considered the recommendations of the IAPC regarding problems faced by the Departments in Ph.D. admission and resolved as under:

- a) A merit list of all candidates applied for a department shall be prepared on the basis of UG and PG marks only. The list shall include all PG candidates both from IITs and non-IITs. GATE, Inspire, ICAR, ICMR, GPAT or their equivalent are considered only as qualifying criteria.
- (b) Depending on the number of seats, the departments may decide cut-off marks and call the candidates as per the Institute policy. (i.e, if 'X' is the cut-off marks for GEN category,  $0.90*X$  will be the cut-off for OBC category and  $(2/3)*X$  will be the cut-off for SC/ST/PD categories). The departments must ensure that a sufficient number of candidates from the reserved category are called for participating in the admission process.
- (c) All UG candidates from CFTIs including IITs and NITs having a CGPA exceeding 7.00 have to be called, even if they have not done Postgraduation.
- (d) The selection of candidates in all departments, in general, will be on the basis of both written test as well as interview.
- (e) Only those candidates who are short listed (5-7 times the number of seats decided by the department), on the basis of their performance in the written test, shall be interviewed.
- (f) The final selection of candidates will be done on the basis of performance both in written test and interview (40% written test + 60% interview).

  
22 JUL 2014



- (g) Departments may select the candidates only on the basis of interview. However, if the departments are selecting the candidates only on the basis of interview, the departments may restrict the number of candidates called for interview by specifying cut-off marks. However, all candidates as per point (c) must be called.
- (h) Before announcing the admission for Ph.D, departments be asked about their choice whether they will select the candidates on the basis of both written test and interview or only on the basis of interview, and this must be specifically stated in the information brochure.

**Item No. 56.5: To consider the changes in Clause (a) and (b) of Appendix-N Guidelines for Training of Outside Students' of Academic Programmes Ordinances & Regulations 2013.**

The Senate considered the recommendations of IAPC regarding accepting students from other than Government Engineering Colleges also for summer internship and resolved as under:

- (a) Students from any Engineering College/Institute may be accepted for summer internship.
- (b) A faculty member can take only one candidate for the summer internship provided the faculty member is available in station during the summer vacation.
- (c) The selection of candidates for summer internship will be done centrally to ensure good candidates come for summer internship.
- (d) The procedure for selection of candidates will be formulated by Dean, Academics.
- (e) The students from other IITs and staff wards will be over and above as per the present practice.
- (f) The remaining clauses of the 'Guidelines for Training of Outside Students' of Academic Programmes Ordinances & Regulations' will remain unchanged.

**Item No. 56.6: To consider the report of the committee constituted under the convenership of Prof. V.K. Agarwal, Department of Chemical Engineering to review the present rules of Unfair-means.**

The Senate considered the recommendations of the IAPC on the report of the committee constituted under the

  
27 JUL 2014

convenership of Prof. V.K. Agarwal, Department of Chemical Engineering to review the present rules of Unfair-means and after discussion resolved that the recommendation be accepted as given at **Appendix-A**.

**Item No. 56.7: To consider the new electives offered by the Department of Management Studies**

The Senate considered the following new electives offered by the Department of Management Studies and approved the same:

**Program Electives:**

1. BMN-649: Services Operations Management
2. BM-691: HR Analytics

**Institute Elective** under HSSMC basket in the new structure:

1. IBM-10: Corporate Social Responsibility

The syllabi of these courses are given at **Appendix-B**.

**Item No. 56.8: To consider the issue of giving ranks to passing out students**

The Senate considered the recommendations of IAPC of giving ranks to passing out students and resolved that all passing out UG/PG students be given rank in their final grade sheet as "**Rank XX in a class of YY**". If the CGPA of a few students is the same, they be given same rank.

**Item No. 56.9: Reported the proposal of reviving Institute Academic Research Committee to consider the policies related to research.**

It was reported that Director has approved the proposal of reviving Institute Academic Research Committee as Institute Research Committee with representatives from departments (including Chairmen, DRC) to discuss research related issues. This committee shall consider the policies related to research as well as the issues related to sponsored research. The committee shall consist of the following namely:

  
22 JUL 2014

- i) Dean, Academics, (ex officio), Chairman;
- ii) The immediate past Dean, Academics;
- iii) Associate Dean, Academic Research;
- iv) Associate Dean, SRIC;
- v) Two Senate Nominees;
- vi) Two Nominees of the Director;
- vii) One representative of each Department/Centre (may be Chairman, DRC) nominated by the faculty board;
- viii) Three Students' (Research Scholar Representatives) nominated by the Dean of Students' Welfare;
- ix) Deputy Registrar, Academics as permanent invitee;
- x) Assistant Registrar, Academic Research, member secretary.

**Item No. 56.10: Reported the matter related to leave of supervisor for more than 12 months.**

It was reported that Director has approved the proposal that Head of the Department and Dean, Faculty Affairs must ensure about the alternate supervisor for M.Tech. and Ph.D. students before recommending any type of long leave to a faculty. Further, if a new supervisor is to be appointed, his/her signature is required before granting leave to the faculty. The existing supervisor will continue as co-supervisor. However, upto 12 months duration, HoD can act as a caretaker supervisor for only administrative purposes and faculty supervisor continues for academic purposes.

**Item No. 56.11: Reported the matter related to up-gradation of JRF to SRF.**

It was reported that Director has approved the following for up-gradation of JRF to SRF:

- (a) The SRC shall act as a Review Committee in all cases and send the report.
- (b) In the case of UGC/CSIR the SRC members will also sign the prescribed form to be send to government.
- (c) If the progress reports of the student of previous FOUR semesters are satisfactory, the report can be prepared through circulation instead of calling the meeting of SRC.

  
22 JUL 2014

(d) If the previous progress reports of the student are not upto the mark, SRC meeting must be convened.

**Item No. 56.12: Reported the matter related to taking students under SURA or for summer internship.**

It was reported that the Director has approved the proposal that only those faculty members who agree to be in-station during summer can take students under SURA or for other projects or summer internship during summer vacation.

**Item No. 56.13: Reported the minor changes in the new approved structure of the 5-year PE & MBA programme of the Department of Polymer and Process Engineering.**

It was reported that the Director has approved the minor changes, i.e. swapping of PE-402: Operation Management and PE-401: Financial Management courses, in the structure of the 5-year PE & MBA programme of the Department of Polymer and Process Engineering. The approved structure is given at **Appendix-C**.

**Item No. 56.14: Reported the approval of the final structure of B.Arch. degree course of the Department of Architecture & Planning under new curricula.**

It was reported that the Director has approved the final structure of B.Arch. degree course of the Department of Architecture & Planning under new curricula. The approved structure is given in **Appendix-D**.

**UNDER ANY OTHER ITEM:**

**Item No. 56.15: To consider the proposal for the NCC by all the Undergraduate students except Physically Disabled students.**

The Senate decided that all UG students entering the Institute will undergo one year of NCC training either in the first year or the second year, other than the Physically Disabled students. In the second year, NCC may be taken up as a Proficiency by such students, who had undergone NCC training in the first year.

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

  
22 JUL 2014

**Appendix 'A'**  
**Item No. Senate/56.6**

1. The table highlighting the nature of offence and actions to be taken shall be printed on the backside of the admit card which is issued to students before the Mid Term Examination (MTE). The same admit card is used in End Term Examination (ETE).
2. Poster regarding the use of mobile and other unfair-means shall be put in each examination room and galleries during examination period.

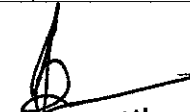
**INSTRUCTION FOR PENALTY FOR USE OF UNFAIR MEANS**

1. The main instructions for the conduct of a student in the examination hall shall be printed on the cover page of the answer book. Any contravention of these instructions and the use of any unfair means will render the student liable for punishment.
2. As soon as a student is suspected by the invigilator of having resorted to unfair means, his/her answer-book shall be seized. The paper etc. duly signed by the invigilator found in possession of the student shall be attached with answer-book in his/her presence. The student shall then be asked to complete part II of the prescribed form and sign it. This form shall then be endorsed by the Invigilator.
3. After completing all the above formalities, a fresh answer-book shall be given to the student for completing the examination.
4. After a particular examination is over, these answer-books (duly marked I, II) shall be delivered separately to the Assistant Registrar (Academic) together with the report form duly completed in all respects.
5. A committee appointed by the Director shall enquire into cases of attempt at unfair means in the examination. It shall submit its recommendation after laying down clearly the nature of the offence listed below to the Director for consideration and necessary orders.
6. A student whose guilt is established shall be dealt with under the provisions of the disciplinary regulations.
7. The action as given in Table may be taken for different categories of offense under these regulations:

  
22 JUL 2014

**PENALTY FOR USE OF UNFAIR MEANS**

Sl. No.	Nature of Offence	Action to be Taken
A-1	(a) A student found talking to another student during the examination hours. (b) If during the examination hours i.e. after receipt of the question paper and before handing over the answer- book a student is found to be talking to a person outside the examination-hall while going to the urinal etc.	First warning to the student and change the seat if possible. If student does not follow the instructions then take the answer-book and sent him out from the examination hall.
A-2	(a) Possession of cell phone or any other item of such type of communication in examination hall <b>but not in use</b> .	Take the cell phone or any other item of such type of communication, make a note in the invigilator diary and return these after the examination.
A-3	(a) Taken away the answer book from the examination hall either by mistake or deliberately	Examination of the concerned paper be cancelled and 'F' grade be awarded.
B	If during the examination hours i.e. after receipt of the question paper and before handling- over answer- book a student is found (a) In possession of any written/ printed materials or notes written on any part of the body/clothing or instruments such as set square, electronic gadgets etc. (b) To be copying or to have copied from any paper, book or notes written on any part of his/her clothing or body or instruments like calculators, scales etc. (c) To be consulting notes or books while being outside the examination hall during examination hours. (d) Passing on a copy of question(s) set in paper or solution thereof to anyone. (e) To have received help from or given help to another candidate through some written material/electronic device pertaining to the questions set in the paper concerned. (f) To be guilty of swallowing or destroying any note or paper found with him/her. (g) Found in possession a solution of a question set in the paper through the help of any student, supervisory or ministerial staff or some other agency. (h) Found guilty of having made previous arrangement to obtain help in connection with the question paper in cases not covered by the above provision.	All the examination for that semester to be cancelled and the student be debarred from appearing at all Institute examination during the next semester.
C	(a) Found guilty of writing deliberately another students' roll number in his/her answer-book or found in possession of an answer- book not his/her own on impersonating another candidate in any examination.	The default action is expulsion from the Institute. However, these cases will be looked into carefully, by the committee on unfair-means.
D	(a) Any person who is not a candidate for any examination found committing or abetting in committal of any of the offence mentioned above. (b) Guilty of serious misconduct in the examination hall or non-compliance with the instructions of the superintendent or any of the invigilators in the examinations hall. (c) Cases not covered by these regulations.	To be dealt with by the committee on unfair-means. in an appropriate manner.

  
 22 JUL 2014

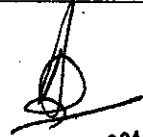
**INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

**NAME OF DEPARTMENT : DEPARTMENT OF MANAGEMENT STUDIES**

1. Subject Code: **BM-649** Course Title: **Services Operations Management**
2. Contact Hours: L:3 T:0 P:0
3. Examination Duration (Hrs.): Theory: 3 Practical: 0
4. Relative Weightage: CWS: 25 PRS: 0 MTE: 25 ETE: 50 PRE: 0
5. Credits: 3 6. Semester: Both 7. Subject Area: PEC
8. Pre-requisite: Nil
9. Objective: To impart knowledge on various aspects of services operations management and provide exposure to tools and techniques to gain strategic advantage through service operations.

10. Details of Course:

S.No.	Contents	Contact Hours
1.	Understanding services economy, global trends in services sector; Changing paradigms in competitiveness of services; Services – manufacturing continuum, role of services in manufacturing firms, recent trends in manufacturing, increased role of services in manufacturing	5
2.	Developing a service strategy, service positioning and implications for service delivery design, degree of customer contact, divergence, customization; Service blue printing	5
3.	Service quality, SERVQUAL, technology in services, pricing strategies in services	5
4.	Performance issues in service systems - DEA	3
5.	Service facility location , capacity issues in service systems	3
6.	Notion of capacity, capacity build up strategy, capacity vs system performance	3
7.	Queuing theory applications in service systems, simulation as a tool for design of services, use of simulation software for modelling, nature of design issues addressed using simulation	6
8.	The services supply chain, service supply relationships, services management in IT/ITES sectors, capacity management issues,	6

  
22 JUL 2014

	models for manpower planning	
9.	Managing facilitating goods, services management in health care, insurance and financial services etc.	6
<b>Total</b>		<b>42</b>

11. Suggested Readings:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Fitzsimmons, J. A., and Fitzsimmons M. J., "Service Management: Operations, Strategy, and Information Technology", McGraw-Hill	2008
2.	Haksever, C., Render B., Russel S. R. and Murdick R. G., "Service Management and Operations", 2nd Ed., Prentice Hall	2007



22 JUL 2014



# INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

**NAME OF DEPARTMENT : DEPARTMENT OF MANAGEMENT STUDIES**

1. Subject Code: **BM-691** Course Title: **HR ANALYTICS**
2. Contact Hours: L:3 T:0 P:0
3. Examination Duration (Hrs.): Theory: 3 Practical: 0
4. Relative Weightage: CWS:25 PRS:0 MTE:25 ETE:50 PRE:0
5. Credits:3 6. Semester: **Both** 7. Subject Area: **PEC**
8. Pre-requisite: **Nil**
9. Objective: To impart knowledge in basic areas of HR in terms of different matrices.

10. Details of Course:

Sl. No.	Contents	Contact hours
1.	Introduction to HR analytics, importance of HR metrics, the relevance of HR value creation	5
2.	Foundation of HR metrics and the genesis of various metrics like workforce planning, compensation and benefits metrics, performance management metrics, career development, attrition and employee engagement, employee capability, employee utilization and ROI, implementation of HR, importance of HR dashboards, types of dashboards, creation of dashboards.	5
3.	HR Measurement in tune with HR maturity journey, understanding the distinctive capabilities of the firm, human capital drivers, HR scorecard, return on investment	5
4.	Current approaches to measuring HR and reporting value from HR contributions	4
5.	Strategic HR metrics versus benchmarking, HR scorecards and workforce scorecards and HR analytics	5
6	HR maturity framework : from level 1 to level 5 HR analytics frameworks: (A) lamp framework; (B) HCM:21 framework and (C) talentship framework, 5 overarching components of an effective analytics framework	5
7	Predictive analytics: conditions including correlation, causality and isolation, diagnosing and clarification of symptoms of HR problem	5
8	Linking the business problem to the core technical problem and investigation, quantification and measurement tools	4
9	HR analytics through gamification, future of HR analytics	4
	<b>Total</b>	<b>42</b>

  
22 JUL 2014

11. Suggested Books:

S. No.	Name of Authors/Books/Publisher/Edition	Year of Publication / Reprint
1	Cascio, W. & Boudreau, J.W., "Investing in People: Financial Impact of Human Resource Initiatives", Upper Saddle River NJ: Pearson Education, Inc.	2011
2	Fitz-Enz, J., "The ROI of Human Capital: Measuring the Economic Value of Employee Performance"	2009
3	Boudreau J.W. & Ramstead, P.M., "Beyond HR: The New Science of Human Capital", Cambridge, Harvard Business School Press	2007
4	Fitz-Enz, J., "The New HR Analytics: Predicting the Economic Value of Your Company's Human Capital", AMACOM.	2010

  
22 JUL 2014

# INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

**NAME OF DEPARTMENT : DEPARTMENT OF MANAGEMENT STUDIES**

1. Subject Code: **IBM- 10** Course Title : **Corporate Social Responsibility**
2. Contact Hours: L:3 T:0 P:0
3. Examination Duration (Hrs.): Theory:3 Practical:0
4. Relative Weightage: CWS:25 PRS:0 MTE:25 ETE:50 PRE:0
5. Credits:3 6. Semester: **Both** 7. Subject Area: **HSSMEC**
8. Pre-requisite: **Nil**
9. Objective: To introduce students to the larger theoretical and empirical aspects of Corporate Social Responsibility (CSR).
10. Details of Course:

Sl.No.	Contents	Contact Hours
1	The Meaning and Importance of Corporate Social Responsibility Evolution of CSR, CSR and the law of economics, CSR and social legitimacy, CSR expectations in rich and in poor societies	6
2	The evolving role of stockholders, The iron law of social responsibility Moral and economic arguments for CSR	6
3	The Role of Stakeholders in CSR, Stakeholder advocacy, The role of business in society, Consumers' awareness and willingness to pay for socially responsible corporate behavior.	6
4	The communications revolution and its impact on CSR, Globalization and CSR, Different stakeholders, different perspectives, Success and failure with CSR initiatives, Corporate response to citizen demands via CSR, The five stages of organizational growth in CSR	6
5	The Strategic Importance of CSR Implementation, CSR as a balance between organizational means and ends, The strategic lens: vision, mission, strategy, and tactics, Environmental and other global forces propelling CSR, Impact of globalization and	6

  
22 JUL 2014

	communications technologies	
6	The strategic CSR model, The business-level CSR threshold Implementing CSR, CSR as competitive advantage	6
7	Case Studies in Organizational, Economic, and Societal CSR Issues Organizational issues (actions versus intentions, corporate commitment, voluntary versus mandatory, stakeholder activism) Economic/business issues (branding, diversity, sustainability, fair trade, wages) Social issues (outsourcing, corruption, human rights, patents)	6
	<b>Total</b>	<b>42</b>

11. Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Taylor, J. Gary and Patricia Sharlin., "Smart Alliance: How a Global Corporation and Environmental Activists Transformed a Tarnished Brand – Chiquita", Yale University Press.	2004
2	Prahalad, CK., "The Fortune at the Bottom of the Pyramid: Eradicating Poverty through Profits", Wharton School Publishing	2004
3	Grayson, David and Adrian Hodges, "Everybody's Business: Managing Risks and Opportunities in Today's Global Society", Doring Kindersley	2001
4	Amit Sachdev CSR Good Book, Liveweek Business, New Delhi	2013
5	Anderson, Ray, "Mid-Course Correction: Toward a Sustainable Enterprise: The Interface Model", Chelsea Green Publishing Company	1998
6	Wayne Visser, "The Quest for Sustainable Business An Epic Journey in Search of Corporate Responsibility", Renouf Publishing Company	2012

  
 22 JUL 2014

Program Code : 214 – PROCESSS ENGINEERING AND MBA  
 Department : Department of Polymer and Process Engineering  
 Year : I

Teaching Scheme					Contact Hours/Week			ETE Duration (Hrs)		Relative Weights (%)				
S.No	SUBJECT CODE	COURSE TITLE	Subject Area	Credits	L	T	P	Theory	Practica I	CWS	PRS	MTE	ETE	PRE
(Autumn)														
1	MA-001	Mathematics-I	BSC	4	3	1	0	3	0	25	-	25	50	-
2	AS-041	General Chemistry	BSC	4	3	0	2	3	0	20	20	20	40	-
3	CE-105	Introduction to Environmental Studies	GSC	3	3	0	0	3	0	25	-	25	50	-
4	HS-001A HS-001B	Communication Skills (Basic) Communication Skills (Advanced)	HSSC	2	1	0	2	2	0	25	-	25	50	-
5	HS-002	Ethics and Self-Awareness	HSSC	2	1	1	0	2	0	25	-	25	50	-
6	PE-101B	Introduction to Process Engineering	DCC	2	2	0	0	2	0	25	-	25	50	-
7	CS-103S	Introduction to Computer Programming	ESC	4	3	0	2	3	0	20	20	20	40	-
		<b>Total</b>		<b>21</b>	<b>16</b>	<b>03</b>	<b>05</b>							
(Spring)														
1	AS-002	Mathematics-II	BSC	4	3	1	0	3	0	25	-	25	50	-
2	PP-102	Material and Energy Balance	DCC	4	3	1	0	3	0	25	-	25	50	-
3	PP-104	Fluid Mechanics	DCC	4	3	1	2/2	3	3	20	20	20	40	15
4	PE-152	Chemical Process Technology	DCC	4	3	0	3/2	3	0	20	20	20	40	-
5	AS-022	Applied Physics	BSC	4	3	0	2	3	2	20	20	20	40	15
6	MI-108	Mechanical Engg. Drawing	ESC	4	2	0	4	3	0	-	25	25	50	-
		<b>Total</b>		<b>24</b>	<b>17</b>	<b>03</b>								

-18-

22 JUL 2014

Program Code : 214 – PROCESS ENGINEERING AND MBA  
 Department : Department of Polymer and Process Engineering  
 Year : II

Teaching Scheme					Contact Hours/Week			ETE Duration (Hrs)		Relative Weights (%)				
S.No	SUBJECT CODE	COURSE TITLE	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
<b>(Autumn)</b>														
1	MT-106	Material Science	ESC	4	3	1	0	3	0	25	-	25	50	-
2	PE-251	Mechanical Operations	DCC	4	3	1	2/2	3	3	20	20	20	40	-
3	PP-203	Heat Transfer	DCC	4	3	1	2/2	3	3	20	20	20	40	-
4	PE-253	Energy Technology	DCC	2	2	0	0	2	0	25	-	25	50	-
5	PE-291	Engineering analysis and Design	DCC	3	2	1	0	3	0	25	-	25	50	-
6	HS-ELE	HSS Elective Course *	HSSMEC	3	2	1	0	3	0	25	-	25	50	-
<b>Total</b>				<b>17/20*</b>	<b>15</b>	<b>6</b>	<b>3</b>							
<b>(Spring)</b>														
1	EE-001	Electrical Science	ESC	4	3	1	2/2	3	0	20	20	20	40	-
2	PE-252	Chemical Engineering Thermodynamics	DCC	3	2	1	0	3	0	25	-	25	50	-
3	PP-209	Mass Transfer	DCC	4	3	1	2/2	3	3	20	20	20	40	15
4	PE-254	Chemical Reaction Engineering	DCC	4	3	1	2/2	3	3	20	20	20	40	15
5	PE-256	Biochemical Engineering	DCC	4	3	1	2/2	3	3	20	20	20	40	15
6	PE-292	Technical Communication	DCC	2	0	2	0	0	0	100	-	-	-	-
7	HS-ELE	HSS Elective Course *	HSSMEC	3	2	1	0	3	0	25	-	25	50	-
<b>Total</b>				<b>24/21*</b>	<b>16</b>	<b>8</b>	<b>4</b>							

\*Any one course in this category is to be opted either in the Autumn or in the Spring semester in the second year. The course should be selected from the list (basket) of Humanities and Social Sciences Elective Courses.

Program Code : 214 – PROCESS ENGINEERING AND MBA  
 Department : Department of Polymer and Process Engineering  
 Year : III

Teaching Scheme					Contact Hours/Week			ETE Duration (Hrs)		Relative Weights (%)				
S.No	SUBJECT CODE	COURSE TITLE	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
<b>(Autumn)</b>														
1	PE-351	Transport Phenomena	DCC	4	3	1	0	3	0	25	-	25	50	-
2	PE-353	Process Instrumentation and Control	DCC	4	3	1	2/2	3	0	20	20	20	40	-
3	PE-355	Modeling and Simulation	DCC	4	3	0	2	3	0	20	20	20	40	-
4	PE-ELE1	Departmental Elective -I	DEC	3	3	0	0	3	0	25	-	25	50	-
15	BM-ELE/ OEC	Courses from Management Studies / Open elective course*	OEC/ HSSMEC	3	2	1	0	3	0	25	-	25	50	-
<b>Total</b>				<b>18</b>	<b>14</b>	<b>4</b>	<b>1</b>							
<b>(Spring)</b>														
1	PE-300	Industry Oriented Problem/ Case Study/Lab Based Project/Practical Problem	DCC	3	0	0	6	0	0	100	-	-	-	-
2	PE-352	Pollution Control Engineering	DCC	3	2	1	2/2	3	3	20	20	20	40	-
3	PE-354	Chemical Plant Design and Economics	DCC	4	3	1	0	3	0	25	-	25	50	-
4	PE-356	Financial and Management Accounting	DCC	3	3	0	0	3	0	25	-	25	50	-
5	PE-ELE2	Departmental Elective -I	DEC	3	3	0	0	3	0	25	-	25	50	-
6	BM-ELE/ OEC	Courses from Management Studies / Open elective course*	OEC/ HSSMEC	3	2	1	0	3	0	25	-	25	50	-
7	PE-399	Educational Tour	DCC	0	-	-	-	0	0	100	-	-	-	-
<b>Total</b>				<b>19</b>	<b>13</b>	<b>3</b>	<b>7</b>							

\*One course each from the OEC and the HSSMEC categories is to be opted either in the Autumn or in the Spring semester in the third year. The HSSMEC course should be selected from the list (basket) of Management Studies Elective Course.

27 JUL 2014

Program Code : 214 – PROCESS ENGINEERING AND MBA  
 Department : Department of Polymer and Process Engineering  
 Year : IV

Teaching Scheme					Contact Hours/Week			ETE Duration (Hrs)		Relative Weights (%)				
S.No	SUBJECT CODE	COURSE TITLE	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
<b>(Autumn)</b>														
1	PE-400A	B.Tech. Project	DCC	4	0	8	1	0	0	100	-	-	-	-
2	PE-401	Operations Management	DCC	3	2	1	0	3	0	25	-	25	50	-
3	PE-403	Marketing Management	DCC	3	2	1	0	3	0	25	-	25	50	-
4	PE-ELE3	Departmental Elective –I	DEC	3	3	0	0	3	0	25	-	25	50	-
5	PE-ELE4	Departmental Elective –I	DEC	3	3	0	0	3	0	25	-	25	50	-
6	PE-499	Industrial Training and Seminar	DCC	2	0	2	0	0	0	100	-	-	-	-
		<b>Total</b>		<b>18</b>	<b>10</b>	<b>8</b>	<b>1</b>							
<b>(Spring)</b>														
1	PE-400B	B.Tech. Project (Contd. from Autumn Semester)	DCC	8	0	0	16	0	0	100	-	-	-	-
2	PE-402	Financial Management	DCC	3	2	1	0	3	0	25	-	25	50	-
3	PE-404	Human Resources Management	DCC	2	2	0	0	2	0	25	-	25	50	-
4	PE-ELE5	Departmental Elective –II	DEC	3	3	0	0	3	0	25	-	25	50	-
5	PE-ELE6	Departmental Elective –II	DEC	3	3	0	0	3	0	25	-	25	50	-
		<b>Total</b>		<b>19</b>	<b>10</b>	<b>1</b>	<b>8</b>							



Program Code : 214 – PROCESSS ENGINEERING AND MBA  
 Department : Department of Polymer and Process Engineering  
 Year : V

Teaching Scheme					Contact Hours/Week			ETE Duration (Hrs)		Relative Weights (%)				
S.No	SUBJECT CODE	COURSE TITLE	Subject Area	Credits	L	T	P	Theory	Practica I	CWS	PRS	MTE	ETE	PRE
(Autumn)														
1	PE-500A	MBA Dissertation Part-I	DCC	0	0	0	1	0	0	**	-	-	-	-
2	PE-501	Research Methodology and Business Statistics	DCC	3	3	0	0	3	0	25	-	25	50	-
3	PE-503	Business Environment	DCC	2	2	0	0	2	0	25	-	25	50	-
4	PE-SELE1	Specialization Elective I	DEC	2	2	0	0	2	0	25	-	25	50	-
5	PE-SELE2	Specialization Elective II	DEC	2	2	0	0	2	0	25	-	25	50	-
6	PE-SELE3	Specialization Elective III	DEC	2	2	0	0	2	0	25	-	25	50	-
7	PE-SELE4	Specialization Elective IV	DEC	2	2	0	0	2	0	25	-	25	50	-
8	PE-599	Management Training and Seminar	DCC	2	0	2	0	0	0	100	-	-	-	-
<b>Total</b>				<b>15</b>	<b>13</b>	<b>2</b>	<b>1</b>							
(Spring)														
1	PE-500B	MBA Dissertation Part-II	DCC	6	0	0	12	0	0	100	-	-	-	-
2	PE-502	Strategic Management	DCC	2	2	0	0	2	0	25	-	25	50	-
3	PE-504	Business law	DCC	3	3	0	0	2	0	25	-	25	50	-
4	PE-SELE1	Specialization Elective V	DEC	2	2	0	0	2	0	25	-	25	50	-
5	PE-SELE2	Specialization Elective VI	DEC	2	2	0	0	2	0	25	-	25	50	-
6	PE-SELE3	Specialization Elective VII	DEC	2	2	0	0	2	0	25	-	25	50	-
7	PE-SELE4	Specialization Elective VIII	DEC	2	2	0	0	2	0	25	-	25	50	-
<b>Total</b>				<b>19</b>	<b>13</b>	<b>0</b>	<b>12</b>							

\*\* Satisfactory/unsatisfactory grading

-22-

22 JUL 2014

Program Code: 70 B.Arch.

Department: APD Department of Architecture and Planning

APPENDIX - A

Year: I

S.No.	Subject Code	Teaching Scheme Course Title	Subject Area	Credits	Contact Hours/Week			Exam Duration		Relative Weight (%)				
					L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
<b>Semester- I (Autumn)</b>														
1.	MA-001	Mathematics I	BSC	4	3	1	-	3	-	25	-	25	50	-
2.	AR-101	Introduction to Architecture	DCC	2	1	-	2	-	-	100	-	-	-	-
3.	AR-103	Visual Art I	DCC	2	1	-	3	-	3	-	60	20	-	20
4.	AR-105	Architectural Graphics I	DCC	4	1	-	6	-	3	-	60	20	-	20
5.	AR-107	Basic Design and Creative Workshop I	DCC	4	1	-	6	-	4	-	60	20	-	20
6.	HS-001A	Communication Skills (Basic)	HSSC	2	1	-	2	2	-	25	-	25	50	-
	HS-001B	Communication Skills (Advance)												
7.	CE-001	Introduction to Environmental Studies	GSC	3	3	-	-	3	-	15	-	35	50	-
8.	HS-002	Ethics and Self Awareness	HSSC	2	1	1	-	2	-	25	-	25	50	-
Total				23	12	2	19							
<b>Semester- II (Spring)</b>														
1.	AR-102	Architectural Design I	DCC	4	1	-	6	-	7	-	60	20	-	20
2.	AR-104	Introduction to Building Materials and Construction-I	DCC	3	1	-	4	4	-	-	40	20	40	-
3.	AR-106	Architectural Graphics II	DCC	4	1	-	6	-	3	-	40	20	-	40
4.	AR-108	Climatology in Architecture	DCC	3	2	1	-	2	-	25	-	25	50	-
5.	AR-110	Visual Art & Creative Workshop II	DCC	4	1	1	4	1	2	15	40	15	15	15
6.	AR-112	Computer Systems and Programming	ESC	4	3	-	2	3	-	15	15	30	40	-
7.	CE-192	Geomatics Techniques for Architects	ESC	3	2	-	2	2	-	-	25	25	50	-
Total				25	11	2	24							

-23-

22 JUL 2014

Appendix 'D'  
Item No. Senate/56.14

Program Code: 70 B.Arch.


Department: APD Department of Architecture and Planning

Year: II

Teaching Scheme				Contact Hours/Week			Exam Duration		Relative Weight (%)				
Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
<b>Semester- III (Autumn)</b>													
AR-201	Architectural Design II	DCC	5	1	-	8	-	7	-	60	20	-	20
AR-203	Building Construction II	DCC	4	1	1	4	4	-	-	40	20	40	-
AR-205	History of Architecture-I	DCC	3	2	1	-	2	-	25	-	25	50	-
AR-207	Quantity, Pricing and Specifications	DCC	3	2	1	-	2	-	25	-	25	50	-
AR-209	Structure and Architecture	DCC	3	2	1	-	2	-	25	-	25	50	-
AR-211	Principles of Architecture	DCC	3	2	1	-	2	-	25	-	25	50	-
AR-213	Measured Drawing Camp	DCC	2	-	-	2	-	-	-	100	-	-	-
	Total		23										
<b>Semester- IV (Spring)</b>													
AR-202	Architectural Design-III	DCC	5	1	-	8	-	7	-	60	20	-	20
AR-204	Building Construction-III	DCC	4	1	1	4	4	-	-	40	20	40	-
AR-206	History of Architecture -II	DCC	3	2	1	-	2	-	25	-	25	50	-
AR-208	Building Codes and Regulations	DCC	2	1	1	-	2	-	25	-	25	50	-
AR-210	Modern World Architecture	DCC	3	2	1	-	3	-	25	-	25	50	-
AR-212	Landscape Design and Site Development	DCC	3	2	-	2	3	-	-	50	20	-	30
CE-292	Theory of Structures	ESC	4	3	1	-	3	-	25	-	25	50	-
	Total		24										

-24-

22 JUL 2014



Department: APD Department of Architecture and Planning

Year: III

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE	
<b>Semester- V (Autumn)</b>														
AR-301	Architectural Design-IV	DCC	5	1	-	8	-	7	-	60	20	-	20	
AR-303	Building Construction-IV	DCC	4	1	1	4	4	-	-	40	20	40	-	
AR-305	Computer Applications in Architecture	DCC	2	1	-	3	-	4	-	60	20	-	20	
AR-ELE I	Departmental Elective - I	DEC	3	Details as per list										
CE-391	Design of Reinforced Concrete Elements	ESC	4	3	1	2/2	3	-	15	15	30	40	-	
HS-351	Society, Culture and Built Environment	HSSMC	3	2	1	-	2	-	25	-	25	50	-	
Total			21											
<b>Semester- VI (Spring)</b>														
AR-302	Architectural Design-V	DCC	5	1	-	8	-	7	-	60	20	-	20	
AR-ELE II	Departmental Elective II	DEC	3	Details as per list										
AR-310	Building Technology-Mechanical and Electrical	ESC	4	3	1	-	3	-	25	-	25	50	-	
CE-392	Design of Steel Elements	ESC	3	2	1	-	2	-	25	-	25	50	-	
CE-394	Building Services	ESC	2	1	-	2	2	-	25	-	25	50	-	
HS-352	Building Economics	HSSMC	3	2	1	-	2	-	25	-	25	50	-	
Total			20											

-25-

22 JUL 2014

Program Code: 10 B. Arch.

Department: AR Department of Architecture and Planning

Year: IV

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
<b>Semester- VII (Autumn)</b>														
1.	AR-401	Architectural Design-VI	DCC	5	1	-	8	-	7	-	60	20	-	20
2.	AR-403	Urban Design	DCC	4	3	-	2	3	-	15	15	20	50	-
3.	AR-405	Sustainable Architecture	DCC	4	3	1	-	3	-	25	-	25	50	-
4.	AR-407	Working Drawing	DCC	2	-	-	4	-	2	-	60	20	-	20
5.	AR-ELE III	Department Elective-III	DEC	3	Details as per list.									
6.	AR-415	Live Project/ Studio/ Seminar-I	DCC	2	-	-	4	-	-	-	100	-	-	-
		Total		20										
<b>Semester-VIII (Training)</b>														
1.	AR-402	Professional Training	DCC	10										
		Total		10										

-26-

22 JUL 2016

Program Code: 10

Department: AR Department of Architecture and Planning

Year: V

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
<b>Semester- IX(Autumn)</b>														
1.	AR-501	Architectural Design-VII	DCC	5	1	-	8	-	7	-	60	20	-	20
2.	AR-503	Thesis Project I	DCC	3	-	3	-	-	-	100	-	-	-	-
3.	AR-505	Urban Planning	DCC	4	3	-	2	3	-	15	15	20	50	-
4.	AR-507	Hill Architecture	DCC	3	2	1	-	2	-	25	-	25	50	-
5.	AR-ELE IV	Departmental Elective-IV	DEC	3	Details as per List.									
6.	AR- 515	Live Project/Studio/Seminar-II	DCC	2			4				100			
		Total		20										
<b>Semester- X (Spring)</b>														
1.	AR-502	Professional Practice, Valuation and Arbitration	DCC	4	3	1	-	3	-	25	-	25	50	-
2.	AR-504	Thesis Project-II	DCC	15	0	0	20	-	-	-	50	-	-	50
3.	AR-ELE V	Departmental Elective-V	DEC	3	Details as per List.									
		Total		22										

-27-

22 III 2016

Program Code: 10

Department: AR Department of Architecture and Planning

***Credit Requirements***

Total Credits	
Existing	224
Proposed earlier	220
Proposed	$23+25+23+24+20+21+20+10+20+22 = 208$

-28-

22 JUL 2014

# DEPARTMENT ELECTIVES

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS*	PRS	MTE	ETE	PRE
<b>Department Elective I:</b>														
1.	AR- 307	Interior Design	DEC	3	2	-	2	1	2	-	40	20	25	15
2.	AR -309	Applied Arts	DEC	3	1	-	4	-	3	-	60	20	-	20
3.	AR -311	Modern Indian Architecture	DEC	3	2	1	-	2	-	25	-	25	50	-
<b>Department Elective II:</b>														
1.	AR- 304	Acoustics and Lighting	DEC	3	2	1	-	2	-	25	-	25	50	-
2.	AR -306	Vernacular Architecture	DEC	3	2	1	-	2	-	25	-	25	50	-
3.	AR -308	High-rise Building	DEC	3	2	1	-	2	-	25	-	25	50	-
<b>Department Elective III:</b>														
1.	AR- 409	Digital Architecture	DEC	3	1	-	4	-	3	-	50	20	15	15
2.	AR -411	Ekistics	DEC	3	2	1	-	2	-	25	-	25	50	-
3.	AR -413	Construction Planning and Management	DEC	3	2	1	-	2	-	25	-	25	50	-
<b>Department Elective IV:</b>														
1.	AR- 509	Emerging Technologies in Architecture	DEC	3	2	1	-	2	-	25	-	25	50	-
2.	AR -511	Disaster Resistant Buildings	DEC	3	2	1	-	2	-	25	-	25	50	-
3.	AR -513	Vastushastra	DEC	3	2	1	-	2	-	25	-	25	50	-
<b>Department Elective V:</b>														
1.	AR- 506	Housing	DEC	3	2	1	-	2	-	25	-	25	50	-
2.	AR -508	Architectural Research and Journalism	DEC	3	2	1	-	2	-	25	-	25	50	-
3.	AR -510	Architectural and Urban Conservation	DEC	3	2	-	2	2	-	-	25	25	50	-

-29-

22 JUL 2016