

**SAVITRIBAI PHULE PUNE UNIVERSITY
(SPPU)
(Formerly University of Pune)**



CREDIT SYSTEM (CS)
For
SEMESTER PATTERN
Post Graduate Programs

Handbook

(Updated Version)

Prepared by
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*MESSAGE FROM
HON. VICE CHANCELLOR, SPPU*

*The world of today is full of competition in each and every field. In order to cop-up with the needs of the time it has become necessary to prepare ourselves in tune with the norms and practices accepted and implemented across the globe. As such, one of the important aspects is to add a value to a postgraduate degree by imparting a knowledge based and hands-on experience training to the students. This very aspect demands the choice based credit system for the PG programs. The Credit System (CS) not only nurtures a student to put his best efforts for touching the heights of excellent education based knowledge but also allows carrying the credits earned from one University to the other in India and abroad as well. In fact, there are as many aspects that are of great importance in the CS but *CONTINUOUS ASSESSMENT* is the backbone and so it has to be handled with care so as to visualize a student with potential for excellence. Our University has jumped into this well of 21st century education with a firm footing of CS from the academic year 2013-14 for the PG programs conducted at affiliated colleges also. I am confident that the teachers involved in the implementation part would shoulder the responsibility & add values to it.*

This handbook of CS is prepared to facilitate the aims and objectives of the system and the teachers as well as students would testimony the lucidity and essence of it.

Dr. W. N. Gade

PREAMBLE

In pursuance of the decision to implement Credit System at the Post Graduate level and ensure continuous assessment, the SPPU has decided to incorporate the Credit System (CS) under Semester Pattern in all its affiliated colleges and recognized institutions where postgraduate programs are conducted.

The Hon. Vice-Chancellor and the authorities of University of Pune, namely, the members of the Management Council, the

Deans of Faculties, the Members of the Academic Council, and the chairmen of the board of studies are the pillars in shaping the system for the cause of the benefit to the students.

Of course, all the teachers are committed to handle the credit system for the better and result oriented output in the enhancement of knowledge level of each and every student.

Down the line of every 2/3 years, the University is keen to inculcate the system and observe the overall development of its students.

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1. General administration

1.1 These rules and regulations shall be applicable for the conduct of CS for the Departments on the Campus of SPPU (implemented in AY 2001-02) as well as for the affiliated colleges and institutes (implemented in AY 2013-14).

1.2 As per the UGC directives, 10 point scale is applicable from the academic year AY 2015-16 (not applicable to the students admitted before the AY 2015-16).

1.3 CS Coordination Committee.

1. *Director, BCUD – Chairman*
2. *Deans of faculties - Members*
3. *HoDs from Campus(02) - Members*
4. *Professors from Campus(02) - Members*

This Committee shall take all decisions arising pertain to these rules and the implementation of CS.

2. Conduct of the Credit System

2.1 The Post-Graduate Degree will be awarded to those students who earn the minimum number of credits as follows:

Name of the Faculty	Total credits	Average credits per semester
<i>Science, Engineering, Pharmacy, Management, Technology</i>	100	25
<i>Arts & Fine Arts, Social Sciences, Commerce, Law, Education*, Physical Education*</i>	64	16

(* - will be as per the directives of Education Council)

- In a case, where the PG program duration is of one year, such a program shall consist of minimum 40 credits.
- Except the credits for practical courses, wherever applicable, a student can register for less number of courses in a semester subject to the condition that such a student will have to complete the degree in a maximum of four (five) years for 2 years (3 years) program. This facility will be available subject to the availability of concerned courses in a given semester and with a maximum variation of 25 % credits (in case of fresh credits) per semester.

2.2 The proportion of Laboratory courses shall be around 40 % of the total credits of a PG program. Project work, if included, shall consist of NOT more than 10 % of the total number credits for PG programs in Science, Engineering, Technology, Management, Pharmacy and 05 % of the total number of credits for other PG programs.

2.3 One credit will be equivalent to 15 clock hours of teacher-student classroom contact in a semester. There will be no mid-way change allowed from Credit System to Non-credit (external) System or vice versa.

2.4 A post graduate teacher in a subject shall be affiliated to only ONE post graduate center at any given time and for only one subject.

2.5 For the routine conduct of the CS in a PG Department on the campus of SPPU, HoD will be the Chairperson and the teachers (employees of SPPU) in the Department will be the members.

While for a PG Department in colleges/institutes, Dean of the concerned faculty shall be the Chairperson and the constitution of faculty wise committee shall be as follows:

1. *Dean of the Faculty – Chairman*
2. *Two HoD's of the Post Graduate centers from the respective faculty nominated by the Hon. Vice Chancellor*
3. *One HoD/Professor/Subject expert from the Post Graduate Department of the University Campus nominated by the Hon. Vice Chancellor*
4. *Director, BCUD - Coordinator*

2.6 Among the minimum number of credits to be earned by a student to complete a Post Graduate Degree program (100/64 credits), the student will have to earn minimum 75% credits from the parent Department (subject) and the remaining up to 25 % credits could be earned from the parent Department (subject) or any subject/s of any faculty conducted at other PG Department/ PG Center. In any case, a student will have to earn compulsory credits from the parent Department (subject) over and above.

3. Examination Rules

3.1 Assessment shall consist of CA-Continuous assessment and ESE(ETE)-End of Semester(Term) Examination with an equal weightage of 50%.

3.2 The concerned teacher is responsible for conduct and evaluation towards CA and shall announce at the beginning of the course about the mechanisms under which CA would take place. However, the ESE (ETE) shall cover the entire syllabus prescribed for that course.

3.3 The CA towards 50% marks will be a continuous activity and at least two written tests (for 60-80% marks out of CA marks) must be conducted in addition to at least two following mechanisms (for 20-40% marks out of CA marks) for a full course of 4/5 credits.

Journal/Lecture/Library notes, Short Quizzes, Seminar presentation, Assignments, Extension Work, An Open Book Test (book to be decided by the concerned teacher), Mini Research Project by an individual student or a group of students

A teacher may devise a mechanism other than written test in addition to above in order to flourish the course contents.

a) It is mandatory for a teacher to hand over the assessed answer sheets to the respective students well before the commencement of the ESE (ETE).

b) It is also mandatory to declare the score gained by all the students in a course towards CA on the notice board duly signed by the concerned teacher of the course and the HoD/Principal/Director.

- 3.4 ESE (ETE) for the remaining 50% marks will be conducted by SPPU.
- 3.5 A student has to obtain 40 % marks taken together of CA and ESE (ETE) with a minimum of 30% in each of these separately.
- 3.6 A student will have to obtain a minimum aggregate of 40% marks in each course to be counted for the minimum number of credits required for the completion of the program.
- 3.7 If a student misses an internal assessment examination he/she will have a second chance with the endorsement of the HoD/Principal/Director in consultation with the concerned teacher. Such a second chance shall not be the right of the student.
- 3.8 a) If a student is declared as “PASS” in a course (Grade other than F), then the student cannot choose/reappear that course unless appearing under “CLASS/GRADE IMPROVEMENT” for ESE (ETE) only.
CA is not available for a course in which the student has been declared as “PASS”.
- b) If a student is declared as “FAIL” (Grade F) in a course, then the student is allowed to choose such a course, with CA and ESE (ETE) both, only in a semester in which the course is conducted, irrespective of the previous score in CA.

Otherwise, the student may appear only for ESE (ETE) in that course in any of the following/forthcoming semester, provided that the student has scored at least 15% of the total 100% (or 30% of the 50% of the total marks) in CA.

Explanation:

X = 100%

CA score	ESE/ ETE Score	CA+ ESE/ETE	Result
≥15% of X	≥15% of X	≥40% of X	PASS/Earned Credits with Grade
≥15% of X	≥15% of X	<40% of X	FAIL/No Credits Earned

Y = Course,

Odd-Sem = First Half/Semester of an Academic Year

Even-Sem = Second Half/Semester of an Academic Year

Semester in which Y is conducted	Status of the Y for a student	Future scope for improvement in Y
Odd-Sem	PASS	Under CLASS IMPROVEMENT only
	FAIL	The student can appear for ESE (ETE) in any subsequent semester, provided the student has scored ≥ 15% of X. OR The student can choose/register Y with CA and ESE (ETE) both in an Odd-Sem.
Even-Sem	PASS	Under CLASS IMPROVEMENT only
	FAIL	The student can appear for ESE (ETE) in any subsequent semester, provided the student has scored ≥ 15% of X. OR The student can choose/register Y with CA and ESE (ETE) both in an Even-Sem.

c) In case of 3.8(b), the maximum duration available to register/reappear for a course will be as follows.

2 years PG Program – Up to 4 (four) years
(i.e. if a student is registered/admitted for first semester in 2013-14, then the student is allowed to register/reappear up to second semester in 2016-17)

3 years PG Program – Up to 5 (five) years
(i.e. if a student is registered/admitted for first semester in 2013-14, then the student is allowed to register/reappear up to second semester in 2017-18)

d) In the case of 3.8(b), the number of attempts (excluding registered for first time) available to register/reappear for the course would be 3(three) only, subject to 3.8(c).

e) In an exceptional case, if there are sufficient number of students who wish to register for a course for CA and ESE (ETE) both in which they are failed, then such a course can be conducted in the immediate following semester only, in addition to the courses conducted in that semester. However, there cannot be more than two such courses at a time in that semester.

3.9 The student will be finally declared as failed if the minimum numbers of credits are not earned within a total period of Four and Five years respectively for 2 years PG Program and 3 years PG Program. After that, such a student will have

to seek fresh admission as per the admission rules prevailing at that time.

- 3.10 A student cannot register for the third/fourth semester, if she/he fails to complete 50% credits of the total credits expected to be ordinarily completed within two semesters.
- 3.11 There shall be a revaluation of the answer scripts of ESE (ETE) as per Ordinance No.134 A & B, but not of CA.
- 3.12 While marks will be given for all examinations, they will be converted into grades. The Semester End Grade sheets will be generated by using marks and grades and the final grade sheets and transcripts shall have grade points average and total percentage of marks (up to two decimal points). The final grade sheet will also indicate the PG Department/Center to which the candidate is registered.

4. Assessment and Grade Point Average

- 4.1 The system of evaluation will be as follows: Each CA and ESE (ETE) will be evaluated in terms of marks. The marks for CA and ESE (ETE) will be added to convert into a grade and later a grade point average. There is no grade independently for CA or ESE (ETE).
- 4.2 Result of a student will be declared for each semester after the ESE (ETE) only.
- 4.3 The student will get a Grade Sheet with total grades earned and a Grade Point Average, after earning the minimum number of credits towards the completion of a PG program (subject to 3.9).

4.4 Marks/Grade/Grade Point w.e.f. AY 2015-16 (10 Point Scale):

Marks	Grade	Grade Point
80-100	O: Outstanding	10
70-79	A+: Excellent	9
60-69	A: Very Good	8
55-59	B+: Good	7
50-54	B: Above Average	6
45-49	C: Average	5
40-44	P: Pass	4
0-39	F: Fail	0
-	Ab: Absent	0

Following will be applicable for all those who are admitted before the AY 2015-16 till they complete the PG program (subject to 3.9).

Marks	Grade	Grade Point
100 to 75	O: Outstanding	06
74 to 65	A: Very Good	05
64 to 55	B: Good	04
54 to 50	C: Average	03
49 to 45	D: Satisfactory	02
44 to 40	E: Pass	01
39 to 0	F: Fail	00

4.5 Final Grade w.e.f. the AY 2015-16 (10 Point Scale):

Grade Point Average	Grade
09.00 – 10.00	O
08.50 – 08.99	A+
07.50 – 08.49	A
06.50 – 07.49	B+
05.50 – 06.49	B
04.25 – 05.49	C
04.00 – 04.24	P
00.00 – 03.99	F

Remark: B+ is equivalent to 55% marks and B is equivalent to 50% marks.

Following will be applicable for all those who are admitted before the AY 2015-16 till they complete the PG program (subject to 3.9).

Grade Point Average	Grade
05.00-6.00	O
04.50-04.99	A
03.50-04.49	B
02.50-03.49	C
01.50-02.49	D
00.50-01.49	E
00.00-00.49	F

- 4.7 'B' Grade is equivalent to atleast 55% of the marks as per circular No.UGC- 1298/[4619]UNI-4. (Not applicable for 10 point scale)
- 4.8 A seven point grade system [guided by the Government of Maharashtra Resolution No. NGV-1298/[4619]/UNI.4 and the University regulations] will be followed uniformly for Science, Arts, Mental, Moral and Social Sciences. The corresponding grade table is detailed above.(not applicable for 10 point scale)
- 4.9 If the GPA is higher than the indicated upper limit in the three decimal digit, then higher final

grade will be awarded (e.g. a student getting GPA of 4.492 may be awarded 'A' grade). (Not applicable for 10 point scale)

- 4.10 There will be only final compilation and moderation at GPA (Final) level done at the Department. While declaring the result, the existing relevant ordinances are applicable. There is also a provision for verification and revaluation, subject to the applicable rules at that point of time.
- 4.11 For grade improvement, 2 year program student will have to reappear for ESE (ETE) only in the courses comprising a minimum of 30 credits in case of Science, Engineering, Technology, Management and Pharmacy; 20 credits for other faculties and 12 credits in case of one year degree program. These courses will be from the parent Department only in which the student has earned the credits. A student can opt for the Grade Improvement Program only after the declaration of earning minimum number of credits and completion of the PG Program (subject to 3.9) within the period of two years from the completion of program.
- 4.12 The formula for GPA will be based on Weighted Average. The final GPA will not be printed unless a student passes courses for the minimum 100 credits, 80 credits or 64 credits as the case may be.

4.13 The description for the grades is as follows:

O: Outstanding: Excellent analysis of the topic, (80% and above)

Accurate knowledge of the primary material, wide range of reading, logical development of ideas, originality in approaching the subject, Neat and systematic organization of content, elegant and lucid style;

A+ : Excellent : Excellent analysis of the topic (70 to 79%) Accurate knowledge of the primary material, acquaintance with seminal publications, logical development of ideas, Neat and systematic organization of content, effective and clear expression;

A: Very Good: Good analysis and treatment of the topic (60 to 69%) Almost accurate knowledge of the primary material, acquaintance with seminal publications, logical development of ideas, Fair and systematic organization of content, effective and clear expression;

B+: Good: Good analysis and treatment of the topic (55 to 59%)

Basic knowledge of the primary material, logical development of ideas, Neat and systematic organization of content, effective and clear expression;

B: Above Average: Some important points covered (50 to 54%)

Basic knowledge of the primary material, logical development of ideas, Neat and systematic organization of content, good language or expression;

C: Average: Some points discussed (45 to 49%)

Basic knowledge of the primary material, some organization, acceptable language or expression;

P: Pass: Any two of the above (40 to 44%)

F: Fail: None of the above (0 to 39%)

4.14 One credit is equivalent to 20-25 marks for evaluation purpose.

4.15 There will be an evaluation of each course by students at the end of every semester. (Sample format enclosed for course evaluation by students)

Relevant circulars from which these rules are compiled and modified

- 187/2001 (12-7-2001) for both M. A. and M. Sc.
- 168/2002 (14-6-2002) & CBH/5422 of 29-8-2002 in continuation of 168/2002 for Social sciences and Humanities
- 125/2004 (22-3-2004) addition to 168 of 2002
- 296/ 2006 (5-8-2006) for all departments
- UGC D.O. No. F. 1-1/2014(Secy) Dated 12th Nov. 2014

5. Modus Operandi of Evaluation under Credit System-2 years programs

- 5.1 Each regular student will normally appear for all the 25% credits in a semester out of the minimum number of credits required to obtain a degree.
- 5.2 A student who wishes to register to the third /fourth semester should have gained at least 50% credits out of the total number of credits offered at the first and second semester of the first year.
- 5.3 Evaluation of each credit will be in two parts, namely CA and ESE (ETE).
- 5.4 A course may be of 1 or 2 or 3 or 4 or 5 credits.
- 5.5 The evaluation of a course means the evaluation of total number of credits of that course. As such, all the credits taken together of a particular course will be evaluated in two parts CA and ESE (ETE).
- 5.6 Weightage for CA would be 50% and for ESE (ETE) would be 50%.
- 5.7 A course will be evaluated in the form of 50 marks for CA and 50 marks for ESE (ETE).
- 5.8 A student will gain all the credits of a course after having obtained minimum 40 marks from CA (minimum 15 out of 50) and ESE (ETE) (minimum 15 out of 50) taken together and will get the

respective grade and grade points in the respective course. Otherwise, a student will get grade F (Fail) in that respective course and will not gain any credits or grade points towards that course.

5.9 CA: The teacher would evaluate a student towards a course through interaction throughout the semester which would include one or more (but not less than 4 including compulsory written test/s) of the following mechanisms with their maximum weightage out of 50 marks and this essentially enables the teacher to get positive feedback about a student's overall understanding/ability and in nutshell enhances the teaching-learning process.

- a. Written test – Max 2 with not more than 15 marks for each
- b. Assignment – Max 2 with not more than 5 marks for each
- c. Seminar presentation – 5 marks (not for all the students)
- d. Group discussion – 5 marks (not for all the students)
- e. Extension work – 5 marks (not for all the students)
- f. An open book test – 10 marks (to be conducted in a classroom for not more than 3 questions)
- g. Report/Note on research paper/s or study tours – 5 marks (not for all the students and to be presented in the respective class)

- A teacher may propose any other mean towards CA (other than written test) that may suit for a particular course and implement only after the approval of the Departmental Committee constituted and approved by the HoD/Principal/Director.

5.10 If a student could not attend the CA written test due to some unavoidable reasons then the teacher may consider a request for retest in writing with furnishing the reason of absence.

5.11 If a student failed to gain the credits of any course (declared F grade in that course) then the student can reattempt the course with CA (if the course is conducted in that semester) and ESE (ETE) both or with ESE (ETE) only (if one has scored 15 in CA) in the subsequent ESEs (ETEs) (max. two such attempts) within a period of 4 years (5 for 3 years programs) from the date of admission for the first semester (subject to 3.9).

5.12 In case a student failed to earn the minimum number of credits required for obtaining a degree within the stipulated period of 4 years (5 years for 3 years programs) then such a student will be declared **INCOMPLETE EXIT** and in such a case the student can seek a fresh admission as per the admission rules prevailing at that time.

5.13 The policies and procedures determined by the SPPU from time to time will be followed for the

conduct of examinations and declaration of the result of a candidate.

5.14 ESE (ETE): Each credit will be evaluated for a maximum period of 45 minutes. The following would be an outline for setting the question paper for ESE(ETE).

Credits	Duration	Questions to be attempted	Number of Subquestions	Marks for subquestions
1	45 min	1 out of 2	3 (for 2 questions)	4+3+3 or 5+3+2 or 4+4+2
2	90 min	3 out of 5	3 (for 3 questions)	4+3+3 or 5+3+2 or 4+4+2
			2 (for 2 questions)	5+5
3	150 min	4 out of 6	2 (for 4 questions)	4+3+3 or 5+3+2 or 4+4+2
			2 (for 2 questions)	5+5
4/5	180 min	5 out of 8	3 (for 6 questions)	4+3+3 or 5+3+2 or 4+4+2
			2 (for 2 questions)	5+5

Note: A question paper for PG program course of 3/4/5 credits under any Faculty other than Science, Engineering, Technology, Management and Pharmacy may contain a question of 10 marks(1 out of 2) without a subquestion.

5.15 PRACTICAL EXAMINATION:

- a. The duration for the conduct of ESE (ETE) of a practical course would be same as stipulated in 5.13.
- b. The outline of the distribution of maximum marks for various aspects/mechanisms towards CA is as follows:
 - *Journal – 10 marks*
 - *Viva-voce at the time of submission of each practical – 20 marks*
 - *Group discussion of 5/6 students for testing the understanding level of a student – 10 marks*
 - *Attendance – 5 marks*
 - *Additional practical work of indisciplinary approach – 5 marks*
- c. At least three experiments should be asked for the full course of 4/5 credits and at least two for 2/3 credits.
- d. Certified Journal would be compulsory to appear for the ESE (ETE) practical course.
- e. There shall be two experts from the parent Department and two examiners (one of which will be external) per batch.

5.16 If a student failed to obtain a grade other than F in a course then such a course will not be taken into account for calculating GPA and overall grade. In fact, all the courses in which a student has passed will be taken into account for calculating the GPA and overall grade.

6 Modus Operandi of Evaluation under Credit System-3years programs

MCA/MSc(IMCA)/3-year Programs:

- 6.0 All the points other than 5.1 and 5.2 above are applicable to these programs also.
- 6.1 Each regular student will normally appear for all the 25 credits in a semester. (For the program of 150 credits in Six semesters)
- 6.2 A student who wishes to register to the third semester/fourth semester should have gained at least 25 credits. (In case 50 credits offered per year)
- 6.3 A student will be considered to have “Completed” the Internship/Industrial Training upon the submission of certificate of completion, duly signed and sealed, from the Organization where the candidate worked during the Internship period. In case a student failed to submit the required certificate of completion duly signed by mentor/Organization then the student will be considered to have “Not Completed” the required internship/industrial training at the time of the declaration of the result. And hence such student will have to undergo the complete training.



सावित्रीबाई फुले पुणे विद्यापीठ
(पूर्वीचे पुणे विद्यापीठ)



शैक्षणिक विभाग,
गणेशखिड, पुणे ४११ ००५.
टेलिग्राफ - युनिपुणे
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दिनांक - ११/०५/२०१५

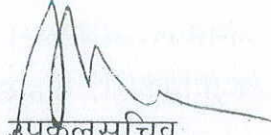
दूरध्वनी क्र.:
०२०-२५६९९४२३३.
०२०-५६०१२५०/५८/५९.
फॅक्स - ०२०-२५६९९२३३३
संदर्भ क्र.: सी.बी./ ४०४

परिपत्रक क्र. ८२ /२०१५.

विषय - : पदव्युत्तर अभ्यासक्रमास शैक्षणिक वर्ष २०१५-१६ पासुन ०-१० श्रेणी
(Grading) पध्दत लागू करणेबाबत...

विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार सर्व संबंधितांस या परिपत्रकाद्वारे कळविण्यात येत आहे की, शैक्षणिक वर्ष २०१५-१६ पासुन पदव्युत्तर अभ्यासक्रमांस (Credit System) ०-१० श्रेणी (Grading System) पध्दत लागू करण्यास मान्यता देण्यात येत आहे.

मा.प्राचार्य, सर्व संलग्न महाविद्यालये यांना विनंती की, सदर परिपत्रकाचा आशय सर्व संबंधितांच्या निदर्शनास आणून द्यावा.


उपकुलसचिव,
(शैक्षणिक विभाग)

कृ.मा.प.

प्रत माहिती व पुढील योग्य त्या कार्यवाहीसाठी :-

१. मा.अधिष्ठाता, सर्व, विद्याशाखा, सा.फु. पुणे विद्यापीठ, पुणे ७.
२. मा.संचालक, म.वि.वि.मं., सा.फु. पुणे विद्यापीठ, पुणे ७.
३. मा. विभागप्रमुख, सर्व विभाग, सा. फु. पुणे विद्यापीठ, पुणे ७.
४. मा.प्राचार्य, सर्व संलग्न महाविद्यालये.
५. मा.संचालक, सर्व मान्यताप्राप्त संस्था.
६. मा.परीक्षा नियंत्रक, सा.फु. पुणे विद्यापीठ, पुणे ७.
७. मा.संचालक, स्पर्धा परीक्षा केंद्र, सा.फु. पुणे विद्यापीठ, पुणे ७.
८. मा.प्रमुख, विद्यापीठ उपकेंद्र : अहमदनगर, नाशिक.
९. मा.संचालक, परदेशी विद्यार्थी केंद्र, सा.फु. पुणे विद्यापीठ, पुणे ७
१०. वरिष्ठ कायदा अधिकारी, सा.फु. पुणे विद्यापीठ, पुणे ७.
११. उपकुलसचिव, परीक्षा (१ व २) सा.फु. पुणे विद्यापीठ, पुणे ७.
१२. पद्धती विश्लेषक, व्यवस्थापन व माहिती विभाग, सा.फु. पुणे विद्यापीठ, पुणे ७.
१३. उपकुलसचिव, शैक्षणिक प्रवेश विभाग, सा.फु. पुणे विद्यापीठ, पुणे ७.
१४. उपकुलसचिव, नियोजन व विकास विभाग, सा.फु. पुणे विद्यापीठ, पुणे ७.
१५. उपकुलसचिव, शैक्षणिक पात्रता विभाग, सा.फु. पुणे विद्यापीठ, पुणे ७.
१६. उपकुलसचिव, गोपनीय कक्ष, सा.फु. पुणे विद्यापीठ, पुणे ७.
१७. सहायक कुलसचिव, परीक्षा समन्वय, सा.फु. पुणे विद्यापीठ, पुणे ७.
१८. सहायक कुलसचिव, परीक्षा एस.अॅण्ड टी. विभाग, सा.फु. पुणे विद्यापीठ,
१९. सहायक कुलसचिव, सभा व दफ्तर विभाग, सा.फु. पुणे विद्यापीठ, पुणे ७.
२०. सहायक कुलसचिव, संलग्नता विभाग, सा.फु. पुणे विद्यापीठ, पुणे ७.
२१. जनसंपर्क अधिकारी, सा.फु. पुणे विद्यापीठ, पुणे ७.
२२. कक्षाधिकारी, बहिःस्थ विभाग, सा.फु. पुणे विद्यापीठ, पुणे ७.

विद्यापरिषद ठराव क्र. ब १५/पीए/१५/२०१५ दि. १४ फेब्रुवारी, २०१५ .

पुणे विद्यापीठ

दूरध्वनी क्र.:

०२०-२५६९१२३३.

०२०-५६०१२५७/५८/५९.

फॅक्स :- ०२०-२५६९१२३३

संदर्भ क्र.: सी.बी.ए./ ६३८



शैक्षणिक विभाग,

गणेशखिंड, पुणे ४११ ००७.

टेलिग्राफ :- युनिपुणे

वेबसाईट :- www.unipune.ac.in

ई-मेल :- boards@unipune.ac.in

दिनांक :- ०८/०६/२०१३


परिपत्रक क्र. १५५ /२०१३.

विषय :- ह्युमन राईट्स (Human Rights) अभ्यासक्रमाबाबत

विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार सर्व संबंधितांस या परिपत्रकाद्वारे कळविण्यात येत आहे की, शैक्षणिक वर्ष २०१३-१४ पासून सर्व विद्याशाखांकरिता पदव्युत्तर पदवी स्तरावर ह्युमन राईट्स (Human Rights) या दोन क्रेडीटच्या अभ्यासक्रमास मान्यता देण्यात येत आहे.

सदरचा अभ्यासक्रम हा पुणे विद्यापीठाच्या www.unipune.ac.in या संकेतस्थळावर Syllabi > Law या शीर्षकाखाली उपलब्ध आहे.

मा.प्राचार्य, पुणे विद्यापीठाशी संलग्न सर्व महाविद्यालये यांना विनंती की, सदर परिपत्रकाचा आशय सर्व संबंधितांच्या निदर्शनास आणून द्यावा.


संचालकांकरिता,
(म.वि.वि.मं.)

प्रत माहिती व पुढील योग्य त्या कार्यवाहीसाठी -:

१. मा.अधिष्ठाता, कला विद्याशाखा, पुणे विद्यापीठ, पुणे ७.
२. मा.संचालक, म.वि.वि.मं., पुणे विद्यापीठ, पुणे ७.
३. मा.विभागप्रमुख, सर्व कला विद्याशाखा विभाग, पुणे विद्यापीठ, पुणे ७.
४. मा.प्राचार्य, सर्व संलग्न महाविद्यालये.
५. मा.संचालक, सर्व मान्यताप्राप्त संस्था.
६. मा.परीक्षा नियंत्रक, पुणे विद्यापीठ, पुणे ७.
७. मा.संचालक, स्पर्धा परीक्षा केंद्र, पुणे विद्यापीठ, पुणे ७.
८. मा.उपकुलसचिव, परीक्षा (१ व २) पुणे विद्यापीठ, पुणे ७.
९. मा.पद्धती विश्लेषक, व्यवस्थापन व माहिती विभाग, पुणे विद्यापीठ, पुणे ७.
१०. मा.उपकुलसचिव, शैक्षणिक प्रवेश विभाग, पुणे विद्यापीठ, पुणे ७.
११. मा.उपकुलसचिव, नियोजन व विकास विभाग, पुणे विद्यापीठ, पुणे ७.
१२. मा.उपकुलसचिव, शैक्षणिक पात्रता विभाग, पुणे विद्यापीठ, पुणे ७.
१३. मा.उपकुलसचिव, गोपनीय कक्ष, पुणे विद्यापीठ, पुणे ७.
१४. मा.सहायक कुलसचिव, परीक्षा समन्वय, पुणे विद्यापीठ, पुणे ७.
१५. मा.सहायक कुलसचिव, परीक्षा - एस.अॅण्ड टी. विभाग, पुणे विद्यापीठ, पुणे ७.
१६. मा.संचालक, परदेशी विद्यार्थी केंद्र, पुणे विद्यापीठ, पुणे ७.
१७. मा.सहायक कुलसचिव, सभा व दफ्तर विभाग, पुणे विद्यापीठ, पुणे ७.
१८. मा.सहायक कुलसचिव, संलग्नता विभाग, पुणे विद्यापीठ, पुणे ७.
१९. मा.वरिष्ठ कायदा अधिकारी, पुणे विद्यापीठ, पुणे ७.
२०. मा.जनसंपर्क अधिकारी, पुणे विद्यापीठ, पुणे ७.
२१. मा.कक्षाधिकारी, बहिस्थ विभाग, पुणे विद्यापीठ, पुणे ७.
२२. मा.प्रमुख, विद्यापीठ उपकेंद्र : अहमदनगर, नाशिक.

विद्यापरिषद ठराव क्र. वि.प. व ४६ पीए/१९७/१३ दि. १५ मे, २०१३

पुणे विद्यापीठ

दूरध्वनी क्रमांक :

०२०-२५६९१२३३

२५६०१२५७

२५६०१२५८

२५६०१२५९



शैक्षणिक विभाग

गणेशखिंड, पुणे-४११००७.

टेलिग्राफ : 'युनिपुणे'

फॅक्स : ०२०-२५६९१२३३

वेबसाइट : www.unipune.ac.in

इ-मेल : dyracademic@unipune.ac.in

दिनांक : ०७/०६/२०१३

संदर्भ क्र. : सी.बी.एस./ ६७३

परिपत्रक क्र.— १४३ / २०१३


विषय:— Introduction to Cyber Security / Information Security या चार क्रेडिटच्या कोर्सला सर्व विद्याशाखांकरिता शैक्षणिक वर्ष २०१३—१४ पासून मान्यता देण्याबाबत...

विद्यापीठ अधिकार मंडळाने घेतलेल्या निर्णयानुसार कळविण्यात येते की, सर्व विद्याशाखांकरिता पदव्युत्तर पदवी स्तरावर Introduction to Cyber Security / Information Security या चार क्रेडिटच्या अभ्यासक्रमास शैक्षणिक वर्ष २०१३—१४ पासून मान्यता देण्यात येत आहे.

सदर अभ्यासक्रम पुणे विद्यापीठच्या www.unipune.ac.in या संकेत स्थळावर Syllabi या शीर्षकाखाली उपलब्ध करण्यात आला आहे. याची सर्व संबंधितांनी नोंद घ्यावी.

सदरचे परिपत्रक पुणे विद्यापीठच्या www.unipune.ac.in या संकेत स्थळावर Circular ---- Boards & Meetings Circular या शीर्षकाखाली उपलब्ध करण्यात आले आहे. याची सर्व संबंधितांनी नोंद घ्यावी.

मा. प्राचार्य, संलग्न महाविद्यालये, पुणे विद्यापीठ व मा. विभागप्रमुख, पुणे विद्यापीठ यांना विनंती की, सदर परिपत्रकाचा आशय सर्व संबंधित प्राध्यापक व विद्यार्थी यांच्या निदर्शनास आणून द्यावा.


संचालकांकरिता
(म.वि.वि.मं.)

पान क्र. १/२

प्रत माहितीसाठी व पुढील योग्य त्या कार्यवाहीसाठी:—

१. मा. अधिष्ठाता, विज्ञान विद्याशाखा
२. मा. संचालक, बी.सी.यु.डी.
३. मा. विभागप्रमुख, विज्ञान विद्याशाखेअंतर्गत सर्व विभाग
४. मा. प्राचार्य, सर्व संलग्न महाविद्यालये
५. मा. संचालक, सर्व मान्यताप्राप्त संस्था
६. मा. परीक्षा नियंत्रक, पुणे विद्यापीठ
७. मा. संचालक, स्पर्धा परीक्षा केंद्र
८. मा. उपकुलसचिव, परीक्षा (१,२)
९. मा. सिस्टीम अॅनालिस्ट, डेटा प्रोग्रेसिंग युनिट
१०. मा. सहायक कुलसचिव, शैक्षणिक प्रवेश
११. मा. उपकुलसचिव, नियोजन व विकास
१२. मा. उपकुलसचिव, शैक्षणिक पात्रता
१३. मा. सहाय्यक कुलसचिव (परीक्षा समन्वय)
१४. मा. सहाय्यक कुलसचिव (परीक्षा—एस.अॅण्ड टी. विभाग)
१५. मा. उपकुलसचिव (गोपनीय कक्ष)
१६. मा. संचालक (परदेशी विद्यार्थी केंद्र)
१७. मा. सहाय्यक कुलसचिव (सभा दफ्तर)
१८. मा. वरिष्ठ कायदा अधिकारी
१९. मा. जनसंपर्क अधिकारी
२०. मा. कक्षाधिकारी (बहिःस्थ)
२१. मा. सहाय्यक कुलसचिव (संलग्नता)
२२. मा. प्रमुख, विद्यापीठ उपकेंद्र : अहमदनगर, नाशिक.

संदर्भ क्र. :— मा. विद्यापरिषद ठराव क्र. ब ४५पीए/१९६/१३,
दि. १५ मे, २०१३

Savitribai Phule Pune University

Dr. V. B. Gaikwad

M.Sc., M.Phil., Ph.D.



Telephone : 020-25601255 / 25698007

Tele Fax : +91-020-25601256

Email : bcud@unipune.ac.in

Director,

Board of College & University Development

Ganeshkhind, Pune-411 007

Ref.BCUD/ 76

Dt. 18.03.2015


To,
The Principal/ Directors.
All Affiliated colleges
All Recognized institute
Savitribai Phule Pune University,
Pune

Subject: Guidelines regarding evaluation of Cyber security courses of 4 credits.

Dear Sir/Madam,

As per decision taken by the University authorised, Cyber Security courses of 4 credits has been incorporated in the syllabi of Post graduate courses. We hereby, would like to give the guidelines for the evaluation of these courses. We hereby, would like to give the guidelines for the evaluation of these courses attached herewith.

With regards,


Dr. V. B. Gaikwad
Director, BCUD

GUIDELINES FOR EVALUATION OF CYBER SECURITY COURSES OF 4 CREDITS

From the academic year 2014-15, the cyber security courses for 4 credits have been incorporated in the curriculum of Post-graduate degree programmes of Savitribai Phule Pune University.

- Cyber security courses has been divided into 4 modules namely :

Name of Modules	No. Of credit	No. Of hours	No of Marks
Module : 1 Pre-requisites in Network and Information Security	One credit	14	25
Module : 2 Security Management	One credit	13	25
Module : 3 Information and Network Security	One credit	13	25
Module:4 System and Application Security	One credit	20	25

- Evaluation comprises of the Internal Assessment of the aforesaid modules are on the basis of following components:

Name of module	Examination pattern		Marks	
Module 1	Written Examination	Objective questions, MCQs, define/answer in one sentence	7	15
		Two descriptive questions of short answers	8	
	Hands on /Practical examination along with viva			
Total				25
Module 2	Written Examination	Objective questions, MCQs, define/answer in one sentence	7	15
		Two descriptive questions of short answers	8	
	Hands on /Practical examination along with viva			
Total				25
Module 3	Written Examination	Objective questions, MCQs,	7	15

		define/answer in one sentence		
		Two descriptive questions of short answers	8	
	Hands on /Practical examination along with viva			10
Total				25
Module 4	Written Examination	Objective questions, MCQs, define/answer in one sentence	7	15
		Two descriptive questions of short answers	8	
	Hands on /Practical examination along with viva			10
Total				25
GRAND TOTAL				100

- Course- related skill-based practical work will be entirely based on the skills to be developed in the students. It may include the topics as has been prescribed in the syllabi of every module.
- Practical components may be based on laboratory work, on job industrial training, working with NGO or similar organizations, project, group discussion, presentation etc. unless otherwise clearly specified in the given syllabi of all the courses.
- College is supposed to maintain the record of marks allotted to the practical work carried out by the students.
- There shall be combine passing (written exam + practical, viva) of 40%.

Savitribai Phule Pune University

Dr. V. B. Gaikwad

M.Sc., M.Phil., Ph.D.



Telephone: 020-25601255/25698007

Tele Fax : +91-020-25601256

Email : bcud@unipune.ac.in

Director,

Board of College & University Development

Ganeshkhind, Pune-411 007

Ref.BCUD/ 77

Dt. 18.03.2015

To,
The Principal/ Directors.
All Affiliated colleges
All Recognized institute
Savitribai Phule Pune University,
Pune

Subject: Guidelines regarding evaluation of Human Rights Education Programme (2 credits)

Dear Sir/Madam,

As per decision taken by the University authorised, Human Education Programme of 2 credits has been incorporated in the syllabi of Post graduate courses. We hereby, would like to give the guidelines for the evaluation of these courses attached herewith.

With regards,

Dr. V. B. Gaikwad

Director, BCUD

GUIDELINES FOR EVALUATION OF HUMAN RIGHTS EDUCATION PROGRAMME FOR 2 CREDITS

- Students of all the Post graduate programmes have to undergo the Human Rights Education programme
- The Courses under the programme will have no affect on the credit/grade of the students of their regular course of study. The grades earned in the papers of this programme will reflect separately in the mark statement of each student.
- In the HRE Programme there will be three courses.

Paper code	Course Name	Credits	Marks
HRE 101	Introduction to Human Rights and Duties (Mandatory)	1	25
HRE 102	Human Rights of Vulnerable and Disadvantaged Groups (Optional)	1	25
HRE: 103	Human Rights and Duties in India: Law, Policy, Society and Enforcement mechanism. (Optional)	1	25

- In the three courses, students have to opt for only two courses during their entire Post Graduate Programme Among the three papers, **(HRE 101 Introduction to Human Rights and Duties)** is a compulsory course. In the other two papers (**HRE 102 Human Rights of Vulnerable and Disadvantaged Groups and HRE 103 Human Rights and Duties in India: Law, Policy, Society and Enforcement Mechanism**) the students are free to select any one paper as per the decision of the head of the institute.
- At no point of time any two courses should be taken together. (This rule is applicable for the students in part I or from the new academic year).
- The Coordinators of each institute appointed by the Directors/Principal shall monitor the programme under the Supervision of the Head of the institute.

- It would be a self-study programme. The students will have to study the materials of each paper, based on the materials uploaded on the University Website. Apart from the materials available on the website, students are free to refer to any reference book of their choice stated in the bibliography. Apart from the reading materials, a video of Lectures delivered by some of the eminent professors will also be available on the University Web Site.
- For evaluation of the papers, any of the models prescribed in the credit pattern for Internal Assessment regulations may please be adopted depending on the Models suitable to the institute.
- Individual faculty member shall have the flexibility to design the concurrent evaluation components in a manner so as to give a balanced assessment of student capabilities across Knowledge, Skills and Abilities based on following assessment tools:
 1. Case Study/ Caselet/ Situation Analysis
 2. Class Test
 3. Open book test
 4. Study tour/ Field visit and report of the same.
 5. Small group Project
 6. Group Discussion
 7. Role Play/ Story telling
 8. Thematic Presentation
 9. Industry Analysis
 10. In depth viva
 11. Quiz
 12. Model Development / Simulation exercises
- A pass in the two papers is compulsory.
- Each Paper carries only One Credit. This means a credit is equal to 25 marks. Hence, the minimum applicable per credit as per the credit system rules need to be adopted as the passing minimum. Based on the marks that are secured by each student the grade may be decided depending on the mark obtained in each paper.
- If any student fails to secure the minimum passing grade of E in any of the two papers, such student may have to repeat such paper and has to pass the paper compulsorily otherwise they won't be conferred the degree.
- The Coordinators of each institute need to maintain a record of the evaluation methods adopted by the respective institute.

Introduction to Cyber Security / Information Security

Syllabus for 'Introduction to Cyber Security / Information Security' program* for students of University of Pune is given below.

The program will be of 4 credits and it will be delivered in 60 clock hours**.

*: Course material for this program will be developed by CINS

** : These clock hours also includes practical sessions and demonstrations wherever required.

SR. NO.	TOPIC	HOURS	MARKS
1	Module 1: Pre-requisites in Information and Network Security	14	25
	Chapter 1: Overview of Networking Concepts	3	
	Chapter 2: Information Security Concepts	3	
	Chapter 3: Security Threats and Vulnerabilities	5	
	Chapter 4: Cryptography / Encryption	3	
2	Module 2: Security Management	13	25
	Chapter 1: Security Management Practices	7	
	Chapter 2: Security Laws and Standards	6	
3	Module 3: Information and Network Security	13	25
	Chapter 1: Access Control and Intrusion Detection	3	
	Chapter 2: Server Management and Firewalls	4	
	Chapter 3: Security for VPN and Next Generation Technologies	6	
4	Module 4: System and Application Security	20	25
	Chapter 1: Security Architectures and Models	5	
	Chapter 2: System Security	5	
	Chapter 3: OS Security	5	
	Chapter 4: Wireless Network and Security	5	

Detail Syllabus for Credit Course for University of Pune

Module 1: Pre-requisites in Information and Network Security

Chapter 1: Overview of Networking Concepts

1. Basics of Communication Systems
2. Transmission Media
3. Topology and Types of Networks
4. TCP/IP Protocol Stacks
5. Wireless Networks
6. The Internet

Chapter 2: Information Security Concepts

1. Information Security Overview: Background and Current Scenario
2. Types of Attacks
3. Goals for Security
4. E-commerce Security
5. Computer Forensics
6. Steganography

Chapter 3: Security Threats and Vulnerabilities

1. Overview of Security threats
2. Weak / Strong Passwords and Password Cracking
3. Insecure Network connections
4. Malicious Code
5. Programming Bugs

6. Cyber crime and Cyber terrorism
7. Information Warfare and Surveillance

Chapter 4: Cryptography / Encryption

1. Introduction to Cryptography / Encryption
2. Digital Signatures
3. Public Key infrastructure
4. Applications of Cryptography
5. Tools and techniques of Cryptography

Module 2: Security Management

Chapter I: Security Management Practices

1. Overview of Security Management
2. Information Classification Process
3. Security Policy
4. Risk Management
5. Security Procedures and Guidelines
6. Business Continuity and Disaster Recovery
7. Ethics and Best Practices

Chapter 2: Security Laws and Standards

1. Security Assurance
2. Security Laws
3. IPR

4. International Standards
5. Security Audit
6. SSE-CMM / COBIT etc

Module 3: Information and Network Security

Chapter 1: Access Control and Intrusion Detection

1. Overview of Identification and Authorization
2. Overview of IDS
3. Intrusion Detection Systems and Intrusion Prevention Systems

Chapter 2: Server Management and Firewalls

1. User Management
2. Overview of Firewalls
3. Types of Firewalls
4. DMZ and firewall features

Chapter 3: Security for VPN and Next Generation Technologies

1. VPN Security
2. Security in Multimedia Networks
3. Various Computing Platforms: HPC, Cluster and Computing Grids
4. Virtualization and Cloud Technology and Security

Module 4: System and Application Security

Chapter 1: Security Architectures and Models

1. Designing Secure Operating Systems
2. Controls to enforce security services
3. Information Security Models

Chapter 2: System Security

1. Desktop Security
2. email security: PGP and SMIME
3. Web Security: web authentication, SSL and SET
4. Database Security

Chapter 3: OS Security

1. OS Security Vulnerabilities, updates and patches
2. OS integrity checks
3. Anti-virus software
4. Configuring the OS for security
5. OS Security Vulnerabilities, updates and patches

Chapter 4: Wireless Networks and Security

1. Components of wireless networks
2. Security issues in wireless

1. Course in Translational skill

Sector: Language

Duration: 60 Hrs.

Credits: 4

Objective:

1. Trainee translates text from source language to target language with appropriate representation of intended meaning.
2. Trainee translates legal, administrative documents using appropriate register of language.
3. Trainee translates commercials in vernacular and English with attractive captions.

Course Content:

Sr. No.	Theory	Practical	Credits
1.	Grammar and vocabulary of source language and target language, lexicography	Exercises in essential grammar, use of dictionary, using online dictionary	1
2.	Theories of translation, principles and techniques of translation, translating complex, lengthy sentences precisely. Interaction with professional translators. Study of some famous translational works- Ignited Minds by Dr. A. P. J. Abdul Kalam, Ek Hota Carver by Veena Gavankar	Practice sessions for translation of simple, complex as well as peculiar sentences.	1
3.	Registers in language: e.g. register of law. Translation of literature from print media, legal documents, government circulars	Practice sessions on translation of newspaper articles, legal documents	1
4.	Study of popular commercials from source language, attractive captions, maximum information in minimum words	Translating popular commercials, writing attractive captions	1

References:

1. Sulabh Bhashavidnyan, D. D. Punde, Snehwardhan Prakashan, Pune.
2. Sociolinguistics, Peter Trudgil, Penguin Publications
3. Translation Studies, Susan Bassnett, Third edition, Routledge, Taylor and Francis Group

2. Desk Top Publishing

Sector: Information & Communication Technology (ICT) .

Objective in terms of learning outcome:

After completion of the training, participants would be able to apply various software used for Desktop Publishing and would be able to create documents with text and graphics like news paper ad, visiting cards, greeting cards etc. using PageMaker, CorelDraw & Photoshop.

Course Structure:

Practical Competencies	Theory	Credits
<p>1. PageMaker</p> <p>tool bar, Settings, Opening, saving and closing publications Inserting and removing pages Flowing text, resizing the object, Adjusting graphics or text objects Select multiple elements, Selecting elements behind the others Mask and group, unmask and ungroup. Constrain move vertically/horizontally Paste items, editing objects, rotating text box Layout window, viewing pages, changing previous and next pages, zooming and hyperlinks Font style, size, case Subscript and superscript Inserting Special characters, bullets, page numbering Spacing of character, line, word and paragraph Breaking and non breaking Text editing – selecting word, paragraph and a range of text Indenting/Tabs Find and change dialogue box Text recomposition Compress paint, JPG and GIF files Using Palletes control, colour palletes, styles palet and master pages pallet Removing master page objects from pages, control pallets Making tables, editing data in tables. Filing, stroking, frames, arranging, text Wrapping, grouping and ungrouping, locking and unlocking, mask/unmask image,</p>	<p>PageMaker</p> <p>introduction to various versions, concepts and applications of PageMaker</p>	<p>2</p>

<p>polygon setting, rounded corners</p> <p>PageMaker</p> <p>introduction to various versions, concepts and applications of PageMaker</p>		
<p>2.Corel Draw</p> <p>Use of various tools such as Pick tools, Zoom tools, Free hand tool, square tool, rectangle tool, Text tool, Fill tool etc. and all fonts used in designing of monograms, logos, posters, stickers, greeting cards, visiting cards, etc.</p>	<p>Corel Draw</p> <p>Photo Shop:</p> <p>Introduction to various versions, concepts And applications of Corel Draw.</p>	1
<p>3.Photo Shop</p> <p>Photo editing /inserting starting with Setting Up The Interface Managing Palettes Working With Photoshop Tools Working With Layers</p>	<p>Photo Shop:</p> <p>Introduction to various versions, concepts and applications of Photoshop</p>	1

System Requirements:

Hardware

PCs With latest configuration, Laser Printer

Software

Microsoft Windows,

PageMaker Latest Version , PageMaker, Latest Version Adobe Photoshop, latest version Corel Draw

References:

1.Aaland, Mikkell. *Photoshop Elements Solutions*. Sybex, 2001. Harness the power of Photoshop with a guide to the new Adobe Photoshop Elements program. Trial version on the included CD

2.The Adobe Photoshop CS3 Book for Digital Photographers (Voices That Matter)

by Scott Kelby, New Rider's Publishing.

3.Rapidex DTP Course, Shirish Chavan, Unicorn books pvt. Ltd.

4. Training & Development: Theory & Practice, Jaico Publishing House

5. Desktop Publishing Application: Using PageMaker Version 5

By Author: Earline Cocke, Pam Darnell

3. Web Designing

Sector: Information & Communication Technology (ICT)

Objective in terms of learning outcome:

After completion of the training, participants would be able to: Open different Internet sites using Search Engine, Use different Browsers , Create Web Pages using HTML, Insert animations using DHTML

Duration: 60 hrs. (4 credits)

Practical Competencies	Theory	Credits
<p>1. Connecting to Internet. Browsing popular sites and using Search engines.</p> <p>2. Using HTML editor, creating simple HTML documents, containing heading, body text and comments</p> <p>3. Creating web pages with all the Features and effects.</p> <p>4. Converting MS Office documents to HTML.</p>	<p>1. Introduction Internet and Web pages, home page, Web browsers, search Engines, web sites and servers.</p> <p>2. Introduction to HTML. HTML features and uses, structure of an HTML Document, creating HTML document, adding body text and comments.</p> <p>3. Using all the features, colors and other effects of HTML.</p> <p>4. Converting MS Office documents to HTML.</p>	1
<p>5. Creation of web pages containing Tables of different formats. Practice on modification of tables. Creating Lists using Bullets and Numbers.</p> <p>6. Using HTML for creating web pages with links to other pages different points of a page and link to tables and list.</p> <p>7. Creating web pages containing Images, Animation graphics using GIF animator or some other software.</p> <p>8. Inserting Images, Video & Sound Effects. Marquees of Scrolling text.</p> <p>9. Setting and releasing different types of Frames.</p>	<p>5. Tables & Lists – Creating Tables and Lists in HTML documents.</p> <p>6. Links - Creating links to local range, other pages, specific part of page</p> <p>7. Images - Including icon and picture in HTML Document. Creation of animated GIF. Sizing the pictures.</p> <p>8. Multimedia Objects: Adding external images, video, and sound file Including (DVI) files. Add marquees of scrolling text.</p> <p>9. Frames – Setting and releasing frames. Using one frame to index another. Creating floating frames, borderless frames and frames with borders.</p>	2

<p>10.Using HTML to design different types of forms, incorporating different type of Boxes, buttons, menus and fields. Processing the form.</p> <p>11.Designing web pages with taught elements along with style elements for Different characteristics. Practice cascading style sheets.</p> <p>12.Creating animation in the web pages Using layers.</p>	<p>10.Forms – Creating basic forms. Adding text box, check box, Radio buttons, pull-down menus, single-line text field and password field. Processing the forms.</p> <p>11.Style sheets – Creating style sheets to other HTML element, Altering different characteristics and features. Cascading HTML style sheets.</p> <p>12.DHTML – Creating layers using style sheet syntax. Create Animation.</p>	<p>1</p>
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References:

- Burgstahle, Sheryl. *Universal Design in Higher Education: From Principles to Practice*, Harvard Education Press, 2008.
- Byrne, Jim. *60 hot to touch Accessible Web Design tips – the tips no web developer can live without!*, Jim Byrne, 2006, (ISBN: 978-1-4116-6729-7).
- Chisholm, and May. *Universal Design for Web Applications: Web Applications That Reach Everyone*, O'Reilly Media, 2008.
- Clark, Joe. *Building Accessible Websites*, New Riders Publishing, 2002.

Dream Weaver CS5 Training Guide, BPB Publications.

Learning Web Design, Jennifer Niederst Robbins, Kindle Edition

4. Course in Developing E-learning Material
4 credits (60 hours)

Objective in terms of learning outcome:

Teacher working in the educational institute develops appropriate e-learning course based on the selected content.

System requirements:

- 1.P.C. with latest configuration and multimedia facility
2. Operating and application software (e-learning tools)
 - 3. Laser printer

Course Structure

Sr. No.	Content	Practical	Credits
1.	E-learning: Concept	-	1
	Steps in developing e-learning course: Assessment Convert and create content Online learning management system Implementation Evaluation Modification Monitoring	Selecting a suitable content and analysis, preparing draft	
2.	E-learning tools: online learning management systems, adobe e-learning tools, adapt, articulate, MKCL's era framework	Viewing sample programmes, practicing features in system software such as animations, drag and drop mouse etc,	
3.	Learning Content Management System	Organizing content in LMS	1
4.	Content Design and Integration Tool	Integration of available multimedia into content	1
5.	Online Evaluation Framework	Preparing tests for learner's assessment	1
6.	Assignment Management System (AMS)	Providing access to assignments, references, corrective feedback, reports	

References:

1. E-Learning: A Guide Book of principles, Procedures and Practices by Som Naidu, CEMCA, 2003
2. The book: Effective E-learning by Madhuri Dubey, University Press.

5. Event Management

Sector: Management

Objective: After completion of the course, a trainee would be able to manage the events- social, cultural, co-curricular for school/community.

Duration: 60 Hrs. (4 credits)

Sr. No.	Components	Credits
1	Concept of Event Management 5 G's of Events, Event Designing Relationship Building, Creating Opportunities for Better Deals with Different Media, Events and the Economy	1
2.	Facets of Event Management Event Infrastructure, Core Concept, Core People, Core Talent, Core Structure, Set Objectives for the Event, Negotiating Contracts with Event Organisers, Locating Interaction Points, Banners , Displays etc., at the Event, Preparing the Staff for the Event, Post-event Follow-up Event Organisers Targeting Clients, Selecting Event Categories to Serve, Selecting and Contracting with Other Key Elements in Chosen Categories. Venue : In-house Venue, External Venue	1
3.	Activities in Event Management Networking Components, Print Media, Radio Television, The Internet, Cable Network, Outdoor Media, Direct Marketing, Sales Promotions, Audience Interaction, Public Relations, Merchandising, In-venue Publicity, Activities in Event Management, Pre-event Activities, During-event Activities, Post-event Activities, Planning, Organizing, Staffing, Leading and Coordination, Controlling, Event Management Information System, Setting Objectives, Development of the Strategic Market Plan, Environmental Assessment, Competitive Assessment, Gaining Competitive Advantages, Business Potential, Assessment, Market Attractiveness, Business Strengths	1
4.	Practical: Manage,carry out an event with appropriate systems as described in above components such as advertising, staffing, networking etc.	1

References: Tallon, A.F. Fashion Marketing and Marchandising, 3rd ed., Sequoia Books, 1986.

Panwar, J.S. Marketing in the New Era, Sage Publications India Pvt. Ltd., 1998. Avvich, Barry, Event and Entertainment Marketing ,Delhi, Vision Books 1994

6. Yoga Therapy

Sector: Health

Objective: After completion of the course, a trainee would be able to apply yogic asanas, pranayam, kriya for physical, mental and spiritual well-being of the individuals as well as train the students in performing yoga.

Duration: 60 hours

Credits: 4

Sr. No.	Theory	Practical	Hours
1.	Study of human anatomy and physiology	Study of human anatomy and physiology with models and charts	5
2.	Study of concept of health and diseases		5
3.	Study of disorders such as diabetes, hypertension, asthma, joint pain, cardiac diseases, obesity		
4.	Textual basis of yoga Various darshanas and approach to self-realisation, Patanjali yogsutra		1
5.	Techniques of practicing yogic practice and their role in human health	Preparation of room for yogic practice	1
6.	Basic principles and methods of various asanas and their applications in curing various ailments	Performing asanas	20
7.	Principles and methods of Pranayam Meditation, relaxation techniques	Performing pranayam Meditation, self-relaxation exercises	20
8.	Shuddhikriya: principles, methods, equipments, techniques, uses	Performing shuddhikriya using equipments	8

Requirements:

1. Room for yogic practice
2. Carpets for asanas, pranayam, dhyana
3. Charts, models of human systems

References:

1. Yoga Therapy: A Guide to the Therapeutic Use of Yoga and Ayurveda for Health and Fitness, A. G. Mohan, Shambhala Publications, 2004

2. Light on Pranayam, Yogacharya B K S Iyengar

3. Arogya Yoga, Yogacharya B K S Iyengar

7. Course in First Aid

Sector : Health and Medicine

Duration: 60 Hrs.

Credits: 4

Terminal Competency: After completion of the course a trainee would be able to employ appropriate first aid measure to a casualty (child or adult).

Sr. No.	Content	Practical	Credits
1	The role of the first aider		1
2.	Contents of first aid kits (and avoid cross infection)		
3.	Managing an emergency		
4.	Communication and casualty care		
5.	Recording of incidents and accidents		
6.	Assess the situation and circumstances in order to act safely, promptly and effectively in an emergency		
7.	First aid measures to a casualty who; is unconscious - child and adult requires cardio pulmonary resuscitation (CPR) - child and	Administer first aid to a casualty who; is unconscious - child and adult requires cardio pulmonary resuscitation (CPR) - child and	3

	<p>adult</p> <p>has minor conditions - to include: minor cuts, grazes and bruises, minor burns & scalds, small splinters</p> <p>Allergic reaction</p> <p>Asthma</p> <p>Bleeding</p> <p>Bone, muscle and joint injuries</p> <p>Burns</p> <p>Choking</p> <p>Head injuries</p>	<p>adult</p> <p>has minor conditions - to include: minor cuts, grazes and bruises, minor burns & scalds, small splinters</p> <p>Allergic reaction</p> <p>Asthma</p> <p>Bleeding</p> <p>Bone, muscle and joint injuries</p> <p>Burns</p> <p>Choking</p> <p>Head injuries</p> <p>Poisoning</p>	
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Collaboration/support with industry/ NGO: The Indian Red Cross Society, Pune.

8. WEB PUBLISHING

Sector : Information & Communication Technology (ICT)

Objective:: After completion of training, trainee would be able to design interactive Web sites, communicate subject content and other useful material among educators and the students.

Create attractive web layouts.

Duration : 60 hrs

1.Computer Graphics: Credits-1

Theory

Understanding how images are formed, image file formats and their properties.

Practical:

Know the difference between Vector Graphics and Raster Graphics.

Know the difference between Screen Graphics and Pixel Graphics.

Understand the following formats :-

.ai, .pdf, .eps, .svg, .svgz, .psd,.bmp, .gif, .jpg, .pcx, .pct,.png, .raw, .sct, .tga, .tiff, .vst

2.Understanding Design principles and color theory: Credit-1

Practical:

Primary and Secondary in both RGB & CMYK schemes/modes. Importance of each primary and secondary color. Proper Application of colors. Analyze colors applied in different print media.

Visualize look and feel of a print or a web to apply colors.

3.Web Design Basics: Theory: Credit: 1

Understanding design issues in Web medium and visualizing web designs

Design Professional Web Layouts, Author and Publish websites on the internet using Dreamweaver.

Typography- Study different fonts and typo issues with Web design

Practical:

Open web pages using URL and domain name. Save web pages. Store web pages as favorites. Set-up for Chat. Practice chatting.

Practice chatting with Video. Join News group.

4.Digital Imaging: Credit-1

Images in Photoshop. with Palettes, i.e., layers palette, navigator palette, info palette, color palette, Swatches palette, Styles palette, History palette, Actions Palette, Tool preset palette, Channels Palette and Path Palette.

Working with Layers. Photo editing.

Image adjustment options – Labels, Auto labels, Auto contrasts, Curves, Color balance, Brightness / Contrast, Posterize , Variations.

Preparing the file and work area.

Creating different shapes.

Creating three Dimensional effects using Layers. Working with the magic wand tool and lasso tool.
Creating images using Symbol Sprayer Tool. Edit the images using options of Warp Tool. Using Dodge tool, Burn tool, Sponge Tool and Clone Stamp Tool.
Editing Selections. Creating images and giving special effects using Filters. Using Layer Styles.
Produce an image by mixing two or more different images using Layer Masking & Vector Masking.
Typography
Study different fonts and typo issues with Web design.
Design Professional Web Layouts, Author and Publish websites on the internet using Dreamweaver.

References:

- Burgstahle, Sheryl. *Universal Design in Higher Education: From Principles to Practice*, Harvard Education Press, 2008.
- Byrne, Jim. *60 hot to touch Accessible Web Design tips – the tips no web developer can live without!*, Jim Byrne, 2006, (ISBN: 978-1-4116-6729-7).
- Chisholm, and May. *Universal Design for Web Applications: Web Applications That Reach Everyone*, O'Reilly Media, 2008.
- Clark, Joe. *Building Accessible Websites*, New Riders Publishing, 2002.

Dream Weaver CS5 Training Guide, BPB Publications.

Learning Web Design, Jennifer Niederst Robbins, Kindle Edition

9. Enhancing Communication Skills and Personality

Objective in terms of learning outcome:

1. Trainee speaks regional language/ English language effectively using proper gestures.
2. Trainee drafts formal/ informal letters in appropriate format and language.
3. Trainee creates and gives effective presentation in front of peer group.
4. Trainee identifies his/her own strengths and makes maximum use for success in tasks.

Sr.No.	Theory	Practical	No. of Hrs.
1	<p>Development of competency/proficiency in English</p> <p>Practice on Oral/spoken communication skill & testing - voice and accent, voice clarity, voice modulation & intonation, word stress, etc.</p> <p>Feedback & questioning technique :</p> <p>Objectiveness in argument (Both one on one and in groups)</p> <p>Components of effective Communication Development Etiquette and manners</p>	<p>Concept of Effective Communication</p> <p>Communication – Composing effective messages.</p> <p>Exercises on listening skills: Listen to recorded speech. Provide special attention to accent, intonation. Practice small speech such as self-introduction. Observe Facial Expression, Posture, Gesture, eye contact of peers and mark in evaluation sheets.</p>	12
	<p>Written Communication skill Practice for</p> <p>Correction of errors Making of sentences Paragraph writing Leave application & Simple Letter writing</p>	<p>Use worksheets for exercises on grammatical usage e.g. singular-plural, direct/ indirect speech, subject-verb agreement</p>	12

	<p>Presentation skill practice Preparing in presentation Delivery of presentation :-</p> <ul style="list-style-type: none"> ☑ Plan your presentation/communication ☑ Select proper channel/medium ☑ Set ease your environment ☑ Encode/decode ☑ Follow up your communication <p>Ensure action</p>	<p>Concept of 4 step method for presentation preparation & introduction, presentation Evaluation/feedback summarization / conclusion</p> <p>TOCSE Process for presentation.</p>	12
	<p>Self Management Self Evaluation, self discipline, self criticism Recognition of one's own limits and deficiencies , Independency etc. Thoughtful & Responsible</p> <p>Self Awareness</p>	<p>Self Management Identifying one's strengths and weakness Planning & Goal setting Managing self – emotions, ego, pride Use Jo Hary window for self-analysis.</p>	12
	<p>Team building / Coordinating skills Team building practices through group exercises, team task /Role play. Ability to – Mixing & accommodation Ability to work together</p>	<p>Concept of Group, Group Dynamics Team building</p>	12

Assessment Plan: Four Practicals on presentation on given topics of 15 minutes each:

15 marks each

Written exam : 40 marks which includes writing leave application for job, informal letters,

Report writing

University of Pune

Human Rights and Duties Education Programme

To be commenced from 2011-2012

Introduction

In response to the initiative of the Human Rights Commission of the State of Maharashtra's proposal to start Human Rights Education in the State of Maharashtra, it has organized a one day State Level Seminar on Human Rights Education on August 12, 2010 in Mumbai. During the Presentation of the proposal of the University of Pune, the Hon'ble Vice Chancellor of the University declared that the University of Pune will introduce a Human Rights Education Awareness Programme in the University from the Academic Year 2011-2012 which will be compulsory to all the students of the Post Graduation in the University later to extend to colleges in the University area. Accordingly, the Hon'ble Vice Chancellor constituted a committee on November 10, 2010 to discuss the modalities.

Objective's of the Programme.

In response to the call given by the UN to states parties to take steps to propagate the ideals of the Human Rights Education to develop a citizen friendly value based society both nationally and internationally, the Government of India being a party to the various declarations and other legal instruments constituted a number of committees to draw independent plans. In response to the call of the National Human Rights Commission in 1999, the UGC adopted a model curriculum to be adopted by various Universities in the country with an aim to promote the Human Rights Education.

To equip the students of the University of Pune as future citizens of the State and the Country, in discharging their duties before exercising their rights, the University authorities have taken the decision to implement the Human Rights Education in its Post Graduate Programme across the board with a uniform syllabi and pattern. Accordingly, it has been decided to have four papers in each semester of 2 credits each for all the students apart from their regular credits. Taking into consideration of varied disciplines, it has been decided that the course content should be general in nature to make it easy and attractive covering various aspects of Human Rights Education. The available models and other aspects will be consulted to draw a final syllabus. The course will be taught in a basic perspective with the help of cartoons, figure and question answer modules for easy understanding. The available materials may be incorporated or new ones may be prepared. Once the Committee finalises the materials and course, it will be placed before the respective bodies of the University for its Implementation. The new teaching techniques of e-material and or any other suitable pattern may be adopted.

Course I

Introduction to Human Rights and Duties

Credits: 2

I Basic Concepts

- a) Human Values-Dignity, Liberty, Equality, Justice, Unity in Diversity, Ethics, and Morals
- b) Meaning and Significance of Human Rights Education

II Perspectives of Rights and Duties

- a) Rights: Inherent-Inalienable –Universal- Individual and Groups
- b) Nature and Concept of Duties
- c) Interrelationship between Rights and Duties

III Introduction to Terminology of various Legal Instruments

- a) Meaning of a Legal Instrument- Binding Nature
- b) Types of Instruments-Covenant-Charter-Declaration-Treaty-Convention-Protocol- Executive Orders and Statues

IV United Nations and Human Rights

- a) Brief History of Human Rights-International and National Perspectives
- b) Provisions of the Charter of the United Nations
- c) Universal Declaration of Human Rights-significance-Preamble
- d) Civil and Political Rights- (Art.1-21)
- e) Economic, Social and Cultural Rights(Arts.22-28)
- f) Duties and Limitations (Art29)
- g) Final Provision (Art.30)

Course II

Human Rights & Vulnerable Groups

- I. **General introduction:**
 - a) Meaning and Concept of vulnerable groups.
 - b) Customary, Social, Economic & Cultural Problems of Vulnerable Groups.

- II. **Status of Women & Children in International and National Perspectives:**
 - a) Human rights and Women's Rights-International and National standards.
 - b) Human rights of Children—International and National Standards

- III. **Status of Socially and Economically Disadvantaged People:**
 - a) Status of Indigenous People and the Role of the UN.
 - b) Status of SC/ST and other Indigenous People in the Indian Scenario.
 - c) Human rights of Aged and disabled
 - d) The Minorities and Human Rights

- IV. **Human rights special category of Vulnerable Groups:**
 - a) Stateless persons
 - b) Sex workers
 - c) Migrant workers
 - d) HIV/ AIDs victims

Course III

Human Rights & Duties in India: Law, Politics, Society and Enforcement Mechanism -An Overview

- I. **Human Rights in Indian Context**
 - a) Indian Bill of rights of Gokhale and Sarvodaya
 - b) Preamble-Fundamental Rights-Directive Principles-Fundamental Duties
- II. **Human Rights – Enforcement Mechanism**
 - a) Human Rights Act, 1993.
 - b) Judicial Organs -Supreme Court (Art 32) and High Courts (Art226)
 - c) Human Rights Commission – National and State of Maharashtra.
 - d) Commissions of Women, Children, Minority, SC/ST
 - e) Survey of International mechanism
- III. **Human Rights Violations and Indian Polity**
 - a) Inequalities in society-Population-illiteracy--Poverty- caste-inaccessibility of legal redress
 - b) Abuse of Executive Power- Corruption-Nepotism and favoritism
 - c) Human rights and Good governance
- IV. **Role of Advocacy Groups**
 - a) Professional Bodies: Press, Media , Role of Lawyers--Legal Aid
 - b) Educational Institutions
 - c) Role of Corporate Sector
 - d) NGO'S

Course IV

Subject Specific paper or dissertation or Project work or Model Awareness programme to be adopted

Skill Development Programme: ‘Personal Financial Counsellor’

1. Preamble:

The present programme is basically designed to promote skills required for development of financial planning business and promotion of personal financial advisor as a career option amongst potential students in urban and rural areas. The programme is focused at–

- Giving a proper understanding about the financial planning business to urban and rural students
- Training the youths to personal financial planning sector in a systematic manner.

This programme shall help the youths to learn the nature of financial planning business as well as techniques to promote financial planning.

2. Nomenclature:

The programme is titled as professional skills for Financial Planner

Focus of the Programme:

The programme is focused at advancing and inculcating skills required for promoting financial planning business through systematic canvassing, counseling and right guidance to potential customers . It will also help the learners to know various principles of financial planning.

3. Job Profile:

The incumbent trainee is expected to learn various facets of financial planning business and various activities. The trainee will also have to understand the salient features of financial planning products and various customer segments interested in buying such products.

The programme shall basically focus on following aspects:

- a. To provide an understanding regarding principles of modern financial planning.
- b. To help the learners to know various financial products and their features.

- c. To detail out the methods of selling financial products.
- d. To develop a right selling techniques of financial products.
- e. To understand a right system of counseling about financial products to potential buyers.

4. Minimum Qualifications:

The programme shall require the incumbent trainee is expected to have minimum qualification of H. S. S. C. in any branch or discipline.

5. Intake:

The minimum intake per batch is 20 subject to a maximum of 40 learners per batch at a time.

6. Duration of Programme:

The programme shall be of 60 hours duration distributed in different learning activities like:

- 1. Lectures
- 2. Demonstrations
- 3. Hands on experience
- 4. Customer interface etc.

7. Interface:

The trainee shall have to undergo a learning and skill development exercise of 60 hours duration which will be divided into different sessions and training activities. The training activities and learning sessions shall mainly focus on developing skill sets required to become a personal financial advisors.

The programme interface shall focus at following aspects:

- a. A trainee/ learner will have to work with one or two agencies that sells various financial products / Investment advisors / Banks- that sells various investment

products for gaining professional and practical exposure as well as for developing skill sets.

- b. The trainee shall have to attend conceptual lectures and basic foundation programme to know about principles of Financial planning. This session shall be organized in a specified academic institution.

The distribution of interface is as follows–

Learning exercise, demonstrations and hands on experience	60%
Job related project	20%
Assignment	10%
Concept building	10%

8. Composition of learning activities and interactive sessions:

In order to develop appropriate skills set, every trainee will have to undergo practical training and hand on experience sessions under able guidance of tours and travel executives/ officers. He/ she shall also have to attend conceptual and academic sessions to know the fundamentals and basic principles about financial products and systems. For the purpose of interface, the resource persons shall provide skill inputs in following proportion.

Financial Advisors professionals and executives for providing hands on experience	60%
Faculty members and academicians	40%

9. Proposed Skill Bank to be developed:

The proposed Skill Bank for Personal Financial Advisors in Financial Sector shall focus on development of following skills:

- a. Communication skills
- b. Canvassing skills
- c. Effective presentation and counseling skills

- d. Effective Sales skills
- e. Customer relationship development skills
- f. Conflict resolution and convincing skills

10. The Course Structure is divided in following components:

- a. Core components:** This shall include understanding of personal financial planning , financial products and principles of CRM.
- b. Allied components:** This shall mainly focus on developing counseling skills, enhancing canvassing ability, sales skills, effective presentation and communication skills.

11.The distribution of conceptual/ practical lessons is as follows:

Unit No.	Title	Conceptual Focus	Learning Hours (Conceptual)	Practical Focus	Learning Hours (Practical)
1	Basics of Personal Finance	Financial Planning- Introduction , Process , Importance and Influences on personal financial planning.	2	Creating an understanding about personal financial planning. Method: Develop personal financial goals.	2
		Methodology to set SMART financial goals. Concept of Risk and Return	2	Creating an understanding about influences on personal financial planning. Method: Role Play , Customer Interface.	3
2	Concept of Inflation and Power of Compounding	To understand how inflation affects financial planning and how to avoid it.	2	Understand the dynamics of returns that gives returns above inflation Method: Check current inflation and interest rates on various financial product.	5
		To understand the power of compounding and how it helps in increasing the asset.	2	Understanding the concept of compounding, how it helps in long run Method: Role Play Customer Interface.	5
3	Concept of Savings and Investment	To understand the various Savings Products: Savings Account Recurring Deposits Fixed Deposits Term Deposits Post Office Savings Schemes and various other schemes.	2	Evaluating customer requirements according to different types of services – offering different products to different customer groups– identifying and understanding various facets of customer requirements, evaluating customer need for	5

		To understand various Investment Products: NSC , PPF , ELSS , KVP , Mutual Funds , ULIP , Debentures, Equity, NPS(New Pension Scheme)	2	different types of deposits Method: Role play, demonstration, counseling, case study Examining requirements– assessing suitability of financial products to a particular customer segment– setting norms. Method: Case study, interface with customers, discussions, role play	5
4	Developing Effective Sales Talk	Understanding customer requirement– selecting effective sales techniques– cautions in selling a product	2	Developing persuasion skills, effective presentation skills, selecting suitable body language, identifying appropriate non– verbal communication skills, listening skills Method: Role Play, demonstration, mock interviews, body language skills	5
5	Effective interpersonal skills	Group Discussion– Personal conversation– involving customers and identifying their interest– offering an effective sales proposal– negotiation and sales closure techniques	3	Developing appropriate communication skills, assessing customer requirements, counseling for query redressal Method: Role Play, demonstration, mock interviews	5
6	Tax Planning	Importance of Financial Planning in Taxation. Income Tax Slabs, Tax Exemptions and Financial Planning	3	Understanding availability of various schemes as a measures of Income tax planning. Practical aspects of income tax and financial planning. Method: Role Play, demonstration, case studied, mock interface	5

Total number of Lectures	20		40
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12. Evaluation:

The programme will be evaluated by using both- skill based and concept bases techniques.

13. Certification:

After successful completion of the conceptual and practical interface, the participating candidates will be awarded a certificate of completion by programme conducting agency.

14. References and Websites

- *Introduction to Financial Planning, IMS Pro School, Tata McGraw Publications*
- *Basics of Personal Financial Planning, National Insurance Academy, Cengage Learning India*
- www.sebi.gov.in
- www.rbi.org.in
- www.amfiindia.com
- www.investor.sebi.gov.in
- www.nseindia.com
- <https://nsdl.co.in>
- www.moneycontrol.com
- www.irda.gov.in
- www.policyholder.gov.in

Chromatographic Techniques (4 credits, 60 hours)

Objective: Basic understanding with hands-on training of the various chromatographic techniques

1) Paper and Thin layer chromatography (TLC)		Hours
	Fundamentals and Principles of paper and Thin Layer Chromatography (TLC), Mobile phases, Stationary phases-Normal phase and Reverse phase, Detectors, Staining solutions (KMnO ₄ , Ninhydrin, PMA and others), Applicability and Importance with examples	6
2) Gas Chromatography (GC)		
	Fundamentals and Principles of Gas Chromatography (GC), Instrumentation, Sample preparation, Mobile phases, Injectors, GC columns, GC detectors ((Thermal Conductivity Detector (TCD), Flame Ionization Detector (FID), Mass Selective Detector (MSD) and others)), Applications and importance with examples, Limitations, Data processing and interpretation, Hands-on training	14
3) High Performance Liquid Chromatography (HPLC)		
	Fundamentals and Principles of High Performance Liquid Chromatography (HPLC), Instrumentation, Types of HPLC–Normal phase HPLC, Reverse Phase HPLC, Ion Exchange Chromatography (IEC), Size exclusion chromatography, Mobile phases, Sample preparation, Limitations of HPLC, HPLC injectors, HPLC pumps, HPLC columns, HPLC detectors (UV-Visible detector, Diode array detector, Refractive index detector and others), Elution systems-Isocratic and Gradient, Applications with examples, Hands-on training	16
4) Gas Chromatography–Mass Spectrometry (GC-MS)		
	Fundamentals and Principles of Gas chromatography–mass spectrometry (GC-MS), Instrumentation, Ionization, Detectors–Mass Selective Detector (MSD), Time of flight (TOF) and others, Data analysis, Applications with examples, Hands-on training	14
5) Liquid Chromatography–Mass Spectrometry (LC–MS)		
	Fundamentals and Principles of Liquid Chromatography–Mass Spectrometry (LC–MS), Instrumentation, Ionization, MS analysis, Applications with examples, Hands-on training	10

Recommended books:

1. An introduction to separation science, B. L. Karger, L. R. Snyder, C. Horvath, 1st edition, Wiley Interscience.
2. Principles and practice of chromatography, Raymond P. W. Scott, Chrom-Ed Book Series.

Methodology: Lectures supplemented with hands on training and case studies that may include visits.

Assessment: Final assessment by written and group discussion. Skill based assessment will be as per the case study.

Title: Renewable Energy

Eligibility: Bachelor's degree in any Faculty

Objectives: To create awareness of Environment quality

To develop skills in handling equipment's related to solar energy and Biogas

To create manpower in renewable energy

Course Structure:The course is equivalent to 4 credits . The course can be run in any of the foursemesters.

Syllabus:

1. Basic concept of solar energy and its applications (1 credit)

Sun as Source of Energy, Availability of Solar Energy, Nature of Solar Energy, Solar Energy & Environment. Various Methods of using solar energy –Photothermal, Photovoltaic, Photosynthesis, Present & Future Scope of Solar energy.

Wind Energy: Basic concept and component of wind energy conversion,types of wind machines, Application of wind machine,Hybrid wind energy systems wind + diesel power, wind + conventional grid, wind + Photovoltaic system etc.

2. Assembly and maintenance (1 credit)

Solar charging, Solar air heating and cooling system,Thermal pad, Solar water Heaters, Solar cookers, Solar drying , Solar photovoltaic system,solar energy pumps.

3. Biogas (1 credit)

Importance of biogas technology, Different Types of Biogas Plants. Aerobic and anaerobic bioconversion processes, various substrates used to produce Biogas (cow dung, human and other agricultural waste, municipal waste etc.) Individual and community biogas operated engines and their use. Removal of CO₂ and H₂O, Application of Biogas in domestic, industry and vehicles. Bio-hydrogen production. Isolation of methane from Biogas and packing and its utilization, Introduction to gasifiers

4. Case study:Bio-gas Production from Kitchen waste(1 credit)

Case Study: Performance of Gasifire.

References

1. Biomass Renegerable Energy – D.O.hall and R.P. Overeed
(John Wiley and Sons, New york, 1987)

2. Biomass for energy in the developing countries – D.O.Hall, G.W.barnard and P.A.Moss (Pergamon Press Ltd. 1982)

3. Thermo chemical processing of Biomass, Bridgwater A V.
4. Biomass as Fuel – L.P.White (Academic press1981)
5. Biomass Gasification Principles and Technology, Energy technology review No. 67, T.B. Read (Noyes Data Corp. , 1981)

Methodology: Lectures supplemented with case studies that may include visits.

Assessment: Final assessment by written and group discussion. Skill based assessment will be as per the case study.