Choice Based Credit System (CBCS)

GANGADHAR MEHER UNIVERSITY
SAMBALPUR, ODISHA

UNDERGRADUATE PROGRAMME IN ECONOMICS
(Courses effective from Academic Year 2017-18)

SYLLABUS OF COURSES OFFERED IN
Core Courses, Generic Elective, Ability Enhancement Compulsory Courses & Skill Enhancement Course

DEPARTMENT OF ECONOMICS,
Gangadhar Meher University
SAMBALPUR, ODISHA

REGULATIONS OF GENERAL ACADEMIC AND EXAMINATION MATTERS FOR BA/B.Sc./B.COM/BBA/BSc.IST EXAMINATIONS

(THREE YEAR DEGREE COURSE) UNDER CHOICE BASED CREDIT SYSTEM AND SEMESTER SYSTEM

(Effective for the students admitted to First year of Degree course during 2015-16 and afterwards)

CHAPTER-I

(REGULATIONS OF GENERAL ACADEMIC MATTERS)

1. APPLICATION & COMMENCEMENT:

(i) These regulations shall come into force with effect from the academic session 2015-16.

2. CHOICE-BASED CREDIT SYSTEM (CBCS):

CBCS is a flexible system of learning that permits students to

1. Learn at their own pace.
2. Choose electives from a wide range of elective courses offered by the University Departments.
3. Adopt an inter-disciplinary approach in learning and
4. Make best use of the expertise of available faculty.

3. SEMESTER:

Depending upon its duration, each academic year will be divided into two semesters of 6 months duration. Semesters w-ill be known as either odd semester or even semester. The semester from July to December will be Semesters I, III, V and similarly the Semester from January to June will be Semesters II, IV & VI. A semester shall have minimum of 90 instructional days excluding examination days / Sundays / holidays etc.

4. COURSE:

A Course is a set of instructions pertaining to a pre-determined contents (syllabus), delivery mechanism and learning objectives. Every course offered will have three components associated with the teaching-learning process of the course, namely:

(i) Lecture – symbolized as L;

(ii) Tutorial – symbolized as T; and

(iii) Practical – symbolized as P.

In G.M. University, UG programmes have a minimum of 21 courses.

5. CREDIT:

Each course is rated in terms of credits or credit hours. Credit is a kind of weightage given to the contact hours to teach the prescribed syllabus, which is in a modular form. Normally one credit is allocated to 10 contact hours.

Mechanics of credit calculation:

As per G.M. University standard, 1 credit = 10 hours of lectures / contact hours. The contact hours will include all the modes of teaching like lectures / tutorials / laboratory work / field work or other forms. In determining the number of hours of instruction required for a course involving laboratory / field work, 2 hours of laboratory / field work is generally considered equivalent to 1 hour of lecture. In these regulations one credit means one hour of teaching works or two hours of practical works per week.

6. GRADE LETTER:

The Grade letter is an index to indicate the performance of a student in a particular course / paper. It is the transformation of actual marks secured by a student in a course / paper. The Grade letters are O, A+, A, B+, B, C, P, F. There is a range of marks for each grade letter.

7. GRADE POINT:

Grade point is an integer indicating the numerical equivalent of the letter grade / the weightage allotted to each grade letter depending on range of marks awarded in a course / paper.

8. CREDIT POINT (P):

Credit point is the value obtained by multiplying in grade point (G) by the credit (C): P = G x C.

9. SEMESTER GRADE POINT AVERAGE (SGPA):

SGPA is the value obtained by dividing the sum of credit points (P) earned by a student in various courses taken in a semester by the total number of credits earned by the student in that semester. SGPA shall be rounded off to two decimal places.

10. CUMULATIVE GRADE POINT AVERAGE (CGPA):

CGPA is the value obtained by dividing the sum of credit points in all the courses earned by a student for the entire programme, by the total number of credits. CGPA shall be rounded off to two decimal places. CGPA indicates the comprehensive academic performance of a student in a programme.

An overall letter grade (Cumulative Grade) for the entire programme shall be awarded to a student depending on his / her CGPA.

11. COURSE STRUCTURE:

(a) COURSE: A course is a component / a paper of a programme. A course may be designed to involve lectures / tutorials / laboratory work / seminar / project work / practical training / report writing / viva voce etc. or a combination of these, to meet effectively the teaching and learning needs and the credits may be assigned suitably.

(b) TYPES OF COURSES:

(i) Core Courses (14x6=84 credits)

Core courses comprise a set of at least fourteen papers that are identified as compulsory for the students registered for the UG degree in a particular subject. Core courses shall be spread over all the semesters.

(ii) Ability Enhancement Compulsory Course (04 credits)

The Ability Enhancement Course (AE) Courses may be of two kinds: Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Courses (SEC). “AECC” courses are the courses based upon the content that leads to Knowledge enhancement; i. Environmental Science and ii. English / MIL Communication. These are mandatory for all disciplines.

(iii) Skill Enhancement Course (SEC) (04 credits)

SEC courses are value-based and / or skill-based and are aimed at providing hands-on-training, competencies, skills, etc. These courses may be chosen from a pool of courses designed to provide value-based and / or skill-based knowledge.

(iv) Elective Courses: 48 credits (24+24)

Elective Course: A course that can be chosen from a number of options other than the core and compulsory courses is known as elective course. An elective may be "Generic Elective" focusing on those courses which add generic proficiency to the student. An elective may be "Discipline Centric" or may be chosen from the main discipline / subject of study called Discipline Specific Elective. Such elective may also include project work / dissertation. It is considered as a special course involving the application of knowledge in solving / analyzing / exploring a real life situation / difficult problem.

The Three year Degree course leading to the Bachelors Degree in Arts/Science/Commerce/BBA/BSc.IST shall be spread over a period of six semesters in three academic years with the following course structure.

Semester	Core Course (6 credits per paper)	Ability Enhancement Compulsory Course (2 credits per paper)	Skill Enhancement Course (2 credits per paper)	Discipline Specific Elective (6 credits per paper)	Generic Elective (6 credits per paper)
I (350 Marks)	CC-I CC-II	AECC-I	-	-	GE-I
II (350 Marks)	CC-III CC-IV	AECC-II	-	-	GE-II
III (450 Marks)	CC-V CC-VI CC-VII	-	SEC-I	-	GE-III
IV (450 Marks)	CC-VIII CC-IX CC-X	-	SEC-II	-	GE-IV
V (400 Marks)	CC-XI CC-XII	-	-	DSE-I DSE-II	-
VI (400 Marks)	CC-XIII CC-XIV	-	-	DSE-III DSE-IV	-

CHAPTER – II
(REGULATION ON EXAMINATION MATTERS)

1. The Examinations

1.1.(a) A candidate for the Bachelor's Degree in Arts/Science/Commerce/BBA/BSc.IST shall be required to pass each of the following examinations.

(i)	Semester-I	(ii)	Semester-II
(iii)	Semester-III	(iv)	Semester-IV
(v)	Semester-V	(vi)	Semester-VI

Each of the semester examination includes one Mid-Term and one End Term examination.

1.1.(b) Each student has to register himself / herself within schedule date to be eligible to appear the examination. Unless a student registers himself / herself by filling up examination forms and pays the requisite fees for Semester-I, he/she will not be eligible to sit for semester-II examination. Similarly, he/she will not be eligible to take the subsequent semesters unless he/she registers for the previous semester.

1.1.(c) A student has to clear all semester examinations within a maximum period of 05 years.

1.2 Examination Calendar

The broad format of the examination calendar for UG classes shall be as follows:

(a)	Mid term examination of odd semesters	…	September
(b)	End Term examination of odd semesters	…	November – December
(c)	Mid term examination of even Semesters	…	February
(d)	End Term examination of even semesters	…	March – April

The detail programme of end term examination shall be notified one month before the commencement of examinations.

1.3. Mid Term examination

In each semester there shall be one Mid Term examination of one hour / 60 minutes duration irrespective of marks in each paper having theory component. Out of the total marks of a paper, 20% of marks are earmarked for midterm examination.

1.4 End Term Examination

At the end of each semester, there shall be one examination of each paper called End Term examination. It shall cover 80% of the total marks of a paper. A student fulfilling the following conditions is eligible to appear the End Term examination.

i. A student shall pay the prescribed examination fees and fill up the prescribed form meant for the examination as per the notification issued by Examination Section (General). No form fill up is allowed before seven days of the commencement of the End-Term examination.

ii. The minimum number of lectures, practicals, seminars, which a student shall be required to attend before being eligible to take any Semester Examination shall not be less than 75% of the total number of lectures, practicals, seminars taken separately during the semester period.

iii. Provided that in exceptional cases the authority may condone the shortage of attendance to the extent of 15%.

iv. Provided further that the authority may condone the shortage of attendance to the extent of 10% over and above 15% in respect of students who represented the college or the state in any National / State Level: Camp, NCC, games or sports during the semester period under reference subject to prior approval and subsequent production of authenticated certificate of participation.

1.5.(a) Mode of Examination

The duration of examination shall be as follows:

Examination	Total marks	Duration
Theory paper	40 Marks	2 hours
	60/80 Marks	3 hours
Practical papers / Project Papers	25 Marks	3 hours
	50/100 marks	6 hours

1.5.(b) Mode of question papers

(i) All examinations except Viva-voce and Project work shall be conducted by means of written paper (Printed, written / typed in English). The papers in Modern Indian Languages shall be set and answered in the respective languages as mentioned in the syllabus.

(ii) Questions for a paper shall be set covering the total course of that paper either unit wise giving options from each unit unless specified otherwise in the syllabus.

1.5 (c) Results of examinations

The candidates shall have to appear and secure minimum pass grade in all the paper of a semester examination to be declared as pass. The following 10 – point grading system and corresponding letter grades be implemented in awarding grades and CGPA under CBCS system.

1.6 Award of Grade

The grade awarded to the student in any particular course / paper shall be based on his / her performance in all the tests conducted in a semester for that course / paper. The percentage of marks secured by the students in a particular course / paper shall be converted to a grade and grade point for that course / paper in the manner specified in the following table after conversion in to 100 marks.

% of Marks	Grade	Grade Letter	Grade Point
> = 90 – 100	Outstanding	O	10.0
> = 80 – < 90	Excellent	A+	9.0
> = 70 – < 80	Very good	A	8.0
> = 60 – < 70	Good	B+	7.0
> = 50 – < 60	Above average	B	6.0
> = 40 – < 50	Average	C	5.0
> = 30 – < 40	Pass	P	4.0
< 30	Fail	F	0.0
	Absent	S	0.0
	Malpractice	M	0.0

N.B.: Grade 'P' (30% of marks) shall be the pass grade for Theory and Grade 'C' (40% of marks) shall be the pass grade for Practical / Project work / Dissertation.

1.7 Result

1.7(a) In order to pass a course / paper, a candidate has to secure a minimum of Grade Point 4.0 in that course / paper with Grade 'P' (30% of marks) in Theory and Grade 'C' (40% of marks) in Practical / Project work / Dissertation failing which the candidate will be marked 'F' in that course / paper with the Grade Point of 0.0 (below 30 marks) irrespective of the marks secured in that course / paper.

A candidate obtaining Grade 'F' shall be considered as fail and will be required to reappear the course(s) / paper(s) as back paper. The back paper examination shall be held with the normal end semester examination and the students with backlogs shall clear their backlog course(s) / paper(s) along with regular students of lower semesters in the subsequent year within a period of 05 years from the date of admission and with the current syllabus after two consecutive chances.

1.7(b) In order to clear a semester examination, a candidate is required to pass each credit course / paper of that semester and must secure a minimum Semester Grade Point Average (SGPA) of 4.0. The semester result shall be indicated as detail below:-

A. P (Passed or Cleared) indicating that:

- The candidate has cleared every registered course / paper of odd/even semester of the academic year with a minimum Grade Point (GP) of 4.0 in each paper / component of a paper.

He / She has secured SGPA / CGPA of 4.0 or more.

B. NC (Not Cleared) indicating that:

The candidate is eligible for promotion with backlogs to next higher semester if he / she has registered for all the subjects of any semester.

C. 'X' (Not eligible for promotion) indicating that:

The candidate is not eligible for promotion to next higher level, when as he / she has not registered / filled up the form for the different subjects of a semester.

Computation of SGPA and CGPA

The UGC recommends the following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA)

i. The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e.

SGPA (Si) = $\sum(C_i X G_i)/\sum C_i$

Where C_i is the number of credits of i th course and G_i is the grade point scored by the student in the i th course.

ii. The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, i.e.

CGPA = $\sum(C_i x S_i)/\sum C_i$

Where S_i is the SGPA of the Ist. semester and C_i the total number of credits in that semester.

iii. The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

Illustration of Computation of SGPA and CGPA and Format for Transcripts

i. Computation of SGPA and CGPA

Illustration for SGPA

Course	Credit	Grade letter	Grade point	Credit point
Course 1	3	A	8	3X8=24
Course 2	4	B+	7	4X7=28
Course 3	3	B	6	3X6=18
Course 4	3	O	10	3X10=30
Course 5	3	C	5	3X5=15
Course 6	4	B	6	4X6 =24
	20			139

Thus, SGPA = 139/20=6.95

Illustration for CGPA					
Semester-I	Semester-II	Semester-III	Semester-IV	Semester-V	Semester-VI
Credit-20 SGPA:6.9	Credit-22 SGPA:7.8	Credit-25 SGPA:5.6	Credit-26 SGPA:6.0	Credit-26 SGPA:6.3	Credit-25 SGPA:8.0
Thus, CGPA= $\frac{20 \times 6.9 + 22 \times 7.8 + 25 \times 5.6 + 26 \times 6.0 + 26 \times 6.3 + 25 \times 8.0}{144}$					=6.73

1.7(c) In order to pass a programme, a candidate must secure a minimum CGPA of 4.5. A candidate securing CGPA of less than 4.5 shall be declared as fail.

The conversion of CGPA to percentage of marks = (CGPA – 0.5) x 10.

The conversion of CGPA into Grade Letter shall be made on the basis of percentage of marks in the manner specified in the following table.

CGPA / OGPA	Grade Letter	Grade	% of Marks after conversion	Classification of Honours
> = 9.5	O	Outstanding	> = 90	First Class Honours
> = 8.5 - < 9.5	A+	Excellent	> = 80 – < 90	
> = 7.5 - < 8.5	A	Very good	> = 70 – < 80	
> = 6.5 - < 7.5	B+	Good	> = 60 – < 70	
> = 5.5 - < 6.5	B	Above average	> = 50 – < 60	Second Class Honours
> = 5.0 - < 5.5	C	Average	> = 45 – < 50	
> =4.5 – < 5.0	P	Pass	> = 40 - < 45	Pass without Honours
Below 4.5	F	Fail	< 40	Fail

1.8 Promotion to the next semester

A student shall be promoted to the next higher semester when he/she has appeared and passed in all the courses of the previous semester examinations. However, a student failing to appear / pass semester examination in few or all papers due to some reasons may be admitted to the next semester, provided that such a student shall produce sufficient proof in favour of his/her reason for not being able to appear / pass in some or all papers of the semester examination and has taken readmission in the year. Such students shall be considered as absent / failed candidate and will required to appear the repeat / back paper examination in the next year.

1.9 Repeat / Back Paper Examination

A student who remains absent or failed to secure 30% of marks / SGPA of 4.0 in aggregate has to take the repeat examination. He/she shall repeat all the theory and

practical papers of that semester within a period of 5 years from the date of first registration. However, a student who secures more than 30% of marks / SGPA of 4.0 in aggregate but failed in one / some papers, he/she has to take the Back paper examination in the failed papers only. If the student is unable to clear the back papers in the next two consecutive chances, he/she has to appear the repeat examination of all papers in the third and subsequent chances as per the current syllabus and the marks secured in the previous examinations shall stand cancelled.

During back paper examinations, the higher marks of the papers shall be retained at the time of computation of result. The student passing in all papers in terms of grade point but failing in grade point average, then he / she has to appear the back paper examinations in those papers in which he / she has secured less than the required average grade point to pass. Such students shall have to apply to the Head of the Department in plain paper before one week of the form fill up and also filling the form in due date of the ensuing semester examination by depositing the fees as prescribed by the university. The repeat / back paper examination shall be held with the normal end semester examination.

A student appearing in repeat / back paper examination shall not be awarded distinction even if he/she subsequently fulfils the conditions of distinction and will not be included in the merit list. The final result of the candidate will be determined after taking all the subject wise marks and hard case rule into consideration. Candidates taking repeat / improvement examinations shall not be considered for the merit list and it shall be reflected in the provisional certificate- cum mark sheet but not in the final Degree certificate.

1.10 Improvement Examination

After the publication of final result the student getting 2nd Class (Honours) or Pass without Honours may be allowed to improve his/her performance in the next two year immediately from the year of publication of result. He/she shall be allowed to improve in Honours paper only. However he / she has to fill up the form of all the Honours papers of odd semester (I/III/V) and even semester (II/IV/VI). In such case, the highest mark secured in each paper shall be considered for computation of the mark.

1.11 Discipline in the examination

1.11(a) The students are allowed to enter the examination hall half an hour before the commencement of examination. A student arriving in the examination hall / room fifteen minutes after the commencement of the examination shall not be ordinarily

allowed to sit for the examination. No examinee shall be allowed to go out of the examination hall within one hour of the commencement of examination.

1.11(b) The students are allowed to enter the examination hall only with a valid admit card and Identity card. Mobile phones and any other electronic gadgets are strictly prohibited in the examination hall. The possession of such things in the examination hall shall be treated as malpractice.

1.11(c) The possession of unauthorized materials and using it / copying from the scripts of other students / from any other source, sharing his/her answer scripts with other, creating disturbance or acting in a manner, so as to create inconvenience for the other students / invigilators inside the examination hall shall be treated as adoption of unfair means or malpractice.

In case of adoption of unfair means by an examinee in the examination hall / outside, the invigilator shall immediately report to the Centre Superintendent in writing along with the incriminating material recovered from the examinee signed by both the examinee and invigilator. The Centre Superintendent shall refer the matter to the Controller of Examinations for necessary disciplinary action as per the rules and regulations of the University.

1.12 Issue of Grade sheet, Provisional Certificate, Award of Degree & Gold Medals.

After the publication of the result of Semester examination, the Controller of Examinations shall issue the grade sheet of each semester as per the prescribed format (Appendix-I) and provisional certificate cum grade sheet after the final semester examination as per the prescribed format (Appendix-II) to the candidates against a prescribed fee collected at the time admission / filling of form. A degree certificate under the official seal of the university and signed by Vice-Chancellor as per the prescribed format (Appendix-III) shall be issued / given to the successful students of a particular course at the convocation or in-absentia on submission of application and fee as prescribed.

For award of gold medals, the University shall form a committee. The best graduate shall be decided from amongst the toppers of each Honours. In case of equality of CGPA, the SGPA of last semester examination shall be considered. The students who have failed / remained absent / improved their marks by repetition or improvement shall not be eligible for University rank or gold medal.

Registrar
G.M. University, Sambalpur

PROPOSED SCHEME FOR CHOICE BASED CREDIT SYSTEM IN B.A. ECONOMICS (HONOURS)

Semester		CORE COURSE (14)	Ability Enhancement Compulsory Course (AECC) (2)	Ability Enhancement Elective Course (AEEC) (2) (Skill Based)	Elective: Discipline Specific DSE (4)	Elective: Generic (GE) (4)
I	CC1	Introductory Microeconomics	English Communication / Odia/ Hindi			GE-I Indian Economy-I
	CCII	Mathematical Methods for Economics-I				
II	CCIII	Introductory Macroeconomics	Environmental Studies			GE -II Environmental Economics
	CCIV	Mathematical Methods for Economics-II				
III	CCV	Intermediate Microeconomics-I		SEC-I Data Analysis		GE -III Introductory Microeconomics
	CCVI	Intermediate Macroeconomics-I				
	CCVII	Statistical Methods in Economics				
IV	CCVIII	Intermediate Microeconomics-II		SEC -II Communicative English and English Writing		GE -IV Introductory Macroeconomics
	CCIX	Intermediate Macroeconomics-II				
	CCX	Introductory Econometrics				
V	CCXI	Indian Economy-I			DSE-I Money and Financial Markets	
	CCXII	Economic Development and Policy-I			DSE-II Public Economics	
VI	CCXIII	Indian Economy-II			DSE-III International Economics	
	CC XIV	Economic Development and Policy-II			DSE-IV Dissertation/ project work	

Course Structure for B.A. Economics (Honours)

Semester	Course Name	Course Offered	Title Of Paper	Credits	Marks
I **4 Papers** **350 marks** **20 Credits**	**AECC**	**Ability Enhancement Compulsory Course-I**	English Communication/ Odia/ Hindi	2	**50 (10+40)**
	Generic Elective	**Generic Elective -1**	Indian Economy-I	6	**100 (20+80)**
	Core Course	**Core Course-I**	Introductory Microeconomics	6	**100 (20+80)**
		Core Course-II	Mathematical Methods for Economics -I	6	**100 (20+80)**
II **4 Papers** **350 marks** **20 Credits**	**AECC**	**Ability Enhancement Compulsory Course II**	Environmental Science	2	**50 (10+40)**
	Generic	**Generic Elective -II**	Environmental Economics	6	**100 (20+80)**
	Core Course	**Core Course-III**	Introductory Macroeconomics	6	**100 (20+80)**
		Core Course-IV	Mathematical Methods for Economics-II	6	**100 (20+80)**
III **5 paper** **450 Marks** **26 Credits**	**SEC**	**Skill Enhancement Course -I**	Data Analysis	2	**50 (10+40)**
	Generic Elective	**Generic Elective - III**	Introductory Microeconomics	6	**100 (20+80)**
	Core Course	**Core Course-V**	Intermediate Microeconomics-I	6	**100 (20+80)**
		Core Course-VI	Intermediate Macroeconomics-I	6	**100 (20+80)**
		Core Course-VII	Statistical Methods in Economics	**6**	**100 (20+80)**
IV **5 Papers** **450 Marks** **26 Credits**	**SEC**	**Skill Enhancement Course -II**	Communicative English and English Writing	2	**50 (10+40)**
	Generic	**Generic Elective - IV**	Introductory Macroeconomics	6	**100 (20+80)**
	Core Course	**Core Course-VIII**	Intermediate Microeconomics-II	6	**100 (20+80)**
		Core Course-IX	Intermediate Macroeconomics-II	6	**100 (20+80)**
		Core Course-X	Introductory Econometrics	6	**100 (20+80)**
V **4 Paper** **400 marks** **24 credits**	**DSE**	**Discipline Specific Elective I**	Money and Financial Markets	6	**100 (20+80)**
		Discipline Specific Elective -II	Public Economics	6	**100 (20+80)**
	Core Course	**Core Course-XI**	Indian Economy-I	6	**100 (20+80)**
		Core Course-XII	Economic Development and Policy-I	**6**	**100 (20+80)**
VI **4 paper** **400 marks** **24 credits**	**DSE**	**Discipline Specific Elective III**	International Economics	6	**100 (20+80)**
		Discipline Specific Elective-IV	Dissertation/ project work	6	**100**
	Core Course	**Core Course-XIII**	Indian Economy-II	6	**100 (20+80)**
		Core Course-XIV	Economic Development and Policy-II	6	**100 (20+80)**
			Total Credits	**140**	**2400**

SEMESTER - I

Ability Enhancement Compulsory Course (AECC- I) ENGLISH

Credits – 2, Full marks 50 (Mid Term 10 + End Term 40)

(Unit wise question pattern, answer one question from each unit)

This course aims at enhancing the English language proficiency of undergraduate students in humanity, science and commerce streams to prepare them for the academic, social and professional expectations during and after the course. The course will help develop academic and social English competencies in speaking, listening, pronunciation, reading and writing, grammar and usage, vocabulary, syntax, and rhetorical patterns. Students, at the end of the course, should be able to use English appropriately and effectively for further studies or for work where English is used as the language of communication.

Unit I: Reading Comprehension

- Locate and remember the most important points in the reading
- Interpret and evaluate events, ideas, and information
- Read "between the lines" to understand underlying meanings
- Connect information to what they already know

Book Prescribed

Vistas and Visions: An Anthology of Prose and Poetry. Texts to be studied

PROSE

- Playing the English Gentleman (M.K. Gandhi)
- The Need for Excellence (N.R. Narayana Murthy)
- The Last Leaf (O. Henry)

POETRY

- One Day I Wrote Her Name (Edmund Spenser)
- Miracles (Walt Whitman)
- The Felling of the Banyan Tree (DilipChitre)

Unit II: Writing

1. Expanding an Idea
2. Writing a Memo
3. Report Writing
4. Writing a Business Letter
5. Letters to the Editor
6. CV & Resume Writing
7. Covering Letter
8. Writing Formal Email
9. Elements of Story Writing
10. Note Making

Unit III: Language functions in listening and conversation

1. Discussion on a given topic in pairs
2. Speaking on a given topic individually
   (Practice to be given using speaking activities from the prescribed textbooks)

Grammar and Usage

1. Simple and Compound Sentences
2. Complex Sentences
3. Noun Clause
4. Adjective Clause
5. Adverb Clause
6. The Conditionals in English
7. Words and their features
8. Phrasal Verbs
9. Collocation
10. Using Modals
11. Use of Passives
12. Use of Prepositions
13. Subject-verb Agreement
14. Sentence as a system
15. Common Errors in English Usage

Examination pattern

Each reading and writing question will invite a 200 word response.
Language function questions set in context will carry 01 mark per response. There will be 15 bit questions.
Midterm test 10 marks
End Term Total 40 marks
Unit I- Reading: 05 questions (03x 05 qns= 15 marks)
Unit II- Writing: 03 questions (05 x 03 qns= 15 marks)
Unit III- Grammar & usage: 10 qns (01x 10 qns = 10 marks)
Grammar questions must be set in contexts; not as isolated sentences as used for practice in the prescribed textbook.

All grammar and writing activities in the textbook
'Vistas and Visions: An Anthology of Prose and Poetry' (Ed.) Kalyani Samantray, Himansu S. Mohapatra, Jatindra K. Nayak, Gopa Ranjan Mishra, Arun Kumar Mohanty. (Orient Black Swan Publisher)

Ability Enhancement Compulsory Course (AECC - I) ODIA
Credits – 2, Full marks 50 (Mid Term 10 + End Term 40)
(Unit wise question pattern, answer one question from each unit)

ପ୍ରଥମ ଏକକ : କବିତା : ଭକ୍ତି - ଗଙ୍ଗାଧର ମେହେର
ଗ୍ରାମପଥ - ବିନୋଦ ଚନ୍ଦ୍ର ନାୟକ
ଦ୍ୱିତୀୟ ଏକକ : ଗଳ୍ପ : ମାଗୁଣିର ଶଗଡ - ଗୋଦାବରୀଶ ମହାପାତ୍ର
ଗୋପପୁର - ରାମଚନ୍ଦ୍ର ବେହେରା
ତୃତୀୟ ଏକକ : ପ୍ରବନ୍ଧ : ଜନ୍ମଭୂମି - କୃଷ୍ଣଚନ୍ଦ୍ର ପାଣିଗ୍ରାହୀ
ଆଧୁନିକ - ହରେକୃଷ୍ଣ ମହତାବ
ଚତୁର୍ଥ ଏକକ : ପ୍ରବନ୍ଧ ରଚନା, ପତ୍ରଲିଖନ, ସମ୍ବାଦଲିଖନ
ପଞ୍ଚମ ଏକକ : ବ୍ୟାକରଣ – ଭ୍ରମ ସଂଶୋଧନ, ବିପରିତାର୍ଥବୋଧକ ଶବ୍ଦ, ସମୋଚ୍ଚାରିତ ଭିନ୍ନାର୍ଥବୋଧକ ଶବ୍ଦ

ଆନ୍ତଃପରୀକ୍ଷା ପାଇଁ ୧୦ ମାର୍କ ପ୍ରଶ୍ନ ପଡିବ । (୧ x ୧୦ = ୧୦)
ବିଶ୍ୱବିଦ୍ୟାଳୟସ୍ତରୀୟ ମୁଖ୍ୟ ପରୀକ୍ଷାରେ ନିମ୍ନମତେ ପ୍ରଶ୍ନ ପଡିବ:
ପ୍ରଥମ ଏକକରୁ ଚତୁର୍ଥ ଏକକ ପର୍ଯ୍ୟନ୍ତ ପ୍ରତ୍ୟେକ ଏକକରୁ ୨ଟି ଲେଖାଏଁ ପ୍ରଶାନ ପଡିବ। ବିଦ୍ୟାର୍ଥୀ ପ୍ରତ୍ୟେକ ଏକକରୁ ଗୋଟିଏ ଲେଖାଏଁ ପ୍ରଶ୍ନ ର ଉତ୍ତର ଦେବେ । (୪ x ୮ = ୩୨)
ପଞ୍ଚମ ଏକକରୁ ୧୫ ଟି ଅତି ସଂକ୍ଷିପ୍ତ ପପ୍ରଶ୍ନ ପଡିବ । ବିଦ୍ୟାର୍ଥୀ ନିର୍ଦ୍ଦେଶ ଅନୁଯାୟୀ ୮ ଟି ପ୍ରଶ୍ନର ଉତ୍ତର ଦେବେ । (୮x୧=୮)

ଗ୍ରନ୍ଥ ସୂଚୀ

୧. କବିତାଶ୍ରୀ - ସଂ. – କୃଷ୍ଣଚରଣ ବେହେରା
୨. ଗଳ୍ପ ଦିଗନ୍ତ - ସଂ. – ସୁରେନ୍ଦ୍ର ନାଥ ଦାସ
୩. ଭାଷଣ କଳା ଓ ଅନ୍ୟାନ୍ୟ ପ୍ରସଙ୍ଗ - ଡ. କୃଷ୍ଣଚନ୍ଦ୍ର ପ୍ରଧାନ
୪ . ପ୍ରବନ୍ଧ ଗୌରବ - ସଂ.- ପ୍ର. କୃଷ୍ଣଚାନ୍ଦ୍ର ପ୍ରଧାନ
୫. ସାରସ୍ୱତ ପ୍ରବନ୍ଧ ପତ୍ରମାଳା -
୬. ବିଶ୍ୱବିଦ୍ୟାଳୟ ପ୍ରବନ୍ଧମାଳା - ପ୍ର. କୃଷ୍ଣଚାନ୍ଦ୍ର ପ୍ରଧାନ
୭. ସର୍ବସାର ବ୍ୟାକରଣ - ଶ୍ରୀଧର ଦାସ ଓ ନାରାୟଣ ମହାପାତ୍ର
୮. ସାରସ୍ୱତ ବ୍ୟାବହାରିକ ବ୍ୟାକରଣ - ଡ. କୃଷ୍ଣଚାନ୍ଦ୍ର ପ୍ରଧାନ ଓ ସାଥୀ

Ability Enhancement Compulsory Course (AECC -I) HINDI

Credits – 2, Full marks 50 (Mid Term 10 + End Term 40)
(Unit wise question pattern, answer one question from each unit)

हिन्दी भाषा, ब्याकरण एबं रचना

Unit I: हिन्दी के बिबिध रूप

(क) राजभाषा, संचारभाषा (श्रब्य माध्यम - दृश्य) (8)

(ख) सरकारी पत्र लेखन (व्यबहरिक पक्ष) नमूना (8)

Unit II: अपठित गदयांश (8) -

Unit III: अशुद्धि लेखन

(क) शब्द शुद्धि करण (4)

(ख) वाक्य क्षुधिकरण (4)

Unit IV: शब्द ज्ञान

(क) पर्याय वाची (4)

(ख) अनेक शब्द के लिए एक शब्द (4)

Unit V: प्रशासनिक शब्दावली

(क) अँग्रेजी से हिन्दी (4)

(ख) हिंदी से अँग्रेजी (4)

Unit I: यूनिट एक बिभाग से एक प्रश्न पूछे जाएंगे । (ख) बिभाग से एक प्रश्न एबं (क) एक का उत्तर लिखना होगा । (8)

Unit II: एक अपठित गद्दयांश दिया जाएगा । जिनमे से चार प्रश्न पूछे जाएंगे । चारों प्रश्नों का उत्तर देना अनिबरया होगा । (8)

Unit III: (क) छः शब्द शुद्धिकरण के लिए दिये जाएंगे । चार का उत्तर लिखना होगा । (4)
(ख) छः वाक्य शुद्धिकरण के लिए दिये जाएंगे । चार का उत्तर लिखना होगा । (4)

Unit IV: (क) छः पर्यायवाची शब्द दिये जाएंगे , जिनमे से चार शब्दों का पर्यायवाची लिखना होगा । (4)
(ख) छः अनेक शब्दों के लिए एक शब्द दिये जाएंगे , जिनमे से चार का उत्तर लिकना होगा । (4)

Unit V: (क) छः अँग्रेजी शब्द दिये जाएंगे , जिनमे से चार का हिन्दी रूप लिखना होगा । (4)
(ख) छः हिन्दी शब्द दिये जाएंगे , जिनमे से चार का अँग्रेजी प्रतिरूप लिखना होगा । (4)

ECONOMICS GE I: INDIAN ECONOMY I

Full Marks - 100 (Mid Term 20+ End Term 80) , Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description
Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points.

Course Outline
Unit I: Economic Development since Independence
Major features of the economy at independence; growth and development under different policy regimes-1951-1981,1981-1991,1991 and after —goals, constraints, institutions and policy framework;

Unit II: Performance of the Indian Economy
An assessment of performance—sustainability and regional contrasts; structural change, savings and investment- trend over the years, composition of savings in India.

Unit III: Population and Human Development
Demographic trends, India's demographic stage, and issues; education-literacy rate, Govt's schemes for promoting primary education, UGC and State of Higher Education in India, govt's schemes for skill development ; health and malnutrition,-Morbidity and Mortality, Life expectancy, MMR, IMR, Govt schemes for improving access to healthcare services by the poor.

Unit IV: Growth and Distribution
Trends and policies in- Poverty: extent, causes; Inequality: extent, causes and Unemployment: extent, types, causes: Remedies: Government's measures to tackle these maladies in general

Unit V: International Comparisons: India's development performance in comparision to - countries in South Asia, China, BRICS, non African poor, India's Human Development in International Perspectives.

Readings:

1. Jean Dreze and Amartya Sen, 2013. *An Uncertain Glory: India and its Contradictions*, Princeton University Press.
2. Pulapre Balakrishnan, 2007, The Recovery of India: Economic Growth in the Nehru Era, *Economic and Political Weekly*, November.
3. Rakesh Mohan, 2008, ―Growth Record of Indian Economy: 1950-2008. A Story of Sustained Savings and Investment, *Economic and Political Weekly*, May.
4. S.L. Shetty, 2007, ―India's Savings Performance since the Advent of Planning, in K.L. Krishna and A. Vaidyanathan, editors, *Institutions and Markets in India's Development.*
5. Himanshu, 2010, ―Towards New Poverty Lines for India, *Economic and Political Weekly*, January.
6. Jean Dreze and Angus Deaton, 2009, ―Food and Nutrition in India: Facts and Interpretations, *Economic and Political Weekly*, February.
7. Himanshu. 2011, ―Employment Trends in India: A Re-examination, *Economic and Political Weekly*, September.

8. Rama Baru et al, 2010, ―Inequities in Access to Health Services in India: Caste, Class and Region, *Economic and Political Weekly*, September.
9. Geeta G. Kingdon, 2007, ―The Progress of School Education in India, *Oxford Review of Economic Policy.*
10. J.B.G. Tilak, 2007, ―Post Elementary Education, Poverty and Development in India, *International Journal of Educational Development.*
11. T. Dyson, 2008, ―India‘s Demographic Transition and its Consequences for Development in Uma Kapila, editor, *Indian Economy Since Independence*, 19th edition, Academic Foundation.
12. Kaushik Basu, 2009, ―China and India: Idiosyncratic Paths to High Growth, *Economic and Political Weekly*, September.
13. K. James, 2008, ―Glorifying Malthus: Current Debate on Demographic Dividend in India, *Economic and Political Weekly*, June.
14. Reetika Khera, 2011, ―India‘s Public Distribution System: Utilisation and Impact *Journal of Development Studies*.
15. Aniruddha Krishna and Devendra Bajpai, 2011, ―Lineal Spread and Radial Dissipation: Experiencing Growth in Rural India, 1992-2005, *Economic and Political Weekly*, September.
16. Kaushik Basu and A. Maertens, eds, 2013, *Oxford Companion to Economics*, Oxford University Press.

Economics CC I: Introductory Microeconomics

Full Marks - 100 (Mid Term 20+ End Term 80) , Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situations.

Course Outline

Unit I: Exploring the subject matter of Economics

Why study economics? Scope and method of economics; the economic problem: scarcity and choice; the question of what to produce, how to produce and how to distribute output; science of economics; the basic competitive model; prices, property rights and profits; incentives and information; rationing; opportunity sets; economic systems; reading and working with graphs.

Unit II: Supply and Demand: How Markets Work, Markets and Welfare

Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets.

Unit III: The Households: The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer‘s optimum choice; income and substitution effects; labour supply and savings decision - choice between leisure and consumption.

Unit IV: The Firm and Perfect Market Structure

Behaviour of profit maximizing firms and the production process; short run costs and output decisions; costs and output in the long run.

Imperfect Market Structure: Monopoly and anti-trust policy; government policies towards competition; imperfect competition.

Unit V: Input Markets: Labour and land markets - basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves; competitive labour markets; and labour markets and public policy.

Readings

1. Karl E. Case and Ray C. Fair, *Principles of Economics*, Pearson Education Inc., 8th Edition, 2007.
2. N. Gregory Mankiw, *Economics: Principles and Applications*, India edition by South Western, a part of Cengage Learning, Cengage Learning India Private Limited, 4th edition, 2007.
3. Joseph E. Stiglitz and Carl E. Walsh, *Economics*, W.W. Norton & Company, Inc., New York, International Student Edition, 4th Edition, 2007.
4. Micro Economics Theory & Applications – Part I by P S Chauhan, PHI (2009)
5. Micro Economics Theory & Applications – Part II by P S Chauhan, PHI (2009)
6. Micro Economics – Anindya Sen
7. A Course in Micro Economics Theory – David M. Kreps – Princeton University Press
8. Micro Economics – Robert E. Piyndyk

Economics CC II: Mathematical Methods In Economics–I

Full Marks - 100 (Mid Term 20+ End Term 80) , Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This is the first of a compulsory two-course sequence. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

Course Outline

Unit I: Preliminaries

Logic and proof techniques; sets and set operations; relations; functions and their properties; number systems.

Unit II: Functions of one real variable

Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties and applications; continuous functions: characterizations, properties with respect to various operations and applications; differentiable functions: characterizations, properties with respect to various operations and applications; second and higher order derivatives: properties and applications.

Unit III: Single-variable optimization

Geometric properties of functions: convex functions, their characterizations and applications; local and global optima: geometric characterizations, characterizations using calculus and applications.

Unit IV: Integration of functions

Indefinite Integrals, Native integrals, Basic Rules of Integration - Power rule, logarithmic rule, Integral of a sum, integral of a multiple, substitution rule, Integration by parts, Definite integrals - properties. Application in Economics- From a Marginal to total & average function, consumer surplus.

Unit V: Difference equations- Homogeneous Linear difference equations with constant coefficients, Particulars solutions of non-linear equations, first order, Difference equation, second order linear difference equation with constant coefficient

Readings:

- ✓ K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi, 2002.
- ✓ Alpha C Chiang, Fundamental Methods of Mathematical Economics, McGraw Hill
- ✓ Taro Yamane, Mathematics for Economists, PHI learning Pvt. Limited, New Delhi, 2011

SEMESTER – II

Ability Enhancement Compulsory Course (AECC II) Environment Studies

Credits – 2, Full marks 50 (Mid Term 10 + End Term 40)
(Unit wise question pattern, answer one question from each unit)

Unit I : Introduction to environmental studies

- Multidisciplinary nature of environmental studies;
- Scope and importance; Concept of sustainability and sustainable development.

Ecosystems

- What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems :
  a) Forest ecosystem
  b) Grassland ecosystem
  c) Desert ecosystem
  d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Unit II : Natural Resources : Renewable and Non-renewable Resources

- Land resources and landuse change; Land degradation, soil erosion and desertification.
- Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.
- Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state).
- Energy resources: Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Unit III: Biodiversity and Conservation

- Levels of biological diversity : genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots
- India as a mega-biodiversity nation; Endangered and endemic species of India
- Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.
- Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

Unit IV : Environmental Pollution

- Environmental pollution : types, causes, effects and controls; Air, water, soil and noise pollution
- Nuclear hazards and human health risks
- Solid waste management : Control measures of urban and industrial waste.
- Pollution case studies.

Unit V: Environmental Policies & Practices

- Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture
- Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act. International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD).

- Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.

Human Communities and the Environment

- Human population growth: Impacts on environment, human health and welfare.
- Resettlement and rehabilitation of project affected persons; case studies.
- Disaster management : floods, earthquake, cyclones and landslides.
- Environmental movements : Chipko, Silent valley, Bishnois of Rajasthan.
- Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.
- Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi).

Suggested Readings:

1. Carson, R. 2002. *Silent Spring*. Houghton Mifflin Harcourt.
2. Gadgil, M., & Guha, R. 1993. *This Fissured Land: An Ecological History of India*. Univ. of California Press.
3. Gleeson, B. and Low, N. (eds.) 1999. *Global Ethics and Environment*, London, Routledge.
4. Gleick, P. H. 1993. *Water in Crisis*. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
5. Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. *Principles of Conservation Biology*. Sunderland: Sinauer Associates, 2006.
6. Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalaya dams. *Science*, 339: 36-37.
7. McCully, P. 1996. *Rivers no more: the environmental effects of dams* (pp. 29-64). Zed Books.
8. McNeill, John R. 2000. Something New Under the Sun: An Environmental History of the Twentieth Century.
9. Odum, E.P., Odum, H.T. & Andrews, J. 1971. *Fundamentals of Ecology*. Philadelphia: Saunders.
10. Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. Environmental and Pollution Science. Academic Press.
11. Rao, M.N. & Datta, A.K. 1987. *Waste Water Treatment*. Oxford and IBH Publishing Co. Pvt. Ltd.
12. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. *Environment*. 8th edition. John Wiley & Sons.
13. Rosencranz, A., Divan, S., & Noble, M. L. 2001. *Environmental law and policy in India*. *Tripathi 1992*.
14. Sengupta, R. 2003. *Ecology and economics*: An approach to sustainable development. OUP.
15. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. *Ecology, Environmental Science and Conservation*. S. Chand Publishing, New Delhi.
16. Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. *Conservation Biology*: *Voices from the Tropics*. John Wiley & Sons.
17. Thapar, V. 1998. *Land of the Tiger*: *A Natural History of the Indian Subcontinent.*
18. Warren, C. E. 1971. *Biology and Water Pollution Control*. WB Saunders.
19. Wilson, E. O. 2006. *The Creation: An appeal to save life on earth.* New York: Norton.
20. World Commission on Environment and Development. 1987. *Our Common Future*. Oxford University Press.

Economics GE II: Environmental Economics

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06

(Unit wise question pattern, answer one question from each unit)

Course Description

This course introduces students to concepts, methods and policy options in managing the environment using tools of economic analysis. This course should be accessible to anyone with an analytical mind and familiarity with basic concepts of economics. Since several environmental problems are caused by economic activity (for instance, carbon emissions, overharvesting of renewable resources and air and water pollution as a by-product of industrial activity), this course examines different approaches to adjusting behaviour through economic institutions such as markets and incentives as well as through regulation, etc. It also addresses the economic implications of environmental policies through practical applications of methods for valuation of environmental goods and services and quantification of environmental damages. Conversely, the impact of economic growth on the environment is also addressee under the rubric of sustainable development. Environmental problems and issues from the Indian and international context (especially global warming)are used to illustrate the concepts and methods presented in the course. The course will be useful for students aiming towards careers in the government sector, policy analysis, business, journalism and international organisations.

Course Outline

Unit I: Introduction: Key environmental issues and problems, the environment economy connection, basic concepts from economics; Pareto Optimalities, market failure in the presence of externalities; property rights- right of the polluter or victim, Coase Theorem.

Unit II: The Design and Implementation of Environmental Policy

Overview, Pigouvian taxes and effluent fees, tradable permits, implementation of environmental policies in India

Unit III: International experience; transboundary environmental problems; economics of climate change Impact of trade on environment,

Unit IV: Environmental Valuation Methods and Applications: Valuation of non-market goods and services--theory and practice; measurement methods; *travel cost method, defensive expenditure, Hedonic Price method, constructed methods (methods only in brief);* cost-benefit analysis of environmental policies and regulations.

Unit V: Sustainable Development: Concepts; growth and sustainability, Rules of Sustainability, measurement; perspectives from Indian experience.

Readings

1. Introductory Environmental Econmics by Dr. Prabhati Panda , Kalyani Publicantions
2. Roger Perman, Yue Ma, Michael Common, David Maddison and James McGilvray, "*Natural Resource and Environmental Economics"*, Pearson Education/Addison Wesley, 4th edition, 2011.
3. Charles Kolstad, "*Intermediate Environmental Economics"*, Oxford University Press, 2nd
4. edition, 2010.
5. Robert N. Stavins (ed.), "*Economics of the Environment: Selected Readings"*, W.W. Norton, 6th edition, 2012.
6. R. N. Bhattacharya (ed.), "Environmental Economics An Indian Perspective", Oxford University Press
7. Robert Solow , "An Almost Practical Step toward Sustainability," Resources for the Future 40th anniversary lecture,1992.
8. R N Bhattacharya (ed), "Environmental Economics "
9. Kenneth Arrow et al. , "Are We Consuming Too Much?" *Journal of Economic Perspectives*, 18(3): 147-172, 2004.
10. IPCC (Intergovernmental Panel on Climate Change), Fifth Assessment Report(2014).

Economics CC III: Introductory Macroeconomics

Full Marks - 100 (Mid Term 20+ End Term 80) , Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money, inflation, and the balance of payments.

Course Outline

Unit I: Introduction to Macroeconomics and Basic Concepts: Macro vs. Micro Economics; Why Study Macroeconomics? Limitations of Macroeconomics; stock and flow variables, Equilibrium and Disequilibrium, Partial and General Equilibrium Statics - Comparative Statics and Dynamics; National Income Concepts - GDP, GNP, NDP and NNP at market price and factor cost; Personal Income and Disposable personal Income; Real and Nominal GDP

Unit II: Measurement of Macroeconomics Variables: Rules and approaches of measurement of GDP (Income, expenditure, product and Value added approaches), Difficulties of Estimating National Income, circular Flow of Income and expenditure in two, three and four sector economy. National Income and Economic Welfare;

Unit III: Money: Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy.

Unit IV: Inflation

Inflation - Meaning, Types, causes and Effects. Demand-pull and cost-push inflation; the cost of inflation and anti-Inflationary Measures; stagflation, Hyper inflation, Inflationary gap

Deflation: Meaning and its effects.

Unit V: The Closed Economy in the Short Run: The Classical Approach- Say's Law, Theory of Determination of Income and Employment with and without saving and Investment; The Keynesian Approach - Basics of Aggregate Demand and Aggregate Supply and Consumption, The Principle of Effective Demand; Income Determination in a Simple 2- sector Model; Changes in Aggregate Demand and Income- IS-LM model (fiscal and monetary multipliers).

Readings:

1. Dornbursch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010
2. Richard T. Froyen, *Macroeconomics*, Pearson Education Asia, 2nd edition, 2005.
3. N. Gregory Mankiw, *Macroeconomics*, Worth Publishers, 7th edition, 2010
4. Olivier Blanchard, Macroeconomics, Pearson Education, Inc., 5th edition, 2009
5. Andrew B. Abel and Ben S. Bernanke, Macroeconomics, Pearson Education, Inc. 7th edition, 2011
6. Errol D'souza, Macroeconomics, Pearson Education, 2009
7. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, International Economics, Pearson Education Asia, 9th edition, 2002
8. Edward Shapiro, Macroeconomics Analysis, 5th Edition, 2013

Economics CC IV: Mathematical Methods in Economics - II

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This course is the second part of a compulsory two-course sequence. This part is to be taught in Semester II following the first part in Semester I. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this Syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

Course Outline

Unit I: Differential equations- First order linear & non-linear differential equations, exact equation, second order differential equations with constant coefficients and constant term.

Unit II: Linear algebra

Vector spaces: algebraic and geometric properties, scalar products, norms, orthogonality; Lines and planes, matrix representations and elementary operations; systems of linear equations in matrix form, properties of their solution sets; determinants: properties and applications (inverse of a matrix, Cramer's Rule).

Unit III: Functions of several real variables

Geometric representations: graphs and level curves; partial derivatives with two variables, higher order partial derivatives, economic applications- marginal product and marginal utility; derivatives of implicit functions; partial elasticity

Unit IV: Homogeneous Functions

Homogeneous functions: Degree of homogeneity, Euler's theorem, Linear Homogeneous functions: properties, Cobb-Douglas Production functions; differential of a function of two varicable.

Unit V: Multi-variable optimization

Convex sets; geometric properties of functions: convex functions, their characterizations, properties and applications; further geometric properties of functions: quasiconvex functions, their characterizations, properties and applications; unconstrained optimization: geometric characterizations, characterizations using calculus and applications; constrained optimization with equality constraints: geometric characterizations, lagrange characterization using calculus and applications; properties of value function: envelope theorem and applications.

Readings:

1. K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia: Delhi, 2002.
2. An Introduction to Mathematical Economics – D. Bose- Himalaya Publications

SEMESTER - III

Economics SEC I: Data Analysis

Credits – 2, Full marks 50 (Mid Term 10 + End Term 40)
(Unit wise question pattern, answer one question from each unit)

Course Description:

This course introduces the student to collection and presentation of data. It also discusses how data can be summarized and analysed for drawing statistical inferences. The students will be introduced to important data sources that are available and will also be trained in the use of free statistical software to analyse data.

Course Outline:

Unit I: Sources of data. Population census versus sample surveys. Random sampling.

Unit II: Univariate frequency distributions. Measures of central tendency: mean, median and mode; arithmetic, geometric and harmonic mean. Measures of dispersion, skewness and kurtosis.

Unit III: Bivariate frequency distribution. Correlation and regression. Rank correlation.

Unit IV: Introduction to probability theory. Notions of random experiment, sample space, event, probability of an event. Conditional probability. Independence of events. Random variables and probability distributions. Binomial and normal distributions.

Unit V: Estimation of population parameters from sample data. Unbiased estimators for population mean and variance. Basics of index numbers: price and quantity index numbers.

Readings:

1. P.H. Karmel and M. Polasek (1978), *Applied Statistics for Economists*, 4th edition, Pitman.
2. M.R. Spiegel (2003), *Theory and Problems of Probability and Statistics* (Schaum Series).

Economics GE III: Introductory Microeconomics

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situations.

Course Outline

Unit I: Exploring the subject matter of Economics

Why study economics? Scope and method of economics; the economic problem: scarcity and choice; the question of what to produce, how to produce and how to distribute output; science of economics; the basic competitive model; prices, property rights and profits; incentives and information; rationing; opportunity sets; economic systems; reading and working with graphs.

Unit II: Supply and Demand: How Markets Work, Markets and Welfare

Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets.

Unit III: The Households

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer‘s optimum choice; income and substitution effects; labour supply and savings decision - choice between leisure and consumption.

Unit IV: The Firm and Perfect Market Structure

Behaviour of profit maximizing firms and the production process; short run costs and output decisions; costs and output in the long run.

Imperfect Market Structure: Monopoly and anti-trust policy; government policies towards competition; imperfect competition.

Unit V: Input Markets: Labour and land markets - basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves; competitive labour markets; and labour markets and public policy.

Readings

1. Karl E. Case and Ray C. Fair, *Principles of Economics*, Pearson Education Inc., 8th Edition, 2007.
2. N. Gregory Mankiw, *Economics: Principles and Applications*, India edition by South Western, a part of Cengage Learning, Cengage Learning India Private Limited, 4th edition, 2007.
3. Joseph E. Stiglitz and Carl E. Walsh, *Economics*, W.W. Norton & Company, Inc., New York, International Student Edition, 4th Edition, 2007.

Economics CC V: Intermediate Microeconomics I

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06

(Question pattern: one long questions from each unit and one question of short notes covering all four units)

Course Description

The course is designed to provide a sound training in microeconomic theory to formally analyze the behaviour of individual agents. Since students are already familiar with the quantitative techniques in the previous semesters, mathematical tools are used to facilitate understanding of the basic concepts. This course looks at the behaviour of the consumer and the producer and also covers the behaviour of a competitive firm.

Course Outline

Unit I: Consumer Preferences (Strong and weak), Preferences and Utility functions, Indifference curves. Assumptions of consistency of Preferences. Indifference curves Indifference curves for substitutes, complements, neutrals, marginal rate of substitutions, Mu & MRS, Budget Constraints – budget set its properties, slope of budget line. Choice-Optimal choice, consumer demand, optimal choice substitutes & complements. Concave preferences.

Unit II: Cobb-Douglas Utility function & Optimal choice. Income effect, Substitution effect: Slutsky equation, Hicks substitution effect. Inter temporal choice. Demand function, Demand function, Normal and inferior goods, Income offer curves & Engel curve Ordinary & Giffen Goods. Price offer curve and demand curve. Inverse demand curve. Revealed Preference.

Unit III: Cost Curve: Short-run, Fixed and Variable, Average, marginal cost curve. Long run costs, Technology – inputs and Output, Technological Constraints, Properties of Isoquants, Use of fixed Proportion Technology, Perfect Substitution, Technical Rate of Substitution.

Unit IV: MP and AP, Law of Variable Proportion, returns to Scale, Perfect Competition – Short run Long Run, Supply Curves, Shut down point.

Readings:

1. Hal R. Varian, *Intermediate Microeconomics, a Modern Approach*, W.W. Norton and Company/Affiliated East-West Press (India), 8th edition, 2010. The workbook by Varian and Bergstrom may be used for problems.

2. C. Snyder and W. Nicholson, *Fundamentals of Microeconomics*, Cengage Learning (India), 2010.

Economics CC VI: Intermediate Macroeconomics I

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06

(Question pattern: one long questions from each unit and one question of short notes covering all four units)

Course Description

This course introduces the students to formal modeling of a macro-economy in terms of analytical tools. It discusses various alternative theories of output and employment determination in a closed economy in the short run as well as medium run, and the role of policy in this context. It also introduces the students to various theoretical issues related to an open economy.

Course Outline

Unit I: Aggregate Demand and Aggregate Supply Curves

Derivation of aggregate demand and aggregate and supply curves; interaction of aggregate demand and supply.

Unit II: Inflation, Unemployment and Expectations

Phillips curve; adaptive and rational expectations; policy ineffectiveness debate.

Unit III: Open Economy Models

Short-run open economy models; Mundell-Fleming model; exchange rate determination; purchasing power parity; asset market approach; Dornbusch's overshooting model; monetary approach to balance of payments; international financial markets.

Unit IV: International Financial Markets

International Financial markets; Raising Funds from International Market, EURO, ADRs, GDRs, ECBs etc: Currency Futures, Options and swaps: Foreign Direct Investment Theories, Foreign Exchange Exposures and its Management

Readings:

1. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010.
2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7th edition, 2010.
3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Steven M. Sheffrin, *Rational Expectations*, Cambridge University Press, 2nd edition, 1996.
5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7th edition, 2011.
6. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009
7. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, *International Economics*, Pearson Education Asia, 9th edition, 2012.

Economics CC VII: Statistical Methods for Economics

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This is a course on statistical methods for economics. It begins with some basic concepts and terminology that are fundamental to statistical analysis and inference. It then develops the notion of probability, followed by probability distributions of discrete and continuous random variables and of joint distributions. This is followed by a discussion on sampling techniques used to collect survey data. The course introduces the notion of sampling distributions that act as a bridge between probability theory and statistical inference. The semester concludes with some topics in statistical inference that include point and interval estimation.

Course Outline

Unit I: Introduction and Overview

The distinction between populations and samples and between population parameters and sample statistics;

Unit II: Elementary Probability Theory

Sample spaces and events; probability axioms and properties; counting techniques; conditional probability and Bayes' rule; independence.

Unit III: Random Variables and Probability Distributions

Defining random variables; probability distributions; expected values of random variables and of functions of random variables; properties of commonly used discrete and continuous distributions (uniform, binomial, normal, poisson and exponential random variables).

Unit IV: Sampling

Principal steps in a sample survey; methods of sampling; the role of sampling theory; properties of random samples. Random Sampling and Jointly Distributed Random Variables Density and distribution functions for jointly distributed random variables; computing expected values; covariance and correlation coefficients

Unit V: Point and Interval Estimation

Estimation of population parameters using methods of moments and maximum likelihood procedures; properties of estimators; confidence intervals for population parameters.

Readings:

1. Jay L. Devore, *Probability and Statistics for Engineers,* Cengage Learning, 2010.
2. John E. Freund, mathematical Statistics, Prentice Hall, 1992
3. Richard J. Larsen and Morris L. Mark, An Introducton to Mathematical Statistics nd its Applications, Prentice Hall, 2011
4. William G. Cochran, *Sampling Techniques,* John Wiley, 2007.
5. Mathematical Statistics – S. C. Gupta

SEMESTER – IV

ENGLISH SEC II: COMMUNICATIVE ENGLISH & ENGLISH WRITING SKILL

Credits – 2, Full marks 50 (Mid Term 10 + End Term 40)
(Unit wise question pattern, answer one question from each unit)

Unit I: Introduction to the essentials of Business Communication: Theory and practice
Communication: Definition, Process, Purpose, Communication Network, Types of Communication, Barriers to communication

Unit II: Mechanics of Writing
Stages of writing, Preparing Notes, Style and Tone, linguistic unity, coherence and cohesion, How to Compose Business Messages, Citing references, and using bibliographical

Unit III: Writing a project report
Report planning, Types of Reports, Developing an Outline, Sections of the Report

Unit IV: Writing minutes of meetings, Circular, Notices, Memos, Agenda

Unit V: E-correspondence: E-mails, Business Letter Format, Styles, Types of Letter

Suggested Readings:

1. Scot, O.; Contemporary *Business Communication*. Biztantra, New Delhi.

2. Lesikar, R.V. &Flatley, M.E.; *Basic Business Communication Skills for Empowering the Internet Generation*, Tata McGraw Hill Publishing Company Ltd. New Delhi.

3. Ludlow, R. & Panton, F.; *The Essence of Effective Communications*, Prentice Hall of India Pvt. Ltd., New Delhi.

4. R. C. Bhatia, *Business Communication*, Ane Books Pvt Ltd, New Delhi

Economics GE IV: Introductory Macroeconomics

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money, inflation, and the balance of payments.

Course Outline

Unit I: Introduction to Macroeconomics and Basic Concepts: Macro vs. Micro Economics; Why Study Macroeconomics? Limitations of Macroeconomics; stock and flow variables, Equilibrium and Disequilibrium, Partial and General Equilibrium Statics - Comparative Statics and Dynamics; National Income Concepts - GDP, GNP, NDP and NNP at market price and factor cost; Personal Income and Disposable personal Income; Real and Nominal GDP

Unit II: Money: Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy.

Unit III: Inflation,
Inflation - Meaning, Types, causes and Effects. Demand-pull and cost-push inflation; the cost of inflation and anti-Inflationary Measures; Deflation, Meaning Causes and Anti-Deflationary, Depression and Stagflation; Hyperflation

Deflation: Meaning & its effect

Unit IV: The Closed Economy in the Short Run: The Classical Approach- Say's Law Theory of Determination of Income and Employment with and without saving and Investment; Basics of Aggregate Demand and Aggregate Supply and Consumption- Saving- Investment Functions,

Unit V: The Keynesian Approach - Basics of Aggregate Demand and Aggregate Supply and Consumption, saving, investment Functions; The Principle of Effective Demand; Income Determination in a Simple 2- sector Model;

Readings:

1. Dornbursch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010
2. Richard T. Froyen, *Macroeconomics*, Pearson Education Asia, 2nd edition, 2005.
3. N. Gregory Mankiw, *Macroeconomics*, Worth Publishers, 7th edition, 2010
4. Olivier Blanchard, Macroeconomics, Pearson Education, Inc., 5th edition, 2009
5. Andrew B. Abel and Ben S. Bernanke, Macroeconomics, Pearson Education, Inc. 7th edition, 2011
6. Errol D'souza, Macroeconomics, Pearson Education, 2009
7. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, International Economics, Pearson Education Asia, 9th edition, 2002
8. Edward Shapiro, Macroeconomics Analysis, 5th Edition, 2013

Economics CC VIII: Intermediate Microeconomics II

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This course is a sequel to Intermediate Microeconomics I. The emphasis will be on giving conceptual clarity to the student coupled with the use of mathematical tools and reasoning. It covers general equilibrium and welfare, imperfect markets and topics under information economics.

Course Outline

Unit I: General Equilibrium, Efficiency and Welfare

General Equilibrium, general equilibrium with two goods- The Edgeworth Box two person two goods model. Trade, the Pareto efficient allocation. Equilibrium and efficiency. First theorem of Welfare Economics, Efficiency and Equilibrium Second theorem of Welfare Economics. A graphical analysis of two factor, two commodity, two consumer (2*2*2) General equilibrium model. Social Welfare Function- the social indifference contours, utility possibility curve and utility possibility frontier, Determination of the welfare maximizing state- The Point of Bliss

Unit II: Market Structure

Monopoly; profit maximization and output choice, Inefficiency of monopoly, deadweight loss, Price Discrimination- first degree, second degree an third degree. Monopolistic competition: The nature of monopolistic Firm, Equilibrium of the firm, comparison with Pure Competition.

Unit III: Oligopoly and game Theory

Oligopoly; quantity Leadership, Price Leadership, Simultaneous Quantity Setting, Simultaneous Price setting, Game Theory: Non Cooperative and Cooperative games, Pay-Off Matrix, Dominant Strategie, Maximin strategies, Nash Equilibrium, Mixed Strategies, Prisoner's Dilemma.

Unit IV: Market Failure

Externalities; positive and Negative Externalities, Production Externalities and Consumption Externalities, marginal Social Cost and Marginal Cost Pricing, Public Goods: Different kinds of goods- private goods, public goods, common resources, club goods, Public Goods and free rider problem, comparision between public and private goods.

Unit V: Aasymmetric information.

Hidden characteristics, Lemon problem and Adverse Selection, Adverse selection and Insurance, Signalling to convey private information, Moral Hazard, Moral Hazard and adverse selection. Assymetric Information and Public Policy, Uncertainty & risk- Contingent consumption, Expected utility, Diversification & risk spreading.

Readings:

1. Hal R. Varian, *Intermediate Microeconomics, a Modern Approach*, 8th edition, W.W. Norton and Company/Affiliated East-West Press (India), 2010.The workbook by Varian and Bergstrom could be used for problems.
2. C. Snyder and W. Nicholson, *Fundamentals of Microeconomics*, Cengage Learning (India), 2010.

Economics CC IX: Intermediate Macroeconomics II

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This course is a sequel to Intermediate Macroeconomics I. In this course, the students are introduced to the long run dynamic issues like growth and technical progress. It also provides the micro-foundations to the various aggregative concepts used in the previous course.

Course Outline

Unit I: Economic Growth

Harrod-Domar model: Solow model; golden rule; technological progress; and elements of endogenous growth.

Unit II: Microeconomic Foundations

a. Consumption: Keynesian consumption function; Fisher's theory of optimal inter-temporal choice; life-cycle and permanent income hypotheses;

b. Investment: determinants of business fixed investment; residential investment and inventory investment.

Unit III: Demand for money

Classical, Neo Classical, Keynes and Post Keynesians: Baumal and Friedman

Unit IV: Fiscal and Monetary Policy

Active or passive; monetary policy objectives and targets; rules versus discretion: the government budget constraint; government debt and Ricardian equivalence.

Unit V: Schools of Macroeconomic Thoughts

Classical; Keynesians; New-Classical and New-Keynesians
Classicals- JB Say , Ricardo, Keynesians- Hicks and Allen, New Classicals- Samuelson, New Keynesians- Ronald Coase

Readings:

1. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010.
2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7th edition, 2010.
3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Charles I. Jones, *Introduction to Economic Growth***,** W.W. Norton & Company, 2nd edition, 2002.
5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7th edition, 2011.
6. Errol. D'Souza, *Macroeconomics*, Pearson Education, 2009.
7. Robert J. Gordon, *Macroeconomics*, Prentice-Hall India Limited, 2011.

Economics CC X: Introductory Econometrics

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This course provides a comprehensive introduction to basic econometric concepts and techniques. It covers statistical concepts of hypothesis testing, estimation and diagnostic testing of simple and multiple regression models. The course also covers the consequences of and tests for misspecification of regression models.

Course Outline

Unit I: Nature and Scope of Econometrics

Unit II: Statistical Concepts

Normal distribution; chi-sq, t- and F-distributions; estimation of parameters; properties of estimators; testing of hypotheses: defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test; tests for comparing parameters from two samples.

Unit III: Simple Linear Regression Model: Two Variable Case

Estimation of model by method of ordinary least squares; properties of estimators; goodness of fit; tests of hypotheses; scaling and units of measurement; confidence intervals; Gauss-Markov theorem; forecasting.

Unit IV: Multiple Linear Regression Model

Estimation of parameters; properties of OLS estimators; goodness of fit - R^2 and adjusted R^2; partial regression coefficients; testing hypotheses – individual and joint**;** functional forms of regression models; qualitative (dummy) independent variables.

Unit V: Violations of Classical Assumptions: Consequences, Detection and Remedies

Multicollinearity; heteroscedasticity; serial correlation.

Specification Analysis: Omission of a relevant variable; inclusion of irrelevant variable; tests of specification errors.

Readings

1. Jay L. Devore, *Probability and Statistics for Engineers*, Cengage Learning, 2010.
2. John E. Freund, *Mathematical Statistics*, Prentice Hall, 1992.
3. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics and its Applications*, Prentice Hall, 2011.
4. D. N. Gujarati and D.C. Porter, *Essentials of Econometrics*, McGraw Hill, 4th edition, International Edition, 2009.
5. Christopher Dougherty, *Introduction to Econometrics*, Oxford University Press, 3rd edition, Indian edition, 2007.
6. Jan Kmenta, *Elements of Econometrics*, Indian Reprint, Khosla Publishing House, 2nd edition, 2008.

SEMESTER - V

Economics DSE I: Money and Financial Markets

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This course exposes students to the theory and functioning of the monetary and financial sectors of the economy. It highlights the organization, structure and role of financial markets and institutions. It also discusses interest rates, monetary management and instruments of monetary control. Financial and banking sector reforms and monetary policy with special reference to India are also covered.

Course Outline

Unit I: Money: Concept, functions, measurement; theories of money supply determination- Classical and Keynesian approaches to demand for money, Post-Keynesian approaches to demand for money - Patinkin and the Real Balance Effect: High powered money and money multiplier:

Unit II: Financial Institutions, Markets, Instruments and Financial Innovations

a. Financial institutions; types (intermediary, non-intermediary, regulatory etc.), their role in promoting economic development.
b. Types and role of financial markets; Money and Capital Markets- Organization, structure and reform in India
c. Financial derivatives and other Deviatives

Unit III: Interest Rates: Determination; sources of interest rate differentials; theories of term structure of interest rates; Expectation theory, liquidity premium theory; interest rates in India.

Unit IV: Banking System: Functions of commercial banks; the process of credit creation and its limitations; Balance sheet and portfolio management, Indian banking system: Changing role and structure; Banking sector reforms.

Unit V: Central Banking and Monetary Policy: Functions of a central bank; Quantitative and qualitative methods of credit control, monetary policy: objectives, indicators and instruments of monetary control, monetary management in an open economy, current monetary policy of India, liquidity adjustment facility (LAF), MSF, limitations of monetary policy.

Readings

1. F. S. Mishkin and S. G. Eakins, *Financial Markets and Institutions*, Pearson Education, 6th edition, 2009.
2. F. J. Fabozzi, F. Modigliani, F. J. Jones, M. G. Ferri, *Foundations of Financial Markets and Institutions*, Pearson Education, 3rd edition, 2009.
3. M. R. Baye and D. W. Jansen, *Money, Banking and Financial Markets*, AITBS, 1996.
4. Rakesh Mohan, *Growth with Financial Stability- Central Banking in an Emerging Market*, Oxford University Press, 2011.
5. L. M. Bhole and J. Mahukud, *Financial Institutions and Markets*, Tata McGraw Hill, 5th edition, 2011.
6. M. Y. Khan, *Indian Financial System*, Tata McGraw Hill, 7th edition, 2011.
7. N. Jadhav, *Monetary Policy, Financial Stability and Central Banking in India*, Macmillan, 2006.
8. R.B.I. – *Report of the Working Group: Money Supply Analytics and Methodology of Compilation*, 1998.
9. R.B.I. Bulletin, Annual Report and Report on Currency and Finance (latest).

Economics DSE II: Public Economics

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

Public economics is the study of government policy from the points of view of economic efficiency and equity. The paper deals with the nature of government intervention and its implications for allocation, distribution and stabilization. Inherently, this study involves a formal analysis of government taxation and expenditures. The subject encompasses a host of topics including public goods, market failures and externalities. The paper is divided into two sections, one dealing with the theory of public economics and the other with the Indian public finances.

Course Outline

Unit I: Concept of Public Economics

Meaning and scope of public finance, public finance vs. private finance, fiscal functions-allocation, distribution and stabilization role of government, public goods - pure and partial public goods, private goods an merit goods, characteristics of public goods, rationale of public provision of public goods, free rider problem, Samuelson's theory of public goods.

Unit II: Externalities:

The problem and its solutions, taxes versus regulation, property rights, Definition and types of externalities, Externalities and efficiency, Internalisation of externalities: corrective taxes and subsidies, Coase Theorem, significance of Coase theorem, application of Coase theorem and pollution rights.

Unit III: Taxation

Tax and non-tax revenue, direct and indirect taxes, effects of tax on production, distribution and economic activities, Dead-weight loss and distortion. Principles of taxation - Benefit theory Ability to pay theory, Burden of taxation: Neutrality in taxation, shifting and incidence of taxation, efficiency and equity aspects of taxation. Optimum taxation.

Unit IV: Indian Public Finance

Features of Indian tax system, tax revenues of the central and state governments, direct and indirect taxes levied by the state and centre, changing tax structure of India, Tax reforms since 1991 : Chelliah Committee, Kelkar Committee reports, DTC, VAT and GST.

Unit V: State Finance

Budgetary trend in India, trend of receipts and expenditures of Central Govt., Types of deficits: budgetary deficit, fiscal deficit, revenue deficit and primary deficit, Public debt: problems and issues, Fiscal federalism in India: Transfer of resources from centre to state-tends and techniques, an evaluation of finance commission awards and federal financing, suggestions to improve the finance relation in India.

Readings:

1. J. Hindriks, G. Myles: *Intermediate Public Economics*, MIT Press, 2006.
2. H. Rosen, T. Gayer: *Public Finance*, 9th ed., McGraw-Hill/Irwin, 2009.
3. Joseph E. Stiglitz, *Economics of the Public Sector*, W.W. Norton & Company, 3rd edition, 2000.
4. R.A. Musgrave and P.B. Musgrave, *Public Finance in Theory & Practice*, McGraw Hill Publications, 5th edition, 1989.

5. John Cullis and Philip Jones, *Public Finance and Public Choice*, Oxford University Press, 1st edition, 1998.
6. Harvey Rosen, *Public Finance*, McGraw Hill Publications, 7th edition, 2005.
7. Mahesh Purohit, *Value Added Tax: Experiences of India and Other Countries*, 2007.
8. Kaushik Basu and A. Maertens (ed.), *The N e w Oxford Companion to Economics in India*, Oxford University Press, 2013.
9. M.M. Sury, *Government Budgeting in India*, 1990. M. Govinda Rao, *Changing Contours of Federal Fiscal Arrangements in India, Amaresh Bagchi (ed.), Readings in Public Finance*, Oxford University Press, 2005.
10. Paul Samuelson, 1955, ―Diagrammatic Exposition of a theory of Public Expenditure, *Review of Economics and Statistics*, Volume 37.
11. Shankar Acharya, 2005, ―Thirty Years of Tax Reform in India‖, *Economic and Political Weekly*, May 14-20.
12. Rangarajan and D.K. Srivastava, 2005, ―Fiscal Deficit and Government Debt: Implications for Growth and Stabilizati*on", Economic and Political Weekly,* July2-8.
13. M. Govinda Rao, 2011, ―Goods and Services Tax: A Gorilla, Chimpanzee or a Genius like Primates?, *Economic and Political Weekly*, February 12-18.
14. Report of the 13th Finance Commission, 2010-15.
15. *Economic Survey*, Government of India (Latest).
16. *State Finances: A Study of Budgets*, Reserve Bank of India (Latest).

Economics CC XI: Indian Economy-I

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points. Given the rapid changes taking place in India, the reading list will have to be updated annually.

Course Outline

Unit I: Economic Development since Independence

Major features of the economy at independence; growth and development under different policy regimes—1951-1981, 1981-1991, after assessment of the policies, Performance of the economy - inter regional companies, Need for balanced regional development.

Unit II:

Structural changes in the Indian Economy. Saving and investment, sources of savings, saving trends in 1970s, 1980s & 1990s, recent dramatic improvements in saving, domestic capital formation, foreign capital- significance of disinvestment & privatization, financial sector reforms

Unit III: Population & Economic Development

The three stages of Demographic transition, India's population: Size & growth trends, Age & Sex composition, urban Rural Composition, Urbanization & the development process. Population growth & Economic development, Occupational distribution of labour force, Age Structure and demographic dividend. National population Policy- 1976 and 2000.

Unit IV: Growth and Distribution

Pattern of personal income distribution in India, causes of inequality, Government Policy & measures, Poverty- Concept of Poverty line, Incidence of poverty in India, Multidimensional poverty, poverty alleviation programmes, critical evaluation of strategy for poverty alleviation

Unit V: Unemployment & International Companies

Nature of unemployment, causes of unemployment, Govt. policy for removing unemployment, MGNREGS programme, India HDI - comparison with developed countries, comparison with Brazil, China, Sri Lanka & Bangladesh

International Comparisons Readings:

1. Jean Dreze and Amartya Sen, Jean Dreze and Amartya Sen, 2013. *An Uncertain Glory: India and its Contradictions*, Princeton University Press.
2. Pulapre Balakrishnan, 2007, The Recovery of India: Economic Growth in the Nehru Era, *Economic and Political Weekly*, November.
3. Rakesh Mohan, 2008, ―Growth Record of Indian Economy: 1950-2008. A Story of Sustained Savings and Investment, *Economic and Political Weekly*, May.
4. S.L. Shetty, 2007, ‒India's Savings Performance since the Advent of Planning, in K.L. Krishna and A. Vaidyanathan, editors, *Institutions and Markets in India's Development.*
5. Himanshu, 2010, Towards New Poverty Lines for India, *Economic and Political Weekly*, January.

6. Jean Dreze and Angus Deaton, 2009, Food and Nutrition in India: Facts and Intepretations, *Economic and Political Weekly*, February.
7. Himanshu. 2011, ―Employment Trends in India: A Re-examination, *Economic and Political Weekly*, September.
8. Rama Baru et al, 2010, ―Inequities in Access to Health Services in India: Caste, Class and Region, *Economic and Political Weekly*, September.
9. Geeta G. Kingdon, 2007, ―The Progress of School Education in India, *Oxford Review of Economic Policy.*
10. J.B.G. Tilak, 2007, ―Post Elementary Education, Poverty and Development in India, *International Journal of Educational Development.*
11. T. Dyson, 2008, ―India‘s Demographic Transition and its Consequences for Development‖ in Uma Kapila, editor, *Indian Economy Since Independence*, 19th edition, Academic Foundation.
12. Kaushik Basu, 2009, ―China and India: Idiosyncratic Paths to High Growth, *Economic and Political Weekly*, September.
13. K. James, 2008, ―Glorifying Malthus: Current Debate on Demographic Dividend in India‖ *Economic and Political Weekly*, June.
14. Reetika Khera, 2011, ―India‘s Public Distribution System: Utilisation and Impact *Journal of Development Studies*.
15. Aniruddha Krishna and Devendra Bajpai, 2011, ―Lineal Spread and Radial Dissipation: Experiencing Growth in Rural India, 1992-2005, *Economic and Political Weekly*, September.
16. Kaushik Basu and A. Maertens, eds, 2013, *The New Oxford Companion to Economics*, Oxford University Press.
17. Indian Economy: S. K. Mishra & B. K. Puri, 2017, Himalayan Publications, delhi

Economics CC XII: Development Economics-I

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06

(Unit wise question pattern, answer one question from each unit)

Course Description

This is the first part of a two-part course on economic development. The course begins with a discussion of alternative conceptions of development and their justification. It then proceeds to aggregate models of growth and cross-national comparisons of the growth experience that can help evaluate these models. The axiomatic basis for inequality measurement is used to develop measures of inequality and connections between growth and inequality are explored. The course ends by linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.

Course Outline

Unit I: Concept of Development

Economic growth and development, Factors affecting economic development, Obstacles to economic development, Indicators of economic development - national income, Per capita income; Basic needs approach, PQLI, HDI, GDI, Capital formation and economic development. Alternative measures of development, documenting the international variation in these measures, comparing development trajectories across nations and within them.

Unit II: Theories of Economic Development & Growth

Classical theory, Marxian theory of capitalist development, Schumpeterian theory of capitalist development, Harrod - Domar model of steady growth, Neo-Classical growth Model-Solow, Rostow's stages of economic growth.

Unit III: Approaches to economic Development

Partial theories of growth and development: Vicious circle of Poverty, Circular causation, Theory of unlimited supply and labour, big push, balanced growth, unbalanced growth, critical minimum effort, Dualism-Technical.

Unit IV: Poverty and Inequality: Definitions, Measures and Mechanisms

Understanding Prosperity and Poverty: Geography, Institutions, and the Reversal of Fortune, Measuring Poverty, Inequality axioms; a comparison of commonly used inequality measures; connections between inequality and development; poverty measurement; characteristics of the poor; mechanisms that generate poverty traps and path, dependence of growth processes.

Unit IV: Political Institutions and the Functioning of the State

Public Goods and Economic Development, State ownership and regulation, government failures, Corruption and development, The determinants of democracy & alternative institutional frameworks and their relationship with economic performance; within-country differences in the functioning of state institutions.

Readings

1. Debraj Ray, *Development Economics,* Oxford University Press, 2009.
2. Partha Dasgupta, *Economics, A Very Short Introduction,* Oxford University Press, 2007.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, *Understanding Poverty,* Oxford University Press, 2006.
4. Kaushik Basu, *The Oxford Companion to Economics in India,* OUP, 2007.
5. Amartya Sen, *Development as Freedom,* OUP, 2000.
6. Daron Acemoglu and James Robinson, *Economic Origins of Dictatorship and Democracy,* Cambridge University Press, 2006.
7. Robert Putnam, *Making Democracy Work: Civic Traditions in Modern Italy,* Princeton University Press, 1994

SEMESTER - VI

Economics DSE III: International Economics

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06

(Unit wise question pattern, answer one question from each unit)

Course Description

This course develops a systematic exposition of models that try to explain the composition, direction, and consequences of international trade, and the determinants and effects of trade policy. It then builds on the models of open economy macroeconomics developed in courses 08 and 12, focusing on national policies as well as international monetary systems. It concludes with an analytical account of the causes and consequences of the rapid expansion of international financial flows in recent years. Although the course is based on abstract theoretical models, students will also be exposed to real-world examples and case studies.

Course Outline

Unit I: Meaning and Theories of International Trade:

What is international Trade, different between International & internal trade, Adam Smith's absolute theory, Recordium comparative cost theory, Habenler's Opportunity cost, Theory of Reciprocal demand, Factor Endowments and Heckscher -Ohlin theory of trade.Leontief Paradox, Factor price equalization Theorem.

Unit II: Trade Policy

Tariff: Meaning, Partial Equilibrium and General equilibrium analysis of tariff. Quota, Stolper-Samuelon Theorem. Free trade vs. protection, Economic Integration- Custom Union and free trade area & WTO.

Unit III: Foreign Exchange rate:

Meaning of exchange rate, Determination of Equilibrium Exchange rate, Elasticity Approach, Purchasing Power Theory. Monetary Model to exchange rate:- Fixed Vs. Flexible exchange rate.

Unit IV: Balance of Payments:

Meaning and structure of Balance of payments. Equilibrium and disequilibrium balance of payment and various measures to correct deficit in the Balance of payments.

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Unit V: International financial Institutions:

Rise and fall of Gold standard and Bretton-Woods system; need and adequacy of Internation liquidity. Conditionality clause of IMF; function of WTO & World Bank.

Readings:

1. Paul Krugman, Maurice Obstfeld, and Marc Melitz, *International Economics: Theory and Policy*, Addison-Wesley (Pearson Education Indian Edition), 9th edition, 2012.
2. Dominick Salvatore, *International Economics: Trade and Finance*, John Wiley International Student Edition, 10th edition, 2011
3. Bo Sodersten and Geoffery Reed, International Economics, Macmillan Press Ltd.2011
4. H. G. Mannun - International Economics

ECONOMIC DSE IV: Dissertation / Project Work

Full Marks - 100, Credits 06

(To be evaluated internally)

Economics CC XIII: Indian Economy-II

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description
This course examines sector-specific polices and their impact in shaping trends in key economic indicators in India. It highlights major policy debates and evaluates the Indian empirical evidence. Given the rapid changes taking place in the country, the reading list will have to be updated annually.

Course Outline
Unit I: Agriculture
Performance and Policies - Role of agriculture in the Indian Economy, Nature-Feudal relation of production, scarcity of credit, low wage, low technology, production instability, regional diversity, Trends in Production & Productivity and factors, Agricultural finance & marketing, Green Revolution & its impacts.

Unit II: Industries
Agriculture Performance & Policies - Importance & Role, Trends in industrial production in India, the four district phases, Industrial Finance- Sources, Drawbacks, Industrial sickness, Industrial Policy - 1956, 1991; Industrial Licensing Policy, National Manufacturing Policy-2011, make in India, MRTP Act, Competition Act, Growth & Problems of SSI.

Unit III: Services sector in Indian Economy
Growth & contribution of service section, causes of rapid growth, Growth trends of various types of service sector, India's IT & ITES industry, IT-BPM sector, sustainability of services led growth.

Unit IV: Indian Public Finance
Indian Tax structure - Features, weakness, Taxes of Central Govt. & State Govt., Public Expenditure- Growth Composition, Causes of rise in Public expenditure, Public Debt- Internal & External debt, Debt structure of State Govt., Problems & Issues.

Unit V: External Sector
Foreign Trade- Role, Composition & direction of India's Foreign trade, Trends of export & import in India, Export promotion vs. Impost substitutions, balance of Payments of India, India's Trade Policies, Foreign capital- FDI & MNCs, Foreign Aid , Remittances

Readings:

a. Shankar Acharya, 2010, ―Macroeconomic Performance and Policies 2000-8,‖ in Shankar Acharya and Rakesh Mohan, editors, *India's Economy: Performances and Challenges: Development and Participation*, Oxford University Press.
b. Rakesh Mohan, 2010, ―India's Financial Sector and Monetary Policy Reforms,‖ in Shankar Acharya and Rakesh Mohan, editors, *India's Economy: Performances and Challenges: Development and Participation*, Oxford University Press.
c. Pulapre Balakrishnan, Ramesh Golait and Pankaj Kumar, 2008, ―Agricultural Growth in India Since 1991, *RBI DEAP Study no. 27*.
d. B.N. Goldar and S.C. Aggarwal, 2005, ―Trade Liberalisation and Price-Cost Margin in Indian Industries, *The Developing Economics*, September.

e. P. Goldberg, A. Khandelwal, N. Pavcnik and P. Topalova, 2009, ―Trade Liberalisation and New Imported Inputs, *American Economic Review, Papers and Proceedings*, May.
f. Kunal Sen, 2010, ―Trade, Foreign Direct Investment and Industrial Transformation in India, ïn Premachandra Athukorala, editor, *The Rise of Asia*, Routledge.
g. A. Ahsan, C. Pages and T. Roy, 2008, ―Legislation, Enforcement and Adjudication in Indian Labour Markets: Origins, Consequences and the Way Forward, in D. Mazumdar and S. Sarkar, editors, *Globalization, Labour Markets and Inequality in India*, Routledge.
h. Dipak Mazumdar and Sandeep Sarkar, 2009, ―The Employment Problem in India and the Phenomenon of the _Missing Middle‖, *Indian Journal of Labour Economics*.
i. J. Dennis Rajakumar, 2011, ―Size and Growth of Private Corporate Sector in Indian Manufacturing, *Economic and Political Weekly*, April.
j. Ramesh Chand, 2010, -Understanding the Nature and Causes of Food Inflation,‖ *Economic and Political Weekly*, February.
k. Bishwanath Goldar, 2011, ―Organised Manufacturing Employment: Continuing the Debate‖, *Economic and Political Weekly,* April.
l. Kaushik Basu and A. Maertens, eds, 2013, *The New Oxford Companion to Economics in India*, Oxford University Press.
m. V.K. Puri, S. K. Mishra, 2017, Indian Economy, Himalayan Publishing House

ECONOMICS CC XIV: DEVELOPMENT ECONOMICS-II

Full Marks - 100 (Mid Term 20+ End Term 80), Credits 06
(Unit wise question pattern, answer one question from each unit)

Course Description

This is the second module of the economic development sequence. It begins with basic demographic concepts and their evolution during the process of development. The structure of markets and contracts is linked to the particular problems of enforcement experienced in poor countries. The governance of communities and organizations is studied and this is then linked to questions of sustainable growth. The course ends with reflections on the role of globalization and increased international dependence on the process of development.

Course Outline

Unit I: Demography and Development

Demographic concepts; birth and death rates, age structure, fertility and mortality; demographic transitions during the process of development; gender bias in preferences and outcomes and evidence on unequal treatment within households; connections between income, mortality, fertility choices and human capital accumulation; migration- Seasonal Migration

Unit II: Land, Labor and Credit Markets

The distribution of land ownership; land reform and its effects on productivity; contractual relationships between tenants and landlords; land acquisition; informational problems and credit contracts; microfinance; inter- linkages between rural factor markets.

Unit III: Individuals, Communities and Collective Outcomes

Individual behavior in social environments, governance in organizations and in communities; individual responses to organizational inefficiency.

Unit IV: Environment and Sustainable Development

Defining sustainability, Sustainability of renewable resources; a brief history of environmental change; common-pool resources; Definition of common poor resources, Sustainable Development & CPR management. Evolution of CPR region & institution of environmental externalities and state regulation of the environment; Growth Vs. Sustainable development, Climate change issues and global initiative.

Unit V: Globalization

Globalization in historical perspective; the economics and politics of multilateral agreements; trade, production patterns and world inequality; financial instability in a globalized world.

Readings

1. Debraj Ray, *Development Economics,* Oxford University Press, 2009.
2. A. P. Thirlwal - Development Economics, Pulgrave.
3. Partha Dasgupta, *Economics, A Very Short Introduction,* Oxford University Press, 2007.
4. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, *Understanding Poverty,* Oxford University Press, 2006.
5. Thomas Schelling, *Micromotives and Macrobehavior*, W. W. Norton, 1978.
6. Albert O. Hirschman, *Exit, Voice and Loyalty: Responses to Decline in Firms, Organizations and States*, Harvard University Press, 1970.
7. Raghuram Rajan, *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, 2010.

8. Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press, 1990.

9. Dani Rodrik, *The Globalization Paradox: Why Global Markets, States and Democracy Can't Coexist*, Oxford University Press, 2011.

10. Michael D. Bordo, Alan M. Taylor and Jeffrey G. Williamson (ed.), *Globalization in Historical Perspective*, University of Chicago Press, 2003.