

The Minutes and Circular for BOS of Bundelkhand University, Jhansi

तार : विश्वविद्यालय
Gram : UNIVERSITY



टेलीफोन : कार्यालय : 2320496
कुलसचिव : निवास : 2321214
फैक्स : 0510 : 2321667

बुन्देलखण्ड विश्वविद्यालय, झाँसी BUNDELKHAND UNIVERSITY, JHANSI

झाँसी (उ.प्र.) 284128

संदर्भ IEF/0931a.

दिनांक 21.06.2022

The Minutes of Meeting of BOS

In reference to the BOS of department of *Banking, Economics & Finance*, Institute of *Economics and Finance* held on 21.06.2022 regarding the revision of syllabus in tune with CBCS/NEP-2020 and subsequent approval from Academic Council. This is to certify that the syllabus is 100% revised.

B Singh
21/06/2022
HOD/Coordinator

बुन्देलखण्ड विश्वविद्यालय, झाँसी

सूचना

एदत् द्वारा सूचित किया जाता है कि बैकिंग, अर्थशास्त्र एवं वित्त पाठ्यक्रम समिति की बैठक दिनांक 21/06/2022 को अपराह्न 11.00 बजे विश्वविद्यालय के सभागार में ऑनलाइन/ऑफलाइन के माध्यम से आहूत की गयी है। अतः आपसे अनुरोध है कि बैठक में निर्धारित तिथि एवं समय पर उपस्थित होने का कष्ट करें।

कार्यसूची :-

4. उत्तर प्रदेश शासन के पत्र संख्या-नि.-401/सत्तर-3-2022 दिनांक 09/02/2022 के अनुसार उच्च शिक्षण संस्थानों में पाठ्यक्रम पुनर्संरचना की राज्य स्तरीय समिति द्वारा प्रदेश के समस्त विश्वविद्यालयों एवं महाविद्यालयों में राष्ट्रीय शिक्षा नीति-2020 को स्नातक (शोध सहित), स्नातकोत्तर एवं पीएचडी स्तर पर लागू किये जाने हेतु सुझाव।
5. सत्र 2022-2023 की परीक्षा हेतु प्राशिनकों/ परीक्षकों की सूची तैयार करने सम्बन्धी कार्य।
6. अन्य मद अध्यक्ष की अनुमति से।

सेवा में,

1	प्रो० सी०बी० सिंह, संकायाध्यक्ष कला बुन्देलखण्ड विश्वविद्यालय, परिसर, झाँसी	संयोजक
2	डॉ० अतुल गोगल, बुन्देलखण्ड विश्वविद्यालय, परिसर, झाँसी	सदस्य
3	डॉ० इरा तिवारी, बुन्देलखण्ड विश्वविद्यालय, परिसर, झाँसी	सदस्य
4	डॉ० प्रशान्त गुप्ता, आई०आई०एम०	वाह्य विशेषज्ञ
5	प्रो० पी०के०घोस, इलाहाबाद विश्वविद्यालय, प्रयागराज	वाह्य विशेषज्ञ
6	प्रो० प्रदीप अग्रवाल, टेली सर्टिफाइड प्रोफेशनल, झाँसी, 9140284674	वाह्य विशेषज्ञ
7	डॉ० यशोधरा शर्मा	विशेष आमंत्रित सदस्य
8	डॉ० फुरकान मलिक	विशेष आमंत्रित सदस्य
9	डॉ० शम्भू नाथ सिंह	विशेष आमंत्रित सदस्य
10	डॉ० राधिका चौधरी	विशेष आमंत्रित सदस्य
11	डॉ० अंकिता जैसमीन लाल	विशेष आमंत्रित सदस्य
12	डॉ० संदीप अग्रवाल	विशेष आमंत्रित सदस्य
13	डॉ० शिल्पा मिश्रा	विशेष आमंत्रित सदस्य
14	डॉ० अमिताम गौतम	विशेष आमंत्रित सदस्य

सहा०कुलसचिव(एके०)
कृते कुलसचिव

बुन्देलखण्ड विश्वविद्यालय, झाँसी

पत्रांक:- बु०वि०/एके०/2022/6334-4B

दिनांक:- 18/6/2022

प्रतिलिपि - निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

1. उपर्युक्त समस्त सदस्यगण
2. अध्यक्ष, एन०ई०पी० टास्क फोर्स।
3. संकायाध्यक्ष- कला को सूचनार्थ।
4. वित्त अधिकारी।
5. सहायक कुलसचिव (अतिगोपनीय)।
6. कुलपति जी के निजी सचिव।
7. कुलसचिव के आशुलिपिक।

सहा०कुलसचिव
कृते कुलसचिव

BOS - Date - 21-06-2022

BOS - Banking, Economics & Finance

BOS was held on 21st June 2022 in the Department of Banking, Economics & Finance at 12:30 pm.

The following members were present

1. Prof. C. B. Singh - coordinator
2. Dr. Atul Goyal } members At 12:30
3. Dr. Ira Tewari } 21-6-2022
4. Dr. Prashant Gupta } External } online verified
5. Dr. P. K. Ghosh } Experts } online verified
6. Prof. Pradeep Agarwal } 21/6/22
7. Dr. Yashodhara Sharma } 21/6/22
8. Dr. Furquan Malik } special invited
9. Dr. S. N. Singh } members Ankit
10. Dr. Radhika Choudhary } 21/6/22
11. Dr. Ankita Jaisrini Lall } 21/6/22
12. Dr. Sandeep Agarwal } 21/6/22
13. Dr. Shilpa Mishra } 21/6/22
14. Dr. Amitabh Gautam } 21/6/22

The following decisions were taken:-

- (1) The course structure of 4 PG courses and 2 UG courses were discussed. These courses were:-
 1. MBA (Banking & Insurance)
 2. MBA (Business Economics)
 3. M.Com (Finance)

As per U.P Govt Letter No. 401733-2022 dated 09/02/2022 in the Higher Education Institutions NEP 2020 will be applied and restructuring of programmes has been incorporated at UG (with Research) PG level. 67

4. M. A. (Applied Economics)
5. B. Com (Hons.)
6. B. A (Hons.) Economics.

All the changes that were suggested should be incorporated in the structure and submitted within by 25/06/2022.

Subita
21/6/22

C. B. Singh
21/06/2022

ATU
21-06-2022

P. Jaisari
22/6/22

A. K. J.
21/06/2022

Sharma
21-06-2022

Jaisari

C. B. Singh
21.6.22

Prof. C. B. SINGH
HEAD
Dept. of Banking, Economics & Finance
Bundelkhand University,
JHANSI-284 128 (U.P.)

C. B. Singh
21/6/2022
Prof. C. B. Singh
Dean of Arts Faculty
Bundelkhand University
Jhansi-284128 (U.P.) India

**INSTITUTE OF ECONOMICS & FINANCE
BUNDELKHAND UNIVERSITY
JHANSI (UP)**

**NEP 2020
ORDINANCE**

MA (APPLIED ECONOMICS)

SESSION 2022-23 ONWARDS

**ORDINANCE FOR POSTGRADUATE (SEMESTER SYSTEM) PROGRAMME
MA (APPLIED ECONOMICS) (2022 onward)**

1. INTRODUCTION

1.1 Preamble

This ordinance governs all the rules and regulations as per the NEP 2020 for the traditional post graduate programs (M.A., M.Sc., M.Com, Management courses,. etc) which are not covered by any regulatory bodies (AICTE, BAR Council, PCI, NCTE etc) running in the University campus or its affiliated colleges in Bundelkhand University, Jhansi. This ordinance supersedes all the previous relevant ordinances, rules and regulations.

1.2 Duration

Bundelkhand University has adopted the semester system in various Postgraduate courses as per directives of Higher Education Department, Uttar Pradesh Government vide letter No 401/seventy-3-2022 dated 09-02-2022 to accelerate the teaching-learning process and enable vertical and horizontal mobility in learning from the academic session 2022- 23 onwards.

The duration of PG courses shall be two years comprising of four semesters. In case a student(s) exits from this programme after completion of the first year (2 semesters), he/she may take exit from the programme and shall be awarded the Degree of Bachelor in Research. After the successful completion of two years (4 semesters) a student shall be awarded the Master's degree in the concerned subject. The maximum duration to complete the course shall be four years.

1.3 Eligibility for Admission

- ❖ Candidate, who wishes to seek admission in a course of study prescribed for a post graduate degree of the University, shall be admitted to campus or an affiliated college unless he/ she has:
 - Passed the three years Bachelor's degree course Examination of the University of Uttar Pradesh or any other Indian University incorporated by any law in force at the time of admission.

or

 - Passed any other equivalent examination recognized by the University as equivalent thereto.
 - Passed any other equivalent examination recognized by a Foreign University as equivalent thereto.

❖ The date of admission shall follow the University academic calendar.

1.4 Choice of Subject and Course Structure

- I. University/ College shall admit students as per the eligibility criteria and availability of seats decided by the university.
- II. A student shall take admission to post graduation first year of fourth year of Higher Education program of NEP 2020 after successful completion of Graduate course from NEP 2020 or old course of Science/ Arts/ Commerce/ Management, etc. He/she shall have to choose respective faculty courses as per guidelines of NEP 2020 depending on the number of seats available in concerned subject and eligibility criteria. In case a candidate is willing to change the faculty, the following condition is required-
- III. The candidate should have passed Bachelor degree in Science/ Commerce of NEP 2020 or old courses may take admission in some subjects of Arts faculty (excluding practical subjects like geography, psychology etc). Similarly, the Student from Commerce of NEP or old course of commerce may also be eligible to take admission in Arts subjects. Arts, Management and Commerce candidates cannot be admitted in Science subjects.
- IV. Student(s) shall select subjects for Post graduation course from the major subjects that he / she had opted in the graduation course and shall continue with the same subjects in all the four semesters of the PG programme.
- V. The course structure shall be as follows:
- VI. There shall be four compulsory theory papers in the first semester. In the second and third semester there shall be two compulsory papers and one/two elective papers. The elective papers are the specialization papers.
- VII. Student(s) shall have to select one Minor Elective Course as **Minor subject** from any other faculty (except own faculty) or interdisciplinary subject in the first semester of the first year.
- VIII. Student(s) shall take a Research Project /Survey/ Industrial /Field training program in both the years (Semester II and IV). No pre-requisite shall be required for this.
- IX. List of Minor Elective Course: The candidate shall select any one subject from the following as minor subject in first year of post graduate course.

S No	Science	Arts	Commerce	Interdisciplinary
1.	Mathematical Biology	Tribal Culture and Heritage	Customer Relation Management	Ancient Medical Sciences
2.	Conservation and Water Resource Management	Principle of Administration and Implications	House Keeping and Hospitality	Traditional Medical Therapy

3.	Natural Resources and Conservation	Socio-Economic and Social Security	Share Market and Banking	Vedic Mathematics
4.	Pollution: Causes and Mitigation	Archeological Sites and Monuments	Retail Management and Accounting	Bio Medical Instrumentation and Health
5.	Computational Resources	Indian Constitution	Insurance Policy and Finance	Disaster, Mitigation, & Management
6.	Organic and Natural Farming	Communication and Soft Skill		Mining Plan and Resource Mapping
7.	Computer Hardware Handling	Sanskrit Knowledge System		Water Treatment System
8.	Computer Software Handling	Technical Translation and Trans creation		Climate Change and Environmental Degradation
9.	Solar and Non Conventional Energy	Urban Economics and Planning		Medicinal and Aromatic Plants Cultivation, extraction and nutraceutical Values
10.	Cyber Crime	Actuarial Economics		
11.	Bee Keeping, Aquaculture and Fish Farming	Social Sector and Gender Economics		Non Conventional Energy Resource
12.	Entrepreneurship in Microbial and Botanical Products	Environmental Economics		Soil and Water Testing

2. SEMESTER AND CREDIT DISTRIBUTION

An academic year for post graduate program is divided into four semesters. The Odd semester may be scheduled from July to December and Even semester from January to June.

Fourth Year

	VII Sem	Credits	VIII Sem	Credits
Major	Theory – 04 Papers	5 Credits each Total Credits=20	Theory – 04 Papers	5 Credits each Total Credits=20

	Or Theory – 04 Papers Practical -02	Or 4 Credits each Total Credits=16 2 Credit each Total Credits=4 Total Credits=20	Or Theory – 04 Papers Practical -02	Or 4 Credits each Total Credits=16 2 Credit each Total Credits=4 Total Credits=20
Minor	Minor Elective- 1 paper of 04 credits	04 Credits Total Credits=04		
Research Project/ Industrial training/ Survey/ Field Training	One of each 04 Credits	04 Credits Total Credits=04	One of each 04 Credits	04 Credits Total Credits=04
Total Credits		28		24
Total in Both Semester	52 Credit			

Fifth Year

Semester	IX	Credits	X	Credits
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Major	Theory – 04 Papers	5 Credits each Total Credits=20	Theory – 04 Papers	5 Credits each Total Credits=20
	Or Theory – 04 Papers Practical -02	Or 4 Credits each Total Credits=16 2 Credit each Total Credits=4 Total Credits=20	Or Theory – 04 Papers Practical -02	Or 4 Credits each Total Credits=16 2 Credit each Total Credits=4 Total Credits=20
Research Project / Industrial training / Survey	One of each 04 Credits	04 Credits Total Credits=04	One of each 04 Credits	04 Credits Total Credits=04
Total Credits		24		24
Total in Both Semester	48 Credit			

3. ATTENDANCE

The expression "a regular course of study" wherever it is used in these Ordinances, means attendance of at least 75% of the lectures and other teaching in campus / affiliated college in the subject for the examination at which a candidate intends to appear and at such other practical work (such as work in a laboratory) as is required by any Statute, Ordinance or Regulation in force for the time being in the University.

A shortage up to 5% of the total number of lectures delivered or practical work done in each subject may be condoned by the Principal of the college/ Head of the Department (in case of University Campus) concerned.

A further shortage up to 10% may be condoned only by the Vice- Chancellor on the specific

recommendation of the Principal of the college/Head of the Department concerned (in case of University Campus).

4. EXAMINATIONS

1. There shall be examinations at the end of each semester as, for odd and even semesters in accordance with the academic calendar of the university. A candidate who does not pass the examination in any course(s) shall be permitted to appear in such failed course(s) in the subsequent examinations upto the maximum duration of the course.
2. A candidate should get enrolled/ registered for the first semester examination and is mandatory. If enrolment/ registration is not possible owing to shortage of attendance / rules prescribed OR belated joining or on medical grounds, such students shall not be permitted to proceed to the next semester. Such students shall re-do the first semester in the subsequent term of that semester as a regular student; however, a student of first semester shall be admitted in the second semester, if he/she has successfully completed the first semester.
3. It shall be mandatory for the student(s) to register for examination in each and every semester (i.e. to fill up the examination form with the requisite fee). If a student fails to register for the examination in any semester, he or she shall not be allowed to appear in that semester as a back paper student. Such student(s) shall appear in the (next) subsequent examination of that semester.

5. EVALUATION

The performance of a student in each course is evaluated in terms of percentage of marks with a provision for conversion to grade point. Evaluation for each course shall be done by a Continuous Internal Assessment (CIA) by the concerned course teacher as well as by end semester examination and will be consolidated at the end of course. The evaluation must be continuous and holistic and should be based on following parameters:

- i. Academic assessment
- ii. Skill assessment
- iii. Physical assessment
- iv. Personality assessment
- v. Extra-curricular assessment

5.1 THEORY PAPER

Semester Examinations shall be conducted by the university as mentioned in the academic calendar. The Question paper will be set by the examiners appointed by the Vice Chancellor based on the

recommendation of the board of studies. The pattern of the question paper shall be as given in annexure II.

- i. Internal Assessment(C.I.A.) –25%weightageofacourse
 - Test/ Mid-Term Assessment - 10 marks
 - Term paper/Presentation on given project/assignment - 10marks
 - Attendance/activities – 05marks
- ii. End Semester Exam (External examination)– 75% weight age of course

5.2 PRACTICAL PAPER

Practical examinations will be conducted by the examiners appointed by the Vice Chancellor on the recommendations of the Board of Studies. Each student has to present the practical records.

- i. Internal Assessment(C.I.A.)-25%weightageofacourse
 - Test/ Mid-Term Assessment -10 marks
 - Term paper/Presentation on given project/assignment -10marks
 - Attendance/activities -05marks
- ii. End Semester Exam (External examination)-75% weight age of a course

MINIMUM PASSING STANDARD

1. The minimum passing standard for combined external and internal examinations for each subject/paper shall be 45%, i.e. 45 out of 100 marks for theory and practical courses. The minimum passing standard for Aggregate in a semester end Examination shall be 45%.
2. Continuous Internal Assessment (CIA) shall be ensured by the Principal of the colleges / HODs for the Campuses courses. The Principal of the colleges / HODs of the Campus shall provide the marks of the same to the university and it shall be mandatory to maintain the records of the same till the maximum duration of that course.
3. The internal assessment, field training and practical examination awards of a student who fails in any semester examination shall be carried forward to the next examination.
4. It shall be mandatory for a student to secure minimum 45% marks (i.e. 34/75) in the theory and practical paper separately.

PROVISION FOR BACK PAPERS AND EX-STUDENTS

A Back Paper (B.P.) candidate shall be promoted to next semester. The back paper facility in a semester provides promotion to the next semester and another opportunity to obtain a minimum of the pass marks assigned for an individual paper or in the aggregate. Following category of students of Bundelkhand University shall be eligible for back paper facility as under,

□□□□ student shall be required to pass in minimum two subject papers in each semester. However, at the end of each year, it shall be mandatory for a student to pass in at least two subjects papers and minor paper otherwise he/she shall be deemed as failed and will be treated as a year back / ex- student.

5. Students shall get the attempts to appear in the Back paper examination in the subsequent odd / even semester till the maximum duration of the said course.

6. Special back paper examination shall be held only for regular students of the final year of PG course.

7. The candidates, who fail in more than three of the total papers, will be deemed as failed. These candidates can appear only in subsequent examination of that semester as Ex- Students.

8. PROMOTION RULES

8.1 Semester Course & Examination:

The students who have taken admission in any post-graduation programme in a session and who have put in the minimum percentage of attendance for appearing at the Examination, presented himself/herself for internal assessment and have filled in the examination form in time for appearing at the End Semester Examination shall be allowed to appear at the respective examinations.

8.2 Declaration of results

After appearing in the Examination of both the semesters in a particular year, the student can be put in the following categories in the context of declaration of the results of the Semester Examination:

- ❖ Passed
- ❖ Promoted with Back Paper(s)
- ❖ Failed

8.3 Promotion to next Semester:

All students under category Passed and promoted with back papers shall be promoted to the next Semester.

“Failed” students may clear their UNCLEARED courses in subsequent examinations as ex-students.

Students promoted with back papers shall clear their back papers in subsequent examinations as ex-students.

A student who has failed in a course shall get two more chances to clear this course subject to the maximum duration for passing the course. Further, each candidate shall have to clear all the courses

within the maximum period of seven years from the date of his/her latest admission.

A candidate who has qualified for the Degree shall be placed in the First / Second Division as per following table:

8. COMPUTATION OF SGP AND CGPA

The guidelines formulated by Bundelkhand University shall be followed in order to bring uniformity in evaluation system of every CBCS based Course and computation of the SGPA (Semester Grade Point Average) and CGPA (Cumulative Grade Point Average) based on students' performance in examination. The number of core, elective, open elective papers and foundation papers and the required credit for each paper shall be formulated by respective Board of Studies (BOS) and faculty board. For the purpose of computation of work load the UGC proposed mechanism is adopted i.e. one credit=1 Theory period of one hour duration, 1credit= 1Tutorial period of one hour duration, 1credit=1 Practical period of one hour duration. The credit(s) for each theory paper/practical/tutorial/dissertation will be as per the respective Board of Studies of departments.

Letter Grade	Numerical grade
O (Outstanding)	10
A+ (Excellent)	9
A (Very good)	8
B+ (Good)	7
B (Average)	6
F (Fail)	<5
Ab (Absent)	0

The minimum passing marks shall be 45% of the maximum marks as prescribed in the University Examination and 45% of marks in the aggregate marks in the subject including internal / Sessional marks i.e. Minimum Passing Grade is "B".

A student who obtains Grades "O" or "B" shall be considered as PASSED. If a student secures "F" grade, he/she shall be considered as FAILED and shall have to re appear in the examination. It is mandatory for a student to earn the required SGPA as in each semester. If a student is not able to

secure 45% / B grade in any theory / practical / internal / Sessional / viva-voce / internship / project examination, the awarded grade point shall be ZERO (0).

9.1 The University, adopts absolute grading system where in the marks are converted to grades, and every semester results will be declared with semester grade point average (SGPA) and year result will be declared with year grade point average (YGPA). The Cumulative Grade Point Average (CGPA) will be calculated in end of final semester. The grading system except pharmacy department will be with following letter grades and grade points scale as given below:

Table

Level	Outstanding	Excellent	VeryGood	Good	Average	Fail
LetterGrade	O	A+	A	B+	B	F
GradePoints	10	9	8	7	6	0
Score	≥90	<90,	<80,	<70,	<60,	<45
(Marks)		≥80	≥70	≥60	≥45	

1.1 A student obtaining Grade “F” shall be considered failed and will be required to reappear in the examination. Such students after passing the failed subject in subsequent examination / will be awarded with grade respective of marks he/she scores in the subsequent examination/s.

1.2 The University has the right to scale/moderate the theory exam / practical exam / internal exam / Sessional marks of any subject when ever required for converting of marks into letter grades on the basis of the result statistics of university as in usual practice, i.e. marks obtained in decimal will be converted in nearest integer.

9. CONVERSION OF GRADES IN TO PERCENTAGE

1.3 Conversion formula for the conversion of CGPA into Percentage is

$$\text{CGPA Earned} \times 10 = \text{Percentage of marks scored.}$$

Illustration: CGPA Earned 8.2 x 10 = 82.0%

2. AWARD OF DIVISION

Division shall be awarded only after the final semester examination based on integrated performance of the student for all the semesters as per following details.

2.1 A student who qualifies for the award of the degree securing “B” or above grades in all subjects pertaining to all semesters, and in addition secure as a CGPA of 8.0 and above shall be declared to have passed the examination in **FIRST DIVISION WITH HONOURS**.

2.2 A student who qualifies for the award of the degree securing “B” or above grades in all subjects pertaining to all semesters, and in addition secures a CGPA of 7.0 and above shall be declared to have passed the examination in **FIRST DIVISION**.

2.3 A student who qualifies for the award of the degree securing “B” or above grades in all subjects pertaining to all semesters, and in addition secures a CGPA of 5.0 and above shall be declared to have passed the examination in **SECOND DIVISION**.

10. UNFAIR MEANS:

Cases of unfair means in the End Semester Examinations and Mid-Term Tests shall be dealt as per the rules laid by the University.

Note:

1. Those students who are NOT eligible for promotion to next year shall have to reappear in the coming examination as ex-students. However, the marks of internal assessment shall be carried forward in such cases.
2. Scrutiny facility and Challenge evaluation facility shall be available for those students who want to improve their grades.

Program Overview
M.A. (Applied Economics)

PROGRAM OVERVIEW –

The programme of MA (Applied Economics) has been well updated as per NEP 2020 in the Department of Banking, Economics and Finance. The Programme is unique as it offers a rich blend of theoretical and practical applications of Economics as part of the classroom learning experience and field -based experiential learning. The Programme experience is designed for amateur economists who are looking for a full-fledged career in the area of Economics and enjoy working in an intellectually stimulating environment. A number of career opportunities are open for postgraduate students of Economics in research, consultancy, international and national projects, government departments, corporates, banking and non-profit organizations. After completing their post-graduation in Applied Economics from the Department of Banking, Economics and Finance; students are well prepared and groomed for their onward journey towards Ph.D. Programme. The M.A. (Applied Economics) Programme is spread over two academic years and divided into four semesters. First semester comprises of 4 Major Papers and One Minor Paper. Second, third and fourth semesters comprises 4 major papers each. Every semester comprises of experiential learning component. The Programme aims to impart advanced knowledge in the various core and applied areas of Economics like Macroeconomics, Microeconomics, Econometrics, Public Economics, etc. The pedagogy is designed to put equal emphasis on the application of economic principles and the emergence of new economics in the present world. The Programme focuses on enriching the research and analytical aptitude of students. At the same time, there is scope to nurture economic and political thoughts to develop leadership and vision to serve citizens of India and the World. Papers in Mathematical economics and Econometrics are designed to develop analytical and quantitative attitude. Papers like Microeconomics, Macroeconomics, International Trade, s and Public Economics are aimed at strengthening the core theoretical strength of students. Papers like Share market and Banking along with Industrial Economics aims to capture market-based understanding of the discipline. Courses like Growth & Development,

Environment and Agricultural Economics are promoted to develop sensitiveness of students towards society. Gender based sensitization, human rights and elements related with entrepreneurship and innovation have been included at appropriate places in the syllabus of various major papers. Research ethics, use of referencing software and plagiarism avoiding practices also find their place in the syllabus of compulsory paper of Research Methodology. The department regularly organizes theme-based seminars, workshops and symposiums to impart add-on skills and knowledge to the postgraduate students. Reputed scholars and experts from both national and international communities are often invited speakers at the seminars.

Program Outcomes (POs)

Program Outcomes (POs): It represents the knowledge, skills and attitudes the students should have at the end of MA (Applied Economics) program.

PO1	Domain Knowledge	Develop and strengthen theoretical, conceptual and applied knowledge of Economics to understand the real-world phenomenon from a regional, national and global perspective.
PO2	Problem Analysis	Enable use of critical, logical and reflective thinking to construct reasonable arguments and analyze complex phenomenon with strategic decision-making process.
PO3	Design / Development of	Construct and design

	Solutions	effective solutions by applying existing economic theory and tools to identify the research and policy gaps
PO4	Conduct Investigation of Complex Problems	Apply tools of optimization and quantitative aptitude to examine, evaluate and analyse economic issues affecting the developed, emerging and developing economies.
PO5	Modern Tool Usage	Develop the ability to apply quantitative and qualitative tools of advanced statistics and econometrics to analyse disciplinary and cross-disciplinary real-world issues.
PO6	The Citizen and the Society	Enable students to become informed and responsible citizens by inculcating the practice of rational, ethical thinking and optimal decision-making to minimize resource wastage. Development of normative aptitude by enhancement of welfare-oriented policy formulation covered under welfare economics. Development of understanding regarding gender in development.

PO7	Environment and Sustainability	Enhance practical insights towards energy efficiency and sustainable development models by demonstrating solutions from environmental economics
PO8	Ethics	Apply the existing ethical guidelines in everyday economics, research thinking and community development.
PO9	Individual and Team Work	Manage and build high performance teams by understanding the role of incentives, scientific virtue, decent work and pillars of organization efficiency
PO10	Communication	Practice effective oral and written communication to be able to convey advanced economic theories and models in a pragmatic manner to the stakeholders of the society
PO11	Project Management	Predict and analyse the role of economic factors and policies on overall economic and financial performance of an economy using economic tools.
PO12	Life-Long Learning	Raise awareness on the importance of constant upskilling in the wake of Industry 4.0 and Education

		4.0 and demonstrate effective usage of existing resources.
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Program Specific Outcomes (PSOs)

Program Specific Outcomes (PSOs): PSOs are statements that describe what the students of MA (Applied Economics) should be able to do.

PSO1 To impart in depth knowledge to students about economic theory regarding utilization and allocation of resources including labour, natural resources and capital.

PSO 2 To develop students understanding about how market for goods and services function and how income is generated and distributed.

PSO3 To give students in depth knowledge into special fields of choice like agricultural economics, industrial economics, share market and banking, development economics, international trade, econometrics, mathematical economics etc.

PSO4 To make students familiar with economic theories and their relevance, econometrics, quantitative techniques and applied research in a wide variety of fields within economics.

PSO5 Students would know how the economy is influenced by economic policy, technological advances and demographic conditions

PSO6 Students would develop understanding about Sustainable Development Goals and ways to achieve them within the economic theoretical framework

PSO7 To sensitize students about the Gender related issues, environmental protection, human rights and research ethics.

M.A. (Applied Economics)
Course Structure (Paper Titles)

FIRST SEMESTER					
S. No.	Paper Code	Paper Name (5160201)	Nature	Max. Marks	Credit
1	80021	Micro Economics I	Major	75 + 25 = 100	5
2	80022	Macro Economics I	Major	75 + 25 = 100	5
3	80023	Basic Statistics	Major	75 + 25 = 100	5
4	80024	Research Methodology	Major	75 + 25 = 100	5
5	80025	Share Market and Banking	Minor	75 + 25 = 100	4
6	800026	Research Project/ Survey Report		100	4
					28 Credits

SECOND SEMESTER					
S. No.	Paper Code	Paper Name (5160202)	Nature	Max. Marks	Credit
1	80026	Micro Economics II	Major	75 + 25 = 100	5
2	80027	Macro Economics II	Major	75 + 25 = 100	5
3	80028	Statistical Inference	Major	75 + 25 = 100	5

4	80029	Public Economics	Major	75 + 25 = 100	5
5	800030	Research Project / Survey- Report		100	4
					24 Credits

THIRD SEMESTER

S. No.	Paper Code	Paper Name (5160203)	Nature	Max. Marks	Credit
1	90021	Theories of Growth & Development I	Major	75 + 25 = 100	5
2	90022	International Economics I	Major	75 + 25 = 100	5
3	90023	Indian Economy	Major	75 + 25 = 100	5
4	90024 90025	Mathematical Economics OR Agricultural Economics	Major	75 + 25 = 100	5
5	600026	Summer Training Project		100	4

		Report			
					24 Credits

FOURTH SEMESTER					
S. No.	Paper Code	Paper Name (5160204)	Nature	Max. Marks	Credit
1	90026	Theories of Growth & Development II	Major	75 + 25 = 100	5
2	90027	International Economics II	Major	75 + 25 = 100	5
3	90028	Environmental Economics and Demography	Major	75 + 25 = 100	5
4	90029 90030	Econometrics OR Industrial & Labour Economics	Major	100	5
5	900031	Dissertation Report and Viva Voce		100	4
					24 Credits
					Total =

					(28+24+24 +24= 100 Credit)
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SEMESTER 1

Paper 1

Microeconomics – I

COURSE OUTCOMES (COs)

On completion of the course, student will be able to

CO1 – Identify and remember the role of economic agents in controlling demand and supply

CO2 - Understand the fundamentals of decision making by a Consumer, Producer and Firm

CO3: Develop a nuanced understanding of traditional neoclassical microeconomic theory

CO4: Understand utility maximizing consumer behaviour along with the behaviour of the profit maximizing firm and general equilibrium analysis under the assumptions of complete and competitive markets and symmetric, perfect and complete information.

CO5: Ability to have necessary theoretical insights to study the modern microeconomic theory

Unit I: Consumer Behaviour: Preliminary Concepts and Demand Analysis

Micro and Macro Economics, Positive and Normative Analysis, Inductive and Deductive Approaches, General Equilibrium and Partial Equilibrium, Problem of Scarcity and Choice, Utility Analysis – Concepts of Cardinal and Ordinal Measurement of Utility, Law of Diminishing Marginal Utility, Law of Equimarginal Utility. Diamond-Water Paradox, Marshallian Demand Analysis - Law of Demand and Supply, Elasticity of Demand: Price Elasticity, Income Elasticity, Cross Elasticity, Substitution Elasticity; Elasticity of Supply (Numerical based applications on various elasticities)

Unit II: Consumer Behaviour: Indifference Curve Analysis

Indifference Curves and their properties, Relationship between Marginal rate of Substitution and Marginal Utilities, Concept of Budget Line, Consumer's Equilibrium, Price Effect, Income Effect, Substitution Effect; Breakup of Price effect into Income Effect and Substitution Effects; Approaches of Hicks and Slutsky, Compensating Variation and Equivalent Variation; Concept of Giffen Goods; Curves – Price consumption curve, Income consumption curve, Engel Curve, Bandwagon, Snob and Veblen Effect; Some More Applications of Indifference Curve Analysis –

Taxation: Direct vs Indirect taxation; Rationing: Cost of living index; Effect of subsidies to consumers; Revealed Preference Theory – Derivation of Demand Curve; Concept of Strong and Weak Ordering.

UNIT III: Theory of Production

Production Function; Equal Product Curves or Isoquants; Marginal Rate of Technical Substitution; Factor Intensity; Marginal Product of the Factors; Ridge Lines; Production Possibility Curve; Product Lines; Law of Variable Proportions; Law of Returns to Scale (Constant, Increasing, Decreasing), Producer's Surplus, Elasticity of Substitution, Concept of Homogeneous Production Function, Constant Elasticity of Substitution (CES), Cobb Douglas Production Function and derivation of its properties. Numerical applications based on the production function. Theory of Costs and Revenue – Theories of Cost: various types of short-run and long-run costs; Economies and diseconomies of scale and the shape of the long run average cost, Graphs and Equations and interrelationships of AC, MC, TC, AFC. Elasticity of Cost; Learning Curve; Concepts of Revenue – TR, AR, MR and Elasticity of Demand. Numerical based Applications.

UNIT IV: Market Analysis: Perfect Competition and Monopoly

Pricing and Output determination under Perfect Competition, : Short run (Supernormal Profit, Normal Profit, Loss) and Long Run Analysis, Break Even Point; Shut down point in Short Run. Pricing in Monopoly – Price and Output determination under Monopoly, Absence of Supply Curve under Monopoly, Long Run Monopoly Equilibrium; Price Discrimination under Monopoly, Dumping, Monopoly Measures by Triffin, Bain and Rothschild. Comparison of Perfect Competition and Monopoly; Ways to Regulate Monopoly.

BASIC READING LIST:

1. Das, S.P. (2007): Microeconomics for Business, Sage, New Delhi.
2. Gravelle H. and Rees R. (2004): Microeconomics, 3rd Edition, Pearson Edition Ltd, New Delhi.
3. Jehle, G.A. and P.J. Reny (2006): Advanced Microeconomic Theory, 2nd Edition, Pearson Education, New Delhi.
4. Tandon, P. (2015): A Textbook of Microeconomic Theory, Sage, New Delhi.

5. Varian H (2000): Intermediate Microeconomics: A Modern Approach, 8th Edition, W.W.Nortonand Company.
6. Varian, H.B. (1992): Microeconomic Analysis, 3rd Edition, W.W. Norton and Company.

Recommended Readings:

1. Mas-Colell, Andreu, Michael D. Whinston and Jerry R. Green, (1995), Microeconomic Theory, Oup, New York.
2. Jehle & Renne, Advanced Microeconomic Theory, Pearson Education, India
3. Varian, Hall R., (1992), Microeconomic Analysis (Third Edition), W.W. Norton & Company, New York, London.
4. Kreps, David M.(1998), A Course in Microeconomic Theory, Prentice Hall, India, New Delhi (For Unit V). • Silberberg E., The Structure of Economics: A Mathematical Analysis, McGraw-Hill

Recommended Journals:

1. Applied Economics Quarterly
<https://ojs.duncker-humblot.de/ojs/index.php/aeq>
2. The Quarterly Journal of Economics – Oxford Journals
<https://academic.oup.com/qje>
3. Studies in Microeconomics – Sage Journal
<https://journals.sagepub.com/description/MIC>

E- Resources:

1. ‘Microeconomic Theory I’ Course by Prof. George-Marios AngeletosMassachussets Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-451-macroeconomic-theory-i-spring-2007/>

2. 'Microeconomic Theory II' Course by Prof. George-Marios AngeletosMassachussets
Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-122-microeconomic-theory-ii-fall-2002/>

Paper 2
Macroeconomics – I

COURSE OUTCOMES (COs)

CO1: To understand the basics and essential aggregative relationships in an economy through concepts of income and expenditure, savings & investment

CO2: To critically examine various nuances of national income accounting

CO3: To determine income and price levels through aggregate demand and aggregate supply model.

CO4: To analyse the foundations of macroeconomics related to consumption and investment

CO5: To appreciate the role and response of monetary and fiscal policy on unemployment, interest rates and price levels

UNIT I: Preliminary Concepts and National Income (Concepts & Measurement)

Meaning and some preliminary concepts involved in Macroeconomic, Development of Macro-Economics. Meaning & definition of National Income, Circular Flow of national Income-Two sectoreconomy; Three sector economy; four sector economy, Measurement of National Income---GNP, GDP, NDP, NNP, Personal Income and Disposable Income, Nominal GNP and Real GNP. Determination of Equilibrium level of national Income-Two sector model, Three Sector model & Four Sector model. Value Added Method, Expenditure Method, Income method, Difficulties in the Measurement of National Income.

UNIT II: Determination of Output and Employment– Focus on Consumption

Classical theory of Employment, Say's Law; Keynes' theory of Employment and Income determination, Principle of Effective Demand; Consumption function, Saving Function, Linear & Non-Linear Consumption Function, Determinants of Propensity to Consume , Keynes' Psychological Law of Consumption and its implications, short run and long run consumption function, Kuznets' findings ,Absolute Income Hypothesis, Relative Income Hypothesis, Permanent Income Hypothesis, Life Cycle Hypothesis.

UNIT III: Investment Function and Demand for Money

Investment Function – Types & Determinants– Marginal Efficiency of capital, The concept of Investment Multiplier – Importance; Paradox of Thrift; Impact of Multiplier, Static and Dynamic Multiplier; Accelerator theory of Investment, Neo classical theory of Investment, Capital Stock Adjustment, Tobin’s Q theory of Investment;

Demand for Money :Classical approach to demand for money-Quantity theory approach- Fisher’s transactions approach, Cambridge cash balance approach; Keynes’ theory of Money and Prices; Keynes’ Income theory of Money; Friedman’s Modern Quantity theory of money;

UNIT IV: Determination of Rate of Interest

Classical Approach, Loanable Funds Theory. Keynes’s liquidity preference approach; IS-LM Framework: IS curve and good market equilibrium, LM curve and money market equilibrium, General equilibrium. AD-AS Framework: AD curve, its derivation and shifting; AS curve, its derivation and shifting; Equilibrium. Evaluating effectiveness of macroeconomic policies: IS-LM and AD-AS frameworks. The concept of Crowding Out of Private Investment. (Numerical based applications of IS-LM and crowding out).

BASIC READING LIST:

1. August Swanenberg (2005) ‘Macroeconomics Demystified’ A Self Teaching Guide, McGraw Hill Education.
2. Ackley, G. (1978), Macro Economics : Theory and Policy, Macmillan, New York.
3. Ahuja H.L. (2019)., Macroeconomics: Theory and Practice, S.Chand & Co. New Delhi.
4. Blackhouse, R. and A. Salansi (Eds.) (2000) Macroeconomics and the Real World (2 Vols.), Oxford University Press, London. Dornbusch,
5. Campbell R. McConnell, Stanley L. Brue, (2001) Macroeconomics: Principles, Problems and Policies’, McGraw Hill, Inc, New York.

6. Froyen Richard T (2006) 'Macroeconomics– Theories and Policies' Pearson Education; 8th edition
7. Gupta S.B. (1997) 'Monetary planning for India' OUP
8. Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.
9. Mankiw Gregory (2007) 'Macroeconomics' Worth, New York
10. Rao, V.K.R.V. (1983) India's National Income : 1950 to 1980, Sage Publications, New Delhi
11. Gupta, S.B. (1995), Monetary Planning in India, OUP, New Delhi.
12. Sampat Mukherjee (2013), 'A Global Text-Macroeconomics', New Central Book Agency
13. Soumyen Sikdar (2006) 'Principles of Macroeconomics' Oxford University Press

Recommended Readings:

1. Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd Edition), Harper and Row, New York.
2. Culbertson, J.M. (1968), Macroeconomic Theory and Stabilization Policy, McGraw Hill, Kogenkosh, Tokyo.
3. Duesenberry, J.S. (1949), Income Saving and the Theory of Consumer Behaviour. Harvard University Press, Harvard.
4. Edey, M. and A.T. Peacock (1967), National Income and Social Accounts, Hutchinson University Library, London
5. Fisher, Dornbusch, Schamalensee (1988) 'Economics' McGraw Hill International Edition ; 2nd edition
6. Friedman, M. (1957), The Theory of Consumption Function, Princeton University Press Princeton.
7. Friedman, M. (1956), Studies in the Quantity Theory of Money, The University of Chicago Press, Chicago
8. Glahe, Fred, R.(1973), Macroeconomics: Theory and Policy, Harcourt Brace Javanovich, Inc, New York.
9. Harris Lawrence (1980) 'Monetary Theory' McGraw Hill Inc.
10. Keynes, J.M. (1936), 'The General Theory of Employment Interest and Money', 7 Macmillan, London.

11. Ruggles, R. and N. Ruggles (1956), National Income Accounts and Income Analysis, McGraw Hill New York.
12. Shapiro, E.(1996) Macroeconomic Analysis, Galgotia Publications, New Delhi.
13. Bhise V.B , Khandare V.B & Babar , (2014) Macro Economics ,Chinmay Publication Aurangabad.

Recommended Journals:

1. Journal of Applied Economics- Taylor & Francis Online
<https://www.tandfonline.com/journals/rece20>
2. Journal of Macroeconomics-Science Direct Elsevier
<https://www.sciencedirect.com/journal/journal-of-macroeconomics>
3. The Indian Economic Journal- Sage Journal
<https://journals.sagepub.com/home/iej>

E- Resources:

1. ‘Intermediate Macroeconomic Theory’ Course by Prof. Huntley Schaller ,
Massachusetts Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-06-intermediate-macroeconomic-theory-spring-2003/>
2. ‘Principles of Macroeconomics’ Course by Prof. Francesco Giavazzi
Massachusetts Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-02-principles-of-macroeconomics-spring-2014/>

Paper 3

Basic Statistics

COURSE OUTCOMES (COs)

CO1: To understand the basics of measures of central tendency and dispersion

CO2: To understand various types of index numbers and analyse their usage in different applications.

CO3: To determine bivariate relationship using correlation and regression

CO4: To know the concepts related to basics of probability

CO5: To identify various probability distributions and their applications

UNIT I: Preliminary Concepts and Measures of Central Tendency

Definition, Importance & Scope of statistics, Describing and summarizing univariate distributions, frequency tables, histogram, distinguishing features, mean based and order based numerical summaries, visual techniques such as box plots. Measures of Central tendency (Arithmetic Mean, Geometric Mean, Harmonic Mean), Calculation of Median and Mode, Concept of Quartile. Measures of Dispersion– Range, Quartile deviation, Mean deviation, Standard deviation, Coefficient of Variation, Lorenz Curve; Measures of Skewness, Moments.

UNIT II: Index Numbers and Time Series Analysis

Index Numbers: Concept, types, application and problems in construction of Index numbers, The chain index numbers, Base shifting and deflating the index numbers, Cost of Living index numbers. Problems in the Construction of Index Numbers; Laspeyres', Pasche's and Fischer's Ideal Index Numbers. Problems in the construction and limitations of index numbers, Tests for ideal index number. Analysis of Time Series - Introduction, application, Components of Time Series. Measurement of Trend by Graphic Method, Semi-Average & Moving Average method and Least Squares Method.

UNIT III: Correlation and Regression Analysis

Correlation Analysis: Karl Pearson coefficient of correlation, Spearman's rank correlation, and concept of Probable Error. Regression Analysis: Concept, Plotting of Regression lines,

Regression coefficients, equations and prediction(Least Square Method), Interpolation and extrapolation.

UNIT IV:Probability Theory

Fundamental Principles of Counting, Permutation and Combination, Probability and its Theorems: Concepts & Definition- Random experiment, random variable, sample space, events, Calculation of Probability, Theorems -Addition Theorem and Multiplication Theorem classical, relative frequency and axiomatic approaches to probability, basic results on probability, conditional probability, Baye'sthereon..Understanding Probability Distribution: Normal, Binomial & Poison Distribution (Numericals on distributions), Central Limit Theorem.

BASIC READING LIST:

1. Gupta S.C. "Fundamentals of Statistics" S. Chand & Sons New Delhi (1993)
2. Gupta, S.P. "Statistical Methods" S. Chand & Sons New Delhi
3. Spiegel, Murry R "Theory and problems of Statistics" (Schaum's outline series, McGraw Hill, 1992)
4. Karmal P.H. and Polasek M. "Applied Statistics for Economists (4th edition), Pitman,Australia.

Recommended Readings:

1. J. E. Freund (1999), Mathematical Statistics, 5th Edition, Prentice-Hall International.
2. J. E. Freund and R. E. Walpole (1987), Mathematical Statistics, Prentice-Hall inc.
3. Hogg, R.V. and Craig, A.T. "Introduction To Mathematical Statistics", Prentice-Hall International, inc. Engle Wod Cliff, N.J., Fifth Edition, 1995.
4. Mood, A.M. Graybill, F.A. and Boes, D.C., "Introduction to the Theory of Statistics", Mcgraw-Hill Book Company, New York, Third Edition, 1974.
5. Hogg, R. V. and A. T. Craig (1970), Introduction to Mathematical Statistics (3rd Edition), Macmillan Publishing Co., New York.

6. Sukhatme, P. V. and B. V. Sukhatme (1970), Sampling Theory of Survey With Applications, Iowa State University Press, Ames.
7. J. A. Rice (1995), Mathematical Statistics and Data Analysis, 2nd Edition, Duxbury Press.
8. Hogg, R.V. and Tanis E.A., “Probability and Statistical inference” Macmillan Publishing Company, New York, Fourth Edition, 1993.
9. S. C. Gupta (1993), Fundamentals of Applied Statistics, S. Chand and Sons, New Delhi
10. D. Gujarati (2002), Basic Econometrics, 4th Edition, Mcgraw-Hill/Irwin
11. D. G. Rees (1987), Foundation of Statistics, Chapman & Hall.
12. G. M. Clarke and D. Cooke (1992), A Basic Course in Statistics, 3rd Edition, Arnold.
13. R. L. Schaeffer (1990), Introduction to Probability and its Applications, Pws-Kent.
14. F. Daly, D. J. Hand, M. C. Jones, A. D. Lunn, K. J. Mcconway (1995), Elements of Statistics, Addison-Wesley.
15. S. Ross (1976), A First Course in Probability, Macmillan.
16. Chou, Y. (1975), Statistical Analysis, Holt, Reinhart and Winston, New York.
17. Croxton, Crowden and Klein (1971), Applied General Statistics, Prentice Hall of India, New Delhi.
18. Millar, J. (1996), Statistics For Advanced Level, Cambridge University Press, Cambridge.

Recommended Journals:

1. Statistics – Taylor & Francis Journal - <https://www.tandfonline.com/journals/gsta20>
2. Econometrics and Statistics – Science Direct - <https://www.sciencedirect.com/journal/econometrics-and-statistics>

E- Resources:

1. ‘Introduction to Statistical Methods in Economics’ Course by Konrad Menzel Massachusetts Institute of Technology – Open Educational Resource available at

<https://ocw.mit.edu/courses/14-30-introduction-to-statistical-methods-in-economics-spring-2009/>

2. 'Statistics for Applications' Course by Dr.Peter Kempthorne
Massachusetts Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/18-443-statistics-for-applications-spring-2015/>

Paper 4

Research Methodology

COURSE OUTCOMES (COs)

CO1: To trace an overview of process of research and various types of research

CO2: To understand problem identification process

CO3: To know various research designs, methods & techniques of data collection

CO4: To understand various concepts related to sampling

CO5: To understand report writing formats and to know the research ethics

UNIT I: Preliminary concepts, Problem Identification and Hypothesis Formulation

Research – Definition, Characteristics, Purpose and Importance; Types of Research - Descriptive vs. Analytical Research, Applied vs. Fundamental Research, Quantitative vs. Qualitative Research, Conceptual vs. Empirical Research; Research Process- Basic Overview, Research Methods vs. Research Methodology; Features of Good research Study; Problem Identification Process: Defining the Research Problem; Review of Literature - Identification of Research Gaps and Research Needs; Formulation of Objectives and Hypothesis, Types of Hypothesis, Hypothesis: Variables and their linkages, characteristics of good Hypothesis.

UNIT II: Research Design, Methods of Data Collection and Scaling Techniques

Nature of Research Design, Formulation of Research Design; Various Types of Experimental and Non-Experimental Research Designs; Data Collection – Secondary and Primary Data; Questionnaire Designing; Qualitative Methods of Data Collection -Survey, Interview (Personal and Focus Group), Observation, Case Study, Projective Techniques; Types of Measurement Scales (Likert and Thurston), Criterion for Good Measurement. Reliability and validity of Research tools.

UNIT III: Techniques of Sampling

Sampling – Sampling concepts, Sample vs Census, Sampling Frame; Probability Sampling – Simple Random, Systematic Sampling, Stratified Random Sampling, Cluster Sampling; Non-

Probability Sampling – Convenient Sampling, Judgement Sampling, Snowball Sampling, Quota Sampling; Determination of Sample Size, Sampling and Non- Sampling Errors.

UNIT IV: Report Writing and Research Ethics

Importance of Report Writing; Types of Research Reports, Structure of Report- Guidelines; Reviews - Book Review, Case Review; Citation Methods - Foot Note, Text Note, End Note, References, Bibliography; Citation Rules - Blue Book, MLA, APA, Chicago. Online Research – New Age techniques; Use of Mendley; Criteria of Good Research, Research Ethics – Plagiarism , laws related to Plagiarism and measures to avoid Plagiarism.

BASIC READING LIST:

1. Banamati Mohanty (2015) ‘Statistics for Behavioral and Social Sciences’ Sage Texts
2. Bryman Alan (2018) ‘Social research methods’ OUP
3. Cooper Donald R. & Pamela S. Schindler (1999), “Business Research Methods”, Tata McGraw-Hill Edition, New Delhi
4. Flick Uwe (2011) ‘Introducing Research Methodology’ Sage Publications
5. Kothari C. R, Gaurau Garg (2019) ‘Research Methodology, Methods and Techniques’, New Age International Publications, 4th Edition
6. Kumar Ranjit, (2012), “Research Methodology” 2nd Ed, Pearson Education
7. Wilkinson and Bhandarkar (2016) ‘Methodology and Techniques of Social Science Research; HPH
8. Willson Jonathan (2017) ‘Essentials of Business Research: A Guide to Doing Your Research Project’ Sage Publications

Recommended Readings:

1. Basotia G.R. Sharma K.K. (1999) ‘Research Methodology’ Mangal Deep Publications
2. Don E. Ehridge (2004) ‘Research Methodology in Applied Economics: Organizing Planning and Conducting Economics Research’, John Wiley and Sons
3. Gopal M.H. (1971) ‘An Introduction to Research Procedure in Social Sciences’, Asia

Publishing House

4. Kothari S. R (2012) 'Research Methodology, Methods and Techniques', Pragun Publications.
5. Khandhare V.B., Yadav Y.,2016, Chinmay Publication ,Aurangabad.
6. Krishnaswamy, O.R. (1993) 'Methodology of Research In Social Sciences, HPH
7. Kurein C. T. (1973) A Guide to Research in Economics' Sangam Publishers for Madras Institute of Development Studies
8. Les Oakshott (2012) 'Essential Quantitative Methods for Business, Management and Finance', Palgrave Macmilan, 5th edition
9. Moser C.A., G. Kalton (1985) 'Survey Methods in Social Investigations' Routedledge
10. BAV Sharma D Ravindra Prasad and P. Satyanarayana (1983) Research Methods in Social Sciences' Sterling publishers, New Delhi
11. Sadhu AN, Amarjit Singh (2007) 'Research Methodology in Social Sciences' HPH
12. Thakur Devendra (2009) 'Research Methodology in Social Sciences' Deep and Deep Publications
13. Young P.V. (1984) 'Scientific Social Survey and Research', Prentice Hall -India

Recommended Journals:

1. Journal of Mixed Methods Research- Sage
<https://journals.sagepub.com/home/mmr>
2. Journal of Applied Social Sciences- Sage
<https://journals.sagepub.com/home/jax>
3. Research in Economics- Elsevier
<https://www.sciencedirect.com/journal/research-in-economics>
4. Social Science Research- Elsevier
<https://www.sciencedirect.com/journal/social-science-research>
5. The Social Science Journal – Elsevier/ ScienceDirect
<https://www.sciencedirect.com/journal/the-social-science-journal>

E- Resources:

1. ‘Crafting Research Questions and Qualitative Methodology’ Course by Prof. Judith TandlerSalo Coslovsky
Massachussets Institute of Technology – Open Educational Resource available at <https://ocw.mit.edu/courses/11-233-crafting-research-questions-and-qualitative-methodology-fall-2005/>
2. ‘Research Design for Policy Analysis and Planning’ Course by Prof. Joan Karmin
Massachussets Institute of Technology – Open Educational Resource available at <https://ocw.mit.edu/courses/11-233-research-design-for-policy-analysis-and-planning-fall-2007/>

Paper- 5

MINOR:SHARE MARKET AND BANKING

COURSE OUTCOMES (COs)

CO1: To trace an overview of various short term and long-term financial market instruments

CO2: To understand about stock exchanges and their regulators

CO3: To trace an overview of commercial banking in India

CO4: To analyse the nature of Central Bank in India

CO5: To know about various Non-Banking Financial Intermediaries

UNIT I: Preliminary Concepts, Short Term Financial Markets and Mutual Funds

Role of Banking and Financial Markets in any Economy. Financial Investment and its importance in wealth creation. Types of Traditional Investments – FD, Bank savings, RD, Real Estate, Post Office etc. Equilibrium in Financial Markets; Risk and financial assets, types of risk, return on assets, Risk - Return trade off - Valuation of securities.

Call Money Market, Treasury Bills Market, REPO Market, CBLO Market, Commercial Paper Market, Market for Certificate of Deposits, Bankers' Acceptance, Pricing Money Market Instruments

Mutual Fund - Types of Mutual Funds; Terms: SIP, STP, SWP, NAV, ELSS, AUM, Exit load etc.; Redemption in mutual funds; Risk profile of different mutual fund types, Uses of Mutual funds for personal use, How to invest in mutual funds -Direct and Regular plan,Growth plan and Regular plan; Mutual fund selection ratios, Money Markets.

UNIT II:Long Term and Other Important Financial Markets

Initial Public Offering (IPO)- IPO introduction, Process of an IPO, How to analyse an IPO, IPO terminologies, How to apply for an IPO, Analysis of an IPO

Bonds and Debentures - Equity vs bond comparison, Bond vs debenture comparison, Types of bonds, Bond terminology, Bond Issue and Trading, Bonds vs FD vs Debt Funds

Depository system – Stock exchanges – Demutualization of stock exchanges – Listing of securities – Internet trading – Trading in Secondary Markets – types orders – Limit orders – Market orders- Stop loss order – Day order – Cancel Order - Matching Orders - Circuit breakers – Insider Trading – Unfair trade Practices – Buy back - Over-the counter Markets. **BSE, NSE.**

Derivative market- Forwards, Options and futures – Call and put option – Speculating with call option – Speculating with put options – Determinants of call option premium - Determinants of put option premium.

Foreign Exchange Markets and Mortgage Markets: An Overview; Financial Sector Reforms - Philosophy of Financial Sector Reforms – Achievements - Areas of Concerns in Financial Sector Reforms. SEBI: its impact on the working of capital market in India.

UNIT III: Commercial Banking

Meaning and Functions of a Bank, Types of Banks, Banking Systems, Balance Sheet of a Bank, Portfolio Management, Credit Creation Process, , Deposit Insurance and Credit Guarantee Scheme, Banking Legislation in India; Nationalisation of Banking – A critical analysis, Social Responsibility of Banks, Non-Performing Assets, Economic Liberalisation and Banking Sector Reforms, Narsimham Committee Report-2 on Banking Sector Reforms, Cooperative Banking, Land Development Banks, Regional Rural Banks, NABARD. New trends in Commercial Banking in India- e.g. Innovative Banking, Merchant Banking; Role of Commercial Banks in a Developing Economy

UNIT IV: Central Bank, SBI and Non Banking Financial Intermediaries

Functions of Central Bank, Role of Central Banks in developing countries, Credit Control Methods – Bank Rate Policy, Open Market Operations, Variable cash Reserve Ratio, Qualitative methods of credit control; RBI – Origin and Monetary policy over time, Achievements and failures of RBI; SBI – Establishment and Organisation, Objectives and functions, Achievements; Non-Banking Financial Intermediaries, Development Banks, IFCI, SFCs, IDBI, SIDBI, IRBI, ICICI, UTI, Export-Import Bank of India, Critical Evaluation of Development Banks; Exchange Banks, Indian Banks Abroad.

BASIC READING LIST

1. Bhole L.M. (2004) ‘Financial Institutions and Markets’, Tata McGraw Hill
2. Chandra P. (2017), ‘ Investment Analysis and Portfolio Management’, McGraw Hill Education, Fifth Edition
3. Frederic Mishkin (2019) ‘The Economics of Money, Banking and Financial Markets’ Pearson Education India, 11th edition
4. Frederic Mishkin and Stanley Eakins (2006) “Financial Markets and Institutions”, Pearson 5th Ed

5. Fabozzi Frank J. (2016) Bond Market Analysis and Strategies' Pearson, 8th edition
6. Hull John C (2018) "Fundamentals of Futures and Options Market", Pearson Education, 9th Edition
7. Hull John C, Sankarshan Basu (2018) "Options, Futures and Other Derivatives", Pearson Education, 10th Edition
8. Richard A Brealey, Stewart C Myers, and Alan J. Marcus (2003) 'Fundamentals of Corporate Finance', Third Edition; McGraw-Hill, Inc

Recommended Books

1. Ajay Shah Susan Thomas Michael Gorham (2008) "Indian Financial Markets: AN Insider's Guide to How the Market Works" Elsevier Science
2. Baye Micheal R, Dennis W Jansen (1996) " Money, Banking & Financial Markets An Economic Approach", A.I.T.B.S. Publishers & Distributors. Delhi
3. Chandra P. (1997), "Financial Markets", Tata McGraw Hill, 4th Edition
4. David G. Lueberger (2012) "Investment Science", OUP, 1st edition
5. Elton Edwin J, Martin J Gruber, Stephen J Brown & William Goetzmann (2002) "Modern Portfolio Theory and Investment Analysis" John Wiley & Sons
6. Fama E.F. (1997) "Foundations of Finance", Basil Blackwell, Oxford, Ch.5
7. Hauthkkar H.S., Williomson P.J., (1996) "The Economics of Financial Market", OUP
8. Hearth Douglas & Zaima J K (1998) "Contemporary Investment: Security and Portfolio Analysis" The Dryden Press
9. Hull John C (2018) "Risk Management and Financial Institutions", John Wiley & Co
10. LeRoy Stephen F, Jan Werner (2014) "Principles of Financial Economics" Cambridge University Press
11. Ross Stephen and Rudolph W.W., (1998) " Fundamentals of Corporate Finance", McGraw Hill
- 17
12. Smith, P.F., (1978), "Money and Financial Intermediation: The Theory and Structures of Financial System", Prentice Hall
13. Susan Thomas, (ed) (2003) "Derivatives Market in India", Invest India
14. Wavre A. & Dhonde S , Finance of Village Panchayat , Shubhan publication , Kanpur. UP, India
15. Zvi Bodie, Robert C. Merton, Devid L. Cleeton (2008) " Financial Economics" Pearson

Recommended Journals:

Journal of Finance- Wiley Online

<https://onlinelibrary.wiley.com/journal/15406261>

Journal of Applied Statistics- Francis & Taylor

<https://www.tandfonline.com/journals/cjas20>

Journal of Banking and Finance – Elsevier

<https://www.sciencedirect.com/journal/journal-of-banking-and-finance>

Global Finance Journal – Elsevier

<https://www.sciencedirect.com/journal/global-finance-journal>

E- Resources:

1. ‘Financial Management’ Course by Prof. Jonathan LewellenMassachusetts Institute of Technology – Open Educational Resource available at<https://ocw.mit.edu/courses/15-414-financial-management-summer-2003/>
2. ‘Fintech: Shaping the Financial World’ Course by Prof. Jonathan LewellenMassachusetts Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/15-s08-fintech-shaping-the-financial-world-spring-2020/>

SEMESTER 2

Paper 1

Microeconomics – II

COURSE OUTCOMES (COs)

CO1: To perform analysis of monopolistic and oligopoly forms of markets

CO2: To understand alternate theories of firm.

CO3: To know concepts related to Game Theory

CO4: To analyse theorems related to factor pricing

CO5: To understand elements of general equilibrium analysis and welfare economics

UNIT I: Market Analysis: Monopolistic and Oligopoly

Monopolistic Competition: Major features; Pricing under Monopolistic Competition – Short Run; Group Equilibrium in the Long run under Monopolistic Competition – Concept of Excess Capacity; Chamberlin's Alternative Approach; Oligopoly – Major features, Non Collusive Oligopolies - Cournot's Duopoly Model, Bertrand's Model, Stackelberg Model; Chamberlin's Model, The Kinked Demand Model, Hotelling Model, Edgeworth Model. Collusive Oligopolies – Various types of Price Leadership, Cartels.

UNIT II: Alternate theories of the firm and Game Theory

Full Cost Pricing theory, Baumol's Sales Maximisation theory, Williamson's Managerial Discretion theory, Herbert Simon's Satisficing theory, Behavioural theory of Cyert and March; Limit pricing principle (Bains, Sylos-Labini, Modigliani and Bhagwati); Decision making under uncertainty – Attitude towards risk.

Basic concepts of Game theory; Types of game; Payoff Matrix;; Nash equilibrium; Mixed strategies. Games of Coordination- Prisoner's dilemma, Battle of sexes; Assurance game. Games of Commitment- The Frog and the Scorpion, The Kindly Kidnapper, Pigs pressing

levers, Intergeneration conflict over Saving. Solving Sums on Two Person Zero Sum and Non-Zero-Sum Games (Pure and Mixed Strategy), Saddle point solution, Value of a Game,

UNIT III: Theory of Factor Pricing

Concepts of productivity(MPP & VMP); Marginal Productivity Theory; Equilibrium of the firm in Perfectly competitive markets; Factors prices under imperfect competition – Monopolistic Exploitation, Monopsonistic Exploitation, Double Exploitation; The Adding Up Problem – Product Exhaustion Problem, Classical and Modern theories of Rent, Interest, Profit and Wages.

UNIT IV: Welfare Economics

Elements of General Equilibrium Analysis, Edgeworth Box Diagrams, Welfare – Some Early Criteria, Marginal conditions of Pareto Efficiency, First and Second Fundamental Theorems of Welfare Economics; Kaldor-Hicks Compensation Criterion, Scitovsky Paradox, Social Welfare Function, Arrow's Impossibility Theorem, Grand Utility Possibility Frontier, Bliss Point, Theorem of Second Best. Asymmetric Information: Adverse Selection and Moral Hazard.

BASIC READING LIST:

1. Das, S.P. (2007): Microeconomics for Business, Sage, New Delhi.
2. Gravelle H. and Rees R. (2004): Microeconomics, 3rd Edition, Pearson Edition Ltd, New Delhi.
3. Jehle, G.A. and P.J. Reny (2006): Advanced Microeconomic Theory, 2nd Edition, Pearson Education, New Delhi.
4. Tandon, P. (2015): A Textbook of Microeconomic Theory, Sage, New Delhi.
5. Varian H (2000): Intermediate Microeconomics: A Modern Approach, 8th Edition, W.W. Norton and Company.
6. Varian, H.B. (1992): Microeconomic Analysis, 3rd Edition, W.W. Norton and Company.
7. Das, Satya P. (2007): Microeconomics for Business, Sage Publications India Pvt Ltd., New

Delhi.

8. Gibbons R.A. (1992): A Primer in Game Theory, Harvester-Wheatsheaf.
9. Gravelle, H. and Rees, R. (2004): Microeconomics, 3rd Edition, Pearson Edition Limited, New Delhi.
10. Jehle, G.A. and P.J. Reny (2006): Advanced Microeconomic Theory, 2nd Edition, Pearson Education, New Delhi.
11. Png, Ivan (2012): Managerial Economics, 4th Edition, Routledge, New York.
12. Varian H. (2000): Intermediate Microeconomics: A Modern Approach, 8th Edition, W.W. Norton and Company.
13. Ahuja, H.L. (2017). Advanced Economic Theory – Microeconomic Analysis., 21st Edition, S Chand Publishing

Recommended Readings:

1. Mas-Colell, Andreu, Michael D. Whinston and Jerry R. Green, (1995), Microeconomic Theory, Oup, New York.
2. Jehle & Renne, Advanced Microeconomic Theory, Pearson Education, India
3. Varian, Hall R., (1992), Microeconomic Analysis (Third Edition), W.W. Norton & Company, New York, London.
4. Kreps, David M.(1998), A Course in Microeconomic Theory, Prentice Hall, India, New Delhi (For Unit V). • Silberberg E., The Structure of Economics: A Mathematical Analysis, McGraw-Hill

Recommended Journals:

1. Applied Economics Quarterly
<https://ojs.duncker-humblot.de/ojs/index.php/aeq>
2. The Quarterly Journal of Economics – Oxford Journals
<https://academic.oup.com/qje>

3. Studies in Microeconomics – Sage Journal

<https://journals.sagepub.com/description/MIC>

E- Resources:

1. ‘Game Theory’ Course by Prof. Mihai Manea; Massachussets Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-126-game-theory-spring-2016/>
2. ‘Microeconomics III’ Course by Prof. Muhamet Yildiz; Massachussets Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-123-microeconomic-theory-iii-spring-2015/>
3. ‘Microeconomic Theory II’ Course by Prof. George-Marios AngeletosMassachussets Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-122-microeconomic-theory-ii-fall-2002/>

Paper 2
Macroeconomics – II

COURSE OUTCOMES (COs)

CO1: To understand concept of money and process of its evolution

CO2: To know monetary measures and the process of credit creation

CO3: To analyse complex interrelationships between various macro-economic aggregates like inflation, demand as well as supply for money,

CO4: To appreciate the origin and functioning of trade cycles

CO5: To understand various schools of thought and related economic policy formulation.

UNIT I: Supply of Money and Post-Keynesian approaches to demand for money

Concept of Money and its evolution, Meaning of Money Supply, Monetary Aggregates in India, High Powered Money, The Money Multiplier and its derivation; Credit Creation, Determinants of money multiplier; Post-Keynesian approaches to demand for money- Patinkin and the Real Balance Effect, Approaches of Baumol and Tobin; Friedmans' Modern quantity theory.

UNIT II: Inflation and Supply Side Economics

Inflation: Nature, Causes, Types, Measurements – CPI, WPI; Economics effects of Inflation: The effect of Inflation on the distribution of Income and Wealth, The effect of Inflation on output, Employment and the Growth Rate. Inflation and Unemployment: The Phillips Curve, Shift in Phillips Curve – Effect of Cost of Living on Wages, Stagflation, Friedman-Phelps model of Stagflation; Long Run Phillips Curve - Adaptive Expectation and Rational Expectation theory; Taxation and Laffer Curve, Okun's Law, Supply Side Economics

UNIT III: Trade Cycles and Open Economy Macroeconomics

Trade Cycles / Business cycles – Preliminary Concepts; Models of Samuelson, Hicks and Kaldor; The Determination of National Income in Open Economy; IS and LM - The International Transmission of Disturbance: Transmission under Fixed Exchange Rate; Transmission under Floating Exchange Rate - Mundell Fleming Model

UNIT IV: Theory of Economic Policy

Classicism, Keynesianism and Monetarism – Classical and Keynesian Models compared; Crisis in Keynesian economics and revival of Monetarism, Keynesianism Vs Monetarism. Relevance of Keynes for Developing Countries. Monetary policy – Objectives, Instruments – Quantitative and Qualitative; Monetary targeting and inflation. Fiscal policy– Growth Vs Stability and Macroeconomic policy during reform period. Relative Roles of Fiscal and Monetary Policies; Monetary and Fiscal Policy Mix; India's Monetary and Fiscal Policy over the years; Global Financial Crises and their Impact on World Economy;

BASIC READING LIST:

1. August Swanenberg (2005) 'Macroeconomics Demystified' A Self Teaching Guide, McGraw Hill Education
2. Ackley, G. (1978), Macro Economics: Theory and Policy, Macmillan, New York.
3. Agrawal Vanita, (2010) Macroeconomics: Theory and Policy, Pearson Publication, New Delhi.
4. Ahuja H.L., Macroeconomics: Theory and Practice, S.Chand & Co. New Delhi.
5. Blackhouse, R. and A. Salansi (Eds.) (2000) Macroeconomics and the Real World (2 Vols.), Oxford University Press, London. Dornbusch,
6. Campbell R. McConnell, Stanley L. Brue, (2001) Macroeconomics: Principles, Problems and Policies', McGraw Hill, Inc., New York.
7. Froyen Richard T (2006) 'Macroeconomics– Theories and Policies' Pearson Education; 8th edition
8. Gupta S.B. (1997) 'Monetary planning for India' OUP

9. Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.
10. Mankiw Gregory (2007) 'Macroeconomics' Worth, New York
11. Rao, V.K.R.V. (1983) India's National Income : 1950 to 1980, Sage Publications, New Delhi
12. Gupta, S.B. (1995), Monetary Planning in India, OUP, New Delhi.
13. Sampat Mukherjee (2013), 'A Global Text-Macroeconomics', New Central Book Agency
14. Soumyen Sikdar (2006) 'Principles of Macroeconomics' Oxford University Press
15. Bhise V.B , Khandare V.B & Babar , (2014) Macro Economics , Chinmay Publication Aurangabad.

Recommended Readings:

1. Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd Edition), Harper and Row, New York.
2. Culbertson, J.M. (1968), Macroeconomic Theory and Stabilization Policy, McGraw Hill, Kogekosh, Tokyo.
3. Duesenberry, J.S. (1949), Income Saving and the Theory of Consumer Behaviour. Harvard University Press, Harvard.
4. Edey, M. and A.T. Peacock (1967), National Income and Social Accounts, Hutchinson University Library, London
5. Fisher, Dornbusch, Schamalensee (1988) 'Economics' McGraw Hill International Editio; 2nd edition
6. Friedman, M. (1957), The Theory of Consumption Function, Princeton University Press Princeton.
7. Friedman, M. (1956), Studies in the Quantity Theory of Money, The University of Chicago Press, Chicago
8. Glahe, Fred, R. (1973), Macroeconomics: Theory and Policy, Harcourt Brace Javanovich, Inc., New York.
9. Harris Lawrence (1980) 'Monetary Theory' McGraw Hill Inc.
10. Keynes, J.M. (1936), 'The General Theory of Employment Interest and Money', Macmillan, London.
11. Ruggles, R. and N. Ruggles (1956), National Income Accounts and Income Analysis, McGraw Hill New York.

12. Shapiro, E. (1996) Macroeconomic Analysis, Galgotia Publications, New Delhi.
13. D.Wrightsman 'An Introduction to Monetary Theory and Policy' The Free Press New York 1983

Recommended Journals:

Applied Economics- Taylor & Francis Online

<https://www.tandfonline.com/journals/raec20>

Journal of Macroeconomics-Elsevier

<https://www.sciencedirect.com/journal/journal-of-macroeconomics>

Macroeconomics and Finance in Emerging Market Economies- Taylor & Francis Online

<https://www.tandfonline.com/toc/rem20/current>

The Indian Economic Journal- Sage Journal

<https://journals.sagepub.com/home/iej>

E- Resources:

1. 'Principles of Macroeconomics' Course by Prof. Ricardo Caballero; Massachussets Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-02-principles-of-macroeconomics-fall-2004/>
3. 'Intermediate MacroEconomic Theory' Course by Prof. Huntley Schaller ,
Massachussets Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-06-intermediate-macroeconomic-theory-spring-2003/>

Paper 3
Statistical Inference

COURSE OUTCOMES (COs)

CO1: To understand basic concepts related to sampling and estimation

CO2: To know how to conduct hypothesis testing for attributes and parametric tests

CO3: To understand the hypothesis testing for non-parametric tests

CO4: To analyse in detail data reduction techniques of factor analysis

CO5: To appreciate other advanced techniques of data analysis like cluster analysis, perceptual mapping etc.

UNIT I: Basic Concepts - Sampling and Estimation

Concepts of parameter, statistic, sampling distribution, Estimation using Normal Distribution, standard error; Point estimation and Desirable properties of a point estimator; Interval Estimation, Statistical hypothesis, null and alternative hypotheses, Types of errors, (Type I and Type II), Power of the test and Power Curve, level of significance, confidence intervals, choice of critical region, one tailed two tailed tests; Concept and interpretation of p value.

UNIT II: Hypothesis Testing: Attributes based and Parametric Tests

Testing of Hypothesis about Attributes – number of successes, proportion of successes, difference between proportions. Testing Hypothesis -Parametric tests – Small sample test – t test – testing hypothesis about population mean and proportion; testing hypothesis for differences between two means or proportions; Large sample test – z test; Variance ratio test – F test; ANOVA – One way and Two Way.

UNIT III: Hypothesis Testing: Non Parametric Tests

Non-Parametric Tests – Chi Squares – testing of independence and Goodness of Fit; Runs Test, One Sample Sign Test, Two Sample Sign Test, Mann Whitney U Test for Independent Samples, Wilcoxon Signed – Rank Test for Paired Samples, The Kruksal- Wallis Test. Spearman’s Rank Correlation test, Kendall’s rank correlation test,

UNIT IV: Advanced Data Analysis Techniques

Factor Analysis – Use, Conditions, Steps, Factor Loadings and Eigen Values, Concept of Communality; Discriminant Analysis – Objectives and Uses, Steps; Key Concepts of Cluster Analysis; Multidimensional Scaling and Perceptual Mapping; Basics of Conjoint Analysis.

BASIC READING LIST:

1. Gupta S.C. “Fundamentals of Statistics” S. Chand & Sons New Delhi (1993)
2. Gupta, S.P. “Statistical Methods” S. Chand & Sons New Delhi
3. Spiegel, Murry R “Theory and problems of Statistics” (Schaum’s outline series, McGraw Hill, 1992)
4. Karmal P.H. and Polasek M. “Applied Statistics for Economists (4th edition), Pitman, Australia.

Recommended Readings:

1. J. E. Freund (1999), Mathematical Statistics, 5th Edition, Prentice-Hall International.
2. J. E. Freund and R. E. Walpole (1987), Mathematical Statistics, Prentice-Hall inc.
3. Hogg, R.V. and Craig, A.T. “Introduction To Mathematical Statistics”, Prentice-Hall International, inc. Engle Wod Cliff, N.J., Fifth Edition, 1995.
4. Mood, A.M. Graybill, F.A. and Boes, D.C., “Introduction to the Theory of Statistics”, Mcgraw-Hill Book Company, New York, Third Edition, 1974.
5. Hogg, R. V. and A. T. Craig (1970), Introduction to Mathematical Statistics (3rd Edition), Macmillan Publishing Co., New York.
6. Sukhatme, P. V. and B. V. Sukhatme (1970), Sampling Theory of Survey With Applications, Iowa State University Press, Ames.

7. J. A. Rice (1995), *Mathematical Statistics and Data Analysis*, 2nd Edition, Duxbury Press.
8. Hogg, R.V. and Tanis E.A., “Probability and Statistical inference” Macmillan Publishing Company, New York, Fourth Edition, 1993.
9. S. C. Gupta (1993), *Fundamentals of Applied Statistics*, S. Chand and Sons, New Delhi
10. D. Gujarati (2002), *Basic Econometrics*, 4th Edition, Mcgraw-Hill/Irwin
11. D. G. Rees (1987), *Foundation of Statistics*, Chapman & Hall.
12. G. M. Clarke and D. Cooke (1992), *A Basic Course in Statistics*, 3rd Edition, Arnold.
13. R. L. Schaeffer (1990), *Introduction to Probability and its Applications*, Pws-Kent.
14. F. Daly, D. J. Hand, M. C. Jones, A. D. Lunn, K. J. Mcconway (1995), *Elements of Statistics*, Addison-Wesley.
15. S. Ross (1976), *A First Course in Probability*, Macmillan.
16. Chou, Y. (1975), *Statistical Analysis*, Holt, Reinhart and Winston, New York.
17. Croxton, Crowden and Klein (1971), *Applied General Statistics*, Prentice Hall of India, New Delhi.
18. Millar, J. (1996), *Statistics For Advanced Level*, Cambridge University Press, Cambridge.

Recommended Journals:

1. Statistics – Taylor & Francis Journal - <https://www.tandfonline.com/journals/gsta20>
2. Econometrics and Statistics – Science Direct - <https://www.sciencedirect.com/journal/econometrics-and-statistics>

E- Resources:

1. ‘Introduction to Statistical Methods in Economics’ Course by Konrad Menzel
Massachussets Institute of Technology – Open Educational Resource available at

<https://ocw.mit.edu/courses/14-30-introduction-to-statistical-methods-in-economics-spring-2009/>

2. 'Statistics for Applications' Course by Dr.Peter Kempthorne
Massachusetts Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/18-443-statistics-for-applications-spring-2015/>

Paper 4
Public Economics

COURSE OUTCOMES (COs)

CO1: To understand market failure and its remedial measures

CO2: To understand case for Government intervention and to appreciate its importance

CO3: To know concepts related to Public Budget, Public Debt and Public Expenditure

CO4: To appreciate the dynamics of Union-State financial relations in India

CO5: To understand the theory of taxation

UNIT I: Market Failure and Remedial Measures: Role of Government

Economic rationale of government, fiscal functions; The role of State in Allocation, Distribution, Regulation and Stabilization; Market Failures and Govt. Intervention : imperfections, externalities and public goods; concepts of private goods, pure public goods, mixed goods and merit goods; Asymmetric Information, Free Rider's problem, Optimal provision of public goods – voting and public choice – preference revelation mechanisms – Lindahl and successors; The theory of clubs and local public goods, Pseudo- market mechanism for Preference Revelation, The optimal provision of public goods.

UNIT II: Public Budget and Public Debt

Theories of Maximum Social Advantages-Dalton, Pigou and Musgrave; Budgeting - Various concepts, Performance budgeting, PPBS, Zero base budgeting; Budget Analysis, Budget Multiplier, Fiscal Policy and its implications, Fiscal Reforms in India. Public Debt and its management, India's Public debt

UNIT III: Public Expenditure

Wagner's law of Increasing State Activities, Peacock Wiseman hypothesis; economic effects of public expenditure; Dalton norms of Public Expenditure, Trends in India's Public Expenditure. Union-State Financial Relations-Horizontal and vertical imbalances; Finance commission. FRBM Act – An Assessment

UNIT IV: Theory of Taxation

Cannons of taxation, neutrality, equity, ability to pay, benefit principle, revenue maximization, income maximization; analysis of incidence of taxes, elasticity, buoyancy and taxable, capacity, efficient tax design: optimal taxation, effects of taxation on work effort, savings, investment and growth; classification of taxes: direct and indirect taxes, progressive, proportionate and regressive taxes, Advalorem and specific taxes; Tax systems in India; structure, composition and various economic issues.

BASIC READING LIST:

1. Anderson James. E., (2010) Public Policy-Making: An Introduction”, Cengage Learning, 7th Edition
2. Birkland Thomas A., (2005), An Introduction to The Policy Process: Theories, Concepts, And Models of Public Policy Making, Armonk;
3. Chandler. Dye Thomas (2008), Understanding Public Policy, Singapore, Pearson Education
4. Chakrabarti Rajesh, Kaushiki Sanyal (2016) “Public Policy in India” OUP India
5. Mathur Kuldeep (2015) Public Policy and Politics in India: How Institutions Matter” OUP India
6. McCool, Daniel C. (ed.), (1995), “Public Policy Theories, Models, and Concepts: An Anthology”, NJ: Prentice-Hall
7. Moran Michael, Martin Rein, Robert E. Goodin (2018) “The Oxford Handbook of Public Policy” OUP
8. Saumitra Mohan (2018) “Indian Policy and Development: A Manual for National Schemes and International Policies” McGraw Hill Education

Recommended Books:

1. Ashford, Doug (ed.), (1992), “History and Context in Comparative Public Policy”, Ithaca, NY: University of Pittsburgh Press.
2. Bergerson, Peter J. (ed.), (1991), “Teaching Public Policy: Theory, Research and Practice”, Westport, RI: Greenwood Press
3. Dahl, Robert and Charles Lindblom, (1976), “Politics, Economics and Welfare”, New

- York, Harper
4. Dror, Y. (1989), "Public Policy making Re-examined", Routledge, 2nd Edition
 5. Hill Michael, (2005), The Public Policy Process, Harlow, UK; Pearson Education, 5th Edition
 6. Houghton Bardach, Eugene (1977), "The Implementation Game: What Happens After a Bill Becomes a Law", Cambridge, MA: MIT
 7. Howlett, Michael, and M. Ramesh, (1995), "Studying Public Policy: Policy Cycles and Policy Subsystems", OUP, Toronto
 8. Jones, C.O., (1970), "An Introduction to the Study of Public Policy", Belmont, Prentice –Hall
 9. Lerner, D. and H.D. Lasswell (eds.), (1951), "The Policy Sciences", Stanford University Press
 10. Lindblom, C.E., and E.J., Woodhouse, (1993), "The Policy making Process", 3rd ed., Prentice – Hall
 11. Nachmias, David, (1979), "Public Policy Evaluation: Approaches and Methods", New York: St. Martin's Press
 12. Jay M. Shafritz (ed) (1998), "International Encyclopedia of Public Policy and Administration", Westview Press
 13. John, Peter, (2012), "Analysing Public Policy", Routledge, 2nd Edition
 14. M.E. Sharpe Brewer, Gary D., and Peter de Leon (1983), "The Foundations of Policy Analysis", Homewood, IL.: The Dorsey Press
 15. Bellinger William K (2015) "The Economic Analysis of Public Policy" Routledge, 2nd Edition

Recommended Journals

Indian Journal of Public Policy and Administration – Sage

<https://journals.sagepub.com/home/ipa>

International Journal of Public Policy – Inderscience

<https://www.inderscience.com/jhome.php?jcode=ijpp>

Journal of Asian Public Policy – Taylor and Francis Online

<https://www.tandfonline.com/journals/rapp20>

Journal of Public Policy – Cambridge

<https://www.tandfonline.com/journals/rapp20>

Journal of Public Policy and Administration – Science Publishing Group

<https://www.sciencepublishinggroup.com/journal/index?journalid=545>

Science and Public Policy – Oxford Academic Journals

<https://academic.oup.com/spp>

E- Resources:

1. ‘Public Economics I’ Course by Prof. James Poterba and Prof. Iván Werning,
Massachusetts Institute of Technology – Open Educational Resource available
at <https://ocw.mit.edu/courses/14-471-public-economics-i-fall-2012/>
2. ‘Public Economics II’ Course by Prof. Jonathan Gruber and Prof. Peter Diamond
Massachusetts Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-472-public-economics-ii-spring-2004/>

SEMESTER 3

Paper 1

Theories of Growth and Development– I

COURSE OUTCOMES (COs)

CO1: To trace the background of origin of 'Development Economics'.

CO2: To know the basic concepts and indicators related to Economic Growth and Development

CO3: To analyse various schools of thought related to major growth theories.

CO4: To understand various poverty-inequality indicators

CO5: To appreciate various strategies of growth and understand India's development dynamics.

UNIT I: Economic Growth & Economic Development

Background and beginnings of 'Development Economics': post-war world economic order and end of formal colonialism; distinction between growth and development economics/studies. Human Development and deprivation The concept of development – Evolution of Measures of Economic Development - PQLI, Human Development Index and its extensions, modifications, and other related measures:, Gender related Development Index (GDI), Gender Empowerment Measure (GEM); Gender Inequality Index (GII); Concept of Sustainable Development, SDG's.

UNIT II: Major Growth Theories

Classical Theories of Growth: Contributions of Adam Smith, Ricardo and Malthus; Karl Marx and development of capitalistic economy — Theory of social change, surplus value and profit; Immutable laws of capitalist development; Crisis in capitalism — Schumpeter and

capitalistic development; innovation — role of credit, profit and degeneration of capitalism; Keynesian Model of Development

UNIT III: Post-war high development theories& Poverty-Inequality Indicators

Rostow's stages of growth, Vicious circle of poverty; Dual-economy models – broad policy implications -Lewis model of development, Ranis-Fei model of development. Various indicators of Poverty - Head Count Ratio, Poverty Gap Analysis, Sen's P Measure, Multidimensional Poverty Index; Various indicators of inequality – Lorenz curve, Gini Coefficient, Kuznet's U curve hypothesis.

UNIT IV:Strategies of Growth

Balanced and Unbalanced Growth, Big Push, Hirschman model; Leibenstien's model; Nelson's low level Equilibrium trap. Techniques of Planning; Plan Models in India, Mahalonobis Model- A Detailed Analysis; Planning in a Market Oriented Economy. Economic growth and its determinants – Saving, Investment and India's Growth Performance over the years; COVID – 19 and its Impact on Growth

BASIC READING LIST:

1. Basu Kaushik (1998) Analytic Development Economics: The Less Developed Economy Revisited', OUP
2. Behrman, S. and T.N. Srinivasan (1995), Handbook of Development Economics, Vol. 3, Elsevier, Amsterdam.
3. Felix Raj, Sampat Mukherjee, Mallinath Mukherjee, Amitava Ghose, Ranjanendra N. Nag (2007) "Contemporary Development Economics From Adam Smith to Amartya Sen", New Central Book Agency Private Limited
4. Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development,(3rd Edition), W.W. Norton, New York.
5. Kindleberger, C.P. (1977), Economic Development, (3rd Edition), McGraw Hill, New York

6. Meier Gerald M. and James E. Rauch, “Leading Issues in Economic Development” Oxford University Press, 2006
7. Ray Debraj (1998) “Development Economics”, Oxford University Press
8. Solow Robert M. (2000) “Growth Theory An Exposition” Oxford University Press
9. Thirwal, A.P. (1999), (6th Edition), Growth and Development, Macmillan, U.K.
10. Todaro, M.P. (1996), (6th Edition), Economic Development, Longman, London.

Recommended Readings:

1. Banerjee Abhijit V, Esther Duflo (2013) ‘Poor Economics: Rethinking Poverty & the Ways to End it’ Penguin
2. Barro Robert J. and Xavier Sala-i-Martin (2004) “Economic Growth ” Prentice Hall of India Brown, M. (1966), On the Theory and Measurement of Technical Change, Cambridge University Press, Cambridge, Mass.
3. Chenery, H. and T.N. Srinivasan (Eds.) (1989), Handbook of Development Economics, Vols.1 & 2, Elsevier, Amsterdam
4. Dasgupta, P. (1993), An Enquiry into Well-being and Destitution, Clarendon Press, Oxford.
5. Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development,(3rd Edition), W.W. Norton, New York.
6. Meier, G.M. (1995), Leading Issues in Economic Development, (6th Edition), Oxford University Press, New Delhi.
7. Nayyar Deepak (2019) ‘Resurgent Asia’ OUP
8. Todaro Michael (1981) “Economics for A Developing World”, Longman, London.
- 9 Wavre Anilkumar & Londhe M , Economics of Development and Planning , (2019) Educational Publishers , Jalgaon , MS, India.

Reports:

- Human Development Report, 1995-2022, UNDP, OUP Latest Reports
- RBI Bulletin (latest issues)
- World Development Report, Latest Reports

Recommended Journals:

Economic Development and Cultural Change- Chicago Press

<https://www.journals.uchicago.edu/loi/edcc>

Journal of Development Economics-Elsevier

<https://www.sciencedirect.com/journal/journal-of-development-economics>

IMF Economic Review- Palgrave Macmillan

<http://www.palgrave.com/gp/journal/41308>

Oxford development Studies- Routledge

<https://www.tandfonline.com/journals/cods20>

Review of Development Economics-Wiley

<https://onlinelibrary.wiley.com/journal/14679361>

Review of World Economics-Springer

<https://www.springer.com/journal/10290>

Review of Economic Dynamics- Elsevier

<https://www.sciencedirect.com/journal/review-of-economic-dynamics>

E- Resources:

1. 'Economic Growth' Course by Prof. Daron Acemoglu, Massachusetts Institute of Technology – Open Educational Resource available at <https://ocw.mit.edu/courses/14-452-economic-growth-fall-2016/>

2. 'Development Economics: Microeconomic Issues and Policy Models' course by Benjamin Olken, Esther Duflo and Prof. Abhijit Banerjee
Massachusetts Institute of Technology – Open Educational Resource available at <https://ocw.mit.edu/courses/14-771-development-economics-microeconomic-issues-and-policy-models-fall-2008/>

Paper 2

International Economics – I

COURSE OUTCOMES (COs)

CO1: To understand basic concepts and analytical tools related to international trade

CO2: To analyse classical and modern theories of international trade

CO3: To know the concepts related to terms of trade and gains from trade.

CO4: To appreciate the outcomes of protective measures like Tariffs and Quotas.

CO5: To understand new theories of trade applicable under imperfect competition.

UNIT I: Basic Concepts, Analytical Tools and Classical Theories

Distinguishing features of Interregional and International trade; Importance and Scope of International Trade; The Mercantilists View on Trade; Adam Smith's theory of Absolute Difference in costs; Ricardo's theory of comparative differences in costs and its application in underdeveloped countries. Some analytical tools-Offer curves Production Possibility Curves; the Community Indifference Curves; Equilibrium in Community Consumption and Output. Mills' theory of Reciprocal Demand; Explanation of Mills' concept of Reciprocal Demand with the help of Marshall's Offer Curves

UNIT II: International Trade Equilibrium-Neo Classical Analysis and Modern Theory

International Trade Equilibrium; Harberler's Theory of Opportunity Costs; International trade under constant, Increasing and decreasing opportunity costs. The Modern Theory of Factor Endowments- price criterion and physical criterion; Factor-Price equalization theorem; Relevance of Modern theory in the present scenario; Its superiority over the classical theory; Leontief Paradox; International trade and factor prices, Samuelson's Factor Price Equalization Theorem, Stolper- Samuelson theorem.

UNIT III: Terms of Trade, Gains from Trade, Tariffs and Quotas

Terms of Trade- Meaning and various concepts, Factors affecting it, Terms of Trade and underdeveloped countries; Gains from trade. Tariffs meaning and types; - Effects of tariff under partial and general equilibrium; Optimum tariff and welfare; Effects of tariff on income distribution, Non; Quota – Meaning and Effects of Quota; Tariff vs. Quota, Issues related to Dumping

UNIT IV: International Trade under Imperfect Competition; New theories of trade

Economies of scale, Imperfect competition -trade based on product differentiation and intra-industry trade, dynamic technological differences-product cycle model. Economic growth and international trade: Growth of factors of production- Rybczynski theorem, Kravis and Linder theory of trade; Technical progress; Growth and trade-small country and large country; Immiserizing growth

BASIC READING LIST:

1. Grimwade Nigel, International Trade (Second Ed), Routledge, London 2001
2. Grubel H.G. and P.J. Lloyd, Intra-Industry Trade, Macmillan, London, 1975
3. Haberler G. A Survey of International Trade Theory, International Finance Section, Department of economics, Princeton University, 1961
4. Krugman P.R. and –M. Obstfeld, International Economics Theory and Policy, Addison-Wesley, Delhi, 2000
5. Salvatore D., International Economics, John Wiley and Sons, Singapore 2002
6. Sodersten Bo and R. Geoffrey, International Economics, Macmillan, London, 1994

Recommended Readings:

1. Paugel, T. (2015). International Economics, Pub.
- 2..Mithani, D.M. (2004) Internation Economic, Himalaya Pub.
3. Rao, P.S. (2001) International Business, Himalaya Pub.
4. Ghosh, P. (2012) – International Relations, PHI Pub.
5. Carbug, R. J. (2008). International Economics, Carbug pub.

Recommended Journals:

1. International Economic Journal
<https://www.tandfonline.com/toc/riej20/current>
2. Review of International Economics
<https://onlinelibrary.wiley.com/journal/14679396>

E- Resources:

1. ‘International Economics’ Course by Prof. Arnaud Costinot&Prof. Dave Donaldson;
Massachusetts Institute of Technology – Open Educational Resource available
at<https://ocw.mit.edu/courses/14-581-international-economics-i-spring-2013/>
2. ‘International Trade’ Course by Prof. Arnaud Costinot, Massachusetts Institute of
Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-54-international-trade-fall-2016/>

Paper 4
Indian Economy

COURSE OUTCOMES (COs)

CO1: To understand pattern and structure of Indian Economy

CO2: To know sectoral composition of Indian Economy

CO3: To analyse various economic policies in India

CO4: To understand impact of external sector (trade) on Indian Economy

CO5: To trace an overview of various developmental issues of Indian Economy

UNIT I: Economic Growth in India: Pattern and Structure

Economic History of India -Indian Economy before Independence: A Review; Economic consequences of the British rule; Need for planned economic development; Basic strategy for development of the Indian economy under the planning period; Changes in the strategy of Indian planning; Role of the public and private sectors in India; and Main aspects of new economic policy and its relevance. Nature of Indian Economy, Natural Resources, Demographic features and Human Development Index, Problems of Poverty, Population, Unemployment, Inflation, Income inequality, Black money in India.

UNIT II: Sectoral composition of Indian Economy

Issues in Agriculture sector in India, Green Revolution, Agrarian Reforms: Land Reforms, New agricultural policy; Production Structure of Indian Agriculture; Terms of trade between agriculture and industry; Industrial policy; Nature and extent of industrialization; and the existing production structure of industry in India. Industrial development, MSMEs, small scale and cottage industries, Various Industrial Policies, Public sector in India, Service Sector in India – Pattern & structure of growth, Major challenges and Policy responses; Infrastructure Development – Physical and Social; Public-Private Partnership.

UNIT III: Economic Policies in India

Economic Planning in India , Planning commission v/s NITI Aayog, Five Year Plans, Monetary policy in India, Fiscal Policy in India, Centre state Finance Relations, Finance commission in India. LPG policy in India. Savings and Capital Formation in Indian Economy; Trends in National income; Trends in Prices and Money Supply; Fiscal and Financial Sector reforms and recent changes in the policy; Urban Development and Rural Development – Issues, Challenges and Policy responses; Measures to fight slowdown and the vision of \$5 Trillion Economy.

UNIT IV: External Sector in India and Developmental Issues

Foreign capital in India; FDI, FPI and FII, Trade Policy in India, Recent changes in the direction and composition of trade and their implication; Rationale and impact of trade reforms since 1991 on balance of payments, employment and growth; Working and regulations of MNCs in India, Trade problems in India, Convertibility of rupee on current account and capital account.

Regional imbalances; Trends in Migration; Economic Development and Environment Degradation; Social Sector Development – Health, Education and Gender.

BASIC READING LIST:

1. Agarwal A.N. (2006): Indian Economy: Problems of Development and Planning , A Division of New Age International (P): Limited, New Delhi.
2. Bawa, R.S. and P.S. Raikhy (Ed.) (1997), Structural Changes in Indian Economy, Guru Nanak Dev University Press, Amritsar.
3. Brahmananda, PR. And V.R. Panchmukhi (Eds.) (2001), Development Experience in the Indian Economy: Inter-state Perspectives, Book well, Delhi.
4. Dutt R and KPM Sundharam (2002): Indian Economy: S. Chand New Delhi.

5. Misra S.K. and V.K. Puri, (2020): Indian Economy, Himalaya, Publishing house, Mumbai.
6. Uma Kapila (2019): Indian Economy-Since Independence-17th Edition, Academic Foundation.

Recommended Readings:

1. Byres, T.J.(Ed.) (1998), The Indian Economy; Major Debates Since Independence, Oxford University Press, New Delhi.
2. Chakravarty, S. (1987), Development Planning – The Indian Experience, Oxford University Press, New Delhi.
3. Chatopadhyaya, M., P.Matiti and M.Rakshit (Eds.) (1996), Planning and Economic Policy in India – Evaluation and Lessons for the Future, Sage Publications, New Delhi.
4. Brahmananda, P.R. and V.R. Panchmukhi (Eds.) (1987), The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.
5. Chelliah, Raja J. and R.Sudarshan (1999), Income, Poverty and Beyond; Human Development in India, Social Science Press, New Delhi.
6. Dandekar, V.M. (1996), The Indian Economy, 1947-92, Vol.II, Sage Publications, New Delhi.
7. Frederick, H. and A.M. Charles (1970), Education, Manpower and Economic Growth, New Delhi.
8. Tilak, J.B.C. (1993), Costs and Financing of Education in India : A Review of issues, Problems and Prospects (Mimeo), National Institute of Educational Planning and Administration, New Delhi.
9. Appu, P.S. (1996), Land Reforms in India, Vikas, New Delhi.
10. Brahmananda, P.R. and V.R. Panchmuki (Eds.) (1987), The Development Process of the Indian Economy, Himalaya Publishing House, New Delhi.
11. Joshi P.C. (1975), Land Reforms in India, Allied Publishers Pvt.Ltd., New Delhi.
12. Basu, K.et.al (1995), Capital Investment and Development: Essays in memory of Sukhamoy Chakravarty, Oxford University Press, New Delhi.
13. Byres, T.J. (Ed.) (1997), The State, Development Planning and Liberalization in India, Oxford University Press, New Delhi. Chelliah, Raja J. and R.Sudarshan (1999), Income, Poverty and Beyond: Human Development in India, social Science Press, New Delhi.

Recommended Journals:

1. Indian Economic Review – Springer
<https://www.springer.com/journal/41775>
2. The Indian Journal of Economics
<https://www.indianjournalofeconomics.com/>

E- Resources:

Economic Surveys and Union Budgets

<https://www.indiabudget.gov.in/economicsurvey/>

<https://www.indiabudget.gov.in/>

Paper- 5
OPTIONAL PAPER

A. MATHEMATICAL ECONOMICS

COURSE OUTCOMES (COs)

CO1: To use mathematical approach in microeconomics and macroeconomics and all other applied courses of Economics

CO2: To model economic questions as mathematical problems.

CO3: To demonstrate knowledge and understanding of Mathematical techniques like calculus, matrix algebra and integration to apply to economic theories

CO4: To know the application Linear programming for problem solving

CO5: To use creativity and innovation in problem solving

UNIT I: Basic Concepts

Number system, Venn diagram (Set Theory), Functions and their graphs; continuity, Logarithms and exponents ; Equations – Simple, quadratic and simultaneous and Identities; Equations of a straight line, concept of slope; Equation and interpretation of Rectangular Hyperbola ; Series – Arithmetic and Geometric series; Elements of Trigonometry and Coordinate Geometry; Trigonometric functions and identities. Two –dimensional coordinates; Plotting of curves; Straight line; Parabola and Hyperbola.

UNIT II: Differentiation and Integration

Differentiation - Rules of Differentiation, Solving Higher Order Derivatives, Application of differentiation in Concepts of Elasticity of demand; Average and Marginal functions; Interrelationships among total, marginal and average cost and revenues. Static Optimization Problems and their applications.

Integration – Rules of Integration, Indefinite Integral, The Definite Integral, Integration by Substitution; Integration by parts. Application of Integration in Economics: Consumers' and Producers' Surplus.

UNIT III: Matrices and Determinants

Types of Matrices, Multiplication of Matrices, Adjoint of a Matrix, Inverse of a Matrix, Rank of matrix Determinants, Cramer's' Rule, Use of Matrix Algebra in solving Simultaneous Equation System and in Regression Analysis. Jacobian and Hessian determinants and their use. Input Output Analysis and sums based on it, Leontief's static open input-output model, Hawkins Simons Condition. Eigen values and Eigen vectors.

UNIT IV: Linear Programming, Difference and Differential Equations

Linear Programming - Graphical method and Simplex Method, The Dual. Other approaches to optimization. Differential Equations; Definitions and Concepts; First-order Linear Differential Equations; Exact Differential Equations; Integrating Factors; Separation of variables; Second-order Differential Equations. Economic Application, Difference Equations: Definitions and Concepts; First-order and Second-order, Linear Difference Equations; Stability conditions. Economic Applications: Cobweb Model.

BASIC READING LIST:

1. Chiang A. C.: Fundamental Methods of Mathematical Economics, 3rd edition, McGraw-Hill, 1984.
2. Dowling Edward T: Introduction to Mathematical Economics, Schaum's Outline Series in Economics, Tata McGraw -Hill, New Delhi, 2004.
3. Lerner Joel J and P. Zima: Theory and Problems of Business Mathematics, McGraw Hill, New York, 1986.
4. Mehta and Madhani: Mathematics for Economists, Sultan Chand & Sons, 2013.
5. Soni R S: Essential Business Mathematics & Business Statistics, Ane Books Pvt. Ltd, 2009.

6. Handry, A.T. (1999), Operations Research, PHI, New Delhi

Recommended Readings:

1. Allen R.G.D. – Mathematical Analysis for Economists.
2. Allen R.G.D. – Mathematical Economics.
3. Allen R.G.D. – Macro Economic Theory
4. Agarwal H.S. – Mathematical Approach to Economic Theory.
5. Arrow, K.J. and M. Intrilligator (Eds.) (1982), Handbook of Mathematical Economics, Volumes I, II and III, North Holland, Amsterdam.
6. Henderson, J.M. and R.E.Quandt (1980), Micro Economic Theory: A Mathematical Approach, Mc. Graw Hill, New Delhi.

Recommended Journals:

1. Journal of Quantitative Economics, The Indian Econometric Society
<https://www.springer.com/journal/40953>
2. Quarterly Journal of Economics, Oxford Academic.
<https://academic.oup.com/qje>

E- Resources:

1. ‘Topics in Mathematics of Data Science’ Course by Dr. Afonso Bandeira;
Massachusetts Institute of Technology – Open Educational Resource available
at <https://ocw.mit.edu/courses/18-s096-topics-in-mathematics-of-data-science-fall-2015/>
2. ‘Topics in Mathematics with applications in Finance’ Course by Dr. Peter Kempthorne, Dr. Choongbum Lee, Dr. Vasily Strela and Dr. Jake Xia

Massachusetts Institute of Technology – Open Educational Resource available at <https://ocw.mit.edu/courses/18-s096-topics-in-mathematics-with-applications-in-finance-fall-2013/>

B. AGRICULTURAL ECONOMICS

COURSE OUTCOMES (COs)

CO1: To understand concepts and models related to agricultural economics

CO2: To know developmental issues in agriculture

CO3: To analyse development dynamics of agriculture-based economy of 'India

CO4: To appreciate the role of marketing in development of agricultural sector.

CO5: To understand agricultural price policy in India with special reference to international institutions like WTO

Unit-I Preliminary Concepts and Models

Agricultural Economics: Meaning, Scope and Role in economic development; Interface between Agriculture and Industry; Schultz's .prescription of transforming traditional agriculture; Models of Agriculture Development- Jorgenson's Model of development of Dual economy, Mellor's Model of Agriculture Development, and Boserup Model of Agriculture development; Land

Reforms, Agriculture Development during Planning Periods; Green Revolution; Growth, Productivity and Regional Disparities in Indian Agriculture; Agrarian Crisis and Farmer Suicide

Unit-II Development issues in Agriculture

Poverty, inequality, unemployment and environmental degradation; Recycling – Methods and Issues; emerging issues in Organic farming and issues in GM crops; Population and food supply, Food security and public distribution system in India. Farm Size and Productivity Relationships, Risk and Uncertainty in Agriculture, Environmental Issues in Agriculture.

Unit-III - Agricultural Marketing

Basics of Farm Management; Agricultural Marketing: Existing Structure, Problems, Costs and Efficiency in the markets, Marketing Reforms, Innovations in Agricultural Marketing System.

Recent trends in agricultural growth in India; Inter-regional variations in growth of output and productivity; Types of Marketing - Group, Global, Corporate & Forward; Agricultural marketing and price system in India; Challenges of Agricultural marketing in India.

Unit-IV- Agricultural Price Policy in India

Instruments and assessment of agricultural price policy; Food Security and Public Distribution System (PDS), Agricultural Finance: Role, Agencies, problems, Policies, Inter-linked Markets, Value Chain, Market Reforms, Indebtedness.

Cooperative: Organisation, Structure, Functions, Inter-sectoral terms of trade; Agricultural subsidies - Nature, Trends and Distributional Implications; Agricultural Exports: Nature, Trend, Composition; WTO and Indian agriculture.

BASIC READING LIST:

1. Bhaduri, A. (1984), The Economics structure of Backward Agriculture. Macmillan, Delhi.
2. Bilgrami, S.A.R. (1996). Agricultural Economics. Himalaya publishing House, Delhi.
3. Dantwala M.L.et.al (1991). Indian Agricultural Development since Independence. Oxford & IBH, New Delhi.

4. Government of Indian (1976), Trade Liberalisation and Indian Agriculture. New Delhi.
- Gulati, A. and T.Kelly (1999), Trade Liberalisation and Indian Agriculture. Oxford University press, New Delhi.
5. Kahlon, A.S. and Tyagi D.S (1983), Agriculture price policy in India. Allied publishers, New Delhi.
6. Rao.C.H.Hanumantha (1975), Agricultural Growth. Rural Poverty and Environmental Degradation in India.Oxford Unverity press, New Delhi.
7. Rudra, A. (1982), Indian Agricultural Economics : Myths and Reality. Allied publishers, New Delhi.
8. S.Subba Reddy, P.Raghu Ram, T.V Neelakanta Sastry, I.Bhavani Devi – Agricultural Economics, Oxford & IBH Publishing CO, Pvt,Ltd, New Delhi.
9. A.N Sadhu & Amarjit Singh, Fundamentals of Agricultural Economics, Himalaya Publishing House.
10. R.G.Desai, Agricultural Economics (Models, Problems and policy issues), Himalaya Publishing House.

Recommended Readings:

1. Basu Kaushik, Analytical Development Economics, Oxford University Press, 1998.
2. Bhalla G S., Globalization and Indian Agriculture, Volume 19 of the State of the Indian Farmer Series. Academic Foundation, 2004.
3. Dreze Jean and Amartya Sen, Hunger and Public Action, Oxford University Press, 1989
4. Lewis Arthur, Economic Development with Unlimited supply of labour, Manchester School of Economics and Social Studies 22: 139-91, 1954.
5. Mellor J and Mudahar M, in Agriculture in Economic Development: Theories, findings and Challenges in Asian context in A Survey of Agricultural Economics Literature, Edited by Lee Martin. University of Minnesota Press, 1992.
6. Norton George and Jeffery Alwang, Introduction to Economics of Agricultural Development, McGraw Hills, New York, 1993.

7. Annual Reports, Department of Agriculture, Cooperation & Farmers Welfare Ministry of Agriculture & Farmers Welfare Government of India Krishi Bhawan, New Delhi-110 001

Recommended Journals:

1. Indian Journal of Agricultural Economics
<https://isaeindia.org/>
2. Agricultural Economics- Science Direct
<https://www.sciencedirect.com/journal/agricultural-economics>

E- Resources:

1. Department of Agriculture & Farmers Welfare
<https://agricoop.nic.in/en/annual-report>
2. Annual Reports of Ministry of Agriculture and Farmers Welfare
<https://www.india.gov.in/annual-reports-ministry-agriculture-and-farmers-welfare>

SEMESTER 4

Paper 1

Theories of Growth and Development–II

COURSE OUTCOMES (COs)

CO1: To understand growth models of post Keynesian era.

CO2: To know role of money in the growth process

CO3: To analyse complex interrelationships between technological progress and growth process.

CO4: To critically examine international trade as an engine of growth

CO5: To understand various schools of thoughts related to political economy of development and underdevelopment.

UNIT I: Growth Models I:

Post Keynesian Era - Harrod and Domar, instability of equilibrium; Neo-classical growth models — Solow and Meade, Mrs. Joan Robinson's growth model; Cambridge criticism of Neoclassical analysis of growth, The capital controversy.

UNIT II: Growth Models II

Technological progress — embodied and disembodied technical progress; Hicks and Harrod; Growth models of Kaldor and Pasinetti, Golden rule of accumulation, Stability of equilibrium; Money in economic growth, Tobin, Levhari, Patinkin and Johnson

UNIT III: Trade and Development

Static and Dynamic gains from trade, Trade as an engine of growth, Trade as a vent for surplus; Views of Prebisch, Singer and Myrdal; Primary export-led growth, Manufacturing export-led growth, Role of FDI and MNC's in emerging scenario, Dualistic development theories - Chenery's two gap model.

UNIT IV : Political Economy of Development and Underdevelopment

Choice of techniques and Appropriate Technology, Dependency school and its critique; Learning by Doing, Endogenous Growth: Role of Education, research and knowledge – Schultz ratios, explanation of cross-country differentials in economic development and growth; Various Investment Criteria.'

BASIC READING LIST:

1. Basu Kaushik (1998) Analytic Development Economics: The Less Developed Economy Revisited', OUP
2. Behrman, S. and T.N. Srinivasan (1995), Handbook of Development Economics, Vol. 3, Elsevier, Amsterdam.
3. Felix Raj, Sampat Mukherjee, Mallinath Mukherjee, Amitava Ghose, Ranjanendra N.

- Nag (2007) “Contemporary Development Economics From Adam Smith to Amartya Sen”, New Central Book Agency Private Limited
4. Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development, (3rd Edition), W.W. Norton, New York.
 5. Kindleberger, C.P. (1977), Economic Development, (3rd Edition), McGraw Hill, New York. Economics
 6. Meier Gerald M. and James E. Rauch, “Leading Issues in Economic Development” Oxford University Press, 2006
 7. Ray Debraj (1998) “Development Economics”, Oxford University Press
 8. Solow Robert M. (2000) “Growth Theory An Exposition” Oxford University Press
 9. Thirwal, A.P. (1999), (6th Edition), Growth and Development, Macmillan, U.K.
 10. Todaro, M.P. (1996), (6th Edition), Economic Development, Longman, London.

Recommended Readings:

1. Barro Robert J. and Xavier Sala-i-Martin (2004) “Economic Growth” Prentice Hall of India Brown, M. (1966), On the Theory and Measurement of Technical Change, Cambridge University Press, Cambridge, Mass.
2. Dasgupta, P. (1993), ‘An Enquiry into Well-being and Destitution’, Clarendon Press, Oxford.
3. Gillis, M., D.H. Perkins, M. Romer and D.R. Snodgrass (1992), Economics of Development, (3rd Edition), W.W. Norton, New York.
4. Meier, G.M. (1995), Leading Issues in Economic Development, (6th Edition), OUP
5. Nayyar Deepak (2019) ‘Resurgent Asia’ OUP
6. Todaro Michael P. (1981) “Economics for A Developing World”, Longman, London.

Recommended Journals:

Economic Development and Cultural Change- Chicago Press

<https://www.journals.uchicago.edu/toc/edcc/current>

Journal of Development Economics-Elsevier

<https://www.sciencedirect.com/journal/journal-of-development-economics>

IMF Economic Review- Palgrave Macmillan

<http://www.palgrave.com/gp/journal/41308>

Oxford development Studies- Taylor & Francis

<https://www.tandfonline.com/journals/cods20>

Review of Development Economics-Wiley

<https://onlinelibrary.wiley.com/journal/14679361>

Review of World Economics-Springer

<https://www.springer.com/journal/10290>

Review of Economic Dynamics- Elsevier

<https://www.sciencedirect.com/journal/review-of-economic-dynamics>

E- Resources:

1. 'Economic Development and Technical Capabilities' Course by Prof. Alice Amsden; Massachusetts Institute of Technology – Open Educational Resource available at <https://ocw.mit.edu/courses/11-167-economic-development-technical-capabilities-spring-2004/>
2. 'Political Economy and Economic Development' Course by Prof. Benjamin Olken; Massachusetts Institute of Technology – Open Educational Resource available at <https://ocw.mit.edu/courses/14-75-political-economy-and-economic-development-fall-2012/>

Paper 2
International Economics – II

COURSE OUTCOMES (COs)

CO1: To understand concept of money and process of its evolution

CO2: To know monetary measures and the process of credit creation

CO3: To analyse complex interrelationships between various macro-economic aggregates like inflation, demand as well as supply for money,

CO4: To appreciate the origin and functioning of trade cycles

CO5: To understand various schools of thought and related economic policy formulation.

UNIT I: Balance of Payments Analysis

Meaning and Components of Balance of Payments, Equilibrium and disequilibrium of Balance of Payments. Factors causing disequilibrium balance of payments . Adjustment mechanisms of Balance of Payments Under Gold Standards, Under flexible exchange rates

(price effect), Under elasticity approach - Marshall Lerner condition, Under capital Movements and direct control for adjustment; Balance of Payment Problems for developing countries, Foreign Trade Multiplier and determination of Income

UNIT II: Foreign Exchange Rate

Concept of Foreign exchange rate, Determination of Equilibrium exchange rate. Theories of Exchange rate determination – Mint Parity, Purchasing Power Parity theory and the Balance of Payment theory. Factor causing changes in exchange rates. Relative merits and demerits of fixed and flexible exchange rates, concepts of spot and forward exchange rates, convertibility of currency. Exchange control Meaning, features, objectives and methods of exchange control, Arbitrage and hedging; Devaluation -Devaluation of Indian Rupee and its impact on Indian economy.

UNIT III: World Monetary System

Free Trade versus Protection - cases for and against. FDI,FII, Multinational corporation;Types of Economic Integration- Free trade area, Custom Union, Common Market, Economic Union, Free Economic Zones. Trade Creating and Trade Diverting Custom Union. Case Studies of Regional Trade Blocks - ASEAN, APEC, BRICS, EU, NAFTA, CIS, COMESA, SAARC, MERCOSUR, IOR-ARC. Evolution in Global Governance – GATT-Dunkel Proposal ; WTO objectives, functions, conferences and issues- AOA, TRIP, TRIM, GATS. International Monetary Fund - Origin, objectives, functions and working of the fund, India & IMF. World Bank (IBRD, IDA, IFC, MIGA, ICSID) - Functions, working, India and the World Bank. Asian Development Bank – Members, Functions and Working; Overview of Global Economic Discussions from G8 to G20.

UNIT IV: Trade Problems of Developing Economies

Trade and Development Issues – A third world perspective; Programmes of action and their degree of success; Indexation; French Plan, International Commodity Agreement; Compensatory Financing Schemes (CFS), UNCTAD, Common Fund Scheme, International Debt Crisis; the high debt of emerging markets and developing economies; North-South Dialogue and New International Economic Order

BASIC READING LIST

1. Soderston, Bo (1991), International Economics, The Macmillan Press Ltd., London.
2. Bhagwati, J. (Ed.) (1981), International Trade, Selected Readings, Cambridge, University Press, Massachusetts.
3. Kindleberger, C.P.(1973), International Economics, R.D.Irwin, Homewood.
4. Carbaugh, R.J.(1999),International Economics, International Thompson Publishing, New York.
5. Dana, M.S.(2000), International Economics; Study, Guide and Work Book (5th Edition),Routledge Publishers, London.
6. Carbaugh, International Economics, 9th Edition, 2004.

Recommended Readings:

1. Anthony Steve (2002) 'Foreign Exchange in Practice: the New Environment' Palgrave
2. Fabozzi Frank J., Steven V. Mann, Moorad Choudhry (2002) 'The Global Money Markets' John Wiley & Sons
3. Frederic Mishkin and Stanley Eakins (2006) 'Financial Markets and Institutions', Pearson 5th Edition
4. Frederic Mishkin (2019) 'The Economics of Money, Banking and Financial Markets' Pearson Education India, 11th edition
5. Luca Cornelius (2007) 'Trading in Global Currency Markets' Penguin, USA

Recommended Journals:

1. International Economics – Science Direct
<https://ocw.mit.edu/courses/15-012-applied-macro-and-international-economics-spring-2011/>

2. International Economics and Economic Policy – Springer

<https://www.springer.com/journal/10368>

E- Resources:

1. ‘Macro and International Economics’ Course by Prof. Simon Johnson; Massachusetts Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/15-015-macro-and-international-economics-fall-2011/>
2. ‘Applied Macro and International Economics’ Course by Prof. Robert Rigobon & Prof. Alberto Cavallo; Massachusetts Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/15-012-applied-macro-and-international-economics-spring-2011/>

Paper 3

Environmental Economics and Demography

COURSE OUTCOMES (COs)

CO1: To understand the concept of environment as a public good and to know various types of market failures in relation to environmental economic analysis.

CO2: To understand various methods and techniques of valuation of environmental goods

CO3: To critically examine the global environmental problems and their collaborative solutions with special reference to sustainable development.

CO4: To know basic terms and concepts related to population economics

CO5: To analyse relationship between population growth and economic development with special reference to India.

UNIT I: Environment as a Public Good and Market Failure

Meaning of environmental economics; environment as a Public Good; The theory of Externality and Public Goods: Concepts, Market failure, Pigouvian Solution, Buchanan's Theory, Coase's theorem and its critique, Pigouvian vs. Coasian solution; Detrimental externality and non-convexities in the production set; Property rights; Collective action. The Design and Implementation of Environmental Policy: Overview; Pigouvian taxes and effluent fees; Tradable permits; choice between taxes and quotas; implementation of environmental policy;

UNIT II: Valuation of Environmental Goods

Use values; Option value and non-use values. Techniques of Valuation: Market and Non-Market Valuation: Physical linkage methods; Abatement Cost Methods; Behavior Linkage Method-Revealed and stated preference; Social Cost benefit Analysis; Environmental impact assessment, Hedonic property values and house hold production models (Travel cost method and household health production function). Methods based response to hypothetical Markets, Contingent Valuation Methods.

UNIT III: Environmental Policy and Performance

Environmental Planning and Management, Macroeconomic Policies and Environment, People's Participation. Population and Environment, Poverty and Environment; International Environmental Problems: Transboundary environmental problems; economics of climate change; trade and environment - Trade and environment in the WTO regime, Eco-labeling, Economics of climate change, Causes and Consequences of Ozone depletion and climate change. Rio and other than Rio Conference, Protocols and Treaties relating to climate change and Environmental degradation, Ozone depletion and Bio diversity. Sustainable Development: concept and measurement.

UNIT IV: Population and Economic Development

Vital Rates – Fertility, Morbidity, Mortality, Age Pyramids, Age Structure, Life Tables and Migration; Demographic Dividend; Theory of Demographic Transition - Historical Trends; Adjustment of Birth and Death Rates; Household Choice Models; From Population to

Development; Malthusian View; Growth Impact; Population and Environment; Major demographic features of India's population – Spatial, Age, Sex, Structure of Indian Population; Birth rate, Death rate, Life Expectancy & Infant Mortality; Trends & Patterns; Evaluation of family welfare programmes in India - National Population Policies since independence

BASIC READING LIST

- 1 Baumol, W.J. & Oates, W.E. (1997), The Theory of Environmental Policy, Prentice Hall, Englewood-cliffs
- 2 Bhattacharya, R. N. (2006), Environmental Economics: An Indian Perspective, Oxford University Press, New Delhi
- 3 Field, Barry & Field, Martha (2016), Environmental Economics: An Introduction, McGraw-Hill Education, New York.
- 4 Managi, Shunsuke & Kuriyama, Koichi (2017), Environmental Economics, Routledge, London and New York
- 5 Singh, Katar & Shishodia, Anil (2010), Environmental Economics: Theory and Applications, Sage Publications, New Delhi
- 6 Smith, Stephen (2011), Environmental Economics: A Very Short Introduction, Oxford University Press, New York
- 6 Ulaganathan, Sankar (2006), Environmental Economics, OUP, New Delhi

Recommended Books:

- 1 Ali, S.A. (1979), Resources for Future Economic Growth, Vikas Publishing House, New Delhi.
- 2 Charles Peering (1987) Economy and Environment Cambridge University Press, New York.
- 3 Dorfman, R & N. Dorfman (Eds.) (1977), Economics of the Environment. W.W. Norton, New York.
- 4 Hanley, Nick; Shogren, Jason & White, Ben (2004), Environmental Economics in Theory and Practice, McMillan India Limited, Delhi

Recommended Journals:

1. Journal of Environmental Economics and Management- Science Direct
<https://www.sciencedirect.com/journal/journal-of-environmental-economics-and-management>
2. Review of Environmental Economics and Policy – University of Chicago Press
<https://www.journals.uchicago.edu/toc/reep/current>
3. Environmental and Resource Economics – Springer
<https://www.springer.com/journal/10640?detailsPage=aimsAndScopes>
4. Ecological Economics – Science Direct
<https://www.sciencedirect.com/journal/ecological-economics>
5. Annual Review of Resource Economics
<https://www.annualreviews.org/journal/resource>
6. Land Economics – University of Wisconsin Press
<https://uwpress.wisc.edu/journals/journals/le.html>
7. Journal of Population Economics - Springer
<https://www.springer.com/journal/148>

E- Resources:

1. ‘Environmental Policy and Economics’ Course by Dr. Hunt Allcott; Massachusetts Institute of Technology – Open Educational Resource available at
<https://ocw.mit.edu/courses/14-42-environmental-policy-and-economics-spring-2011/>

2. ‘Sustainable Economic Development’ Course by Prof. Karl Seidman & Prof. William Shutkin; Massachusetts Institute of Technology – Open Educational Resource available at <https://ocw.mit.edu/courses/11-947-sustainable-economic-development-spring-2004/>

Paper- 5

OPTIONAL PAPER

A. ECONOMETRICS

COURSE OUTCOMES (COs)

CO1: To understand basic concepts related to estimation

CO2: To analyse economic relationships by use of linear regression, multiple regression and non-linear regression models

CO3: To know various types of violations of classical linear regression models and their remedial measures

CO4: To appreciate the nature of role of dummy variables

CO5: To understand time-series analysis and other dynamic as well as simultaneous equation models

UNIT I: Preliminary Concepts and Linear Regression

Linear Regression Model: Problem of estimation-Meaning, Nature, Methodology and Scope of Econometrics; Types of Data and Scales; Concepts of Population Regression Function and Sample Regression Function; Simple (two variable) Linear Regression Model: Assumptions (CLRM)- Estimation, Properties ; Gauss-Markov Theorem (BLUE); Testing of hypothesis of individual coefficients (tstatistics); overall significance of the model (F-statistics), Coefficient of Determination and Goodness of fit through R-square and Adjusted R-square, Predictions.

UNIT II: Multiple Regression Analysis

Multiple (K-variable) Linear Regression Model: Assumptions, Estimation, Properties. Three variables CLRM-estimation, Matrix Approach to Linear Regression Model. Assumptions, OLS Estimation and their properties. Interpretation of Results. Comparison of ANOVA and Regression Analysis; F-Test and t-Test. Empirical Uses of three variable linear models in micro-and macroeconomics – statistical inference. Types of Non-Linear Regression Models and their applications.

UNIT III: Dummy Variables and Violation of CLRM Assumptions

Dummy variable models- ANOVA and ANCOVA; Dummy variable trap, Applications including seasonal analysis, and checking for structural stability (Chow test). Relaxation of Assumptions of CLRM-Multicollinearity: Meaning, nature, causes, tests, consequences and remedial measures; Heteroscedasticity: Meaning, nature, causes, tests, consequences and remedial measures; Autocorrelation: Meaning, nature, causes, tests, consequences and remedial measures.

UNIT IV: Time Series Analysis, Dynamic models and Simultaneous Equation Models

Time series basic concepts: Stochastic Process (stationary and non-stationary process), White Noise, Test of Stationary: Graphical Analysis, ACF and Unit root tests (Dickey-Fuller (DF) test, Augmented Dickey-Fuller (ADF) test, Phillips-Perron (PP) tests, Difference stationary and trend stationary process, Granger Causality Test.

Dynamic Econometrics Models: Autoregressive and Distributed lag models; ARCH and GARCH models. Simultaneous Equation models: Structural and reduced form equations, Identification (Rank and Order conditions) and Estimation problems; Methods of estimation: ILS and 2SLS methods; Discrete Choice Models (Logit, Probit and Logistic Regression)

BASIC READING LIST

1. Enders Walter (2018) 'Applied Econometric Time Series', (4th ed.) Wiley India
2. Gujarati, D. N., Porter, D. C. & Gunasekaran, S. (2009). Basic Econometrics. (5th ed.). Tata McGraw Hill
3. H. Stock James, W. Watson Mark (2017) 'Introduction to Econometrics' Pearson Education, Third Edition
4. Maddala G. S., Kaval Lahiri (2012) 'Introduction to Econometrics', John Wiley & Sons.

Recommended Books:

1. Dominick Salvatore and Derrick Reagle (2011) Schaum's Outline of Statistics and Econometrics, Second Edition (Schaum's Outlines).
2. Dougherty, C. (2011) Introduction to Econometrics (4th ed). Oxford University Press.
3. Gujarati Damodar (2017) 'Econometrics by Example', Palgrave Macmillan, 2nd edition
4. Jeffrey M. Wooldridge (2008) 'Introductory Econometrics: A Modern Approach' South Western, Second Edition
5. Koutsoyiannis A. (2001) 'Theory of Econometrics' Palgrave Macmillan, Second Edition
6. Nachane, Dilip M. (2008). Econometrics: Theoretical Foundations and Empirical Perspective (1st ed.). Oxford Textbooks

Recommended Journals

1. Journal of Quantitative Economics, The Indian Econometric Society
<https://www.springer.com/journal/40953>
2. Quarterly Journal of Economics, Oxford Academic.
<https://academic.oup.com/qje>
3. Econometrica, The Econometric Society
<https://onlinelibrary.wiley.com/journal/14680262>

4. Journal of Econometrics – Elsevier

<https://www.sciencedirect.com/journal/journal-of-econometrics>

E- Resources:

3. ‘Econometrics’ Course by Prof. Victor Chernozhukov; Massachussets Institute of Technology – Open Educational Resource available at

<https://ocw.mit.edu/courses/14-382-econometrics-spring-2017/>

4. ‘Econometrics’ Course by Prof. Joshua Angrist; Massachussets Institute of Technology – Open Educational Resource available at

<https://ocw.mit.edu/courses/14-32-econometrics-spring-2007/>

B. INDUSTRIAL & LABOUR ECONOMICS

COURSE OUTCOMES (COs)

CO1: To trace an overview of major theories related to industrial economics

CO2: To know about the Indian industrial sector

CO3: To analyse labour markets and theories concerned with wage determination

CO4: To appreciate the origin and functioning of trade unions

CO5: To understand various labour related legislations in India

UNIT I: Overview of Industrial Economics and Major Theories

Meaning, Nature, Scope, Significance and framework of Industrial Economics. Firm: Concept, Objectives, Ownership and control, Size of the Firm, optimum firm; Passive and active behaviour of a firm. Industrial Structure: Private and Public Sector, Large, MSME (Medium and Small Scale Industries), Village Industries. Industrial Combinations: Mergers and Amalgamations (M&A), Integration. Theories of Industrial Location: Weber, Sargent

Florence and August Losch, Centre Place Theory, factors affecting location, need for balanced regional development in India – Policies and Approaches. Industrial Productivity: concept and measurement, tools of industrial productivity.

UNIT II: Theory of Firm and Indian Industrial Sector

Growth of the firm: size and growth; growth and profitability; constraints on growth. Sellers Concentration: product differentiation, entry conditions, economics of scale; Profitability and innovations, Industrial concentration: concepts and measurement; extent, causes and likely effects of concentration; analysis of diversification in industry. Indian Industrial Structure: Patterns and phases; Industrial Development in India since 1991; Industrial Policy 1991, MRTP Act; Role of public sector. Privatization: nature and extent of disinvestments. Foreign capital in industrial sector: Role of MNCs and Foreign Collaborations. Industrial sickness; Current Problems in Industrial Sector: Problems of small scale industries.

UNIT III: Overview of Labour Economics and Theories of Wage Determination

Labour: Some key Issues, Labour in a Developing Economy, Structure and Peculiarities of Labour Market, Labour Productivity: Concept, Measurement, Determinants and Measures to Increase Labour Productivity; Indian Labour - Characteristics of Indian Labour, Recruitment of Industrial Workers-Employment Exchange, National Employment Service in India, Rural Labour in India, Unemployment, Employment Programmes in India, Labour Productivity and Wage Relationship. Wages Determination: Theories of Wage Determination, System of Wages Payment Various Concepts of Wages-fair. Living and Minimum, Minimum Wages Act, Profit, Sharing, Payment of Bonus Act, Wage Structure, Share of Wages in National Income in India, Wage Differentials, Standardisation of Wages and National Wage Policy.

UNIT IV: Theories of Labour Movement, Trade Unions and Labour Laws

The Marxian View and the Theory of Industrial Democracy by Sidney and Beatrice Webb. Trade Unions: Growth, Pattern, Structure and Achievements of Labour Unions; Causes of Industrial Disputes, Their Settlement and Prevention Mechanism. Labour Legislation in India: Indian Social

Security Measures: Meaning and the Need, Present Status of Social Security in India, Trade Union Movement in India. Labour Participation in Management, Machinery for the Prevention and Settlement of Industrial Disputes. Working Conditions and hours of Work, Child and Women Labour, Labour Legislation in India: Factory, Mine and Plantation, International Labour Organization and India

BASIC READING LIST:

1. Barthwal R.R. (2019), 'Industrial Economics,' New Age Publications
2. Das Keshab (2011) 'Micro and Small Enterprises in India: The Era of Reforms'
Routledge India
3. Flanagan Robert J. (2006) 'Globalization and Labor Conditions: Working Conditions and Worker Rights in a Global Economy, OUP
4. Hajela, P.D. (1998), Labour Restructuring in India: A Critique of the New Economic Policies, Commonwealth Publishers, New Delhi
5. Jaya Prakash Pradhan (2008) 'Indian Multinational in the World Economy: Implications for Development', Bookwell Publications
6. Khanna Tarun (2008) 'Billions of Entrepreneurs: How India and China are Reshaping their Future and Yours' Penguin India
7. Gupta Parul (2019) 'Industrial Relations and Labour Laws for Managers' Sage Pub.
8. Sharma RC (2016) 'Industrial Relations and Labour Laws' PHI Learning
9. Sinha P.R.N., Indu Bala Sinha (2017) Industrial Relation Trade Unions and Labour Legislation Pearson Publication. New Delhi
10. Saumitra Mohan (2018) "Indian Policy and Development: A Manual for National Schemes and International Policies" McGraw Hill Education

Recommended Readings:

1. Agarwal Aradhana (2012) 'Social and Economic Impact of SEZs in India' Oxford University Press
2. Amit Kumar (2013) 'SMEs in India in post-1990s Era: Challenges and Opportunities, LAP Lambert Academic Publishing

3. Barthwal R.R. (1985), 'Industrial Economics,' Wiley Eastern Ltd., New Delhi.
4. Desai, B. [1999], 'Industrial Economics in India,' HPH
5. Divine, P.J. and R.M. Jones et.al. (1976), 'An Introduction to Industrial Economics,' George, Allen and Unwin Ltd., London.
6. Kumar V Pratap, rajesh Chakrabarti (2018) Public-Private Partnerships in Infrastructure: Managing the Challenges (India Studies in Business and Economics) Springer
7. Kuchhal, S.C. (1980), Industrial Economy of India, Chaitanya Publishing House, Allahabad.
8. Singh, A. A.N. Sandhu. [1988], 'Industrial Economics,' HPH
9. Vepa R. K, (1988) Modern Small Industry in India, Sage Publication
10. Venkataratnam, C.S. (2001), Globalization and Labour- Management Relations: Dynamics of Changes, Sage Publications/Response Books, New Delhi.

Recommended Journals:

Applied Economics- Taylor & Francis Online

<https://www.tandfonline.com/journals/raec20>

International Journal of Economics and Business research- Inderscience

<https://www.inderscience.com/jhome.php?jcode=ijebr>

International Journal of Industrial Organization- Elsevier

<https://www.sciencedirect.com/journal/international-journal-of-industrial-organization>

The Journal of Industrial Economics- Wiley

<https://onlinelibrary.wiley.com/journal/14676451>

E- Resources:

1. 'Work, Employment, and Industrial Relations Theory' Course by Prof. Thomas A. Kochan; Massachussets Institute of Technology – Open Educational Resource

available at <https://ocw.mit.edu/courses/15-676-work-employment-and-industrial-relations-theory-spring-2008/>

2. 'Labour Economics and Public Policy' Course by Prof. Joshua Angrist, Massachusetts Institute of Technology – Open Educational Resource available at <https://ocw.mit.edu/courses/14-64-labor-economics-and-public-policy-fall-2009/>
3. 'Industrial Organisation I' Course by Prof. Glenn Ellison, Massachusetts Institute of Technology – Open Educational Resource available at <https://ocw.mit.edu/courses/14-271-industrial-organization-i-fall-2013/>