

PG POOL

	Pool Course Offered by the Department/ Programme	Name of Course	CourseID	Credits			Theory Marks			Practical Marks			Total Marks
				T	P	Total	E	I	Total	E	I	Total	
ABILITY ENHANCEMENT COURSES													
1.	Master of Business Administration	Corporate Leadership & Networking Skills	241/MBA/AE201	2	0	2	35	15	50	0	0	0	50
2.	Master of Arts (English)	English Language Teaching	241/ENG/AE201	2	0	2	35	15	50			0	50
3.	M.A. HINDI	हिंदी भाषा में रचनात्मक अभिव्यक्ति - II	241/HIN/AE202	2		2	35	15	50			0	50
4.	M.A. Applied Economics	Quantitative Research Methods	241/AE/AE201	1	1	2	20	5	25	20	5	25	50
5.	M.A. Applied Economics	Micro Small & Medium Enterprises	241/AE/AE202	2	0	2	35	15	50	-	-		50
6.	PG URDU	Sahafat	241/URD/AE202	2		2	35	15	50				50
7.	Masters of Public Health	Bio-Statistics	241/MPH/AE201	2		2	35	15	50				50
8.	M.Sc. (Chemistry)	Computer for Chemists	241/CHE/AE201	2		2	35	15	50				50
9.	M.A. (Economics)	Basics of Public finance in India	241/ECO/AE201	2	0	2	35	15	50	0	0	0	50
10.	M.Sc. Physics	Electronic Devices Lab	241/PHY/AE201										
11.	M.A. (Hindu Studies)	German Grammar I	241/HS/AE201			2							50
12.	M.A. (Sanskrit)	Advance Spoken Sanskrit	241/SKT/AE201			2							50

24/MBA/AE201

24/MBA/AE201

Corporate Leadership & Networking Skills

Credits: 2

External Marks: 35 (TE)

Internal Marks: 15 (TI)

Type of Course: Ability Enhancement Course

Course Objectives:

This course enables the students to explore what kind of leader one wants to be, what kind of leader you are and how to align your leadership behaviour with your goals. In this course, you will get a number of opportunities to experience leadership in action and allow you to reflect on the nature of leadership and discover your strengths and weaknesses as a leader. You will have an opportunity to lead a team as well as to be a member of a team led by others. This course is different from conventional courses since you learn-by-doing, by learning from experiences. Rather than just reading about other leaders, you will find yourself in situations in which you must play the role of a leader. For experiential learning to work you must engage in the activities fully, reflect upon your own and others behavior. Put in effort to try new behavior, receive and give constructive feedback. The more students will engage in this, the greater will be the learning and development of capacity to learn from any experience.

Course Outcomes:

On the completion of this course the student will be able to:

CO1: Develop knowledge and understanding of Corporate Communication skills, like e-mail writing, report writing, resume writing, social networking to facilitate professional image building and branding.

CO2: Apply the basic mechanics of group & individual communication for different types of audience.

CO3: Analyze the ability to lead the organization by effective use of business communication, while following ethical code of conduct.

CO4: Evaluate the effectiveness of practices and strategies of business communication for value based leadership

Detailed syllabus:

UNIT I

Business communication at workplace: bad news messages, persuasive written communication, memos, notice, agenda and minutes of meeting.

Report Writing: Types of business reports, structure of reports, short reports, long reports, abstracts and summaries, proposals

UNIT II

Email Writing: Email Etiquette, Tips to Writing Effective Emails, Common Grammar Errors, Letters Template, Writing Results Oriented Letters (Sales and Marketing and other Media


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Gurugram University
Gurugram

Relations), Writing Results-Oriented Job Search Emails, Writing Results Oriented Letters: Customer Relations, Writing Results Oriented Letters: Placing and Acknowledging Orders, Writing The Extended Email (Reports and Proposals), Writing a Short Report (Making and Supporting Your Idea)

UNIT III

Introduction to personal branding: Business Cards, Resume writing, LinkedIn, crafting your personal brand, knowing your brand (Personal SWOT), Writing a brand story (yours). Controlling your brand (Protocol- poise, business etiquette, Personal-image, dressing your brand, Professional-presentations, communicating your brand (social media-LinkedIn, create your ad). Demonstrate and build your brand (business cards), Building a personal network, Personal branding in the work place.

UNIT IV

Conflict Resolution and Negotiation Skills, Creating a Powerful First Impression and Social Skills - Office Etiquettes, Time Management.

SUGGESTED READINGS:

1. Murphy, Herta A., Herbert W. Hildebrandt & Jane P Thomas, Effective Business Communication, Tata McGraw Hill, New Delhi
2. Konera, Arun, Professional Communication, Tata McGraw Hill, New Delhi
3. McGrath, E.H., Basic Managerial Skills for All, PHI, New Delh
4. Meenakshi Raman & Prakash Singh, Business Communication, Oxford University Press, New Delhi

Mapping Matrix of Course : 24MGAEC2

Table 1: CO-PO Matrix for the Course 24MGAEC2: Corporate Working Skills

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2
CO1	3	2	2	2	2	3	2	2	2	2
CO2	3	2	2	3	3	2	2	3	2	2
CO3	2	2	3	3	2	2	3	3	3	3
CO4	2	2	3	2	3	2	2	2	2	2
Average	2.5	2	2.5	2.5	2.5	2.25	2.25	2.5	2.25	2.25

241/ENG/AE201

English Language Teaching

Course Code: 241/ENG/AE201

Max. Marks: 50

Theory: 35

Internal Assessment: 15

Course Objectives:

CO	DESCRIPTION
CO-1	To explore theories and processes involved in first and second language acquisition, with a focus on English.
CO-2	To trace the evolution of the English language from its origins to its contemporary forms, examining key historical and cultural influences.
CO-3	To analyze the development of English vocabulary, including word formation, etymology, and shifts in meaning over time.

On completing the paper **English Language Teaching** the students shall be able to realize following programme outcomes:

Course Outcomes:

CO	DESCRIPTION
CO-1	Students will be able to explain major theories of language acquisition and how they apply to English language teaching.
CO-2	Students will be able to critically analyze different forms of English language use, including formal and informal registers, and their implications for communication.
CO-3	Students will be able to apply concepts from pragmatics and discourse analysis to understand how meaning is constructed in various contexts of English usage.

2

Unit 1: ELT: Approaches, Principles and Methods of ELT

English Language Learning Theories, Language Teaching Methods, Learners' Errors

Unit 2 : Literature, ELT and Grammar

Teaching of English Grammar with Poetry, Fiction and Drama; Grammar Games; English Functional Grammar; Indian and Western Tradition of Grammar

Unit 3

Business English Business Correspondence-I (Building Business Vocabulary, News Reports, Business Magazines, Business Letters, Business Travel);

Business Correspondence-II (Writing using technology: faxes, emails, Making Resume, Writing Minutes)

Suggested Readings:

Brown, H. Douglas. Principles and Practices of Language Learning and Teaching. Englewood Cliffs, NJ: Prentice Hall, 1980.

Chomsky, Noam. Language and Mind. New York: Harcourt, Brace & World, 1968. Emmorey, Karen. Language, Cognition and the Brain: Insights from Sign Language Research. NJ: Lawrence Erlbaum Associates, 2002

Gardner, R.C. Social Psychology and Second Language Learning: The Role of Attitude and Motivation. London: Edward Arnold Publishers, 1985.

Instructions to the Paper-Setter and students:

- All questions are compulsory.
- Question 1 will be short-answer type question covering all Units. The students are required to attempt any 4 out of 6. (4×2=8 marks)
- Question no. 2 will be an Essay type question based on Unit I. The students have to attempt any 1 out of 2 questions. (9 marks)
- Question no. 3 will be an Essay type question based on Unit II. The students have to attempt any 1 out of 2 questions. (9 marks)
- Question no. 4 will be an Essay type question based on Unit III. The students have to attempt any 1 out of 2 questions. (9 marks)

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241/HIN/AE202

(20)

SEMESTER - 2

AEC - 02 हिंदी भाषा में रचनात्मक अभिव्यक्ति - II

पूर्णांक-35+15=50

Course Id-

पाठ्यक्रम का उद्देश्य :

हिंदी रचनात्मक काव्य का विश्लेषणात्मक ज्ञान

रचनात्मक काव्य और रचनात्मक लेखन की रचना प्रक्रिया का व्यावहारिक प्रयोग

पाठ्यक्रम अध्ययन के परिणाम:

रचनात्मक काव्य और हिंदी साहित्य की सैद्धांतिक समझ

लेखन की विषयवस्तु का निर्धारण एवं चयन करना सीखेंगे।

पाठ्यक्रम:

इकाई 1 : रचनात्मक काव्य का स्वरूप

रचनात्मक लेखन की रचना प्रक्रिया

लेखन की विषयवस्तु का निर्धारण एवं चयन

गीत लेखन, प्रबंध लेखन, लंबी कविता लेखन, लघु कथा, एकांकी, उपन्यास आदि के लेखन की प्रविधि एवं प्रक्रिया

इकाई 2 : प्रिंट एवं दृश्य श्रव्य माध्यमों के लिए लेखन के क्षेत्र एवं विस्तार

रेडियो, टी.वी. और कम्प्यूटर आदि के लिए रचनात्मक लेखन के क्षेत्र, प्रविधि और प्रक्रिया

इकाई 3 : रेडियो लेखन और रचनात्मकता

रेडियो बच्चों के लिए रचनात्मक लेखन

रेडियो प्रहसन और नाट्य लेखन

रेडियो प्रसारण, एनीमेशन और सृजनशीलता

हास्य, व्यंग्य एवं मनोरंजन विषयक लेखन और रचनाशीलता

कृषको, ग्रामीणों के लिए लेखन और रचनाशीलता

निर्देश-

241

1. पाठ्यक्रम में निर्धारित प्रत्येक खंड में कम से कम एक दीर्घ प्रश्न अवश्य पूछा जाएगा। पूछे गए प्रश्नों की संख्या चार होगी, जिसमें से परीक्षार्थी को कुल दो प्रश्न करने होंगे। प्रत्येक प्रश्न के लिए 8 अंक निर्धारित हैं। पूरा प्रश्न कुल 16 अंकों का होगा।
2. पूरे पाठ्यक्रम में से कुल छः लघूत्तरी प्रश्न पूछे जाएंगे, जिनमें से परीक्षार्थी को 150 शब्दों में किन्हीं चार प्रश्नों का उत्तर देना होगा। प्रत्येक प्रश्न तीन अंक का होगा। पूरा प्रश्न 12 अंकों का होगा।
3. पूरे पाठ्यक्रम में से 7 वस्तुनिष्ठ अनिवार्य प्रश्न पूछे जाएंगे। प्रत्येक प्रश्न एक-एक अंक का होगा।

प्रस्तावित पुस्तकें-

1. मीडिया लेखन कला : सूर्य प्रसाद दीक्षित, पवन अग्रवाल
2. फीचर लेखन : पूरचंद टंडन, सुनील तिवारी
3. रचनात्मक लेखन : सं. रमेश गौतम, राजेंद्र गौतम, प्रभात रंजन

अन्य सहायक पुस्तक-

- * सृजनात्मक साहित्य और अनुवाद- सुरेश सिंहल, पूरनचंद टंडन



241/AE/AE201

241/AE/AE201

MA. APPLIED ECONOMICS AEC**SEMESTER II**

Sr. No.	Courses	Credits T	Credits P	Total Credits
1	Quantitative Research Methods	1	1	2
2	Micro, Small & Medium Enterprises in India	2	0	2

		L	T	P	C
Quantitative Research Methods		1	0	1	2

Maximum Marks:50**Written exam:35****Credits:2****Internal assessment:15****Note for Paper Setter**

- Five Questions will be set in all and students will be required to attempt 3 questions.
- Question No. 1 will be compulsory and will consist of 5 short answer type questions of 3 marks spread over the entire syllabus (3x5=15 marks).
- For the remaining four questions, students will attempt 1 out of 2 questions from each of the two units (10 marks each).

Course objective

This course introduces students to essential quantitative techniques used in economic research. Topics covered include statistical analysis, econometrics, and empirical methods relevant to economic modeling and policy analysis.

Course Outcomes

CO1: Understand fundamental quantitative methods used in economic analysis.

CO2: Apply statistical techniques to analyze economic data and draw meaningful conclusions.

CO3: Conduct independent empirical analysis using appropriate econometric methods.

Unit I**Introduction to Quantitative Methods in Economics****Teaching Hours:12**

40

Overview of quantitative research in economics, Types of data in economic research, Principles of statistical inference, Measures of central tendency and dispersion, Sampling techniques and estimation, Simple and multiple regression models.

Unit II

Time Series & Panel data Analysis

Teaching Hours:12

Stationarity and trend analysis, Autoregressive and moving average models, Forecasting techniques, Panel data models: fixed effects and random effects.

Suggested Readings

- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Punch, K. F. (2013). *Introduction to social research: Quantitative and qualitative approaches* (3rd ed.). SAGE Publications.
- Trochim, W. M. K., & Donnelly, J. P. (2008). *The research methods knowledge base* (3rd ed.). Cengage Learning.
- Neuman, W. L. (2014). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Pearson.

WV

241/AE/AE202

241/AE/AE202

	Micro, Small & Medium Enterprises in India	L	T	P	C
		2	0	0	2

Maximum Marks:50

Written exam:35

Credits:2

Internal assessment:15

Note for Paper Setter

1. Five Questions will be set in all and students will be required to attempt 3 questions.
2. Question No. 1 will be compulsory and will consist of 5 short answer type questions of 3 marks spread over the entire syllabus (3x5=15 marks).
3. For the remaining four questions, students will attempt 1 out of 2 questions from each of the two units (10 marks each).

Course objective

The objective of this course is to make students understand the meaning of MSMEs, the challenges faced by them and various government initiatives taken in India to promote MSMEs.

Course Outcomes

CO1: Knowledge on Performance, Key Challenges of MSMEs and Role & Importance of MSMEs in India.

CO2: Gain knowledge on various support system of MSMEs and the role of government in promoting MSMEs

Unit I

MSMEs in India

Teaching Hours:10

MSMEs: MSMED Act 2006, Revised Definition of MSMEs (2020), Features, Role of MSMEs in Economic Development, Challenges Faced by MSMEs.

Unit II

Institutional Support to MSMEs

Teaching Hours:14

Institutional Support to MSMEs: SIDBI, Mudra Banks, Ministry of MSME, National Service and Technology Entrepreneurship Development Board. Government Initiatives for Promoting MSMEs, Steps Taken in Recent Budget to Encourage MSMEs.

Suggested Readings

- Mishra & Puri, (2015), 'Indian Economy', Himalaya Publishing House.
- Ministry of MSME ebook
<https://msme.gov.in/sites/default/files/FlipbookEnglishSchemeBooklet.pdf>
- Garg, (2020), *Handbook on MSMEs (Micro, Small & Medium Enterprises)*, Bharat
- *Micro, Small & Medium Enterprises*, Indian Institute of Banking and Finance.

hp

- Kapila, U. (2018), '*Indian Economy since Independence*', Academic Foundation, 28th Edition.
- Latest Union Budget

YV

AEC-2

Sahafat

Max Marks:35

صحافت

Objective:

اس پرچے کا مقصد یہ ہے کہ:

۱۔ طلبہ کو صحافت کے رموز و نکات سے واقف کرایا جائے۔

۲۔ صحافت کی فنی قدر و قیمت کو واضح ہوتے ہوئے اس کے تخلیقی و غیر تخلیقی امکانات سے روشناس کرایا جائے۔

۳۔ طلبہ میں صحافت کے مختلف درجوں اور ان کے ذیلی پہلوؤں کا فہم پیدا کیا جائے۔ صحافت کے گہرے مطالعے کے ذریعے صحافتی اصناف کے پیشہ ورانہ امکانات کی طرف طلبہ کو متوجہ کیا جائے تاکہ اس کورس کے اختتام کے بعد وہ بھی صحافت کے نئے امکانات تلاش کر کے اپنی صحافتی صلاحیتوں کو نکھارنے کے اہل ہوں۔

Course Outcome:

اس پرچے کی تعلیم کو کامیابی کے ساتھ مکمل کرنے کے بعد طالب علم اس قابل ہوگا کہ:

۱۔ صحافت کے فن اس کی اقسام، پیشکش اور اطلاق طریقوں کو سمجھ سکے۔

۲۔ صحافتی اصناف اور صحافتی/غیر صحافتی زبان میں امتیاز کر سکے۔

۳۔ صحافت کے مختلف درجات کا شعور حاصل کر سکے۔

unit-1

صحافت کی تعریف

unit-2

صحافت کی تاریخ

unit-3

اردو صحافت کا ارتقاء

unit-4

اخباری تحریر کی خصوصیات

کتب برائے مطالعہ

۱۔ اردو صحافت کی تاریخ، نادر علی خان

۲۔ اردو میڈیا، خواجہ اکرام الدین

۳۔ تاریخ صحافت اردو، امداد صابری

Qtd

Instructions to the Paper-Setter and Students:

All questions are compulsory to attempt.

Unit-1 There will be two questions of which one is to be opted of 7 marks.

Unit-2 There will be two questions of which one is to be opted 8 marks.

Unit-3 There will be two questions of which one is to be opted 10 marks.

Unit-4 There will be two questions of which one is to be opted 10 marks.

Royal

Unit-I

- Biostatistics: Definition, scope and uses
- Collection, Classification and Presentation of -Statistical Data
- Analysis and Interpretations of Data

Unit-II

- Sources and Uses of Statistics
- Test of Significance
- Sample Size Determination
- Multivariate Analysis
- Life Table



AEC-02: Computer for Chemists

Course Code			Course Title				Course ID		
			Computer for chemists						
L	T	P	L	T	P	Total	MARKS		
(Hrs)			Credits			Credits	TI	TE	Total
2	-	-	2	-	-	2	15	35	50
Examination Duration:						2 Hrs			
Course Objectives			<ol style="list-style-type: none"> 1. Understand the functional components of a computer, number systems, and basic hardware and software concepts. 2. Learn MS Office applications for document preparation, data analysis, and presentations. 3. Use Chem Office tools to visualize molecular structures and chemical reactions. 4. Develop programming skills, including algorithms, flowcharts, and basic C programming concepts. 5. Apply C programming to solve chemistry-related problems. 6. Explore computer applications in chemistry, such as molecular properties, chemical databases, and numerical methods. 						
Course Outcomes:			<ol style="list-style-type: none"> 1. Gain foundational knowledge of computer components and operating systems. 2. Demonstrate proficiency in MS Office for academic and professional tasks. 3. Create and analyze chemical structures using Chem Office or free alternatives. 4. Develop algorithms and write basic programs using C for computational tasks. 5. Solve chemistry problems using programming techniques and numerical methods. 6. Utilize computational tools to analyze molecular structures and chemical data. 						
COURSE SYLLABUS									
<p>Note: 1. Question no. 1 is compulsory, which contains short answer type questions and to be set from the entire syllabus.</p> <p>2. Eight questions will be set, two from each of the sections A, B, C & D. The candidates are required to attempt four questions in all selecting at least one question from each section. All questions shall carry equal marks.</p> <p>3. The question paper must be set in consonance with course outcomes.</p>									
Unit No.	Contents								Contact Hrs
I	Computer Fundamentals: Functional components of a digital computer, concepts of hardware and software, binary, octal & hexadecimal number systems. Binary arithmetic, input/output and storage devices, an overview of functions of operating system, types of operating systems, features of Windows operating system. MS Office: Word, Excel, PowerPoint, Equation, Math type								7
II	Chem Office: Structure of molecules like proteins, DNA, RNA, Sugar, amino acids, heterocyclic compounds, chemical reactions (single step, two step & multistep) using Chem Draw/Chem Office								8

	(Free alternatives: OpenOffice (www.openoffice.org , ISIS Draw (http://www.mdli.com ; registration required). Programming Fundamentals: Algorithms, flowcharts, linear and binary search algorithms, bubble sort algorithms. Matrix transpose, matrix addition and matrix multiplication algorithms and their applications.	
III	Programming in C: Character set, constants and variables, reserved words, data types, expressions, scan f and print statements, operators and their hierarchy, conditional, unconditional and loop control structures. One-dimensional and two-dimensional arrays, Functions.	7
IV	Computer Application in Chemistry: Developing programs in C involving simple formulae in chemistry such as van der Waals equation, pH titration, kinetics, radioactive decay, evaluation of lattice energy and ionic radii from experimental data. Linear simultaneous equation to solve secular equations within the Huckel theory, Elementary structural features such as bond lengths, bond angles, dihedral angles etc. of molecules extracted from a database such as Cambridge database.	8
Suggested Books	<ol style="list-style-type: none"> 1. "Introduction to Computer Science" by P.K. Sinha 2. "Let Us C" by Yashwant Kanetker 3. "Computational Chemistry" by A.C. Norris. 4. "Computer Fundamentals" by P.K. Sinha and Priti Sinha 5. "Step by Step Microsoft Office 365" by Joan Lambert 6. "Introduction to ChemDraw and ChemOffice" by Layla Al-Hejazi 7. "Let Us C" by Yashavant Kanetkar 8. "Programming in ANSI C" by E. Balagurusamy 9. "Computational Chemistry: A Practical Guide for Applying Techniques to Real-World Problems" by David Young 10. "C Programming for Scientists and Engineers with Applications" by Rama Reddy and Carol Ziegler 	
Theory	Internal Assessment: 15 Marks	<ul style="list-style-type: none"> • Class Participation: 05 Marks • Seminar/Presentation/ Assignment: 05 Marks • Mid Term Exam: 05 Marks
	External Assessment: 35 Marks (02 Hours)	<ul style="list-style-type: none"> • End Term Exam: 35 Marks

Sandy
22/1/2025

241/ECO/AE201

MA. ECONOMICS SEMESTER II AEC

Ability Enhancement Courses (AEC)

Semester 1					
Course Code	Nomenclature of Course	Course ID	Credits T	Credits P	Total Credits
	Basics of Public Finance in India		2	0	2

BASICS OF PUBLIC FINANCE

Max. Marks: 50

Credits: 2

Written Exam: 35 (2 Hours)

Internal Assessment: 15

Note For the paper Setter

- Five Questions will be set in all and students will be required to attempt 3 questions.
- Question No. 1 will be compulsory and will consist of 5 short answer type questions of 3 marks spread over the entire syllabus (5x3=15 marks).
- For the remaining Four questions, students will attempt 2 out of 4 questions from each of the two units (10 marks each).

Course Objective: This course explores the fundamentals of public finance, covering its role in economic growth, public vs. private goods, revenue sources, tax types, fiscal policies, public debt management, budgets, and the Finance Commission in India, fostering analytical skills to evaluate fiscal tools and their impacts.

Unit 1: Theoretical Foundations of Public Finance

Nature and Scope of Public Finance, Role of Public Finance in Economic Growth and Stability, Public Goods vs private goods, Sources of Public Revenue: Tax and Non-Tax Revenue, Types of Taxes: Direct and Indirect Taxes

Unit 2: Fiscal Policies and Federal Finance

Nature and Types of Public Debt, Principles and Methods of Public Debt Management, Instruments of Fiscal Policy, Fiscal Deficit and Its Implication, Types of Budgets, Role and Functions of the Finance Commission in India

Suggested Reading:

- Lekhi, R. K. (2018). *Public finance*. Kalyani Publishers..
- Tyagi, B. P. (2020). *Public finance*. Jai Prakash Nath & Co.

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- Datt, R., & Sundharam, K. P. M. (2021). *Indian economy* (74th ed.). S. Chand & Company Ltd.
- Agarwal, R. C. (2019). *Public finance: Theory and practice*. Lakshmi Narain Agarwal Publishers.
- Mishra, B., & Puri, V. K. (2021). *Indian public finance*. Himalaya Publishing House.
- Rao, M. G., & Singh, N. (2005). *Political economy of federalism in India*. Oxford University Press.
- Chelliah, R. J. (2006). *Fiscal policy in underdeveloped countries: With special reference to India*. Oxford University Press.
- Sharma, M. K., & Vishwanath, N. (2017). *Public finance in India: Principles, policies, and practice*. Alpha Publications.
- Mishra, B., & Puri, V. K. (2021). *Indian economy and public finance*. Himalaya Publishing House.
- Musgrave, R. A., & Musgrave, P. B. (1989). *Public finance in theory and practice* (5th ed.). McGraw-Hill Education.
- Stiglitz, J. E. (2000). *Economics of the public sector* (3rd ed.). W.W. Norton & Company.
- Rosen, H. S., & Gayer, T. (2014). *Public finance* (10th ed.). McGraw-Hill Education.

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241/PHY/AE201

Ability Enhancement Course

COURSE ID:

ELECTRONIC DEVICES LAB

Marks (End Semester exam): 35

Credits: 02

Marks (Internal): 15

Course Objectives (COs):

After successful completion of the course on Physics lab, a student will be able to:

- Designing and working of diodes, solar cell, transistor and their applications.
- Explore the operation and advantages of operational amplifiers.
- Learn to design filters and analog to digital converts.
- Learn and understand about oscillators circuits.
- Understanding and working of 8085 microprocessor.

Students assigned the electronic/ general physics laboratory work will perform at least 8 experiments of the following sections:

1. To study the V-I characteristics of a Zener diode and its use as voltage regulator.
2. Study of V-I & power curves of solar cells, and find maximum power point & efficiency.
3. To design a Wien bridge oscillator for given frequency using an op-amp.
4. To design a phase shift oscillator of given specifications using BJT.
5. To design a digital to analog converter (DAC) of given specifications.
6. To design an inverting/ non-inverting amplifier using Op-amp (741,351)
7. To investigate the use of an op-amp as an Integrator and Differentiator..
8. To design a circuit to simulate the solution of simultaneous equation and 1st/2ndorder differential equation.
9. To Design filters (Low pass, High pass, band pass and band rejection) of the given specifications.
10. To Design multistage amplifiers of the given specifications.
11. To Design a triangular wave to sine wave converter.
12. To design, analyse and demonstrate positive and negative voltage level detectors.
13. To design and analyse Pulse Width Modulation using op-amp.
14. To study the zero-crossing detector and comparator using op-amp.
15. To design RC-Oscillator using an Op-Amp.
16. To design a Square Wave Generator.
17. Programs using 8085 Microprocessor: Addition, subtraction, multiplication and division.

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References/Books:

1. Electronic Instrumentation and Measurement Techniques, W. D. Cooper and A. D. Helfrick (2nd Ed., Phi Learning, 2008)
2. Electronic Devices and Circuits, J. Millman and C. C. Halkias and S. Jit (4th Ed., McGraw-Hill, 2015)
3. Measurement, Instrumentation and Experimental Design in Physics and Engineering, M. Sayer and A. Mansingh (Prentice Hall India, 2010)
4. Microprocessor Architecture Programming and applications with 8085, R.S. Goankar, 2002, Prentice Hall.
5. Microprocessor 8085: Architecture, Programming and interfacing, A. Wadhwa, 2010, PHI Learning.
6. Basic Electronics: A text lab manual, P.B.Zbar, A.P.Malvino, M.A.Miller, 1994, McGraw Hill.
7. OP-Amps and Linear Integrated Circuit, R. A. Gayakwad, 4th edition, 2000, Prentice Hall.

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241/HS/AE 201

Ability Enhancement Course (AEC)

(Offered by the Department of English and other Foreign Languages for students of other departments/same department to enhance the ability to learn German as a foreign languages)

Semester 2

Course Code	Course Title	Course ID	L	T	P	L (Hrs)	T	P	Credits	Marks
AEC-2	German Grammar - I		2			2			2	15 (IA), 35 (TE), Total: 50

Course Objectives:

- Enhance understanding of grammar to build sentence structures.
- Use German for basic written communication.
- Discuss cultural norms related to food, travel, and daily activities.

Course Outcomes:

- Construct grammatically correct sentences.
- Use essential vocabulary to express themselves in written and spoken forms.
- Understand and discuss cultural aspects like food and travel.

Units:

1. Food and Shopping

- Vocabulary for groceries and shopping dialogues
- Describing food habits and recipes

2. Travel and Directions

- Asking for and giving directions
- Describing a travel experience

3. Weather and Clothing

- Discussing weather and seasons
- Talking about clothing preferences and purchases


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Department of Indian
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Evaluation Pattern:

- **Vocabulary Exercise** (10 Marks): Identify/translate key vocabulary.
- **Grammar Exercise** (10 Marks): Correct sentences or formulate sentences with articles and present tense verbs.
- **Written Exercise** (7 Marks): Compose short paragraphs or dialogues.
- **Reading Comprehension** (8 Marks): Answer questions based on simple texts.

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Ability Enhancement Course (AEC)

SEMSTER 2

Course Code	Course Title	Course ID	L	T	P	L	T	P	Total Credits	MARKS				
			(Hrs)			Credits				TI	TE	PI	PE	Total
AEC-02	Advanced Spoken Sanskrit		1		1	1		1	2	5	20	5	20	50

LEARNING OBJECTIVES:

- संस्कृत का व्यवहारिक उपयोग सीखने हेतु।
- संस्कृत सम्भाषण एवं अनुवाद सीखने हेतु।

LEARNING OUTCOMES:

इस पाठ्यक्रम की समाप्ति के उपरान्त विद्यार्थी:

- साधारण संस्कृत वार्तालाप में समर्थ होंगे।
- साधारण अनुवाद में समर्थ होंगे।

UNIT 1

1. संस्कृत-सम्भाषण

UNIT 2

1. विभक्ति ज्ञान
2. शब्दरूप
3. धातुरूप (पाँचों लकार)
4. प्रत्यय, उपसर्ग एवं अव्यय (वाक्यों में प्रयोग)

UNIT 3

1. साधारण संस्कृत अनुवाद

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उपयोगी पुस्तकें:

- व्यवहारिक संस्कृत प्रशिक्षक, डॉ. सच्चिदानन्द पाठक, उत्तर प्रदेश संस्कृत संस्थान, लखनऊ, 2003
- संस्कृत स्वयं-शिक्षक, श्रीपाद दामोदर सातवलेकर, राजपाल एवं सन्स, नई दिल्ली, 2016
- संस्कृत-शिक्षण-सरणी, आचार्य राम शास्त्री, परिमल पप्रकाशन, दिल्ली, 2018
- प्रारम्भिक रचनानुवादकौमुदी, डॉ. कपिलदेव द्विवेदी, विश्वविद्यालय प्रकाशन, वाराणसी, 1978

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