

Detailed Course Scheme
Bachelor of Arts (B.A.)

(History/ Political Science/ Economics)

Semester-II
(2024-2028)

DOC202406210006



RNB GLOBAL UNIVERSITY

RNB Global City, Ganganagar Road,
Bikaner, Rajasthan 334601

OVERVIEW

RNB Global University follows Semester System along with Choice Based Credit System as per latest guidelines of University Grants Commission (UGC). Accordingly, each academic year is divided into two semesters, **Odd (July-December)** and **Even (January-June)**. Also, the university follows a system of continuous evaluation along with regular updating in course curricula and teaching pedagogy.

The curriculum for BA program for (January-June) Even Semester, 2025 along with Examination pattern is as follows:

Semester -II

S. No	Course Code	Course Category	Course Name	L	T	P	Credits
1.	BAGC32151	DSC-H2	History of Indian National Movement (1857-1947)	3	1	0	4
2.	BAGC33152	DSC-P2	Indian Constitution	3	1	0	4
3.	BAGC34153	DSC-E2	Macro Economics	3	1	0	4
4.	GEC066011	GE-2	Computer Applications (Group B)	3	1	0	4
5.	AECE55001	AEC-2	Study of Ecosystem and Natural Resources	2	0	0	2
6.	SEC077002	SEC-2	Ability and Skill Enhancement II	2	-	-	2
7.	VAC088013	VAC-2	Renewable Energy and Energy Harvesting (Group B)	2	0	0	2
8.	WHMM99000		Workshops & Seminars Human Values/ Social Service/NCC/NSS	-	-	-	1
			Total	18	4	0	23

EVALUATION SCHEME

The evaluation of the BA program would be based on Internal and External Assessments. Internal Assessment would consist of 50% of the marks (50 marks) and external assessment (in form of End Term Exam) would consist of remaining 50% marks (50 marks). Detailed scheme of Internal and External Assessments as follows:

Internal Assessment

The distribution of Internal Assessment Marks is as follows:

Type	Details	Marks
Mid Term	Two Mid-term Sessional of 15 marks each (15+15)	30
Marks obtained in various Tests, Assignments, Presentations, Quiz, Tutorials, etc.	Average of marks obtained	15
Attendance	75%+ : 5 marks	5
TOTAL	50	

External Assessment

Type	Marks
Theory	50

EVALUATION SCHEME- WORKSHOPS & SEMINARS AND HUMAN VALUES & SOCIAL SERVICE/NCC/NSS

1. The evaluation of Workshops & Seminar and Human Values & Social Service/NCC/NSS will be completed from Semester I – Semester VI. It will be evaluated internally by the various Forums & Schools Concerned. The credit for this will be given at the end of each Semester.
2. The students have to join club/clubs/Forums with the active participation in different activities of club. The students would be continuously assessed from Semester-I to Semester-IV and credits and marks would be given after the end of each Semester

1. Vision

Vision of BA Program is to develop comprehensive skill for competitive exams, establish advanced studies and research based Centre for students and scholars.

2. Mission

Mission of Department of Arts is to cultivate a scholarly mindset and analytical abilities in students, as well as train them in social and economic sphere, to reach the dynamic knowledge in the field of social science and to develop social values.

3. Program Educational Objectives (PEO's)

PEO1: To overall develop deep knowledge of the social science through a flexible, research and cultural-oriented curriculum designed to meet the current demand of academia and research industry.

PEO2: To identify gap, formulate, comprehend, analysis, design and solve societal issues and challenges.

PEO3: To acquire techno-economic aptitude and apply the acquired practical skills and to develop broad training for better reach.

4. Programme Outcomes (PO's)

After the completion of this program students will be able to:

P01. Apply knowledge to the complex Socio-Political problems.

P02. Identify and analyse challenging issues in society at national or international level. Inculcate values of rights and duties, and transfer these values to real-life and for promoting community welfare.

P03. Use research-based knowledge and research methodologies to obtain reliable outcomes and develop socio-scientific research skills and apply it during programme & in practice.

P04. Interpret social and political problems and work towards finding solutions for the betterment of the Nation.

P05. Understand the impact of the societal & environmental contexts, and demonstrate the knowledge and need for sustainable development for society.

P06. Apply principles of professional ethics of respective profession.

P07. Develop leadership qualities amongst students.

P08. Communicate effectively with the social, cultural, national and international community. Ability to learn the art of communicating and demonstrating their skills.

P09. Provide a platform of self-employability by developing professional skills in respective social industry.

P010. Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broader context of social and political change.

5. Programme Specific Outcome (PSO's)

PSO1: To demonstrate knowledge and understanding of various social issues and challenges.

PSO2: To develop the problem solving methods of Analysing social problems and understanding social dynamics.

PSO3: To function in multi-disciplinary work environment, good interpersonal skills as a leader in a team in appreciation of professional ethics and societal responsibilities.

6. Course Outcomes	
Course Code & Course Name	After completion of these courses' students should be able to
BAGC32151- History of Indian National Movement (1857-1947)	C01: Define Nationalism, Independence movement and Rise of Mass Nationalism Factors leading to growth of Nationalism in India & Social Background of Indian. C02: Understanding Swadeshi to Home Rule Entry of Gandhi: Regional Movements, Rowlett Satyagrah, Khilafat Issue. C03: Mass Movements of Congress & Alternative Ideologies Non Cooperation, Simon Commission, Nehru Report, Civil Disobedience Movement and Ideas of Subhash Chand Bose, Quit India movement. C04: Analyse of Rise of Peasant, Workers, Tribals's, Linguistic Organizations. C05: Road to Partition & Independence Constitutional Formulas: Wavell Plan, Cripps and Cabinet Mission, Mountbatten plan, Circumstances leading to Partition & Independence
BAGC33152- Indian Constitution	C01: Define India: India at the time of Independence A case Study of Junagarh, Hyderabad, Goa and Kashmir. C02: Explain the Making of Indian Constitution and Constituent Assembly Debates, Philosophy of Indian Constitution, Debates on National Language, National Flag, National Anthem and National Song. C03: Identify the Salient Features of the Indian Constitution: Preamble, Fundamental Rights and Directive Principles of State Policy and Procedure in the Constitutional Amendment. C04: Discover the Structure of the Central and State Governments, President and Governor, Parliament and State Legislature and Prime Minister and Chief Minister. C05: Assess the Judiciary in India: Supreme Court and High Courts: Structure and Functions, Judicial Accountability, Judicial Activism and Judicial Overreach
BAGC34153- Macro Economics	C01: Define the basic concepts of Macro Economics & get awareness of Fiscal and monetary policy. C02: Explain the concepts of aggregations and national income and output. C03: Develop the conceptual framework relating to macroeconomic issues like inflation, unemployment and related measures to overcome the same. C04: Analyse the situations of macroeconomic problems and deriving the solutions to it. C05: Interpret the effects of microeconomic factors on decision making.

GEC066011- Computer Applications	C01: Explain the basics of Computer Fundamental. C02: Make use of networking protocols, networking devices and server models. C03: Classify the various term of internet and applications of Internet. C04: Elaborate the basics of Microsoft office formulas used in MS office. It able to distinguish between MS excel PowerPoint working basics. C05: Explain about input and output devices, operating system, application software.
AECE55001- Study of Ecosystem and Natural Resources	C01: Tell different ecosystems, natural resource environmental pollution. C02: Summarize biodiversity and its conservation. C03: Apply the values, feelings and participation of society in protection activities of the environment. C04: Discover the use of skills in identification of natural resources and their management practices. C05: Explain Biodiversity and its conservation techniques.
SEC077002- Ability and Skill Enhancement (SEC)	C01: Select the correct phonetic symbols for improving language C02: Operate reading and writing skills in English C03: Prepare listening and speaking skills in English C04: Focus on understanding the ethics, virtues, and values C05: Aware of etiquette and personal branding
VAC088013- Renewable Energy and Energy Harvesting (VAC)	C01: Discuss about the different types of energy like Fossil fuels, Nuclear Energy, Ocean Thermal Energy Conversion, and solar energy. C02: Compare and be aware of generating energy via various technologies apart from the conventional methods C03: Express about Geothermal Resources and Geothermal Technologies C04: Explain the environmental issues renewable sources of energy, and sustainability. C05: Spread awareness about renewable energy resources available and their importance for the conservation of the environment.

7. CO PO Mapping

BAGC32151	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	2	2		2	2	3		3		2
C02	3	3		2	2		2			2
C03	2	3	2	2	2	2			2	2
C04	3	3	3	3	2			2	2	2
C05	3	3	2	3	3	3	3	2	3	

BAGC33152	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	2	3	2	2	2	2	2	2	2	2
C02	3	2	3	3	3	3	2	3	3	2
C03	2	3	3	3	3	2		3	3	3
C04	3	3	2			3	2	2	2	3
C05		2	3	2	1	2	2	2		2

BAGC34153	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	2			2	2	1	1	1	1	2
C02	2	3		2	2				1	2
C03	2	2	2		2		2		2	1
C04	1		2	2	2	1		2		1
C05	1	1	2		2		2	1		2

GEC066011	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	3		3		3	3	3	2		3
C02		3	3		3	3		3	3	3
C03	3	3		3		3				3
C04		3	3	3	3			3	3	3
C05	3			3			3		3	3

AECE55001	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
C01	2	3		2	3	1				2
C02	3	3	2	3	3	2			1	2
C03	3	3	3	3	3	3	2	2	3	3
C04		2		2	2			2		3
C05	2		2	2	2			2	2	2

SEC077002	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010
C01	2	3		2	3	1				2
C02	3	3	2	3	3	2			1	2
C03	3	3	3	3	3	3	2	2	3	3
C04		2		2	2			2		3
C05	2		2	2	2			2	2	2

VAC088013	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010
C01	2	3		2	3	1				2
C02	3	3	2	3	3	2			1	2
C03	3	3	3	3	3	3	2	2	3	3
C04		2		2	2			2		3
C05	2		2	2	2			2	2	2

8. Curriculum

Course Name: History of Indian National Movement (1857-1947)

Course Code: BAGC32151

Course objectives

The contents of the syllabus are designed to cover core issues pertaining to vast canvass of nationalist history so that the student at the under graduate level is equipped to focus upon the core ideas of national movement in its contextuality. India's quest for independence and nation building are interwoven script of history, debated most widely at global level with various angles. Indeed, India's national movement has vast and divergent ideological base with inner contradictions.

Course Outline

UNIT I First War of Independence and Rise of Mass Nationalism

- I. Circumstances leading to First War of Independence, Geographical area of great upsurge, Debates on 1857 and Impact on British Policies.
- II. Theories pertaining to Nationalism & Nation state
- III. Factors leading to growth of Nationalism in India & Social Background of Indian Nationalism.
- V. Two ideas of Early Nationalist: Issue of Classes vs. Masses

UNIT II From Swadeshi to Home Rule

- I. Idea of Swadeshi, Swadeshi Movement & Congress Split at Surat & British response to the Swadeshi Movement.
- II. Idea & formation of Muslim league: Demands and Early Programs
- III. First World War: Lucknow Pact, Home Rule Movement
- IV. Entry of Gandhi: Regional Movements, Rowlatt Satyagrah, Khilafat Issue.

UNIT III Mass Movements of Congress & Alternative Ideologies

- I. Non Cooperation, Regional variations and Swarajists
- II. Revolutionary Movement, Trial of Bhagat Singh, Rise of leftist Ideology
- III. Simon Commission, Nehru Report and Civil Disobedience Movement
- IV. Tripuri crisis: Issues and Ideas of Subhash Chand Bose, Quit India movement.

UNIT IV Rise of Peasant, Workers, Tribals's & Linguistic Organizations

- I. Peasant Issues since 1919, formation of Regional Peasant Associations and all India Kisan Sabha, Role of Madan mohan Malviya & Sahjanand Saraswati.
- II. Rise of Industrial Worker Class, its issues and Formation of Trade Unions.
- III. Colonial Policies & Tribal Issues (1857- 1947)
- IV. Rise and Challenges of Linguistic Identities.

UNIT V- Road to Partition & Independence

I. Challenges of Communalism (1942- 1947)

II. Role of INA, INA Trials & RIN Mutiny

III. Constitutional Formulas: Wavell Plan, Cripps and Cabinet Mission

IV. -- Mountbatten plan, Circumstances leading to Partition & Independence

Suggested Reading

1. Brown, J. M. (1994). *Modern India: The Origins of an Asian Democracy*. Oxford University Press.
2. Chandra, B. (1989). *India's Struggle for Independence*. Penguin Books.
3. Chandra, B. (2009). *History of Modern India*. Orient BlackSwan.
4. Desai, A. R. (1948). *Social Background of Indian Nationalism*. Popular Prakashan.
5. Dutt, R. C. (1901). *The Economic History of India under Early British Rule*. Routledge.
6. Gandhi, M. K. (1927). *The Story of My Experiments with Truth*. Navajivan Publishing House.
7. Guha, R. (2007). *India after Gandhi: The History of the World's Largest Democracy*. HarperCollins.
8. Jalal, A., & Bose, S. (1997). *Modern South Asia: History, Culture, Political Economy*. Routledge.
9. Lajpat Rai, L. (1928). *Unhappy India*. Banna Publishing.
10. Majumdar, R. C. (1963). *History of the Freedom Movement in India (Vols. 1-3)*. Firma KLM.
11. Metcalf, B. D., & Metcalf, T. R. (2006). *A Concise History of Modern India*. Cambridge University Press.
12. Moon, P. (1998). *Divide and Quit: An Eyewitness Account of the Partition of India*. Oxford University Press.
13. Naoroji, D. (1901). *Poverty and Un-British Rule in India*. Swan Sonnenschein.
14. Sarkar, S. (1983). *Modern India: 1885-1947*. Macmillan.
15. Savarkar, V. D. (1909). *The First War of Indian Independence: 1857*. Phoenix Publications.
16. Sen, S. N. (1997). *History of the Freedom Movement in India (Vol. 2)*. New Age International.
17. Singh, K. (1950). *A History of Sikhs (Vol. 2)*. Oxford University Press.
18. Thompson, E., & Garratt, G. (1934). *Rise and Fulfilment of British Rule in India*. Macmillan.
19. Wolpert, S. (2009). *Shameful Flight: The Last Years of the British Empire in India*. Oxford University Press.
20. Wolpert, S. (2009). *A New History of India*. Oxford University Press

Course Name: Indian Constitution (DSC)

Course Code: BAGC33152

Course Objective:

The purpose of the course is to familiarize the students with the key elements of Indian constitution and enable them to critically assess the working of government institutions in the broader framework of constitutionality and factors and forces which attempts to influence them. The course has been designed to cover the journey of the map of India that emerged from partition to subsequent integration of Princely states and how the decision on key significant symbols such as national flag, national song, national anthem, etc. of the constitution was arrived at through comprehensive debates in the Constituent Assembly.

Course Outline

Unit I: India at the time of Independence

- a. Independence and integration of Indian States
- b. A case Study of Junagarh, Hyderabad, Goa and Kashmir

Unit II: Making of Indian Constitution and Constituent Assembly Debates

- a. Philosophy of Indian Constitution
- b. Debates on National Language, National Flag, National Anthem and National Song
- c. Debates on Minority Rights

Unit III: Salient Features of the Indian Constitution

- a. Preamble
- b. Fundamental Rights and Directive Principles of State Policy
- c. Procedure in the Constitutional Amendment

Unit IV: Structure of the Central and State Governments

- a. President and Governor
- b. Parliament and State Legislature
- c. Prime Minister and Chief Minister

Unit V: Judiciary in India

- a. Supreme Court and High Courts: Structure and Functions
- b. Judicial Accountability, Judicial Activism and Judicial Overreach

Unit VI: Centre- State Relations in India

- a. Legislative, Executive and Financial Relations
- b. Contemporary Debates in Indian Federalism

Suggested Readings:

1. Austin, G. (1999). The Indian Constitution: Cornerstone of a Nation. Oxford University Press.

2. Bakshi, P. M. (2019). The Constitution of India. Universal Law Publishing.
3. Basu, D. D. (2018). Introduction to the Constitution of India. LexisNexis.
4. Chandrachud, A. (2016). Republic of Rhetoric: Free Speech and the Constitution of India. Penguin Books.
5. Chatterjee, P. (2018). The Founding Moment: History of India's Constitution. Harvard University Press.
6. Fadia, B. L. (2017). Indian Government and Politics. Sahitya Bhawan Publications.
7. Kashyap, S. C. (2011). Constitution of India: A Comprehensive Study. National Book Trust.
8. Khanna, H. R. (2008). Making of India's Constitution. Eastern Book Company.
9. Kumar, A. (2014). Fundamental Rights and Constitutional Remedies. Satyam Law International.
10. Noorani, A. G. (2011). Constitutional Questions in India: The President, Parliament and the States. Oxford University Press.
11. Pylee, M. V. (2017). India's Constitution. S. Chand Publishing.
12. Rao, B. (1968). The Framing of India's Constitution: Select Documents (Vol. 1-5). Indian Institute of Public Administration.
13. Sathe, S. P. (2002). Judicial Activism in India: Transgressing Borders and Enforcing Limits. Oxford University Press.
14. Seervai, H. M. (2015). Constitutional Law of India (4th ed.). Universal Law Publishing.
15. Sharma, B. K. (2017). Introduction to the Constitution of India. Prentice Hall India Learning Private Limited.
16. Shukla, V. N. (2021). Constitution of India. Eastern Book Company.
17. Singh, M. P., & Saxena, R. (2011). Indian Politics: Contemporary Issues and Concerns. PHI Learning.
18. Thakur, R. (1995). The Government and Politics of India. Macmillan.
19. Upadhyay, A., & Mishra, B. (2015). The Constitution of India: A Contextual Analysis. Hart Publishing.
20. Verma, S. K. (2010). An Introduction to Public International Law. Satyam Law International.

Course Name: Macro Economics (DSC)

Course Code: BAGC34153

Course objectives

This course aims to provide students with a thorough understanding of macroeconomic principles and their application to national and global economies. Key topics include economic growth, inflation, unemployment, fiscal policy, and monetary policy. Students will explore the interactions between different economic sectors and analyze the impact of government and central bank policies on economic stability and growth. The course will emphasize the use of macroeconomic models and data to evaluate economic performance and policy effectiveness. By the end of the course, students will be equipped to critically analyze macroeconomic issues and contribute to discussions on economic policy and planning.

Course Outline

Unit I

Introduction: Concepts and variables of macroeconomics, income, expenditure and the circular flow, components of expenditure., Static macroeconomic analysis short and the long run determination of supply, determination of demand, and conditions of equilibrium

Unit II

Economy in the short run: IS–LM framework, fiscal and monetary policy, determination of aggregate demand, shifts in aggregate demand, aggregate supply in the short and long run, and aggregate demand- aggregate supply analysis

Unit III

Inflation, Unemployment and Labour Market Inflation: Causes of rising and falling inflation, inflation and interest rates, social costs of inflation; Unemployment – natural rate of unemployment, frictional and wait unemployment. Labour market and its interaction with production system; Phillips curve, the trade-off between inflation and unemployment, sacrifice ratio, role of expectations adaptive and rational.

Unit IV

Open Economy - flows of goods and capital, saving and investment in a small and a large open economy, exchange rates, Mundell – Fleming model with fixed and flexible prices in a small open economy with fixed and with flexible exchange rates, interest-rate differentials case of a large economy.

Unit V

Behavioural Foundations: Investment determinants of business fixed investment, effect of tax, determinants of residential investment and inventory investment. Demand for Money, Portfolio and transactions theories of demand for real balances, interest and income elasticities of demand for real balances. Supply of money

Suggested Readings:

1. Mankiw, N. Gregory. Principles of Macroeconomics. Cengage Learning.
2. Robert J Gordon, Macroeconomics, Pearson Education
3. Branson, William H. Macroeconomic Theory and Policy. HarperCollins India, Pvt. Ltd.
4. Rudiger Dornbusch and Stanley Fischer, Macroeconomics. McGraw-Hill Education.
5. Rudiger Dornbusch, Stanley Fischer, and Richard Startz, Macroeconomics, McGraw-Hill Education
6. Oliver J. Blanchard, Macroeconomics, Pearson Education
7. G. S. Gupta, Macroeconomics: Theory and Applications, McGraw-Hill Education
8. Shapiro, Macroeconomic Analysis,
9. Paul A Samuelson, William D Nordhaus, and Sudip Chaudhuri, Macroeconomic, McGraw-Hill Education
10. Deepashree, Macro Economics, ANE Books Pvt. Ltd. New Delhi.
11. Salvatore, Dominick. International Economics. John Wiley & Sons Singapore.

Course Name: Computer Applications (GE)
Course Code: GEC066011

Course objectives

This course aims to equip students with essential skills in computer applications and their practical uses across various domains. It will cover fundamental topics such as operating systems, word processing, spreadsheets, databases, and presentation software. Students will gain proficiency in using these tools to enhance productivity, manage data, and create professional documents and presentations. The course will also introduce basic programming concepts and software development principles. Emphasis will be placed on problem-solving, data analysis, and effective communication through technology. By the end of the course, students will be adept at applying computer applications to real-world tasks and projects.

Course Outline

Unit I: Introduction

Hardware/Software Model of a Computer, its various types, Programs And Processes working, Introduction to Programming: Concept of algorithms, Flow Charts, Data Flow diagrams etc.

Unit II: Basic of Computer Networks:

Introduction to computer network, data Communication, components of data communication, data transmission mode, LAN, MAN, WAN, wireless LAN, internet, intranet, extranet. Network Models: Client/ server network And Peer-to-peer network, OSI, TCP/IP, layers and functionalities. LAN Topologies: Ring, Bus, star, mesh and tree topologies. Network Devices: NIC, repeaters, hub, bridge, switch, Gateway and router.

Unit III: Internet Terms:

Web page, Home page, website, internet browsers, URL, Hypertext, ISP, Web server, download and upload, online and offline. Internet Applications: www, telnet, ftp, e-mail, social networks, search engines, Video Conferencing, e-Commerce, m-Commerce, VOIP, blogs.

Unit IV: World Wide Web:

Origin and concepts, Searching the Internet, Advance Web Search, Web Surveys, e-mails, Blogging, Video Conference, Online Legal Database – Manupatra, Hein Online, Westlaw India.

Unit V: Application Software:

Word Processing Basics; typing in word processing, Text formatting, Use of formatting Tools, Tables, Mail Merge. Spreadsheets with headers, footers & footnotes; Creating, Saving & Editing a workbook, Cell Entries, Graphs & Charts.

Unit VI:

Microsoft Excel basics, rearranging worksheets, excel formatting tips and techniques, introduction to functions, Excel's chart buildup - features, using worksheet as databases, automating. Microsoft PowerPoint basics, creating presentation the easy way, working with text in PowerPoint, Presentation with Power-Point: creating presentation, working with graphics, show time, sound effects and animation effects. Formatting of presentations slides, Adding Hyperlinks and Multimedia to the presentations.

Suggested Readings:

1. Andrews, J., & Lammlein, S. E. (2018). Computer Applications for Business: A Problem-Solving Approach. Pearson Education.
2. Behara, R. S., & Schilling, D. (2020). Introduction to Computer Applications in Business. Springer.
3. Chapman, S., & Brown, K. (2017). Mastering Computer Applications: An Essential Guide. Wiley.
4. Connolly, T. M., & Begg, C. E. (2019). Database Systems: A Practical Approach to Design, Implementation, and Management (6th ed.). Pearson Education.
5. Elmasri, R., & Navathe, S. B. (2016). Fundamentals of Database Systems (7th ed.). Pearson Education.
6. Farrel, J. P., & Farrell, S. (2018). Business Data Communications and Networking (13th ed.). Wiley.
7. Gookin, D. (2019). Computers For Seniors For Dummies (7th ed.). For Dummies.
8. Gosselin, D. C. (2017). Computer Applications for Business and Management: Concepts and Techniques. Cengage Learning.
9. Hoffer, J. A., Ramesh, V., & Topi, H. (2016). Modern Systems Analysis and Design (8th ed.). Pearson Education.
10. Kennesaw, T., & Adams, D. (2020). Introduction to Computer Science Using Python. Wiley.
11. Kriegel, M., & Seshadri, S. (2017). Data Mining: Concepts and Techniques (3rd ed.). Morgan Kaufmann.
12. Kurose, J. F., & Ross, K. W. (2017). Computer Networking: A Top-Down Approach (7th ed.). Pearson Education.
13. Laudon, K. C., & Laudon, J. P. (2020). Management Information Systems: Managing the Digital Firm (16th ed.). Pearson Education.
14. O'Brien, J. A., & Marakas, G. M. (2019). Management Information Systems (11th ed.). McGraw-Hill Education.
15. Panko, R. R. (2019). Introduction to Computer Applications and Concepts. Pearson Education.
16. Schneider, G. P. (2019). Introduction to Information Systems (11th ed.). Cengage Learning.
17. Stallings, W. (2017). Computer Security: Principles and Practice (4th ed.). Pearson Education.
18. Stein, M., & Murdick, R. G. (2017). Computer Applications for Business: Essential Skills. McGraw-Hill Education.
19. Tanenbaum, A. S., & Bos, H. (2015). Modern Operating Systems (4th ed.). Pearson Education.
20. White, D. M., & Edwards, J. (2019). Computer Applications in Engineering Education. Springer.

Course Name: Study of Ecosystem and Natural Resources
Course Code: AECE55001

Course objectives

- To gain knowledge about the environment and its conservation along with sustainable development.
- To define and use correctly the common terms of environmental science.
- To explain what makes up the environment, how it functions, and how humans are part of it.
- To evaluate the adequacy of conclusions about environmental phenomena.

Course Outline:

Unit I: Study of Ecosystem and Natural Resources

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

Unit II: Natural Resources

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

Suggested Readings:

1. Bharucha, E. 2003, Textbook for Environmental Studies, University Grants Commission, New Delhi and Bharati Vidyapeeth Institute of Environmental Education and Research, Pune. 361.
2. Carson, Rachel. 1962. Silent Spring (Boston: Houghton Mifflin, 1962), Mariner Books, 2002
3. Economy, Elizabeth. 2010. The River Runs Black: The Environmental Challenge to China's Future.
4. Gadgil, M. & Ramachandra, G. 1993. This fissured land: an ecological history of India. Univ of California Press.
5. Gleeson, B. and Low, N. (eds.) 1999. Global Ethics and Environment, London, Routledge.
6. Grumbine, R. Edward, and Pandit, M.K. Threats from India's Himalaya dams. Science 339.6115 (2013): 36-37.
7. Heywood V.H. & Watson, R.T. 1995. Global Biodiversity Assessment. Cambridge University Press.
8. McCully, P. 1996. Silenced rivers: the ecology and politics of large dams. Zed Books.
9. McNeill, John R. 2000. Something New Under the Sun: An Environmental History of the Twentieth Century.

Course Name: Ability and Skill Enhancement (SEC)

Course Code: SEC077002

Course objectives

To improve the communication skills of the students with respect to pronunciation. The classes are interactive, and activity based.

Course Outline

Unit I: Phonetics

Phonetic symbols and the International Phonetic Alphabets (IPA), The Description and Classification of Vowels (Monophthongs & Diphthong) Consonants, Phonetic Transcription & Phonology, Syllable, Stress & Intonations, reading aloud, recording audio clips.

Unit II: Vocabulary Building

Idioms and Phrases, Words Often Confused, One word Substitution, Word Formation: Prefix & Suffix.

Unit III: Ethics & Etiquettes

What are ethics, what are values, difference between ethics and morals, Business ethics, workplace ethics, what are virtues for e.g. civic virtues, etc. Human ethics and values- 5 core human values are: right conduct, living in peace, speaking the truth, loving and care, and helping others.

Etiquette awareness, Importance of First Impression, Personal Appearance & Professional presence, Personal Branding, Dressing Etiquette, Dining Etiquettes.

Unit IV: Reading & Writing Skills

Reading Comprehension, News Reading, Picture Description, Paragraph Writing, News Writing.

Unit V: Listening & Speaking Skills

Public Speaking, Debate, Inspirational Movie Screening, Skit Performance.

Note: The review of syllabus happens on periodic basis for the benefit of the students and in case there are changes in curriculum due to review students would be intimated in writing.

Course Name: Renewable Energy and Energy Harvesting (VAC)

Course Code: VAC088013

Course objectives

By using various pedagogies like lecture seminar, webinar, class assignments and home assignments, students will learn about the need of studying about the renewable energies and energy harvesting to meet the increasing demand of power supply. Students will be aware of generating energy via various technologies apart from the conventional methods. These new methods are clean and hazard free. Solar energy, Geothermal energy, Tidal energy, Wind energy and many more methods are being developed for fulfilling the power need. The aim of this course is not just to impart theoretical knowledge to the students but to provide them with exposure and hands-on learning wherever possible.

Course Outline:

Unit I: Fossil fuels and Alternate Sources of energy

Fossil fuels and Nuclear Energy, their limitation, need of renewable energy, nonconventional energy sources. An overview of developments in Offshore Wind Energy, Tidal Energy, Wave energy systems, Ocean Thermal Energy Conversion, solar energy, biomass, biochemical conversion, bio gas generation, geothermal energy tidal energy, Hydroelectricity.

Solar energy: Solar energy, its importance, storage of solar energy, solar pond, nonconsecutive solar pond, applications of solar pond and solar energy, solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell, absorption air-conditioning. Need and characteristics of photovoltaic (PV) systems, PV models and equivalent circuits, and sun tracking systems.

Unit II: Wind Energy harvesting: Fundamentals of Wind energy

Wind Turbines and different electrical machines in wind turbines, Power electronic interfaces, and grainer connection topologies.

Ocean Energy: Ocean Energy Potential against Wind and Solar, Wave Characteristic sand Statistics, Wave Energy Devices.

Tide characteristics and Statistics, Tide Energy Technologies, Ocean Thermal Energy, Osmotic Power, Ocean Bio-mass.

Unit III: Geothermal Energy

Geothermal Resources, Geothermal Technologies.

Hydro Energy: Hydropower resources, hydropower technologies, environmental impact of hydro power sources.

Piezoelectric Energy harvesting: Introduction, Physics and characteristics of piezoelectric effect, materials and mathematical description of piezoelectricity, Piezoelectric parameters and modeling piezoelectric generators, Piezoelectric energy harvesting applications, Human power.

Unit IV: Electromagnetic Energy Harvesting

Linear generators, physics mathematical models, recent applications

Carbon captured technologies, cell, batteries, power consumption. Environmental issues and Renewable sources of energy, sustainability.

Demonstrations and Experiments

1. Demonstration of Training modules on Solar energy, wind energy, etc.
2. Conversion of vibration to voltage using piezoelectric materials
3. Conversion of thermal energy into voltage using thermoelectric modules.

Suggested Readings:

1. Non-conventional energy sources - G.D Rai - Khanna Publishers, New Delhi
2. Solar energy - M P Agarwal - S Chand and Co. Ltd.
3. Solar energy - Suhas P Sukhative Tata McGraw - Hill Publishing Company Ltd.
4. Godfrey Boyle, "Renewable Energy, Power for a sustainable future", 2004, Oxford University Press, in association with The Open University.
5. Dr. P Jayakumar, Solar Energy: Resource Assesment Handbook, 2009
6. J.Balfour, M.Shaw and S. Jarosek, Photovoltaics, Lawrence J Goodrich (USA).

9. Lesson Plans

BAGC32151- History of Indian National Movement (1857-1947) (DSC)

Unit	Particulars	Class No.	Pedagogy of Class
Unit-I	Introduction About the Subject and COS, POS	C-1	Lecture
Unit-I	Circumstances leading to First War of Independence.	C-2	Lecture
Unit-I	Geographical area of great upsurge	C-3	Lecture
Unit-I	Debates on 1857 and Impact on British Policies.	C-4	Lecture
Unit-I	Theories pertaining to Nationalism & Nation state	C-5	Lecture
Unit-I	Theories pertaining to Nationalism & Nation state	C-6	Lecture
Unit-I	Factors leading to growth of Nationalism in India & Social Background of Indian Nationalism.	C-7	Lecture
Unit-I	Factors leading to growth of Nationalism in India & Social Background of Indian Nationalism.	C-8	Lecture
Unit-I	Two ideas of Early Nationalist: Issue of Classes vs. Masses	C-9	Lecture
Unit-I	Two ideas of Early Nationalist: Issue of Classes vs. Masses	C-10	Lecture
Unit-I	Clarification Class	C-11	Clarification Class
Unit-II	Idea of Swadeshi, Swadeshi Movement & Congress Split at Surat	C-12	Lecture
	Home Assignments		Home Assignments
Unit-II	British response to the Swadeshi Movement.	C-13	Lecture
Unit-II	Idea & formation of Muslim league: Demands and Early Programs	C-14	Lecture
Unit-II	Idea & formation of Muslim league: Demands and Early Programs	C-15	Lecture
Unit-II	First World War: Lucknow Pact, Home Rule Movement	C-16	Lecture
Unit-II	First World War: Lucknow Pact, Home Rule Movement	C-17	Lecture
Unit-II	Entry of Gandhi: Regional Movements, Rowlatt Satyagrah, Khilafat Issue.	C-18	Lecture
Unit -II	Entry of Gandhi: Regional Movements, Rowlatt Satyagrah, Khilafat Issue.	C-19	Lecture
Unit-II	Activity	C-20	Activity
	Class Room Assignment	C-21	Class Room Assignment
Unit-II	Clarification Class-	C-22	Clarification Class
Unit-III	Non-Cooperation, Regional variations and Swarajists	C-23	Lecture
Unit-III	Non-Cooperation, Regional variations and Swarajists	C-24	Lecture
Unit-III	Revolutionary Movement, Trial of Bhagat Singh, Rise of leftist Ideology	C-25	Lecture
Unit-III	Revolutionary Movement, Trial of Bhagat Singh, Rise of leftist Ideology	C-26	Activity
Unit-III	Simon Commission, Nehru Report	C-27	Lecture

	Home Assignments		Home Assignments
Unit-III	Simon Commission, Nehru Report	C-28	Lecture
Unit-III	Civil Disobedience Movement	C-29	Lecture
Unit-III	Tripuri crisis: Issues and Ideas of Subhash Chand Bose.	C-30	Lecture
Unit-III	Quit India movement.	C-31	Lecture
Unit-III	Clarification Class-	C-32	Clarification Class-
Unit-IV	Activity	C-33	Activity
Unit-IV	Peasant Issues since 1919, formation of Regional Peasant Associations and all India Kisan Sabha,	C-34	Lecture
Unit-IV	Quiz	C-35	Quiz
Unit-IV	Role of Madan mohan Malviya & Sahjanand Saraswati.	C-36	Lecture
Unit-IV	Rise of Industrial Worker Class, its issues and Formation of Trade Unions.	C-37	Lecture
Unit-IV	Rise of Industrial Worker Class, its issues and Formation of Trade Unions.	C-38	Lecture
Unit-IV	Colonial Policies & Tribal Issues (1857- 1947)	C-39	Lecture
Unit-IV	Colonial Policies & Tribal Issues (1857- 1947)	C-40	Lecture
Unit-IV	Rise and Challenges of Linguistic Identities.	C-41	Lecture
Unit-IV	Rise and Challenges of Linguistic Identities.	C-42	Lecture
Unit-IV	Clarification Class-	C-43	Clarification Class
Unit-IV	Activity	C-44	Lecture
Unit-V	Challenges of Communalism (1942- 1947)	C-45	Lecture
	Class Room Assignment	C-46	Class Room Assignment
Unit-V	Challenges of Communalism (1942- 1947)	C-47	Lecture
Unit-V	Role of INA, INA Trials & RIN Mutiny	C-48	Lecture
Unit-V	Role of INA, INA Trials & RIN Mutiny	C-49	Lecture
Unit-V	Take Home Assignment		Home Assignment
Unit-V	Constitutional Formulas: Wavell Plan.	C-50	Lecture
	Presentation	C-51	Presentation
Unit-V	Constitutional Formulas: Cripps and Cabinet Mission	C-52	Lecture
Unit-V	Constitutional Formulas: Cripps and Cabinet Mission	C-53	Lecture
Unit-V	Mountbatten plan, Circumstances leading to Partition & Independence	C-54	Lecture
Unit-V	Mountbatten plan, Circumstances leading to Partition & Independence	C-55	Lecture
Unit-V	Mountbatten plan, Circumstances leading to Partition & Independence	C-56	Lecture
Unit-V	Clarification Class	C-57	Clarification Class
	Class Room Assignment	C-58	Class Room Assignment
Unit-V	Seminar	C-59	Seminar
Unit-V	Activity- IV	C-60	Activity

BAGC33152– Indian Constitution (DSC)

Unit	Particulars	Class No.	Pedagogy of Class
Unit-I	Introduction About the Subject and COS, POS	C-1	Lecture
Unit-I	Independence and integration of Indian States	C-2	Lecture
Unit-I	Independence and integration of Indian States	C-3	Lecture
Unit-I	A case Study of Junagarh	C-4	Lecture
Unit-I	A case Study of Hyderabad	C-5	Lecture
Unit-I	A case Study of Goa	C-6	Lecture
Unit-I	A case Study of Kashmir	C-7	Lecture
Unit-I	Clarification Class-	C-8	Clarification Class
Unit-II	Philosophy of Indian Constitution	C-9	Lecture
Unit-II	Philosophy of Indian Constitution	C-10	Lecture
Unit-II	Debates on National Language	C-11	Lecture
Unit-II	Debates on National Flag,	C-12	Lecture
	Take Home Assignments		Take Home Assignments
Unit-II	Debates on National Anthem	C-13	Lecture
Unit-II	Debates on National Song	C-14	Lecture
Unit-II	Debates on Minority Rights	C-15	Lecture
Unit-II	Debates on Minority Rights	C-16	Lecture
Unit-II	Clarification Class-	C-17	Clarification Class
Unit-III	Salient Features of the Indian Constitution	C-18	Lecture
Unit-III	Preamble	C-19	Lecture
Unit-III	Activity	C-20	Activity
	Class Room Assignment	C-21	Class Room Assignment
Unit-III	Fundamental Rights	C-22	Lecture
Unit-III	Directive Principles of State Policy	C-23	Lecture
Unit-III	Directive Principles of State Policy	C-24	Lecture
Unit-III	Procedure in the Constitutional Amendment	C-25	Lecture
Unit-III	Procedure in the Constitutional Amendment	C-26	Activity
Unit-III	Clarification Class	C-27	Clarification Class
	Take Home Assignments		Take Home Assignments
Unit-IV	Structure of the Central and State Governments	C-28	Lecture
Unit -IV	President	C-29	Lecture
Unit-IV	Governor	C-30	Lecture
Unit-IV	Parliament	C-31	Lecture
Unit-IV	State Legislature	C-32	Lecture
Unit-IV	Activity	C-33	Activity
Unit-IV	Prime Minister	C-34	Lecture
Unit-IV	Quiz	C-35	Quiz
Unit-IV	Chief Minister	C-36	Lecture
Unit-IV	Clarification Class	C-37	Clarification Class
Unit-V	Judiciary in India	C-38	Lecture
Unit-V	Supreme Court Structure and Functions	C-39	Lecture
Unit-V	Supreme Court Structure and Functions	C-40	Lecture
Unit-V	High Courts Structure and Functions	C-41	Lecture
Unit-V	High Courts Structure and Functions	C-42	Lecture

Unit-V	Judicial Accountability	C-43	Lecture
Unit-V	Activity	C-44	Lecture
Unit-V	Judicial Activism	C-45	
	Class Room Assignment	C-46	Class Room Assignment
Unit-V	Judicial Overreach	C-47	Lecture
Unit-V	Clarification Class-	C-48	Clarification Class-
Unit-VI	Centre- State Relations in India	C-49	Lecture
	Take Home Assignment		Take Home Assignment
Unit-VI	Legislative, Executive and Financial Relations	C-50	Lecture
	Presentation	C-51	Presentation
Unit-VI	Legislative, Executive and Financial Relations	C-52	Lecture
Unit-VI	Legislative, Executive and Financial Relations	C-53	Lecture
Unit-VI	Contemporary Debates in Indian Federalism	C-54	Lecture
Unit-VI	Contemporary Debates in Indian Federalism	C-55	Lecture
Unit-VI	Contemporary Debates in Indian Federalism	C-56	Lecture
Unit-VI	Clarification Class-	C-57	Clarification Class-
	Class Room Assignment	C-58	Class Room Assignment
Unit-VI	Seminar	C-59	Seminar
Unit-VI	Activity	C-60	Activity

BAGC34153- Macro Economics (DSC)

Unit	Particulars	Class No.	Pedagogy of Class
Unit-I	Overview of the subject and basic concepts	C-1	Lecture
Unit-I	Variables of macroeconomics, income and expenditure	C-2	Lecture
Unit-I	Circular flow of income	C-3	Lecture
Unit-I	Components of expenditure	C-4	Lecture
Unit-I	Static macroeconomic analysis	C-5	Lecture
Unit-I	Determination of supply and demand	C-6	Lecture
Unit-I	Determination of supply and demand	C-7	Lecture
Unit-I	Conditions of equilibrium	C-8	Lecture
	Class Assignment	C-9	Class Assignment
Unit-I	Clarification Class	C-10	Clarification Class
Unit-II	IS-LM Approach	C-11	Lecture
Unit-II	Fiscal and Monetary Policy	C-12	Lecture
Unit-II	Determination of aggregate demand	C-13	Lecture
Unit-II	Shifts in aggregate demand	C-14	Lecture
Unit-II	Shifts in aggregate demand	C-15	Lecture
Unit-II	Aggregate supply in the short and long run	C-16	Lecture
	Home Assignment		Home Assignment
Unit-II	Aggregate supply in the short and long run	C-17	Lecture
Unit-II	AD-AS Analysis	C-18	Lecture
Unit-II	Clarification Class	C-19	Clarification Class
	Presentation	C-20	Presentation
Unit-III	Inflation - Meaning and Causes	C-21	Lecture
Unit-III	Inflation and interest rates	C-22	Lecture
	Class Assignment	C-23	Class Room Assignment
Unit-III	Unemployment – natural rate of unemployment	C-24	Lecture
Unit-III	Frictional and wait unemployment	C-25	Lecture
Unit-III	Labor market and its interaction with production system	C-26	Lecture
Unit-III	Activity	C-27	Activity
Unit-III	Phillips curve	C-28	Lecture
Unit-III	The tradeoff between inflation and unemployment	C-29	Lecture
Unit-III	Sacrifice ratio	C-30	Lecture
Unit-III	Role of expectations adaptive and rational	C-31	Lecture
Unit-III	Clarification Class	C-32	Clarification Class
	Presentation	C-33	Presentation
	Home Assignment	C-34	Take Home Assignments
Unit-IV	Open Economy - Flow of goods and services	C-35	Lecture
Unit-IV	Savings and investments	C-36	Lecture
Unit-IV	Savings and investments	C-37	Lecture
Unit-IV	Exchange Rates	C-38	Lecture
Unit-IV	Exchange Rates	C-39	Lecture
Unit-IV	Mundell – Fleming model	C-40	Lecture
Unit-IV	Mundell – Fleming model	C-41	Lecture
Unit-IV	Mundell – Fleming model	C-42	Lecture

Unit-IV	Interest-rate differentials case of a large economy	C-43	Lecture
Unit-IV	Interest-rate differentials case of a large economy	C-44	Lecture
Unit-IV	Clarification Class	C-45	Clarification Class
Unit-IV	Quiz Class	C-46	Quiz
Unit-IV	Seminar	C-47	Seminar
Unit-V	Investment determinants of business fixed investment	C-48	Lecture
Unit-V	Effect of tax	C-49	Lecture
Unit-V	determinants of residential investment and inventory investment	C-50	Lecture
	Class Assignment	C-51	Class Room Assignment
Unit-V	Demand for Money	C-52	Lecture
Unit-V	Demand for Money	C-53	Lecture
	Presentation	C-54	Presentation
Unit-V	Portfolio and transactions theories of demand for real balances	C-55	Lecture
Unit-V	Interest and income elasticities of demand for real balances	C-56	Lecture
Unit-V	Quiz	C-57	Quiz
	Home Assignment		Take Home Assignments
Unit-V	Supply of money	C-58	Lecture
Unit-V	Supply of money - Technical Analysis and Problems	C-59	Lecture
	Clarification Class	C-60	Clarification Class

GEC066011- Computer Applications (GE)

Unit	Particulars	Class No.	Pedagogy of Class
Unit-I	Introduction: Hardware/Software Model of a Computer	C-1	Lecture
Unit-I	Various types of computers	C-2	Lecture
Unit-I	Programs And Processes working	C-3	Lecture
Unit-I	Introduction to Programming: Concept of algorithms	C-4	Lecture
Unit -I	Introduction to Programming: Concept of algorithms	C-5	Lecture
Unit-I	Flow Charts, Data Flow diagrams etc.	C-6	Lecture
Unit-I	Flow Charts, Data Flow diagrams etc.	C-7	Lecture
	Presentation	C-8	Presentation
Unit-I	Flow Charts, Data Flow diagrams etc.	C-9	Lecture
Unit-I	Webinar	C-10	Webinar
Unit-I	Clarification Class	C-11	Clarification Class
Unit-II	Basics of Computer Network	C-12	Lecture
Unit-II	Introduction to computer network, data Communication, components of data communication	C13	Lecture
Unit-II	Introduction to computer network, data Communication, components of data communication	C-14	Lecture
Unit-II	Data transmission mode	C-15	Lecture
Unit-II	LAN, MAN, WAN, wireless LAN, internet, intranet, extranet	C-16	Lecture
Unit-II	Network Models: Client/ server network And Peer-to-peer network	C-17	Lecture
Unit-II	OSI, TCP/IP, layers and functionalities	C-18	Lecture
Unit-II	LAN Topologies: Ring, Bus, star, mesh and tree topologies	C-19	Lecture
Unit-II	Network Devices: NIC, repeaters, hub, bridge, switch, Gateway and router.	C-20	Lecture
Unit-II	Network Devices: NIC, repeaters, hub, bridge, switch, Gateway and router.	C-21	Lecture
Unit-II	Webinar	C-22	Webinar
Unit-II	Quiz	C-23	Quiz
Unit-II	Clarification Class	C-24	Clarification Class
Unit-III	Web page, Home page, website, internet browsers	C-25	Lecture
Unit-III	URL, Hypertext, ISP, Web server, download and upload, online and offline	C-26	Lecture
Unit-III	URL, Hypertext, ISP, Web server, download and upload, online and offline	C-27	Lecture
Unit-III	Internet Applications: www, telnet, ftp, e-mail, social networks	C-28	Lecture
Unit-III	Search engines, Video Conferencing, e-Commerce, m-Commerce, VOIP, blogs.	C-29	Lecture
Unit-III	Search engines, Video Conferencing, e-Commerce, m-Commerce, VOIP, blogs.	C-30	Lecture
Unit-III	Clarification Class-3	C-31	Clarification Class
Unit-III	Webinar	C-32	Webinar
Unit-III	Quiz	C-33	Quiz
Unit-III	Guest lecture	C-34	Guest Lecture
	Presentation-	C-35	Presentation

Unit-IV	Origin and concepts, Searching the Internet	C-36	Lecture
Unit-IV	Web Search, Web Surveys, e-mails, Blogging	C-37	Lecture
Unit-IV	Video Conference, Online Legal Database – Manupatra, Hein Online, Westlaw India.	C-38	Lecture
Unit-IV	Video Conference, Online Legal Database – Manupatra, Hein Online, Westlaw India.	C-39	Lecture
Unit-IV	Clarification Class	C-40	Clarification class
Unit-V	Application Software: Word Processing Basics	C-41	Lecture
Unit-V	Typing in word processing, Text formatting	C-42	Lecture
Unit-V	Use of formatting Tools	C-43	Lecture
Unit-V	Tables, Mail Merge	C-44	Lecture
Unit-V	Spreadsheets with headers, footers & footnotes	C-45	Lecture
Unit-V	Creating, Saving & Editing a workbook, Cell Entries, Graphs & Charts	C-46	Lecture
Unit-V	Clarification Class	C-47	Clarification class
	Presentation	C-48	Presentation
Unit-VI	Microsoft Excel basics, rearranging worksheets	C-49	Lecture
Unit-VI	excel formatting tips and techniques, introduction to functions	C-50	Lecture
Unit-VI	Excel's chart buildup - features, using worksheet as databases, automating	C-51	Lecture
Unit-VI	Microsoft PowerPoint basics	C-52	Lecture
Unit-VI	creating presentation the easy way, working with text in PowerPoint	C-53	Lecture
Unit-VI	Presentation with Power-Point: creating presentation, working with graphics, show time, sound effects and animation effects	C-54	Lecture
Unit-VI	Presentation with Power-Point: creating presentation, working with graphics, show time, sound effects and animation effects	C-55	Lecture
Unit-VI	Presentation with Power-Point: creating presentation, working with graphics, show time, sound effects and animation effects	C-56	Lecture
Unit-VI	Formatting of presentations slides	C-57	Lecture
Unit-VI	Adding Hyperlinks and Multimedia to the presentations.	C-58	Lecture
Unit-VI	Adding Hyperlinks and Multimedia to the presentations.	C-59	Lecture
Unit-VI	Clarification Class	C-60	Clarification Class

AECE55001-Study of Ecosystem and Natural Resources (AEC)

Unit	Particulars	Class No.	Pedagogy of Class
Unit-I	Introduction to Environmental Studies Multidisciplinary nature of environmental studies;	C-1	Lecture
Unit-I	Scope and importance; Need for public awareness.	C-2	Lecture
Unit I	What is an ecosystem? Structure and function of the ecosystem;	C-3	Lecture
Unit-I	Energy flow in an ecosystem: food chains, food webs, and ecological succession.	C-4	Lecture
Unit-I	Case studies of the following ecosystems: a) Forest ecosystem ecosystem	C-5	Lecture
Unit-I	Grassland ecosystem	C-6	Lecture
Unit-I	Desert ecosystem	C-7	Lecture
Unit-I	Clarification Class	C-8	Clarification Class
Unit-I	Quiz	C-9	Quiz
Unit-II	Aquatic ecosystems (ponds, streams)	C-10	Lecture
Unit-II	Visit to Biodiversity Park	C-11	Activity
Unit-II	Aquatic ecosystems (lakes, rivers,)	C-12	Lecture
Unit -II	Take Home Assignments		Take Home Assignments
Unit-II	d) Aquatic ecosystems (oceans, estuaries)	C-13	Lecture
	Presentation	C-14	Presentation
	Class Room Assignment	C-15	Class Room Assignment
Unit-II	Renewable and Non-renewable Resources,	C-16	Lecture
Unit-II	Land resources and land use change;	C-17	Lecture
Unit-II	Land degradation, soil erosion, and desertification	C-18	Lecture
Unit-II	Quiz	C-19	Quiz
Unit- II	Deforestation: Causes and impacts due to mining, and dam building on the environment,	C-20	Lecture
	Class Room Assignment	C-21	Class Room Assignment
Unit-II	Causes and impacts due to mining, and dam building on the forests, biodiversity, and tribal populations.	C-22	Lecture
Unit-II	Water: Use and over-exploitation of surface and groundwater	C-23	Lecture
Unit-II	Floods, droughts, and conflicts over water (international & inter-state).	C-24	Lecture
Unit-II	Energy resources: Renewable and nonrenewable energy sources,	C-25	Lecture
Unit-II	Use of alternate energy sources	C-26	Lecture
Unit-II	Use of alternate energy sources	C-27	Lecture
Unit-II	Growing energy needs	C-28	Lecture
Unit-II	Case studies	C-29	Lecture
Unit-II	Clarification Class	C-30	Clarification Class

SEC077002– Ability & Skill Enhancement- (SEC)

Unit	Particulars	Class No.	Pedagogy of Class
Unit-I	Phonetic symbols and the International Phonetic Alphabets (IPA Introduction Importance	C-1	Lecture
Unit-I	The Description and Classification of Vowels (Monophthongs & Diphthong) Consonants,	C-2	Lecture
Unit-I	The introduction and Classification of Vowels and Consonant	C-3	Lecture
Unit-I	Syllable, Stress &Intonations and symbols of consonants	C-4	Lecture
Unit-I	Reading aloud, recording audio clips. Phonetic Transcription and Phonology	C-5	Lecture
Unit-I	Class Phonetic Transcription	C-6	Lecture
Unit-I	Transcription practice	C-7	Lecture
Unit-I	Clarification Class	C-8	Clarification Class
Unit-II	Idioms and Phrases	C-9	Lecture
Unit-II	Idioms and Phrases, Words Often Confused	C-10	Lecture
Unit-II	one word substitution word Formation Prefix and Suffix	C-11	Activity
Unit-II	Words often confused	C-12	Lecture
	Take Home Assignment		Take Home Assignments
Unit-II	Clarification Class	C-13	Clarification Class
	Presentation	C-14	Presentation
Unit-III	What are ethics, what are values, difference between ethics and moral	C-15	Lecture
	Class Room Assignment	C-16	Class Room Assignment
Unit-III	Picture Description, Paragraph Writing	C-17	Activity
Unit-III	Business ethics, workplace ethics, what are virtues for e.g. civic virtues, etc.	C-18	Lecture
Unit-III	QUIZ	C-19	Quiz
Unit-III	Human ethics 5 core human values are: right conduct, living in peace, speaking the truth, loving and care, and helping others.	C-20	Lecture
	Classroom assignment-Group Activity (Discussions)	C-21	Class Room Assignment
Unit-III	Etiquettes awareness importance of First Impression Personal Appearance & Professional presence, Personal Branding, Dressing Etiquette	C-22	Lecture
Unit-III	Dining Etiquettes	C-23	Activity
Unit-III	Clarification Class	C-24	Clarification Class
Unit-IV	Comprehension	C-25	Lecture
Unit-IV	News Reading, News Writing	C-26	Activity
Unit-IV	Presentation	C-27	Presentation
Unit-IV	Public Speaking, Debate	C-28	Activity
Unit-IV	Inspirational Movie Screening	C-29	Activity
Unit-IV	Skit Performance	C-30	Activity

VAC088013-Renewable Energy and Energy Harvesting (VAC)

Unit	Particulars	Class No.	Pedagogy of Class
Unit-I	Fossil fuels and Nuclear Energy, their limitation, need of renewable energy, nonconventional energy sources.	C-1	Lecture
Unit-I	An overview of developments in Offshore Wind Energy, Tidal Energy, Wave energy systems, Ocean Thermal Energy Conversion,	C-2	Lecture
Unit-I	Solar energy, biomass, biochemical conversion, biogas generation, geothermal energy tidal energy, Hydroelectricity.	C-3	Lecture
Unit-I	Solar energy, its importance, storage of solar energy, solar pond, non-convective solar pond,	C-4	Lecture
Unit-I	Applications of the solar pond and solar energy. Solar water heater, flat plate collector,	C-5	Lecture
Unit-I	Solar distillation, solar cooker, solar green houses, solar cell, absorption air conditioning.	C-6	Lecture
Unit-I	Need and characteristics of photovoltaic (PV) systems, PV models and equivalent circuits, and sun tracking systems.	C-7	Lecture
	Home Assignments		Home Assignments
Unit-I	Clarification Class	C-8	Clarification Class
Unit-II	Wind Turbines and different electrical machines in wind turbines, Quiz	C-9	Lecture
Unit-II	Power electronic interfaces, and grid-inter connection topologies.	C-10	Lecture
Unit-II	Ocean Energy Potential against Wind and Solar, Wave Characteristics and Statistics,	C-11	Lecture
Unit-II	Wave Energy Devices Tide Energy Technologies, Ocean Thermal Energy, Osmotic Power, Ocean Bio-mass.	C-12	Lecture
	Take Home Assignments		Take Home Assignments
Unit-II	Clarification Class	C-13	Clarification Class
	Presentation	C-14	Presentation
Unit-III	Hydropower resources, hydropower technologies, environmental impact of hydro power sources.	C-15	Lecture
	Class Room Assignment	C-16	Class Room Assignment
Unit-III	Demonstration of Training modules on Solar energy, wind energy, etc.	C-17	Lecture
Unit-III	Introduction, Physics and characteristics of piezoelectric effect, materials and mathematical description of piezoelectricity	C-18	Lecture
Unit-III	Quiz	C-19	Quiz
Unit-III	Piezoelectric parameters and modeling piezoelectric generators, Piezoelectric energy harvesting applications,	C-20	Lecture
	Classroom Assignment	C-21	Class Room Assignment

Unit-III	Conversion of vibration to voltage using piezoelectric materials	C-22	Lecture
Unit-III	Activity	C-23	Activity
Unit-III	Clarification Class	C-24	Clarification Class
Unit-IV	Electromagnetic Energy Harvesting	C-25	Lecture
Unit-IV	Linear generators, physics mathematical models recent applications recent applications	C-26	Lecture
	Presentation	C-27	Presentation
Unit-IV	Carbon captured technologies, cell, batteries, power consumption. Environmental issues and Renewable sources of energy, sustainability.	C-28	Lecture
Unit-IV	Carbon captured technologies, cell, batteries, power consumption. Environmental issues and Renewable sources of energy, sustainability.	C-29	Lecture
Unit-IV	Clarification Class	C-30	Clarification Class

Note:

This is a tentative lesson plan. The same may change from faculty to faculty as per the teaching pedagogy adopted by the faculty.

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