



## Programme: Bachelor of Business Administration Scheme of Instruction First Year BBA Semester-I

S. No.	Type	Sub Code	Subjects	Contact Hours			Credits	% Weightage				ESE Duration Hours	Total Marks
				L	T	P		CT-I	CT-II	CA	ESE		
1	CC	BBA11101	Principles and Practices of Management	3	1	0	4	15	15	10	60	3	100
2	CC	BBA11102	Financial Accounting	3	1	0	4	15	15	10	60	3	100
3	CC	BBA11103	Business Statistics and Logic	3	1	0	4	15	15	10	60	3	100
4	AEC	BBA11104	Business Communication – I Lab	0	0	4	2	-	-	25	25	2	50
5	MDE	BCA11106	Indian Science and Technology (Past, Present and Future)	2	0	0	2	7	7	6	30	2	50
6	VAC	BBA11105	Environmental Science and Sustainability	2	0	0	2	7	7	6	30	2	50
7	AEC	BSH411104	Digital wellness & Basic Communication Lab	0	0	4	2	0	0	50	-	2	50
8	AEC	BSH41X01	Liberal Learning Courses-I Lab	0	0	4	2	0	0	50	-	2	50
				13	3	12	22	59	59	217	265	19	550

TOTALCREDITS:=22

Course Category	CC	AEC	MDE	VAC
Credits	12	6	2	2
Cumulative Sum	12	6	2	2

				June, 2026	2.00	Applicable for AY 2026-27
Chairperson	Vice Principal / Director Academics	Director Administration	Principal	Date of Release	Version	



**Tulsiramji Gaikwad-Patil College of Engineering and Technology**  
Wardha Road, Nagpur-441 108  
**NAAC Accredited with A+ Grade**  
(An Autonomous Institute Affiliated to RTM Nagpur University, Nagpur)



**Program: Bachelor of Business Administration Semester-I**

Teaching Scheme		BBA11101: Principles and Practices of Management	Examination Scheme	
Lecture	3 Hrs./week		CT-I	15 Marks
Tutorial	1 Hrs./week		CT-II	15 Marks
Total Credits	4		CA	10 Marks
Duration of ESE: 3 Hrs.			ESE	60 Marks
		<b>Total Marks</b>	<b>100 Marks</b>	

**Course Objectives:**

1. To understand the basic concepts, principles and theories of management
2. To examine the essential functions of managers
3. To analyze the impact of globalization, diversity, and ethics on management.
4. To develop skills in strategic planning, decision-making, and leadership

**Course Contents**

<b>Unit I</b>	<b>Introduction to Management:</b> Definition, nature, and significance of management, principles of management, management and administration, levels of management, role of managers and managerial skills; Evolution of management thought: Classical, Behavioral, Quantitative, Systems, Contingency and Modern approaches; Management as a science and an art; Functions of management: Planning, organizing, leading, and controlling.
<b>Unit II</b>	<b>Planning, Organizing and Staffing:</b> Nature, Importance and Purpose of planning in management; Types of plans: Strategic, tactical, operational; Planning process and techniques; Decision-making- Importance and steps, decision making models and tools; Organizational structure and design; types of organizational structures: Functional, divisional, matrix; Authority, responsibility, and delegation, Centralization Vs Decentralization of authority and responsibility – Span of Control; Coordination and integration, MBO and MBE; Nature and Importance of staffing – Process of selection and recruitment
<b>Unit III</b>	<b>Leading, Directing and Controlling:</b> Meaning and nature of directing, Leadership theories (trait, behavioral, contingency, participative, charismatic, transformational, level-5 leader), Motivation theories and practices (Maslow, Herzberg two factor, McGregor's theory X & theory Y), Hawthorne effect, Communication (meaning and importance) in management, Team building and group dynamics; Controlling-meaning and steps in controlling, control process and systems, essentials of sound control system, methods of establishing control, types of control; Performance measurement and management.
<b>Unit IV</b>	<b>Strategic Management, Ethics and Social Responsibility:</b> Overview of strategic management, SWOT analysis and strategic formulation, Implementing and evaluating strategies. Ethical issues in management, Corporate social responsibility (CSR), Sustainable management practices.

**Text Books**

T.1	Rao, V.S. P. Management Principles and Applications. Taxmann Publications.
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T.2	Bright, Detal. Principles of Management. OpenStax Textbooks, Houston
T.3	Kapoor, Premvir, Principles of Management, Khanna Book Publishing
T.4	ones,G.R.,andGeorge,J.M.Essentialsofcontemporarymanagement.NewYork,NY: McGraw-Hill Education
T-5	Robbins, S.P. & Coulter, M.A. Management. Pearson.
<b>Reference Books</b>	
R.1	Indian Business Rising: The Contemporary Indian Way of Conducting Business-And How It Can Help You Improve Your Business Harvard Business Review Press 5813BC-PDF-ENG
<b>Useful Links</b>	
1	<a href="https://hbsp.harvard.edu/product/5813BC-PDF-ENG?Ntt=practices+of+management">https://hbsp.harvard.edu/product/5813BC-PDF-ENG?Ntt=practices+of+management</a>

### Reflective Exercises and Cases:

1. Entrepreneurial Leadership in Forming High Tech Enclaves: Lessons from the Government of Andhra | F. Warren McFarlan, Espen Andersen, Ramiro Model curriculum for UG Degree in BBA Montealegre | Harvard Business School | 308079-PDF-ENG| <https://hbsp.harvard.edu/product/308079-PDF-ENG?>
2. ATH Technologies by Robert Simons and Jennifer Packard <https://www.hbs.edu/faculty/Pages/item.aspx?num=52711>
3. Article review and discussion: Application of Ancient Indian Philosophy in Modern Management [http://www.irdindia.in/journal\\_ijrdmr/pdf/vol5\\_iss4/8.pdf](http://www.irdindia.in/journal_ijrdmr/pdf/vol5_iss4/8.pdf)
4. Review of Lincoln Electric Co. by Norman Berg.
5. Review of Hawthorne case.
6. Leadership Lessons from India | Peter Cappelli, Harbir Singh, Jitendra V. Singh, Michael Useem | Harvard Business Review | R1003G-PDF-ENG | <https://hbsp.harvard.edu/product/R1003G-PDF-ENG?>
7. Traditional Way of Learning Ayurveda and Practising It: A Dialogue with Vaidya Bhaskarbai Hardikar | Mukund Dixit, Sanjay Verma | IIM Ahmedabad | A00135-PDF-ENG <https://hbsp.harvard.edu/product/A00135-PDF-ENG?>
8. Forest Essentials: Demystifying India's Luxury Ayurveda Brand | Veena Vohra, Seema Khanvilkar | Ivey Publishing | W28410-PDF-ENG| <https://hbsp.harvard.edu/product/W28410-PDF-ENG?>
9. Atijeevan Foundation: Transforming Scars into Strength | Shubham Sharma, Satyendra C Pandey|Ivey Publishing|W36939-PDF-ENG|<https://hbsp.harvard.edu/product/W36939-PDF-ENG?>
10. How Do Great Leaders Overcome Adversity? By Mayo (2024) <https://hbswk.hbs.edu/item/cold-call-how-do-great-leaders-overcome-adversity>
11. Leadership principles from Hindu scriptures <https://blog.hua.edu/blog/leadership-principlesfrom-hindu-scriptures>
12. Principles of Purposeful Leadership | Hubert Joly | Harvard Business Review | H06YSB-PDF-ENG | <https://hbsp.harvard.edu/product/H06YSB-PDF-ENG?>
13. Bharti Airtel(A)|C.K.Prahalad,M.S.Krishnan,SheelMohnot|WDIPublishing|W88C34-PDF-ENG | <https://hbsp.harvard.edu/product/W88C34-PDF-ENG?>

<b>Code</b>	<b>Course Outcome (CO)</b>	<b>CL</b>	<b>Class Session</b>
<b>BBA11101.1</b>	Explain the fundamental principles and functions of management and describe various schools of management thought.	2	10
<b>BBA11101.2</b>	Apply planning techniques and decision-making tools to develop effective organizational structures and staffing strategies.	3	10
<b>BBA11101.3</b>	Analyze leadership and motivation theories along with control systems to enhance managerial effectiveness.	4	10
<b>BBA11101.4</b>	Evaluate strategic management processes and ethical practices to recommend sustainable and socially responsible business decisions.	5	10

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**Program: Bachelor of Business Administration Semester-I**

Teaching Scheme		BBA11102: Financial Accounting	Examination Scheme	
Lecture	3 Hrs./week		CT-I	15 Marks
Tutorial	1Hrs./week		CT-II	15 Marks
Total Credits	4		CA	10 Marks
Duration of ESE: 3Hrs.			ESE	60 Marks
		Total Marks	100Marks	

**Course Objectives:**

1.	To provide an understanding of application of various principles and practice of accounting.
2.	To demonstrate the knowledge on the process of accounting cycle and basic steps involved in accounting
3.	To apply the knowledge of systematic maintenance of books of accounts to real life business
4.	To estimate Annual Financial statements of Sole proprietorship and Company form of business.

**Course Contents**

<b>Unit I</b>	<b>Introduction to Accounting, Accounting system and process:</b> Meaning, Need for accounting and accounting information system, Stakeholder using accounting information, Qualitative aspects of financial accounting, Accounting standards in India and International (outline), Branches of Accounting, Types of Business Organizations, Accounting taxonomy, Accounting concepts and conventions, Accounting concept of income and expenditure, Classification of capital and revenue-expenditure and income, accounting equation of assets equals capital and liabilities, accounting process, contingent assets and liabilities, Fictitious assets
<b>Unit II</b>	<b>Recording transactions and Trial balance:</b> Transactions -nature, Entry in Journal, Purchases, sales, Returns, Receivables, and payables, Inventory, Depreciation and amortizations, reserves, Intangible assets accounting, GST transactions, Entry in Ledger, Accounting accuracy through Trial balance, correction of errors.
<b>Unit III</b>	<b>Final Accounts:</b> Preparation of Trading and Profit and Loss account, cash books, and Balance Sheet of sole trading concerns, importance of disclosures in final accounts
<b>Unit IV</b>	<b>Company Final Accounts:</b> Introduction to company – kinds, share capital, issue of shares, schedules to accounts, financial statements as per Companies Act- 2013, Provisions as to Preparation of Financial Statements, Preparation of Income statement and Balance sheet (horizontal and Vertical). Green Accounting and Sustainable Reporting- Need and objectives, Sustainability reporting need and methods, data collection, analysis for sustainable reporting to improve value of business, IFRS Financial sustainability disclosure standards.

**Text Books**

T.1	Jain S.P., & Narang K.L.. Basic Financial Accounting I, New Delhi, Kalyani publishers 9788125937142
T.2	Kimmel, Financial accounting, Wiley Publications

T.3	Gupta,A..FinancialAccountingforManagement:AnAnalyticalPerspective,Noida,Pearson Education.
T.4	S.N.Maheshwari,and.S.K.Maheshwari.FinancialAccounting.VikasPublishingHouse, New Delhi.
T.5	Ashishk Battacharya , Essentials of financial accounting for Business Managers, Six, PHL learning.
<b>Reference Books</b>	
R.1	Peter Bartelmus, E K Seifert, Green Accounting, London, Routledge Publications
R.2	Shula and Grewal : Advanced Accounts (S.Chand & Ltd. New Delhi)
<b>Useful Links</b>	
1	<a href="https://open.umn.edu/opentextbooks/textbooks/4">https://open.umn.edu/opentextbooks/textbooks/4</a>
2	Accounting for sustainability: <a href="http://www.ifac.org">www.ifac.org</a>
3	IFRSsustainabilitystandards: <a href="http://www.ifrs.org">www.ifrs.org</a>

### Suggested Cases

1. Smokey Valley Cafe
2. Irrigation Equipment's Limited
3. Monarch Trading Company

Code	Course Outcome (CO)	CL	Class Session
<b>BBA11102.1</b>	Describe the fundamental accounting concepts, conventions, branches, and qualitative aspects of financial accounting, including stakeholder needs and standards.	2	10
<b>BBA11102.2</b>	Apply accounting principles to record financial transactions in journals and ledgers and prepare a trial balance for accuracy.	3	10
<b>BBA11102.3</b>	Prepare Trading, Profit & Loss Accounts and Balance Sheets for sole proprietorships, incorporating necessary disclosures.	3	10
<b>BBA11102.4</b>	Analyze company final accounts and sustainability reports in accordance with the Companies Act 2013 and IFRS standards.	4	10

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**Program: Bachelor of Business Administration Semester-I**

Teaching Scheme		BBA11103: Business Statistics and Logic	Examination Scheme	
Lecture	3 Hrs./week		CT-I	15 Marks
Tutorial	1 Hrs./week		CT-II	15 Marks
Total Credits	4		CA	10 Marks
Duration of ESE: 3Hrs.			ESE	60 Marks
		Total Marks	100Marks	

**Course Objectives:**

1.	To establish importance of logical reasoning in human inquiry.
2.	To demonstrate data handling skills and summarize data with clarity.
3.	To extend an understanding of application of relevant concepts of Statistics to a given business scenario.
4.	To understand business problems and make decisions using appropriate statistical models and explain trends
5.	To demonstrate the knowledge on the process of organizing a data and conduct statistical treatment.

**Course Contents**

<b>Unit I</b>	<b>Measures of Central Tendency, Dispersion, Measures of Skewness and Kurtosis:</b> Classification and tabulation of data, frequency distribution, diagrams and graphs, measure of central tendency-arithmetic mean, weighted arithmetic mean, median, mode, geometric mean and harmonic mean (theory only) and meaning of partition values- quartiles, deciles, percentiles, measures of dispersion -range, quartile deviation, mean deviation from mean and median, standard deviation and coefficient of variation. <b>Skewness</b> - meaning, difference between dispersion and skewness, Karl Pearson's and Bowley's measures of skewness, concept of kurtosis, types of kurtoses and importance.
<b>Unit II</b>	<b>Correlation and Regression:</b> Meaning, definition and use of correlation, covariance, scatter diagram, types of correlation, Karl Pearson's correlation coefficient, Spearman's Rank correlation coefficient, probable error. regression- meaning and utility of regression analysis, comparison between correlation and regression, regression lines -x on y, y on x, regression equations and regression coefficients. meaning,
<b>Unit III</b>	<b>Probability and Probability distributions:</b> Introduction to probability, basic concepts of probability- classical definition, addition and multiplication rules, probability distributions - binomial, poisson and normal distributions, expected value.
<b>Unit IV</b>	<b>Introduction to Logic:</b> Number series, coding decoding and odd man out series, direction sense test, seating arrangements - linear and circular, blood relations, arithmetic and geometric progressions, Inductive and deductive reasoning



**Text Books**

T.1	Levin R.I. & Rubin D.S. Statistics for Management. Delhi: Pearson.
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T.2	Pillai & Bagavathi. Statistics, Theory and Practice, S Chand Publishing
T.3	S P Gupta. Statistical Methods, Sultan Chand and Sons
T.4	S C Gupta. Fundamentals of Statistics, Himalaya Publishing House
T.5	Sharma, Gupta, The Practice of Business Statistics, Khanna Publishing House.
T.6	Sharma J.K. Business Statistics, Vikas Publishing House
<b>Reference Books</b>	
R.1	Fildes, R., & Goodwin, P. (2007). Against your better judgment? How organizations can improve their use of management judgment in forecasting. <i>Interfaces</i> , 37(6), 570-576
R.2	Stanovich, K.E., & West, R.F. (2000). Individual differences in reasoning: Implications for the rationality debate? <i>Behavioral and Brain Sciences</i> , 23(5), 645-665.
<b>Useful Links</b>	
1	<a href="https://open.umn.edu/opentextbooks/textbooks/4">https://open.umn.edu/opentextbooks/textbooks/4</a>

Code	Course Outcome (CO)	CL	Class Session
<b>BBA11103.1</b>	Explain and interpret various measures of central tendency, dispersion, skewness, and kurtosis used in statistical data analysis.	2	10
<b>BBA11103.2</b>	Apply correlation and regression techniques to analyze and interpret relationships between variables.	3	10
<b>BBA11103.3</b>	Solve problems related to probability and use appropriate probability distributions to model random events.	3	10
<b>BBA11103.4</b>	Analyze and solve logical reasoning problems using number series, coding-decoding, seating arrangements, and deductive reasoning.	4	10

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<b>Program: Bachelor of Business Administration</b>			
<b>Semester-I</b>	<b>BBA11104: Business Communication-I</b>		
<b>Teaching Scheme</b>		<b>Examination Scheme</b>	
<b>Theory</b>	3 Hrs./week	<b>CT-I</b>	15 Marks
<b>Tutorial</b>	-	<b>CT-II</b>	15 Marks
<b>Total Credits</b>	<b>3</b>	<b>CA</b>	10 Marks
<b>Duration of ESE: 3 Hrs</b>		<b>ESE</b>	60 Marks
<b>Pre-Requisites:</b>		<b>Total Marks</b>	<b>100 Marks</b>
<b>Course Objectives:</b>			
1.	To develop awareness of the complexity of the communication process.		
2.	To develop effective listening skills in students so as to enable them to comprehend instruction and become a critical listener.		
3.	To develop effective oral skills so as to enable students to speak confidently interpersonally as well as in large groups.		
4.	To develop effective writing skills so as to enable students to write in a clear, concise, persuasive and audience centered manner.		
5.	To develop ability to communicate effectively with the help of electronic media		
<b>Course Contents</b>			
<b>Unit I</b>	Concept of Communication, Channels and Objectives of Communication 3 Channels, Methods and Modes of Communication Verbal and Nonverbal, Problems in Communication / Barriers to Communication, listening.		
<b>Unit II</b>	Business Correspondence: Theory of Business Letter Writing, Personnel Correspondence, Statement of Purpose Job Application Letter and Resume Letter of Acceptance of Job Offer, Letter of Resignation		
<b>Unit III</b>	Language and Writing Skills: Paragraph Writing, Commercial Terms used in Business Communication		
<b>Unit IV</b>	Group Discussion: Understanding the nature of discussion, Difference between debate and discussion, Ways to form and present the arguments, Ways to defend. Creativewritingtoknowone'sownthoughtsandcreativeexpressionsofthosethoughtsin different forms such as Stories, Poems, First Person Narration, Diary, etc.		
<b>Text Books</b>			
T.1	Business Communication & Communicative English, by Swati Samantaray		

T.2	Basic Business Communication by S.N. Prasad
T.3	Ghanekar.A(1996)CommunicationSkillsforEffectiveManagement.EverestPublishing House. Pane.
<b>Reference Books</b>	
R.1	Bovee,Courtland,JohnThill&MukeshChaturvedi.BusinessCommunicationToday:Dorling Kindersley, Delhi
R.2	Kaul, Asha: Business Communication: Prentice-Hall of India, Delhi
<b>Useful Links</b>	
1	<a href="https://open.umn.edu/opentextbooks/textbooks/4">https://open.umn.edu/opentextbooks/textbooks/4</a>

Sr. No.	Experiment Name	Aim of the Experiment
1	Channels of Communication	To identify and demonstrate the use of the major channels of communication in business.
2	Verbal vs.Non verbal Communication	To understand and compare the effectiveness of verbal and non verbal communication methods.
3	Barriersto Communication	To identify common barriers to communication and explore strategies to overcome them.
4	Listening Skills Assessment	To evaluate the importance of listening in communication through a practical activity.
5	Draftinga Business Letter	To learn the format and tone of professional business letter writing.
6	Writing a Resume and Job Application Letter	To create a structured resume and job application for a chosen job role.
7	Writing a Statement of Purpose (SOP)	To write an effective S O P highlighting academic and career goals.
8	Paragraph Writingusing Business Terms	To enhance paragraph writing skills using key commercial and business-related terminology.
9	Conducting a Group Discussion	To understand the structure of group discussion and practice argument formulation and defence.
10	Creative Writing: First Person Diary Entry or Short Story	To express personal thoughts creatively using diary entry or storytelling format.

Code	Course Outcome (CO)	CL	Class Sessions
CO1	Underst and the concept, objectives, channels, and barriers of communication, including listening skills and verbal / non- verbal modes.	2	6
CO2	Apply principles of business correspondence to write formal letters such as job applications, SOPs, resumes, acceptance and resignation letters.	3	6
CO3	Demonstrate effective use of written language skills including paragraph writing and business vocabulary in professional contexts.	3	6
CO4	Develop interpersonal and creative expression through group discussions and forms of creative writing like stories, poems, and first-person narratives.	6	6

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**Program: Bachelor of Business Administration Semester-I**

Teaching Scheme		BBA11106: Environmental Science and Sustainability	Examination Scheme	
Lecture	2 Hrs./week		CT-I	7 Marks
Tutorial	0		CT-II	7 Marks
Total Credits	2		CA	6 Marks
Duration of ESE: 2 Hrs.			ESE	30 Marks
		Total Marks	50 Marks	

**Course Objectives:**

- To familiarize students with basic environmental concepts, the irrelevance to business operations, and forthcoming sustainability challenges.
- Equip students to make decisions that consider environmental consequences.
- Enable future business graduates to become environmentally sensitive and responsible managers.

**Course Contents**

<b>Unit I</b>	<b>Understanding Environment, Natural Resources, and Sustainability:</b> Fundamental environmental concepts and their relevance to business operations; Components and segments of the environment, the man-environment relationship, and historical environmental movements. Concepts of sustainability; Classification of natural resources, issues related to their overutilization, and strategies for their conservation. Sustainable practices in managing resources, including deforestation, water conservation, energy security.
<b>Unit II</b>	<b>Ecosystems, Biodiversity, and Sustainable Practices:</b> Various natural ecosystems, learning about their structure, functions, and ecological characteristics. The importance of biodiversity, the threats it faces, and the methods used for its conservation. Ecosystem resilience, homeostasis, and carrying capacity, emphasizing the need for sustainable ecosystem management.
<b>Unit III</b>	<b>Environmental Pollution, Waste Management, and Sustainable Development:</b> Various types of environmental pollution, including air, water, noise, soil, and marine pollution, and their impacts on businesses and communities. Causes of pollution, such as global climate change, ozone layer depletion, the greenhouse effect, and acid rain. Importance of adopting cleaner technologies; Solid waste management; Natural and man-made disasters
<b>Unit IV</b>	<b>Legislation, and Practical Applications:</b> Overview of key environmental legislation and the judiciary's role in environmental protection, including the Water (Prevention and Control of Pollution) Act of 1974, the Environment (Protection) Act of 1986, and the Air (Prevention and Control of Pollution) Act of 1981. Environmental justice, environmental refugees, and the resettlement and rehabilitation of affected populations; human population growth.

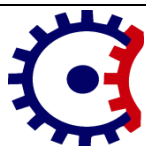
**Text Books**

T.1	Poonia, M.P. Environmental Studies, Khanna Book Publishing Co.
T.2	Bharucha, E. Textbook of Environmental Studies, Orient Blackswan Private Ltd.
T.3	Dave, D., & Katewa, S.S. Textbook of Environmental Studies. Cengage Learning India Pvt Ltd.

<b>Reference Books</b>	
R.1	Rajagopalan,R.Environmentalstudies:fromcrisistocure,OxfordUniversity Press.
R.2	Miller, G .T.& Spoolman S. Livingin theEnvironment. Cengage
<b>Useful Links</b>	
1	<a href="https://onlinecourses.swayam2.ac.in/imb23_mg55/preview">https://onlinecourses.swayam2.ac.in/imb23_mg55/preview</a>
2	<a href="https://www.ourplanet.com">https://www.ourplanet.com</a>
3	<a href="https://www.undp.org/content/undp/en/home/sustainable-development-goals.html">https://www.undp.org/content/undp/en/home/sustainable-development-goals.html</a>
4	<a href="http://www.myfootprint.org">www.myfootprint.org</a>
5	<a href="https://www.globalchange.umich.edu/globalchange1/current/lectures/klings/ecosystem/ecosystem.html">https://www.globalchange.umich.edu/globalchange1/current/lectures/klings/ecosystem/ecosystem.html</a>

<b>Code</b>	<b>Course Outcome (CO)</b>	<b>CL</b>	<b>Class Sessions</b>
<b>BBA11106.1</b>	Explain the fundamental environmental concepts, natural resource issues, and sustainable resource management practices relevant to business.	2	7
<b>BBA11106.2</b>	Analyze ecosystem functions and biodiversity conservation methods to support sustainable ecosystem management.	4	7
<b>BBA11106.3</b>	Evaluate the causes and effects of pollution and recommend sustainable waste management and cleaner technology practices.	5	7
<b>BBA11106.4</b>	Interpret key environmental laws and assess their role in promoting environmental justice and sustainable development.	2	7

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**Program: Bachelor of Business Administration Semester-I**

Teaching Scheme		BBA11105: Indian Science and Technology (Past, Present and Future)	Examination Scheme	
Lecture	2 Hrs./week		CT-I	7 Marks
Tutorial	0		CT-II	7 Marks
Total Credits	2		CA	6 Marks
Duration of ESE: 2 Hrs.			ESE	30 Marks
		Total Marks	50 Marks	

**Course Objectives:**

1.	To familiarize learners with major sequential development in Indian science, engineering and technology.
2.	To review & strengthen the ancient discovery and research in physics, chemistry, maths, metallurgy, astronomy, architecture, textile, transport, agriculture and Ayurveda etc.
3.	To help students to trace, identify and develop the ancient knowledge systems to make meaningful contribution to development of science today
4.	To help to understand the apparently rational, verifiable and universal solution from ancient Indian knowledge system for the scientific, technological and holistic development of physical, mental and spiritual wellbeing.

**Course Contents**

<b>Unit I</b>	<b>Indian Traditional Knowledge- Science and Practices:</b> Introduction to the Science and way of doing science and research in India, Ancient Science in Intra & Inter Culture Dialogue & coevolution. Traditional agricultural practices, Traditional water-harvesting practices, Traditional Livestock and veterinary Sciences Traditional Houses & villages, Traditional Forecasting, Traditional Ayurveda & plant-based medicine, Traditional writing Technology.
<b>Unit II</b>	<b>Agriculture in India:</b> krishisuktas, Krishiparashara, Brihatsamhita, Types of crops, Manures, Types of land- devamatraka, nadimatraka, use of animals in warfare, animal husbandry, Animals for medicines. Ancient transport in India
<b>Unit III</b>	<b>Ancient Indian Science (Textile, Agriculture, Transport):</b> Textile Technology in India: Cotton (natural cellulose fiber), silk, wool (natural protein fibers), bast and leaf fibers, mridhudhautadhupitambaram (meaning a practice of fumigating the fabric with incense smoke before use as a part of the finishing process), sitadhautavasanayugala (bleached white—a finishing process); suchhastah, sutradharah (needle and thread – tools for stitching). dyeing, washing spinning and weaving technology
<b>Unit IV</b>	<b>Ancient Indian Science (Ayurveda &amp; Yoga)</b> Ayurveda for Life, Health and Well-being: Introduction to Ayurveda: understanding Human body and Pancha maha bhuta, the communication between body & mind, health regimen for wellbeing, introduction to yoga (raja yoga, astangyoga, gyanyoga), understanding of Indian psychological concept, consciousness, tridosha & triguna.

**Text Books**

T.1	Text book on IKS by Prof. B Mahadevan, IIM Bengaluru.
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T.2	KapurKandSinghA.K(Eds)2005).IndianKnowledgeSystems,Vol.1.Indian InstituteofAdvancedStudy,Shimla.Tatvabodhofsankaracharya,Centralchinmaymission trust, Bombay, 1995.
T.3	Nair,ShanthaN.Echoes ofAncient Indian Wisdom.NewDelhi:HindologyBooks,2008.
T.4	SKDas,Theeducationsystemof Ancienthindus,Gyan publicationhouse,India
<b>Reference Books</b>	
R.1	RPKulkarni,GlimpeseofIndianEngineeringandTechnology(Ancient&Medievalperiod, Munshiram Manoharlal Publishers Pvt. Ltd. 2018
R.2	AK Pathak, Science and Technology in India, Anshikaprakashanpratapgarh,2016
R.3	PBSharma,S.Narain,DoctorsScientistsandEngineersofAncientIndia,KalpazPublications 2017
<b>Useful Links</b>	
1	<a href="https://onlinecourses.swayam2.ac.in/imb23_mg55/preview">https://onlinecourses.swayam2.ac.in/imb23_mg55/preview</a>

Code	Course Outcome (CO)	CL	Class Sessions
<b>BBA11105.1</b>	Describe the principles and practices of traditional Indian sciences in agriculture, water, medicine, and architecture.	2	7
<b>BBA11105.2</b>	ExplainancientIndianagriculturalpractices,croptypes,landclassification, and use of animals in agriculture and medicine.	2	7
<b>BBA11105.3</b>	Analyze traditional Indian textile and transport technologies and their relevance to sustainable practices.	4	7
<b>BBA11105.4</b>	Apply concepts of Ayurveda and Yoga to understand human well-being, body-mind balance, and traditional Indian psychology.	3	7

*AS/ME*