

# BBA Semester – III

## **Managerial Economics** **Course Category: Major** **Course Code: MAM205-2C**

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### **Course Objective:**

The course 'Managerial Economics' intends to provide the students:

- A broad knowledge about the principles involved and problems encountered in making economic decisions in business and management.
- Understanding on analytical framework with logical thinking and useful techniques for decision making in business

### **Course Outcome:**

After the course being taught the student will be able to:

- Learn managerial economic concepts used for evaluating the rationality and optimality of business decision
- Learn scope of application of the various concepts and principles taught
- Apply the concepts and principles in business

COURSE CODE	COURSE TITLE	COURSE CATEGORY	CREDITS	TEACHING HOURS PER WEEK			EVALUATION		
				Theory (Hrs.)	Practical (Hrs.)	Total (Hrs.)	CEE	SEE	Total Marks
MAM205-2C	Managerial Economics	Major	4	4	0	4	50	50	100

Unit	Details	Instructional Hours	Wtge (%)
1	<b>Introduction to Managerial Economics</b> Meaning of Managerial Economics - Nature and Scope of Managerial Economics-Importance of Managerial Economics.  <b>Elasticity of Demand</b> Meaning of Elasticity of Demand: Types and degrees of Elasticity of Demand - Price Elasticity of Demand – Income Elasticity of Demand – Cross Elasticity of Demand – Advertisement Elasticity of Demand	15	25%

	<p>Diagrammatic Presentation of Degrees of Elasticity (Price and Income Elasticity)</p> <p>Uses of Elasticity of Demand - Factors Affecting Elasticity of Demand</p>		
2	<p><b>Demand Forecasting</b>  Meaning of Demand Forecasting - Purpose of Demand Forecasting</p> <p>Methods of Demand Forecasting:  <i>Primary Methods</i> - Consumer Survey Method, Sales Force Method, Delphi Method  <i>Statistical Methods</i> - Free Hand Trend Projection Method, Regression Method, Barometric Method.</p>	15	25%
3	<p><b>Production Function and Laws of Returns to Scale</b>  Meaning of Production – Factors of Production</p> <p>Production Function: Short run Production Function (The Law of Variable Proportions); Long-run Production Function – ISO-quants, ISO-Cost Line/Producer’s Budget Line, Producer’s Equilibrium  Laws of returns to scale: Law of Increasing Returns to Scale - Law of Constant Returns to Scale - Law of Decreasing Returns to Scale.</p>	15	25%
4	<p><b>Cost of Production and Cost Curves</b>  Meaning of cost – Cost concepts viz. Money Cost and Real Cost, Economic Cost and Accounting Cost, Explicit Cost and Implicit Cost, Opportunity Cost, Sunk Cost</p> <p>Short-run Cost and Long-run Cost: Total Fixed Cost (TFC) – Total Variable Cost (TVC) – Short-run Total Cost (STC) - Average Fixed Cost (AFC), Average Variable Cost (AVC), Average Total Cost (ATC), Relationship between Average Cost (AC) and Marginal Cost (MC)</p> <p>Derivation of Long-run Average Cost Curve - Explanation of U-shaped of the LAC.</p>	15	25%
	<b>Total</b>	<b>60</b>	<b>100%</b>

**References:**

1. Managerial Economics-Theory and Applications, Dr. D M Mathai,Himalaya Publishing House
2. Economics for Business, Sloman and Sutcliffe, Pearson Education
3. Economics for Business and Management,K.Alec Chrystal and Richard G Lipsey, Oxford University Press
4. *Managerial Economics* by R. L. Varshney and K. L. Maheswari, Sultan Chand Publications
5. Managerial Economics by E. Narayanan & S. Vijayan, PHI Learning Pvt. Ltd. New Delhi.

# BBA Semester – III

## **Organisational Behaviour**

**Course Category: Major**

**Course Code: MAM206-2C**

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### **Course Objective:**

The course 'Organisational Behaviour' intends to provide the students:

- Fundamental knowledge of organizational behavior including attitude and personality
- Sound knowledge about motivation theories important for running an organization
- Fair understanding about team work, leadership, organizational politics, stress management for enabling them to work and take decisions in organizations effectively

### **Course Outcome:**

After the course being taught the student will be able to:

- Understand the basic theories and concepts of OB including attitude and personality
- Be skillful in applying motivation theories in their organization
- Gain a fair understanding about team work, leadership, organizational politics, stress management for enabling them to work and take decisions in organizations effectively

COURSE CODE	COURSE TITLE	COURSE CATEGORY	CREDITS	TEACHING HOURS PER WEEK			EVALUATION		
				Theory (Hrs.)	Practical (Hrs.)	Total (Hrs.)	CCE	SEE	Total Marks
MAM206-2C	Organisational Behaviour	Major	4	4	0	4	50	50	100

Unit	Details	Instructional Hours	Wtge (%)
1	<p><b>Introduction</b>  Definition, Contributing Disciplines, Models of Man, Significance, Factors affecting Individual Differences, Meaning of Learning, Learning Theories (Classical Conditioning, Operant Conditioning and Social Learning)</p> <p><i>Attitude</i>  Meaning, Components of Attitude, Major job Attitude</p> <p><i>Personality</i>  Meaning, Personality Traits (MBTI and Big 5 Model), Determinants of Personality</p>	15	25%
2	<p><b>Motivation Theories</b>  <i>Content Theories</i>  (Maslow's Need Hierarchy, Herzberg's Two-factor Theory, Theory X and Theory Y)  <i>Process Theories</i> (Vroom's Expectancy Theory, Adam's Equity Theory, Goal- Setting Theory)  <i>Reinforcement Theory</i></p>	15	25%
3	<p><b>Group Dynamics</b>  Meaning, Stages of Group Development  <i>Team work</i>  Introduction, Types of Teams (Cross-functional Team, Virtual Team , Self-managed work Team, Problem-solving Team)  Group v/s Team  <i>Leadership Theories</i>  Trait Theory, Behavioral Theories (Ohio State Studies, Managerial Grid) Fiedler's Contingency Theory, Hersey and Blanchard's Life cycle/Situational Approach, Modern Theories (Charismatic Leadership Theory, Transformational Leadership Theory)</p>	15	25%
4	<p><b>Power</b>  Concept, Sources/ Bases of Power, Contingencies of Power  <i>Organizational Politics</i>  Concepts, Factors Contributing to Political Behavior  <i>Stress Management</i>  Meaning, Potential Sources of stress Consequences of Stress Management, Managing Stress</p>	15	25%
	<b>Total</b>	<b>60</b>	<b>100%</b>

**References:**

1. Organizational Behaviour, Stephen Robbins, Pearson Publication
2. Organizational Behaviour, Fred Luthans, Mc-Graw Hill Publication
3. Organizational Behaviour, P. Subbarao, Himalaya Publishing House
4. Organizational Behaviour, John W. Newstorm and Keith Davis, Tata McGraw-Hill Publishing Company Limited
5. Wikipedia.org
6. Youtube.com

# BBA Semester – III

## **Business Environment** **Course Category: Major** **Course Code: MAM207-2C**

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### **Course Objectives**

The course 'Business Environment' intends to provide the students:

- Provide the students of management a basic knowledge about the various aspects of business environment
- Enable the students to relate the economic, political, legal, Socio-cultural and technological environment with business practices

### **Course Outcome**

After the course being taught the student will be able to:

- Learn the basic concepts and aspects of business environment
- Understand the linkage between environmental factors with business decision making
- Apply business environmental aspects in business decision making

COURSE CODE	COURSE TITLE	COURSE CATEGORY	CREDITS	TEACHING HOURS PER WEEK			EVALUATION		
				Theory (Hrs.)	Practical (Hrs.)	Total (Hrs.)	CCE	SEE	Total Marks
MAM207-2C	Business Environment	Major	4	4	0	4	50	50	100

Unit	Details	Instructional Hours	Wtge (%)
1	<b>Meaning and Significance of Business Environment</b> <ul style="list-style-type: none"><li>• Meaning &amp; definition of Business Environment</li><li>• Significance, Nature &amp; Characteristics of Business Environment</li></ul> <b>Types of Business Environment</b> <ul style="list-style-type: none"><li>• Economic Environment</li><li>• Political Environment</li><li>• Legal Environment</li><li>• Socio–Cultural Environment</li><li>• Natural Environment.</li><li>• Technological Environment</li><li>• Micro and Macro Environment of Business</li></ul>	15	25%
2	<b>Economic Planning in India</b> <ul style="list-style-type: none"><li>• India's National Economic Planning</li></ul>	15	25%

	<ul style="list-style-type: none"> <li>• Five Year Plans (Summary)</li> <li>• NITI Ayog (Structure, Objectives and Functions)</li> </ul> <b>Economic Reforms in India</b> <ul style="list-style-type: none"> <li>• Need for Economic Reforms-1991</li> <li>• Components of Economic Reforms - Liberalization, Privatization and Globalization</li> <li>• Industrial Policy 1991</li> <li>• Impact of Economic Reforms on Business</li> </ul>		
3	<b>Agriculture Sector in India</b> <ul style="list-style-type: none"> <li>• Role of Indian Agriculture</li> <li>• Problems faced by Indian Agriculture</li> </ul> <b>Industry Sector in India</b> <ul style="list-style-type: none"> <li>• Role of Indian Industry Sector</li> <li>• Problems faced by Indian Industry Sector</li> </ul>	15	25%
4	<b>International Business Environment</b> Overview of International Business Environment Global Economic Environment Global Socio-cultural Environment Global Political Environment Global Technological Environment	15	25%
	<b>Total</b>	<b>60</b>	<b>100%</b>

**References:**

1. Mishra, S. K. & V. K. Puri, Economic Environment of Business, Himalaya Publishing House
2. Aswathappa, K., Essentials of Business Environment, Himalaya Publishing House.
3. Joshi, R and Sangam Kapoor, Business Environment, Kalyani Publishers.
4. Cherunilam, Francis, Business Environment, Himalaya Publishing House, Mumbai
5. Economic Survey, Ministry of Finance, Govt. of India, Various Issues



# BBA Semester – III

## **Indian Constitution**

**Course Category: Multi Disciplinary Course**

**Course Code: MDC225-2C**

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### **Course Objective:**

The course 'Indian Constitution' intends to provide the students:

- An understanding about the functions of the Indian government
- A fair knowledge about legislative practices in India with an orientation to equip them with the adequate skills of participation in deliberative processes and democratic decision making

### **Course Outcome:**

After the course being taught the student will be able to:

- Gain knowledge about the importance of Constitution and Government.
- Know the fundamental rights, duties and directive principles of state policy
- Learn about the role of PM, President, Vice- President, CAG and AG
- Understand the legislatives practices and procedures

COURSE CODE	COURSE TITLE	COURSE CATEGORY	CREDITS	TEACHING HOURS PER WEEK			EVALUATION		
				Theory (Hrs.)	Practical (Hrs.)	Total (Hrs.)	CCE	SEE	Total Marks
MDC225-2C	Indian Constitution	MDC	4	4	0	4	50	50	100

Unit	Details	Instructional Hours	Wtge (%)
1	<b>Salient Features of the Constitution</b> Introduction, Salient Features of the Constitution, Criticism of the Constitution. <b>Preamble of the Constitution</b> Text, Ingredients, Key Words and Significance of the Preamble, Preamble as Part of the Constitution, Amendability of the Preamble.	15	25%

	<p><b>Citizenship</b> Meaning and Significance, Constitutional Provisions, Citizenship Act, 1955, Single Citizenship.</p>		
2	<p><b>Fundamental Rights</b> Features, , Definition of State, Laws Inconsistent with Fundamental Rights, Right to Equality, Right to Freedom, Right Against Exploitation, Right to Freedom of Religion, Cultural and Educational Rights, Right to Constitutional Remedies, Writs: Types and Scope.</p> <p><b>Fundamental Duties</b> Swaran Singh Committee Recommendations, List of Fundamental duties, Features, Significance and criticism of Fundamental duties, Verma Committee Observations.</p>	15	25%
3	<p><b>The President</b> Election of the President, Qualifications, Oath and Condition, Term, Impeachment and Vacancy. Powers and Functions of the President, Veto Power of the President, Ordinance-Making Power of the President, Pardoning Power of the President.</p> <p><b>Vice-President</b> Election, Qualifications, Oath, Condition of Office, Term of Office, Vacancy in Office.</p> <p><b>Prime Minister</b> Appointment of the Prime Minister, Oath, Term and Salary, Power and Function of Prime Minister</p> <p><b>Comptroller and Auditor General of India</b> Appointment, Term, Duties and Power</p> <p><b>Attorney General of India</b> Appointment, Term, Duties and Power</p>	15	25%
4	<p><b>Parliament</b> Organisation of Parliament, Composition and Duration of Two Houses, Qualifications and disqualifications of Members of Parliament, Presiding Officers of Lok Sabha and Rajya Sabha, Leaders in Parliament, Concept of Ordinary Bill, Money Bills and Financial Bills, Joint Sitting of Two Houses and Budget in Parliament.</p> <p><b>State</b> Definition and Constituent Elements of State.</p> <p><b>Sovereignty</b> Definition, Characteristics and Types of Sovereignty.</p>	15	25%
	<b>Total</b>	<b>60</b>	<b>100%</b>

**References:**

1. Indian Polity, M Laxmikanth, WE series, Tata Mac Grew Hill.
2. Introduction to Constitution of India, D.D. Basu, WadhwaPublication, Nagpur.
3. An introduction to Political theory by O.P Gauba

## BBA Semester – III

### **Gandhian Economics and Rural Economy**

**Course Category: Multi Disciplinary Course**

**Course Code: MDC226-2C**

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#### **Course Objective:**

The course 'Gandhian Economics and Rural Economy' intends to provide the students:

- An alternative knowledge of economics which is relevant all the time
- A fair knowledge about the dynamics of rural-based economy

#### **Course Outcome**

After successful completion of the course the learner shall be able to:

- Understand and apply of Gandhian Economics and Rural Development in the Indian Economy structure.
- Acquire Skills to analyse the Gandhian Economic Philosophy in real life.

COURSE CODE	COURSE TITLE	COURSE CATEGORY	CREDITS	TEACHING HOURS PER WEEK			EVALUATION		
				Theory (Hrs.)	Practical (Hrs.)	Total (Hrs.)	CCE	SEE	Total Marks
MDC226-2C	Gandhian Economics and Rural Economy	MDC	4	4	0	4	50	50	100

Unit	Details	Instructional Hours	Wtge (%)
1	<b>Introduction to Gandhian Economic Philosophy</b> World's Economic Philosophy and the Gandhian Economic Philosophy Gandhian Philosophy on Labour: Bread Labour.	15	25%
2	<b>Principles and Features of Gandhian Economy</b> Underlying Principles of Gandhian Economy: Motives, Natural Resources, Products, Methods of Production, Exchange and Trade, Co-operation, Standard of Living. Features of Gandhian Economy: Economic concept Related to Development, Self Sufficiency, Balanced Growth, Trusteeship, Sarvodaya Plan, Austerity and Abstinence	15	25%

3	<b>Gandhian idea on Rural Economy</b> Agrarian Economy and Rural Reconstruction Agro and Village Industry Industrial Economy	15	25%
4	<b>Relevance of Gandhian Economy in the Modern World</b> Synthesis of Economics and Ethics, Swadeshi and Bread Labour, Trusteeship and Non-Possession, Sarvodaya or the rising of all, Industrialisation and Khadi and Village Industries	15	25%
	<b>Total</b>	<b>60</b>	<b>100%</b>

**References:**

1. Small is Beautiful Economics as if people mattered, E.F. Schumacher, Harpar& Row, Publishers.
2. Gandhian Economic Thought, Dr. J. C. Kumarappa, SarvaSevaSanghPrakashan.
3. The Economic Philosophy of Mahatma Gandhi, Dr. Shanti S. Gupat, Ashok Publishing House.
4. Fundamental of Gandhism, Anil Dutta Mishra, Oxford University Press.

## KADI SARVA VISHWAVIDYALAYA

### AEC 211-2C Business Communication

(For BBA / B.Com / B.Sc All Semester 3)

#### Course objectives:

1. To help develop expressional skills in professional contexts.
2. To facilitate the understanding of effective professional communication and skills required for the same.

#### Learning Outcomes:

1. Efficient use of both the expressional skills as per the requirement of the world of work.
2. Basic process of professional writing.
3. ability to produce well crafted basic structures of routine business communication.
4. Skills and techniques for effective oral and written business communication.
5. Use of web and how it can enhance work communication.

#### TEACHING AND EVALUATION SCHEME:

Subject Code	Subject Title	Teaching Scheme	Credits	Examination Scheme			Total Marks
		Theory Per Week		Hrs.	Max Marks		
					CCE	SEE	
AEC 211-2C	Business Communication	2	2	2	25	25	50

#### Course content

Unit No.	content	Total hours	Weightage
<b>1</b>	<b>Written Communication</b>		
1.1	The writing process: How business communication is different from general communication, pre writing, writing and rewriting	2	
1.2	SOPs – importance, components, usability check and sample	1	
1.3	Process descriptions and instructions	2	
1.4	writing for Business Structure, layout and style Acknowledgement letter, acceptance letter Inquiry letter and order letter Complaint letter and apology letter	1 1 1 1	57%= 15 Marks

	Sales letter	2	
1.5	Report Writing: formal and Informal reports Definition, features, significance and types Informal reports- layouts Formal report Structure of a formal report	1 2 1 2	
<b>2.</b>	<b>Persuasive communication</b>		
2.1	Importance of argumentation and persuasion in communication Ethical, emotional and Logical argumentation  Organize your persuasion	1  1  1	
2.2	Communicating for positive influence- need and Importance in Business  Using conversational style and YOU attitude Using positive words, being courteous, avoid blaming refrain from preaching, be sincere, don't overdo,	1  1  1	33%= 7 Marks
2.3	Public Speaking: The PRPSA test  Developing confidence, preparing the speech, and delivering the same  Practical purview	3   1	
<b>3</b>	<b>Use of Web and digital tools for business</b>		
3.1	Why the web is important for Business Communication, Characteristics of online communication, Considerations for Handheld mobile device	1	
3.2	Smartphones and communication	1	
3.3	Using collaborative writing tools and tips to use them effectively	1	10% = 3Marks

### Reference Book:

1. Technical Communication: Process and Product By: Gearson and Gearson, PersonPublication.
2. Technical Communication: A Practical approach, By: TVS Padmaja, Pearson Publication
3. Communication Skills, By Sanjay Kumar and Pushpa Lata, Oxford University PressPublication
4. Business Communication: Connecting in a digital world BY: Raymond Lesikar, McGrawHill Edu.

## BBA Semester – III

### **Import-Export Management** **Course Category: Skill Enhancement Course** **Course Code: SEC223-2C**

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#### **Course Objective:**

The course 'Import-Export Management' intends to provide the students:

- A fair knowledge to the students about the basic concepts of imports and exports management
- A clear understanding of the import-export procedure and documentation
- Relevant knowledge and skills to process an export order

#### **Course Outcome:**

After the course being taught the student will be able to:

- Understand the various concepts related with imports and exports
- Understand the documentation process for imports and exports
- Acquire skills to process an export order
- Know about the import-export financing procedure

COURSE CODE	COURSE TITLE	COURSE CATEGORY	CREDITS	TEACHING HOURS PER WEEK			EVALUATION		
				Theory (Hrs.)	Practical (Hrs.)	Total (Hrs.)	CCE	SEE	Total Marks
SEC223-2C	Import-Export Management	SEC	2	30	-	30	25	25	50

Unit	Details	Instructional Hours	Wtge (%)
1	<b>Import-Export Management:</b> <ul style="list-style-type: none"><li>• Introduction to Import Export Management</li><li>• Concepts and Key Features</li><li>• Foreign Trade – Institutional Framework</li><li>• Basics of Trade Policy</li></ul> <b>Import-Export Financing, Procedure, and Primary Considerations</b> <ul style="list-style-type: none"><li>• Export and Import Financing Procedures;</li></ul>	15	50%

	<ul style="list-style-type: none"> <li>• 14 Steps for Conducting Export Transaction;</li> <li>• Export Assistance;</li> <li>• Export-Import Primary Consideration</li> </ul> <p><b>Import-Export Documentation</b></p> <ul style="list-style-type: none"> <li>• Import and Export Documentation: Introduction,</li> <li>• Freight Forwarder's Powers of Attorney,</li> <li>• Bill of Lading, Certificates of Origin, Letter of Credit.</li> </ul>		
2	<p><b>Processing of Export Order:</b></p> <ul style="list-style-type: none"> <li>• Processing of Export Order;</li> <li>• Nature and Format of Export Order;</li> <li>• Examination and Confirmation of Export Order;</li> <li>• Manufacturing or Procuring Goods;</li> <li>• Central Excise Clearance;</li> <li>• Pre Shipment Inspection;</li> <li>• Appointment of Clearing and Forwarding Agents;</li> <li>• Transportation of Goods to Port of Shipment;</li> <li>• Port Formalities and Customs Clearance;</li> <li>• Dispatch of Documents by Forwarding Agent to the Exporter;</li> <li>• Certificate of Origin and Shipment Advice;</li> <li>• Presentation of Documents to Bank;</li> <li>• Claiming Export Incentives;</li> <li>• Excise Rebate;</li> <li>• Duty Drawback.</li> </ul>	15	50%
	<b>Total</b>	<b>30</b>	<b>100%</b>

**References:**

1. Export Import Policy, Publisher: Ministry of Commerce, Government of India, New Delhi.
2. Electronic Commerce by N. Janardhan, Publisher: Indian Institute of Foreign Trade, New Delhi.
3. Nabhi's Exporters Manual and Documentation, Publisher: Nabhi Publication, New Delhi.
4. Nabhi's New Import Export Policy, Publisher: Nabhi Publication, New Delhi.
5. Export-What, Where, How by Ram Paras, Publisher: Anupam, Delhi.



## BBA Semester – III

### **Indian Ethos and Ethics**

**Course Category: IKS**

**Course Code: IKS206-2C**

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#### **Course Objective:**

The course 'Indian Ethos and Ethics' intends to provide the students:

- Emotional stability as manager with deep grounding of Indian Ethics and Values.

#### **Course Outcome:**

After the course being taught the student will be able to:

- Enhance their emotional stability to work in challenging corporate environment.

COURSE CODE	COURSE TITLE	COURSE CATEGORY	CREDITS	TEACHING HOURS PER WEEK			EVALUATION		
				Theory (Hrs.)	Practical (Hrs.)	Total (Hrs.)	CCE	SEE	Total Marks
IKS206-2C	Indian Ethos and Ethics	IKS	2	30	-	30	25	25	50

Unit	Details	Instructional Hours	Wtge (%)
1	<b>Indian Ethos and Ethics</b> Meaning, features, need, history, requisites and elements of Indian ethos; Role of Indian ethos in managerial practices; meaning and concept of ethics, types of ethics, difference between ethos and ethics. <b>Lessons from scriptures</b> Lessons from Vedas, Mahabharata, Bible, Quran, Kautilya's Arthashastra; difference between general management and Indian ethos in management.	15	50%
2	<b>Work Ethos</b> Meaning and levels of work ethos, Types of task/mission, types of actions, types of Karta – Satvik, Rajsik and Tamsik, Attributes of a Karma Yogi or an Ideal Performer, Factors responsible for poor work ethos. <b>Values</b> Meaning and Features of values, Classification of Values, Value Based Management – meaning, Factors promoting VBM, Importance of VBM, Importance of Value System in work culture.	15	50%
	<b>Total</b>	<b>30</b>	<b>100%</b>

**References:**

- Indian Ethos in Management, Tushar Agarwal & Nidhi Chandorkar, Himalaya Publishing House
- Indian Ethos and Values for Managers (Text and Cases from the Mahabharata), N. M. Khandelwal, Himalaya Publishing House

## Indian Knowledge System -2

### IKS207-2C Indian Astronomy-II (BBA / BCA / B.Sc All Semester 3)

#### LEARNING OUTCOMES:

- Understanding the universe explained in the Upanishads by ancient scholars like Aryabhata and Brahmagupta.
- Be acquainted with the Indian knowledge system about the Yuga System, Solar Year and Lunar Year.
- Inspiring to know and understand the Gregorian Calendar, Hindu Calendar, Islamic Calendar, Indian Calendar and Pancanga as well as Direction/Place/Time, Eclipses of Sun/Moon/Star-planet of the Indian Astronomy systems for the potential applications in our daily lives.

#### TEACHING AND EVALUATION SCHEME:

Subject Code	Subject Title	Teaching Scheme	Credits	Examination Scheme			Total Marks
		Theory Per Week		Hrs.	Max Marks		
					CCE	SEE	
IKS207-2C	Indian Astronomy-II	2	2	2	25	25	50

#### **Unit 1: Calendars and Pancanga Teaching Hours: 15 (Weightage 25%)**

Introduction, Gregorian Calendar, Hindu Calendar, Islamic Calendar, Indian Calendar and Pancanga.

#### **True Positions of Sun, Moon and Star-Planets**

Introduction Epicyclic theory, equation of Centre for the Sun and the Moon, True daily motions of the Sun, the Moon and star-planets.

#### **Unit 2: Triprasma-Direction, Place and Time Teaching Hours: 15 (Weightage 25%)**

Introduction, determination of North-South Line, Finding Latitude & co-latitude of a place, Rising and Setting Points of the Sun, Times of Sunrise and Sunset, Rising of Signs of the Zodiac, Determination of Lagna at a given Time and Place,

#### **Eclipse**

Lunar Eclipse, Solar Eclipse

- \*Continuous Evaluation: It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests

#### Reference books:

- 1) Indian astronomy: An introduction by S. Balachandra Rao, Universities Press (India) Ltd, Hyderabad
- 2) THE ARYABHATI of ARYABHATA: An Ancient Indian Work on Mathematics and Astronomy, Walter Eugene Clark, The University of Chicago Press, Illinois
- 3) Indian Astronomy- A source book (Based primarily on Sanskrit Texts), Compiled by B V Subbarayappa & K V Sharma, Nehru Center, Bombay.