

## FACULTY-WISE VOCATIONAL/ SKILL DEVELOPMENT COURSES FOR FIRST YEAR

### I. FACULTY OF ARTS

<b>1. INDIAN NATIONAL MOVEMENT &amp; CONSTITUTION OF INDIA</b>			
<b>Course Outcomes:</b>			
Indian National Movement & Constitution is indispensable for a student to make a sense of Indian Political System. The course is designed to provide an overview of Indian freedom Struggle and key concepts of the Indian constitution to the student, which would evolve him into a conscientious citizen.			
<b>Maximum Marks:</b> 100		<b>Credits:</b> 03	<b>Minimum Passing Marks:</b> 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 3			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Genesis, Growth and the Politico-Cultural Trends in the Indian National Movement	3	2
II	Stages of Constitutional Development, Making of the Constitution, Citizenship	3	2
III	Fundamental Rights, Fundamental Duties, Directive Principles of State Policy	3	2
IV	Relation between Fundamental Rights & Directive Principles, Process of Amendment	3	2
V	Union Legislature and Executive: Parliament, Speaker, President, Prime Minister	3	2
VI	State Legislature and Executive: Legislative Assembly, Governor, Chief Minister	4	2
VII	Judiciary: Supreme Court, High Court, Writs, Judicial Review, PIL, Judicial Reforms	4	2
VIII	Federalism in India, Centre-State Relations: Administrative, Legislative & Financial, Election Commission	5	3

#### Suggested Reading:

1. Abbas H, Alam M.A. & Kumar R (2011) 'Indian Government & Politics' Dorling Kindersley Pearson Pvt .Ltd. India
2. Basu D. (2012) 'Introduction to the Constitution of India' Lexis Nexis New Delhi
3. Bhargava (ed.) 'Politics & Ethics of the Indian Constitution' Oxford University Press New Delhi
4. Biswal Tapan (2017) Bharatiya Shasan Samvaidhanik Loktantra aur Rajneetik Prakriya' Orient Blackswan New Delhi
5. Chaube S. (2009) 'The Making & working of the Indian Constitution' National Book Trust, New Delhi
6. Ghosh Peu (2012) 'Indian Government & Politics' PHI Learning Pvt. Ltd. New Delhi
7. Singh M.P. & Sexena Rekha (2008) 'Indian Politics: Contemporary Issues and Concerns' Prentice Hall of India Pvt. Ltd. New Delhi

#### Suggested equivalent online courses:

Swayam, Coursera

#### Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5

Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

2. AWARENESS OF RIGHTS AND LAWS			
<b>Course Outcomes:</b> This paper intends to arm the student with basic digital and legal awareness where by the student can leverage this in the job market. It also intends to make the student aware of his basic legal rights which would help him to stand up and help others.			
<b>Maximum Marks:</b> 100		<b>Credits:</b> 03	<b>Minimum Passing Marks:</b> 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 3			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Preamble, Right to Equality, Right to Freedom, Cyber Crime, Cyber security.	6	5
II	Karma theory of Right, Rights and Obligations, Right to Education, Citizen's Charter.	6	5
III	Gender sensitivity, Unity in Diversity, Nation Building, Affirmative Action, Universal Human Rights	6	6
IV	Govt. Policies and Campaigns: Practical Teachings , Right To Information, Lokpal.	6	5

**Suggested Reading:**

1. <https://www.digitalindia.gov.in/services>
2. <https://rtionline.gov.in/>
3. <https://www.india.gov.in/topics/law-justice>
4. Khosla, Madhav, et al. 2016. The Oxford Handbook of the Indian constitution. New delhi: OUP
5. Benegal, Shyam. 2014. Samvidhan. Rajya Sabha TV

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

3. POLITICAL THEORY AND CONCEPTS			
<b>Course Outcomes:</b> Understanding Political theory is integral and indispensable for a comprehensive and critical study of political science. The course is designed to train a student in the foundational issues of political theory, which is relevant for any in depth study and research.			
<b>Maximum Marks:</b> 100		<b>Credits:</b> 03	<b>Minimum Passing Marks:</b> 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 3			

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Political Science: Meaning, Nature, Scope, Methods and Relations With Other Social Sciences	3	2
II	Approaches to the study of Political Science: Traditional approaches, Modern approaches	3	2
III	State: Meaning and Elements, Theories of Origin and Functions of State: Indian and Western	3	2
IV	Sovereignty: Monism and Pluralism. Law: Definition: Source, Classification. Punishment : Theories of punishment	3	2
V	Basic Concepts of Political Science: Justice, Power, Authority, Legitimacy, Obligation	3	2
VI	Ideologies: Liberalism, Idealism, Anarchism, Socialism, Capitalism, Feminism,	4	2
VII	Political Systems: Parliamentary, Presidential, Federal, Unitary Political Parties, Pressure Groups	4	2
VIII	Constitutionalism, Totalitarianism, Decentralization, Theories of Representation, Post-modernism	5	3

#### Suggested Reading:

1. AC Kapoor, Principals of Political Science.
2. Eddy Ashirvatham, Political Theory, S Chand Delhi, 2009
3. JC Johari, Modern Political Theory.
4. CEM Joad, Introduction to Modern Political Theory.
5. R.C Aggarwal, Political Theory, S Chand
6. Appadorai, Substance of Politics, OUP, Delhi, 2000
7. R. Bhargav & A. Acharya, Political theory: an Introduction, pearson 2008
8. Amal Ray & Mohit Bhattacharya, Political Theory : An introduction, Pearson 2008 New Delhi
9. R.G. Aggarwal, Political Theory, S.Chand 2001 New Delhi.
10. O.P. Gauba, An Introduction to Political Theory, Macmillan 2001 New Delhi.
11. Eddy Ashirvatham, Political Theory, S.Chand 2009 New Delhi.
12. J.C. Johri, Adhunik Rajniti Vigyan Ke Siddhant, Sterling Publication Pvt. Ltd. 1992, New Delhi.
13. RG Gettel. Political Science
14. David Held, Political Theory and the Modern State: Essays on State, Power and Democracy 1989.
15. Andrew Heywood, Politics, Macmillan 2002

#### Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

#### 4. POLITICAL PROCESS IN INDIA

**Course Outcomes:**

Study of the functioning of Indian Democratic System is essential for a comprehensive understanding of the Indian Political System. The course is designed to train & acclimatize the student with the Indian Political System in action and explain the working relationship between citizens and state and among various units of the state. The student would be able to appreciate the trajectory of the Indian Political system since independence.

**Maximum Marks:** 100      **Credits:** 03      **Minimum Passing Marks:** 40

Total No. of Lectures-Tutorials-Practical (in hours per week): 3

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Democracy in India: Trajectory, Foundations, Dimensions, Challenges	3	2
II	Party System, Political Parties, Pressure Groups	3	2
III	Rural and Urban Local Government: History, Structure, Functions, Challenges	3	2
IV	Elections: Machinery, Voting Behavior, Electoral Process, Issues and Reforms The Politics of Secession and Accommodation	3	2
V	Communalism, Secularism, Regionalism, Autonomy Arrangements	3	2
VI	Social Justice and Affirmative Action: Policies and Practices	4	2
VII	Challenges of Nation Building: Ethnicity, Language, Caste, Fundamentalism	4	2
VIII	State Politics: Nature, Patterns, Leadership	5	3

**Suggested Reading:**

1. Basu D.D., 'An Introduction to the Constitution of India', Prentice Hall, New Delhi. (Latest Edition)
2. Frankel Francine, Hasan Zoya, Bhargava Rajeev, Arora Balveer (eds.), Transforming India, Oxford University Press, New Delhi, 2000.
3. Granville Austin Working a Democratic Constitution: The Indian Experience, Oxford University Press, New Delhi, 1999
4. Jayal Niraja Gopal (Ed.): Democracy in India' Oxford India Paperbacks, New Delhi 2012
5. Kothari Rajni, 'Politics in India' Orient Blackswan Hyderabad, 2014
6. Kothari Rajni, 'Politics in India' Orient Blackswan Hyderabad, 2014
7. Kothari Rajni, 'Bharat mein Rajneeti: Kal aur Aaj' Vani Prakashan New Delhi, 2007
8. Narang A.S., Indian Government and Politics, Geetanjali Publishing House, New Delhi, 1996 (Latest edition)
9. Singh, M.P., and Sexena Rekha, Indian Politics: Contemporary Issues & Concerns' Prentice Hall of India Pvt. Ltd. New Delhi, 1998.

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

## 5. FIELD WORK TRADITION IN SOCIAL SCIENCES

### Course Outcomes:

This paper intends to train students in carrying out empirical studies and field work which would help him in research. This would sensitize him to the precautions that is required to carry a empirical study on socially relevant topics.

**Maximum Marks:** 100      **Credits:** 03      **Minimum Passing Marks:**40

Total No. of Lectures-Tutorials-Practical (in hours per week): 3

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Nature of Social Research, Ethnocentrism, Participant Observation	6	5
II	Empirical Research: Meaning, Types, Methods, Identification of Research Problem, Formulation of Hypothesis, Research Design	6	5
III	Data collection: Method, Observation, Interview Schedule, Questionnaire, Case Study, Data Processing, Data Analysis	6	6
IV	A case study on any relevant topic of the time and place e.g. Analysis of any Election in India, Functioning of any organ or agency of United Nations	6	5

### Suggested Reading:

### Suggested Reading:

1. R. Kumar, Research Methodology: A Step by step guide for beginners, Pearson
2. P.N. Mukherjee, Methodology in social research, Sage publication, New Delhi
3. V.K. Srivastav, Methodology and Fieldwork, Oxford University Press, New Delhi
4. R.N. Trivedi & DP Shukla, Research Methodology, College Book Depot, Jaipur
5. J.Galtunj, Theories and Method of Social Research, London
6. P.V. Young, Scientific Social survey, New York, Parentice Hall Inc.

### Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

## 6. WESTERN POLITICAL THOUGHT

### Course Outcomes:

This course introduces the students to the ancient, medieval and modern political thinking in the West. This would help them understand the manner in which ideas pertaining to ideal state, kingship, duties of the ruler and the ruled, rights, liberty, equality, and justice have evolved over a period of time.

**Maximum Marks:** 100      **Credits:** 03      **Minimum Passing Marks:**40

Total No. of Lectures-Tutorials-Practical (in hours per week): 3

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours

I	Plato, Aristotle.	3	2
II	Thomas Aquinas, St. Augustine	3	2
III	Machiavelli, Jean Bodin	3	2
IV	Thomas Hobbes, John Locke, J.J Rousseau	3	2
V	Immanuel Kant, Edmund Burke, Jeremy Bentham	3	2
VI	T.H Green, G W F Hegel, Karl Marx.	4	2
VII	Mary Wollstonecraft, Simone De Beauvoir, RosaLuxemburg.	4	2
VIII	John Rawls, Michael. J. Oakeshott and Hannah Arendt	5	3

**Suggested Reading:**

1. E. Baker, The Political Thought of Plato and Aristotle, Methuen, 1906.
2. J. Coleman. A History of Political Thought: From Ancient Greece to Early Christianity, Oxford Blackwell Publishers, 2000.
3. K. Nelson, Brian, Western Political Thought: From Socrates to the Age of Ideology, Pearson. 1996
4. Jha, Shefali, Western Political Thought (From Plato to Marx), Pearson.
5. C. Macpherson, The Political Theory of Possessive Individualism: Hobbes to Locke. Oxford University Press, Ontario.
6. Kolakowski, Leszek, Main Currents of Marxism, Oxford University Press, 1978.
7. Okin, Susan Moller, Women in Western Political Thought, Princeton University Press

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**7. COMPARATIVE GOVERNMENT & POLITICS UK, USA, SWITZERLAND & CHINA**

**Course Outcomes:**

Politics is the mirror of the society. This paper will help the student in furthering his understanding of the world around. This would help him to appreciate other systems and make him critically analyze the pros and cons of these systems. Comparison is widely used method of scientific knowledge. This would help the student to find out why a certain system is appropriate and suitable to a given society.

**Maximum Marks:** 100      **Credits:** 03      **Minimum Passing Marks:** 40

Total No. of Lectures-Tutorials-Practical (in hours per week): 3

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Nature, Scope, Approaches and Utility of Comparative Study of Politics. Dharma and the idea of Dharma Rajya	3	2
II	Capitalism and the Idea of Liberal Democracy	3	2

III	Socialism and the Working of Socialist State.	3	2
IV	Decolonization, Political Development, Political Culture	3	2
V	Salient Features of the British Constitution and Examination of the Relationship Between the Executive and the Legislature and Role of Judiciary in UK.	3	2
VI	Essential features of the constitution of USA, Composition Powers and Functions of the Executive, Legislature and Judiciary in USA.	4	2
VII	Essential Features of Vietnamese Constitution, Legislature, Executive and Judiciary, Vietnam Communist Party	4	2
VIII	Plural Executive, Direct Democracy, Referendum, Initiative, The Administrative System of Switzerland	5	3

**Suggested Reading:**

1. A.C. Kapoor & K. K. Mishra, Select Constitutions, S.Chand 2001 New Delhi
2. V.D. Mahajan, Constitution of the World, S.Chand 2001 New Delhi.
3. J.C. Johari: New Comparative Government Lotus, 2008
4. S.E. Finer, Comparative Governments.
5. Bryce, Modern Democracies
6. Herman Finer, Theory and Practice of Modern government
7. Vidya Bhushan & Vishnu Bhagwan. World Constitution, Sterling Publications, 1998.
8. J. Kopstein and M. Lichbach, Comparative Politics: Interests Identities and Institutions In A Changing Global Order.
9. M. Mohanty, Comparative Political Theory and Third World Sensitivity

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**8. PRINCIPLES OF PUBLIC ADMINISTRATION**

**Course Outcomes:**

Administration being essential to every organization, this course aims to acquaint a student with fundamentals of public administration. This would provide him an insight regarding the principles of administration in general and help him to bring out the best from existing set up. This would help him to prepare for administrative examinations too.

**Maximum Marks:** 100      **Credits:** 03      **Minimum Passing Marks:** 40

Total No. of Lectures-Tutorials-Practical (in hours per week): 3

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Meaning, Nature, Scope, Significance, and Evolution of Public	3	2

	Administration		
II	Theories Organization: Scientific Management, Classical, Bureaucratic, Human Relations, Decision Making, Ecological Principles of Organization	3	2
III	Chief Executive :Types and Function, Line, Staff, Auxiliary agencies, Departments, Public Corporation, Boards and commissions Independent Regulatory Commissions	3	2
IV	Concept of Budget, Formation & Execution of Budget, Account and Audit	3	2
V	Administrative Law, Delegated Legislation, Administrative Tribunals.	3	2
VI	New public administration, New Public Management, New Public Service Approach, Good Governance	4	2
VII	Development administration, Comparative Public Administration	4	2
VIII	Evolution of Indian Administration–Ancient, Medieval, Modern	5	3

#### Suggested Reading:

1. Maheshwari & Awasthi, Public Administration, Agra
2. Mohit Bhattacharya, Public Administration, Jawahar , New Delhi
3. C.P. Bhamri, Lok Prashasan Ke Siddhant.
4. A. Avasthi & S.R Maheshwari, Public Administration, Agra
5. F.A Nigro & G.I Nigro, Modern Public Administration, New York, 1980
6. Dimock & Dimock Public Administration.
7. W.F. Willoughby, Principles of Public Administration.

#### Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

### 9. PUBLIC POLICY FORMULATION & ADMINISTRATION IN INDIA

#### Course Outcomes:

It aims to provide interface between public policy and administration in India. The essence of this paper appreciate the translation of governing philosophy into programmes and policies. Students will understand Political Process as well as Policy formulation process and the difficulties in implementing Programmes and Policies promised in Manifestoes.

**Maximum Marks:** 100      **Credits:** 03      **Minimum Passing Marks:** 40

Total No. of Lectures-Tutorials-Practical (in hours per week): 3

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours

I	Definition, Scope, Types & Significance of the Public Policy, Public Policy as an emerging field of Study, Impact of Globalization, Policy Making Process in India. Major Determinants: Political Parties, Interest Groups, Pressure Groups, Mass Media, Non-Governmental Organization, Government Agencies, International Agencies NITI Aayog, Legislature, Executive, Judiciary, Bureaucracy, Techniques of Policy Implementation	6	5
II	Policy Evaluation: Concept of Policy Evaluation Survey & Sampling Agencies, Independent Studies Groups Criteria for Policy Evaluation: Problems, Needs, Accountability, Good Governance Major Constraints in Policy Formulation & Implementation	6	5
III	Policy Intervention- Case Studies/Mock parliament: Panchayati Raj, NEP, MANREGA, Environmental Policies, Welfare Plans for Women & Weaker Sections, Feedback from Stake Holders.	6	6
IV	Working And Role Of Parliament In Actual Public Policy Formulation.	6	5

**Suggested Reading:**

1. Arora R.K. & Goyal R. 'Indian Public Administration', VishwaPrakashan 2008 New Delhi
2. Basu Rumki (ed.2015) 'Democracy and Good Governance: Reinventing the Public Service Delivery System in India' Bloomsbury, New Delhi
3. Basu Rumki (2015) 'Public Administration in India Mandates, Performance and Future Perspectives', Sterling Publishers, New Delhi
4. Chakrabarty Bidyut & Chand Prakash (2017) 'Public Administration: From Government to Governance' Orient Blackswan Pvt. Ltd. Hyderabad
5. Chakrabarty Bidyut & Chand Prakash (2017) 'Public Administration in a Globalizing World: Theories & Practices' SAGE, New Delhi
6. Jayal, N.G (1999) 'Democracy and The State: Welfare, Secular and Development in Contemporary India', Oxford, Oxford University Press, New Delhi
7. Sharma M.P., & Sadan B.L. 'LokPrashasan: Siddhantevam Vyavhar' Kitab Mahal, Allahabad
8. Singh H. & Singh M. 'Public Administration in India, Theory and Practice', Sterling Publication 1990 New Delhi

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

## 10. INDIAN POLITICAL THOUGHT

### Course Outcomes:

This course is to familiarize the students with the larger political and social thinking and ideas in Ancient, medieval and Modern India. Designed in a way to help students engage with various ideological dispensations that came to shape the normative thinking on India.

**Maximum Marks:** 100

**Credits:** 03

**Minimum Passing Marks:** 40

Total No. of Lectures-Tutorials-Practical (in hours per week): 3

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Ancient Thought: Manu, Kautilya	3	2
II	Medieval Thought: Political thinking in the Islamic, Sikh and Maratha traditions	3	2
III	Thinking and Ideas in Modern India: Reform traditions Raja Ram Mohan Roy, Maulana Abul Kalam Azad, Swami Vivekananda	3	2
IV	Political Imaginations: M.K. Gandhi, Jawaharlal Nehru, B.G Tilak.	3	2
V	Social Imaginations: Jyotiba Phule, Devi Ahilyabai Holkar, Dr B R Ambedkar and Babu Jagjiwan Ram,	3	2
VI	Economic Imaginations: Dadabhoj Nauroji Jayaprakash Narayan, Dr Ram Manohar Lohia, Ch. Charan Singh	4	2
VII	Cultural Imaginations: V.D Savarkar, M S Golwakar and Maulana Hasrat Mohani	4	2
VIII	Civilizational Imaginations: Rabindranath Tagore, Deendayal Upadhyay	5	3

### Suggested Reading:

1. V. Mehta, 'The Imperial Vision: Barni and Fazal', in Foundations of Indian Political Thought, Delhi: Manohar, pp. 134- 156., 1992
2. Habib, Irfan, (1998) 'Ziya Barni's Vision of the State', in The Medieval History Journal, Vol. 2, (1), pp. 19-36.
3. Mehta, V. R. Foundations of Indian Political Thought, Manohar, 1992
4. T. Pantham and K Deustch (eds), Political thought in Modern India, Sage Publications, Delhi, 1986
5. Guha Ramachandra, Makers of Modern India, Penguin Viking, 2010.
6. Thomas pantham, Political Discourse: Expoloration In Indian and Western Political Thought
7. Bidyutchakarabarty and RK Pandey, Modern Indian Political Thought
8. K.P. Jaiswal: Hindu Polity (English & Hindi), Bangalore: Bangalore Printing & Publishing Co., 1955
9. N.C. Bandopadhyaya: Development of Hindu Polity and Political Theory, New Delhi: Munshiram & Manoharlal, 1980
10. S. Collins, (ed), Agganna Sutta: An Annotated Translation, New Delhi: Sahitya Academy, 2001
11. A. Fazl, The Ain-i Akbari (translated by H. Blochmann), Calcutta: G. H. Rouse, pp. 47- 57. 1873

### Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

### 11. EXTENSION EDUCATION

#### Course Outcomes:

This paper is designed in a manner so that students are introduced to the concepts related to Extension Education. This course will introduce students to the basics of education and extension education. In this paper students will learn that what to do and in which manner for the betterment of rural people.

**Maximum Marks:** 100

**Credits:** 03

**Minimum Passing Marks:**40

Total No. of Lectures-Tutorials-Practical (in hours per week): 3

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Origin and development of Extension Education in India. Meaning and Definition of Extension Education. Philosophy and Scope of Extension Education. VII Rural Leadership – Meaning and Definition of Rural Leadership. Theories of Leadership. Types of Leader, 11	3	2
II	Meaning and Definition of Education. Qualities of Education. Difference Between Extension and Classroom Education. Relationship of Extension Education with other Social Sciences.	3	2
III	Principles and Objectives of Extension Education. Need and Importance of Extension Education.	3	2
IV	Extension Work in Abroad: U.S.A., Japan, Israel and United Kingdom.	3	2
V	Extension Worker: (i) Types and Qualities of Extension Workers. (ii) Role and Duties of Extension Workers.	3	2
VI	New Trends in Agriculture Extension: Privatization Extension, Cyber Extension/E-Extension, Market-Led Extension, Farmer Led Extension/Farmer To Farmer Extension etc.	4	2
VII	Rural Leadership – Meaning and Definition of Rural Leadership. Theories of Leadership. Types of Leader.	4	2
VIII	Traits of Rural Leadership. Function of Rural Leadership and Methods of Locating Local Leaders in Rural Areas.	5	3

#### Suggested Reading:

1. nqxkZizlkn 'kekZ ,oa mEesn flag] d`f`k izlkkj ds fl)kUr&oh0ds0 izdk'ku cMkSrA
2. Mk0 t;iky flag] izlkj f`k{k k ,oa xzkeh.k fodkl& jru izdk'u efUnj] vxjkA
3. O.P. Dahama, Extension and Rural Welfare; Ram Prasad & Sons, Agra.
4. O.P. Dahama and O. P. Bhatnagar, Education and Communication for Development, Oxford and IBH Publishing Co. Pvt. Ltd New Delhi.
5. R. P. Singh, P. N. Mathur and G. A. K. Kumar, Extension Education, IFWA IARI New Delhi.

#### Suggested Continuous Evaluation (25 Marks):

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	<b>5</b>
Quiz	<b>5</b>
Seminar/Assignment	<b>5</b>
Minor field work/excursion/lab visit/technology dissemination etc.	<b>5</b>
Attendance/ Presentation	<b>5</b>

<b>12. FUNDAMENTALS OF COOPERATION</b>			
<b>Course Outcomes:</b>			
This paper is designed in a manner so that students are introduced to the concepts related to Extension Education. This course will introduce students to the basics of education and extension education. In this paper students will learn that what to do and in which manner for the betterment of rural people.			
<b>Maximum Marks: 100</b>		<b>Credits: 03</b>	<b>Minimum Passing Marks:40</b>
Total No. of Lectures-Tutorials-Practical (in hours per week): 3			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Development of Cooperative Movement in India, philosophy and ideas of Indian Cooperative Thinkers/Leaders.	3	2
II	Economic organization, Different system of economic organization Private Enterprises, Public Enterprises, Cooperation as the third sector.	3	2
III	Meaning and Definition of cooperation, Objectives and scope of cooperation.	3	2
IV	Principles of cooperation, major and other's Reformulation of cooperative principle, Characteristic and limitation of cooperation.	3	2
V	Capitalism, Socialism and cooperatives, meaning and integration with each other.	3	2
VI	Differences and similarities in cooperation, capitalism and socialism	4	2
VII	Meaning and definition of Public private Partnership model (PPP or 3P model), Advantage and disadvantage	4	2
VIII	Types of cooperative society, cooperative Autonomy, Limited and unlimited liability, federal type of organization	5	3

**Suggested Reading:**

- Cooperation: Dr. B.S.Mathur, Sahitya Bhawan , Agra.
- Indian and Foreign Co-operation, Dr. P.P. Garg shusheel prakashan , MEERUT.
- Cooperative Movement & Administration: I.L.O.Geneva.
- The Principles & Practice of Cooperative Audit: D.R.Krishnaswamy.

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	<b>5</b>
Quiz	<b>5</b>
Seminar/Assignment	<b>5</b>

Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

13. FUNDAMENTALS OF SOCIAL WORK			
<b>Course Outcomes:</b>			
<ul style="list-style-type: none"> <li>To understand history and evolution of social work profession, both in India and the West.</li> <li>To develop insights into the origin and development of ideologies and approaches to social change.</li> <li>To develop Skills to understand contemporary reality in its historical context.</li> </ul>			
<b>Maximum Marks: 100</b>		<b>Credits: 03</b>	<b>Minimum Passing Marks:40</b>
Total No. of Lectures-Tutorials-Practical (in hours per week): 3			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	History of Social Work, Emergence of Social Work: UK, USA, India Development of Social Work Education in India Ancient, Medieval and Modern contributors in social work field	5	2
II	Fundamental Of Social Work 1. Values of the Social Work & Codes of Ethics 2. Principles and Skills of Social Work	3	2
III	Social Work Profession in India Profession: Meaning Definition and Attributes Professionalization of Social Work in India Issues and Challenges before Social Work Profession	5	2
IV	Human Rights And Social Work 1. Social Work and its Relation to Human Rights and Social Justice	3	2
V	Approaches I 1. Professional v/s Voluntary Approaches to Social Work	3	2
VI	Approaches II 1. Generalist Approach to Social Work Practice	6	2
VII	Ideology of Social Work Ideology of Action Groups and Social Movements Influence of Political Ideology on Social Welfare Policies and Programme	6	2

**Suggested Readings:**

- Surendra Singh (Chief Editor). (2012): Encyclopedia of Social Work in India. Lucknow: NewRoyal Book Company.
- Singh, D. K. and Bhartiya, A.K. (2010). Social Work: Concept and Methods. Lucknow: NewRoyal Book Company.
- Annie Pullen-Sansfaçon (2013), The Ethical Foundations of Social Work, Stephen Cowden Routledge,
- Banks, S. (1995). Ethics and Values in Social Work: Practical Social Work Series, London: Macmillan Press Ltd.
- Compton, B. R. (1980). Introduction to Social Welfare and Social Work. Illinois: The Dorsey Press.
- Desai, Murli, (2006). Ideologies and social Work: Historical and Contemporary Analyses, Rawat Publication, New Delhi

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
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Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

14. FUNDAMENTALS OF PHYSICAL EDUCATION			
<b>Course Outcomes:</b>			
<ul style="list-style-type: none"> <li>The physical education is very wide concept and this subject teaches about introduction and Sociological concept of Physical Education and this also teaches about historical development of physical education in India and other countries. It introduces a general concept of good health and wellness. This program will also help a student to promote healthy way of living and they will also be able to make fitness and health plan.</li> </ul>			
<b>Maximum Marks:</b> 100		<b>Credits:</b> 03	<b>Minimum Passing Marks:</b> 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 3			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	<b>Ancient Wisdom in Physical Education, Sports and yoga:Introduction:</b> <b>Physical Education</b> <ul style="list-style-type: none"> <li>Meaning, definition and importance of physical education.</li> <li>Scope, aim and objective of Physical education.</li> <li>Importance of Physical education in Modern era.</li> <li>Relationship of physical education with general education</li> </ul> <b>Yoga</b> <ul style="list-style-type: none"> <li><b>Patanjali yoga sutra.</b></li> </ul>	3+2	
II	<b>Sociological Foundation:</b> <ul style="list-style-type: none"> <li>Meaning, Definition and importance of sports Sociology</li> <li>Culture and sports</li> <li>Socialization and sports</li> <li>Gender and Sports.</li> </ul>	3+2	
III	<b>History:</b> <ul style="list-style-type: none"> <li>History and development of Physical education in India: pre and post independence.</li> <li><b>Eminent person of Sports</b> – Major Dhayan Chand, K.D. Jadhav, Abhinav Bindra, Karnam Malleshwari, Sushil Kumar, Bijendra Singh, Rajyavardhan Singh Rathore, Yogeshwar Datt, Vijay Kumar, Gagan Narang, Marry Kom, Saina Nehwal, P. V. Sindhu, Anuj Kumar, Alka Tomar &amp; Sanjeev Kumar.</li> <li><b>National awards of India</b> – Rajeev Gandhi Khel Ratan Awards, Arjun Award, Major Dhyanchand Award, Dronacharya Award, Maulana Abul Kalam Azad Trophy,</li> <li><b>Sports schemes of India</b></li> </ul>	3+2	
IV	<b>Olympic Games , Asian Games and Commonwealth Games:</b> <ul style="list-style-type: none"> <li>Olympics Movement: Ancient Olympic, Modern Olympic, Revival, Aims, Objectives, Spirit, Torch Relay, Flag, Motto, Opening and Closing Ceremonies.</li> </ul>	3+2	

	<ul style="list-style-type: none"> <li>• Asian Games.</li> <li>• Commonwealth Games.</li> </ul>	
V	<b>Health Education:</b> <ul style="list-style-type: none"> <li>• Meaning, Definition and Dimensions of Health.</li> <li>• Meaning, Definition objectives, Principals and importance of Health Education.</li> <li>• Role of Different Agencies in Promoting Health (WHO, UNICEF).</li> <li>• Meaning of Nutrients, Nutrition, and Balance Diet</li> <li>• Health and drugs</li> </ul>	3+2
VI	<b>Wellness and Life Style</b> <ul style="list-style-type: none"> <li>• Importance of wellness and life style.</li> <li>• Role of Physical Activity Maintaining Healthy Life Style.</li> <li>• Stress Management.</li> <li>• Obesity and Weight Management.</li> </ul>	4+2
VII	<b>Fitness :</b> <ul style="list-style-type: none"> <li>• Meaning, Definition and types of fitness</li> <li>• Component of physical fitness</li> <li>• Factor affecting physical fitness</li> <li>• Development and maintenances of fitness</li> </ul>	4+2
VIII	<b>Posture:</b> <ul style="list-style-type: none"> <li>• Meaning, Definition of Posture.</li> <li>• Importance of Good Posture.</li> <li>• Causes of Bad Posture.</li> <li>• Postural Deformities – Kyphosis, Lordosis, Scoliosis, Round Shoulder, Knock Knee, Bow Leg, Flat foot, Claw Foot (causes and remedial exercise).</li> <li>• Fundamental Movements of Body Parts</li> <li>• Anatomical standing position.</li> </ul>	5+3

#### Suggested Readings:

- Barrow Harold M., “Man and movements principles of Physical Education”, 1978.
- Difiore, J.(1998). Complete guide to postnatal fitness. London: A & C Black,.
- Dynamics of fitness. Madison: W.C.B. Brown.
- General methods of training. by - Hardayal Singh
- Giam, C.K &The, K.C. (1994). Sport medicine exercise and fitness. Singapore: P.G. Medical Book.Mcglynn, G., (1993)
- Kamlesh M.L., “Physical Education, Facts and foundations”, Faridabad P.B. Publications.
- Krishana Murthy V. and Paramesara Ram, N. “Educational Dimensions of Physical. Education”, 2nd Revised edition, Print India, New Delhi 1990.
- Singh, S.N. (2019). Sharirik Siksha Ke Sidhant Evam Aadhar, Khel Sahitya Kendra, Daryaganj, New Delhi
- Methodology of training. by – Harre
- Ravaness R.S., “Foundation of Physical Education”, Houghton Millin Co. Boston USA (1978)
- Pandey, K.G. (2011). Sharirik Siksha, Shri Gyan Sagar Publication, Meerut
- Science of sports training. by - Hardayal Singh
- Sharkey, B. J.(1990). Physiology of fitness, Human Kinetics Book.
- Track & Field. by – Gerhardt schmolinsky, Leipzig college of physical culture (DHFk)

#### Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5

Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

**Suggested Online Courses:**

- IGNOU
- Other centrally/state operated Universities / MOOC platforms such as “SWAYAM”
- India and Abroad.
- Rajarshi Tandon open University

15. FUNDAMENTALS IN ARTS		
<b>Subject:</b> BA (Drawing & Painting)		<b>Credits:</b> 03
<b>Course Outcomes:</b>		
<ul style="list-style-type: none"> <li>• Students get information about Definition of art. The art language is based on concepts called the “ELEMENTS and PRINCIPLES of Design”. Introduction to the basics elements of art, 5 Elements of art Line Shape Color Texture Value</li> </ul>		
<b>Max. Marks:</b> 100		<b>Min. Passing Marks:</b> 40
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b> 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Definition of art, Shadanga : The Six Limbs of Indian Art	4T+4P
II	Elements of Art : Line, Shape/Form, Color	3T+5P
III	Texture, Tone/Value, Space	4T+4P
IV	Principles of Art : Unity, Harmony, Balance	3T+5P
V	Emphasis, Rhythm/Movement , Perspective	4T+4P
VI	Material & Methods : Lead Pencil, crayon, Charcoal,Pastel, Brushes, Papers, Boards	3T+4P
VII	Technique of - Water Color Painting, Tempera Painting, Acrylic Color Painting, Oil Color Painting- Alla prima & Impasto.	3T+4P
VIII	Gouache Painting, Fresco- Buon, Secco, Jaipur Fresco, Mosaic Painting	2T+4P

**Suggested Reading:**

- Art Fundamentals: Color, Light, Composition, Anatomy, Perspective and Depth - 3Dtotalpublishing
- Light for Visual Artists: Understanding & Using Visual Light in Art and Design - Richard Yot
- Color and light: A Guide for the Realist Painter - James Gurney
- Bridgman's Complete Guide to Drawing From Life - George B. Bridgman
- How to Draw: Drawing and Sketching Objects and Environments - Scott Robertson

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5

Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

16. SOCIAL SCIENCE CONCEPTS AND SOCIAL PROBLEMS (THEORY)		
<b>Course Outcomes:</b>		
<b>3CREDITS</b>		
<ul style="list-style-type: none"> <li>To understand and develop insight about sociological concepts for professional social workpractice</li> <li>Able to understand preventive and remedial measures for contemporary social problems</li> <li>Able to understand role of social work in addressing social problems</li> </ul>		
<b>Max. Marks: 100</b>		<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Basic Concepts Social Groups, Community, Association and Social Institution Social Structure and Social Control	4T+4P
II	Understanding Society and Social Process Society: Meaning, Characteristics and approaches Social process and Socialization	4T+5P
III	Social Stratification Concept and Theories of Social Stratification Forms Of Stratification: Caste, Class, Power, Gender Social Change and social mobility	5T+4P
IV	Social Work practice with family Family: concept, definition, structures, functions. Families in vulnerable situations ( conflicts, family break-up) Social Work intervention with Families	4T+5P
V	Understanding Social Problems Social Problems: Concept, Definition and Characteristics Theoretical perspective to social problems Social Work response to Social problems	5T+4P
VI	Gender and Related Concerns Understanding gender, gender discrimination Gender Based Violence Social and Legal instruments to address gender related concerns	4T+4P
VII	Contemporary Social problems(I) Scheduled Castes, Scheduled Tribes, Other Backward Classes and Minorities Street Children, Working Children, Child Labor and their careand protection Problem of elderly and differently able person Alcoholism, drug abuse	4T+4P

**Suggested Readings:**

- Ram Ahuja (2014): Social problems in India, Jaipur: Rawat Publication
- Malcolm Spector (2017): Constructing Social Problems: Routledge 3Joel Best(2016): Social Problems:

W.W.Norton, Incorporated.

3. Joel Best (2017): Images of Issues-Typifying Contemporary Social Problems,Routledge.
4. Madan, G.R. (1981): Indian social problem, New Delhi : Allied publication
5. H.S, Becker. (1966). Social Problems-A Modern Approach. New York: JohnWiley and Sons.

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

<b>17. DRAWING AND COLOR STUDIES</b>		
<b>Course Outcomes:</b>		<b>Credits:</b>
03		
<ul style="list-style-type: none"> <li>• To enable students to recognize and understand Sketch and render objects (fruits, vegetables, leaf, geometrical shapes etc.) with various medium like Pencil, Pen, ink, water color, Poster color, Oil Pastel color, Dry Pastel, Charcoal Pencil, Color Pencils etc.Exhibit understanding of color (properties of colors, color wheel &amp; color value) and use it judicially in the creation of visual work.</li> </ul>		
<b>Max. Marks: 100</b>		<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>		
<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures (Theory+ Practical)</b>
I	Sketching of Object in various medium like Pencil, Charcoal and Pen & Ink, Pastel etc.	4T+5P
II	Drawing of Object in various medium like Pencil, Charcoal and Pen & Ink etc.	5T+5P
III	Color Tone of Geometrical Shape in Poster Color/Water color	3T+5P
IV	Color Tone of Still Objects in Poster Color/Water color	4T+5P
V	Color tone of Nature with Still Objects as a composition in Poster Color/Water Color	3T+5P

**Suggested Reading:**

- Hayashi Studio, (1994), Water Colour Rendering, Graphic-Sha Publishing Co., Ltd.
- B. Edwards, (2004), Color by Betty Edwards: A Course in Mastering the Art of Mixing Colors, PenguinGroup Inc, New York. ISBN: 1-58542-199-5.
- Feisner, E. (2006). Colour Studies, NY NY USA. Fairchild Publications
- Gerritsen Franz. (1983). Theory & Practise of color: A color based theory based on the laws of perception. Subsequent Edition Van Nostrand Reinhold Publication.
- Gonnella, Rose & Friedman Max. (2014) Design Fundamentals: Notes on color theory. 1st Edition.San Francisco, USA. Peach Pit Press
- Recker, Keith & EisemanLeatrice. (2011). Pantone: The twentieth century in color

- Mollica, Patti. (2013). Colortheory: An essential guide to color from basic principles to practical applications. 1st Edition. San Francisco USA. Walter Foster Publishing
- Ungar Joseph. (1986). Rendering Mixed media. NY USA. Watson-Guptill Publication INC U.S.
- Kasprisin Ron (1999) .Design media: Technique for water color, pen & ink, pastel and colored marker.Hudson County New Jersey, USA. John Wiley & Sons.

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

18. DRAWING AND SKETCHING OF HUMAN BODY		
<b>Course Outcomes:</b>		<b>Credits: 03</b>
<ul style="list-style-type: none"> <li>• Students will learn the anatomical structure of human body to beautify their art work with expression, movement &amp; rhythm.</li> </ul>		
<b>Max. Marks: 100</b>		<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Sketching & Drawing of Hand and Leg Movement	4T+5P
II	Sketching & Drawing of Body Movement with Rhythm	5T+5P
III	Sketching & Drawing of Face Expression	3T+5P
IV	Depiction of Face Expression in Monochrome	4T+5P
V	Depiction of Body Movement in Monochrome	3T+5P

- Suggested Reading:
- Drawing and Painting Expressive Little Faces Step-by-Step Techniques for Creating People and Portraits with Personality--Explor Watercolors,Inks, Markers, and More By Amarilys Henderson ·2020
- B. Edwards, (2004), Color by Betty Edwards: A Course in Mastering the Art of Mixing Colors, Penguin Group Inc, New York. ISBN: 1-58542-199-5.
- Hayashi Studio, (1994), Water Colour Rendering, Graphic-Sha Publishing Co., Ltd.
- Gerritsen Franz. (1983). Theory & Practise of color: A color based theory based on the laws of perception. Subsequent Edition Van Nostrand Reinhold Publication.
- Feisner, E. (2006). Colour Studies, NY NY USA. Fairchild Publications
- Fraser, Tom & Banks Adam. (2004). Designers color Manual: The complete guide to color theory & application, San Francisco, USA. Chronicle Books
- Gonnella, Rose & Friedman Max. (2014) Design Fundamentals: Notes on color theory. 1st Edition. San Francisco, USA. Peach Pit Press .
- The Head By Andrew Loomis · Published:1989 Publisher:Walter Foster Pub.Vastu-Silpa Kosha.
- Drawing the Human Head Anatomy, Expressions, Emotions and Feelings By Giovanni Colombo, Giuseppe Vigliotti, Published: August 2017, Publisher:Hoaki

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

19. STILL LIFE		
<b>Course Outcomes:</b>		<b>Credits:</b>
03		
<ul style="list-style-type: none"> <li>A still life painting is pretty self-explanatory... it's a painting of objects that sit still. These objects can be inanimate things, like fruits or vases; they can also be things that are no longer alive, like animals or flowers.</li> </ul>		
<b>Max. Marks: 100</b>		<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Still Life: Various Shapes like Cube, Sphere, Cone etc. with Pencil denoting Light & Shade	4T+5P
II	Still Life : Various Objects with Pencil denoting Light & Shade	5T+5P
III	Still Life : Copy of Old Master Work in Color	3T+5P
IV	Still Life : Various Objects in Water Color	4T+5P
V	Still Life : Various Objects in Poster Color/Acrylic Color	3T+5P

**Suggested Reading:**

- Painting Still Life in Watercolor By Lesley E. Hollands, Published: 2009, Publisher : Crowood Press
- Watercolors, Still Life By Brian Bagnall, Ursula Bagnall, Astrid Hille, Published: September 1997, Publisher: Walter Foster Publishing, Incorporated
- Learn to Paint in Watercolor Step by Step by William Newton, Published: 9 March 2017, Publisher: Search Press
- The Art of Still Life (A Contemporary Guide to Classical Techniques, Composition, and Painting in Oil )by Todd M. Casey , Published: 18 February 2020, Publisher: Monacelli Press, Incorporated

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5

Attendance/ Presentation	5
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**Course prerequisites:** 10+2 in any discipline

<b>20. HEAD (BUST) STUDY WITH PENCIL AND COLOR</b>		
<b>Course Outcomes:</b>		<b>Credits: 03</b>
<ul style="list-style-type: none"> <li>Head study is very important in art. In the head study, the student studies the various postures of the human face. Apart from this, after studying closely the eyes, ears, nose, and hair tries to engrave it on paper. Variety of male and female models in different poses. The basic proportions of the head and the proper placement of facial features.</li> </ul>		
<b>Max. Marks: 100</b>		<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>		
<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures (Theory+ Practical)</b>
I	Head Study with pencil drawing and shading	4T+5P
II	Head Study with watercolor –I	5T+5P
III	Head Study with watercolor –II	3T+5P
IV	Head Study with acrylic /oil color - I	4T+5P
V	Head Study with acrylic /oil color - II	3T+5P

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

<b>21. FIGURATIVE COMPOSITION</b>		
<b>Course Outcomes:</b>		<b>Credits: 03</b>
<p>In this section, students will do the work of decorating them with colors by marking the selected subjects on the paper seat. In the form of subjects such as market scenes, festivals, waiting, working women or men, rural life, boys and girls playing, etc. can be given. In composition, two auxiliary elements with at least three figures must be in the picture.</p>		
<b>Max. Marks: 100</b>		<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b>		
<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures (Theory+ Practical)</b>
I	Figurative Composition in pencil or Pen & Ink on Paper	4T+5P
II	Figurative Composition in watercolor	5T+5P

III	Figurative Composition in watercolor	3T+5P
IV	Figurative Composition in Oil Color/acrylic Color	4T+5P
V	Figurative Composition in Oil Color/acrylic Color	3T+5P

**Suggested Readings:**

Students will use their own imaginative power to create a compositional work in the medium learnt so far.

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

22. LANDSCAPE		
<b>Course Outcomes:</b>		<b>Credits: 03</b>
Landscape painting, the depiction of natural scenery in art. Landscape paintings may capture mountains, valleys, bodies of water, fields, forests, and coasts and may or may not include man-made structures as well as people.		
<b>Max. Marks: 100</b>		<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Landscape in pencil or Pen & Ink on Paper	4T+5P
II	Landscape in watercolor	5T+5P
III	Landscape in watercolor	3T+5P
IV	Landscape in Oil Color/acrylic Color	4T+5P
V	Landscape in Oil Color/acrylic Color	3T+5P

**Suggested Readings:**

Students will use their own imaginative power to create a compositional work in the medium learnt so far.

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

<b>23. ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT</b>		
<b>Course outcomes:</b>		
<ul style="list-style-type: none"> <li>• Understand the meaning, concept and importance of Environment.</li> <li>• Learn environmental problems.</li> <li>• Understand the need of Sustainable environment development.</li> <li>• Know the methods, tools and techniques used for Sustainable environment development</li> </ul>		
<b>Max. Marks:</b> 100	<b>Credits:</b> 03	<b>Min. Passing Marks:</b> 40
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b> 03		
<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures (Theory+ Practical)</b>
I	Environment: Concepts and Types; Environmental Perception; Environment and Society.	6T+3P
II	Types of environmental problems; pollution, global warming, acid rain, ozone layer depletion, causes and consequences of environmental problems at global, regional and local levels; Global environmental change; Natural disasters; Environmental Impact Assessment (EIA).	7T+3P
III	Concepts of Sustainable Development; Need of Sustainable Development; Environmental Planning & Sustainable Development; Sustainable Mountain Development.	5T+3P
IV	Concept of Environmental Management; Approaches to Environmental Management; Integrated Watershed Management; Disaster Management. Climate Change and Adaptation.	5T+4P
V	Environmental Management in Uttarakhand Himalaya, Environmental protection, and pollution control acts in India and world (air, water, wildlife, forest).	5T+3P

**Suggested Reading:**

- Ahmad, Y.J., G.K. Sammy (1985): Guidelines to EIA in Developing Countries. Hordder& Stoughton, London.
- Brundland, G. (1988) Our Common Future, Report of the World Commission on Environment and Development, UN.
- Carpenter R A (ed) (1983): Natural Systems for Development: what planners need to know. Mc. Millan London.
- Cheremisinoff, P.N. & A.C. Morresi (1977): Environment Assessment and Impact studies Handbook. An Arbor, Mich: Anarbor Science.
- Wathern, Peter (1986): Enviromental Impact Assessment: Theory and Practice.
- Pande G.C. & D.C. Pandey (1999), Environmental Development and Management: Strategies and Policies (ed.), New Delhi.
- Bharucha, Erach (2006). Text Book of Environmental Studies, University Press, New Delhi.

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	5
Quiz	5
Seminar/Assignment	5

Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

## 24. DISASTER MANAGEMENT

### Course outcomes:

- Know the meaning and concept of Disaster management.
- Understand the causes and consequences of Disaster.
- Build skills to cope up with disaster and risk reduction.

**Max. Marks:** 100

**Credits:** 03

**Min. Passing Marks:**40

Total No. of Lectures-Tutorials-Practical (in hours per week): 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	Hazards vs. Disasters, Risk and Vulnerability in Disasters, Types of Disasters, Natural disasters: earthquakes, floods, drought, landslide, land subsidence, cyclones, volcanoes, tsunami, avalanches, global climate extremes. Man-made disasters: Pollution, Terrorism, gas and radiation leaks, toxic waste disposal, oil spills, forest fires.	6T+3P
II	Risk and Vulnerability Analysis: Risk: Its concept and analysis, Risk Reduction, Vulnerability: Its concept and analysis, Strategic Development for Vulnerability Reduction.	7T+3P
III	Response to Disaster Impact: Response; Search, Rescue and Evacuation, Logistic; Incident command system.	5T+3P
IV	Rehabilitation, Reconstruction and Recovery: Recovery, Post disaster review and damage assessment, Relief, Rehabilitation and Restructuring.	5T+4P
V	Regional Pattern of Disaster Management: International disaster assistance, Leadership in disaster, Organization, Disaster scenario of Uttarakhand, Disaster management system in Uttarakhand.	5T+3P

### Suggested Reading:

- Disaster Management Guidelines, GOI-UND Disaster Risk Program (2009-2012)
- Damon, P. Copola, (2006) Introduction to International Disaster Management, Butterworth Heineman.
- Gupta A.K., Niar S.S and Chatterjee S. (2013) Disaster management and Risk Reduction, Role of Environmental Knowledge, Narosa Publishing House, Delhi.

- Murthy D.B.N. (2012) Disaster Management, Deep and Deep Publication PVT. Ltd. New Delhi.
- Modh S. (2010) Managing Natural Disasters, Mac Millan publishers India LTD.
- Dr. Mrinalini Pandey, (NA). Disaster Management. Wiley India Pvt. Ltd.
- Tushar Bhattacharya (NA). Disaster Science and Management. McGraw Hill Education (India) Pvt. Ltd.

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

25. INTRODUCTION TO GEOSPATIAL TECHNOLOGY		
<b>Course outcomes:</b>		
<ul style="list-style-type: none"> <li>• Understand the meaning, concept and importance of Geospatial Technology.</li> <li>• Learn basic concept of Remote Sensing and GIS.</li> <li>• Learn fundamentals of GPS.</li> </ul>		
<b>Max. Marks: 100</b>	<b>Credits: 03</b>	<b>Min. Passing Marks:40</b>
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Basic concepts of GIS; Geography as a spatial science; History of GIS; Components of GIS; Elements of GIS. Fundamentals of GIS. Principal Functions of GIS.	6T+3P
II	Geographic Data Types; Spatial and Non-spatial data; Data Capture; Geographic Analysis; Data Base and Spatial Data Management; Geo-Relational Data Model; Topological Data Structure; Attribute Data Management; Scanning System; Data Conversion; Relational Database -Concepts & Model.	7T+3P
III	Introduction; Definition and Scope; Stages of Remote Sensing data acquisition; Process of Remote Sensing data analysis; Type of Remote Sensing- Active and passive remote sensing; Introduction; Electromagnetic energy- Electromagnetic spectrum; Remote Sensing Platforms and Sensors; Application of Remote Sensing.	5T+3P
IV	Fundamentals of Positioning Systems; Basic Concepts of GPS; GPS Components – space segment, control segment, user segment; GPS Receiver and its Types, GPS Errors. GPS Applications. Basic Concepts of GPS - Components and Basic Facts; Application of GPS in resource mapping, Map Updating, Cadastral Mapping, Micro Level Surveying etc. Applications of GPS Forestry and Natural Resources, GPS Tracking, Utility Mapping, Civil Engineering, Cadastral Surveying and Seismic Applications.	5T+4P

V	Application Remote Sensing and Geographic Information System (GIS) in Natural Resources Studies: Resource Analysis; Resource Mapping; Natural Resources Information System, Urban Management, Emergency Response System and Decision Support System.	5T+3P
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**Suggested Reading:**

- Curran, P.J. (1985): Principles of Remote Sensing, Longman, London
- Chaunial, D. D. (2004): Remote Sensing and Geographical Information System (in Hindi), Sharda Pustak Bhawan, Allahabad
- Cracknell, A. and Ladson, H. (1990): Remote Sensing Year Book. Taylor and Francis, London.
- Curran, P.J. (1985): Principles of Remote Sensing. Longman, London.
- Deekshatulu, B.L. and Rajan, Y.S. (ed.) (1984): Remote Sensing. Indian Academy of Science, Bangalore.
- Floyd, F. and Sabins, Jr. (1986): Remote Sensing: Principles and Interpretation. W.H. Freeman, New York.
- Gautam, N.C. and Raghavswamy, V. (2004). Land Use/ Land Cover and Management Practices in India. B.S. Publication., Hyderabad.
- Jensen, J.R. (2004): Remote Sensing of the Environment: An Earth Resource Perspective. Prentice Hall, Englewood Cliffs, New Jersey. Indian reprint available.
- Lillesand, T.M. and Kiefer, R.W. (2000): Remote Sensing and Image Interpretation. John Wiley and Sons, New York.
- Nag, P. (ed.) (1992): Thematic Cartography and Remote Sensing. Concept Publishing Company, New Delhi.
- Rampal, K.K. (1999): Handbook of Aerial Photography and Interpretation. Concept Publishing. Company, New Delhi.
- Campell, J. B. (2003): Introduction to Remote Sensing. 4th edition. Taylor and Francis, London.

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**26. ISSUES OF RURAL GOVERNMENT**

**Course Outcomes:** Rural development is important not only for the majority of the population residing in rural areas, but also for the overall economic expansion of the nation.

**Max. Marks: 100**

**Credits: 3**

**Min. Passing Marks: 33**

**Total No. of Lectures-Tutorials-Practical (in hours per week): 03**

Unit	Topic	No. of Lectures
<b>Unit I</b>	Rural Development: Indian Context Rural Development Programs	<b>15</b>
<b>Unit II</b>	Rural Development Planning and Management Research Methods in Rural Development	<b>15</b>

<b>Unit III</b>	Rural Health Care: Rural Social Development and Health Issues Water Sanitation	<b>15</b>
<b>Unit IV</b>	Land Reforms and Rural Development	<b>15</b>
<b>Unit V</b>	Entrepreneurship and Rural Development Components of Social Security	<b>15</b>

**Suggested Reading:**

- 1) Environmental Law and Policy in India by Shyam Divan
- 2) Environmental Law by Dr. J.J Upadhyaya
- 3) Environmental Law and Policy by Aruna Venkat

**Suggested Online Link:**

- <https://ndl.iitkgp.ac.in/>
  - <http://epgp.inflibnet.ac.in/>
  - <http://egyankosh.ac.in/>
  - <https://www.ncertbooks.guru/english-skills/>
  - <https://epathshala.nic.in/>
  - <https://www.digitalindia.gov.in/services>
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- <https://rtionline.gov.in/>
- <https://www.india.gov.in/topics/law-justice>

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**27. STUDY OF VOTING PATTERN AND VOTING BEHAVIOUR**

**Course Outcomes:** Voting behavior is a form of electoral behavior. Understanding voter's behavior can explain how and why decisions were made either by public decision makers, which has been central concern for political scientists. Political science student students study ways in which affective influence may help voters make more informed voting choices, with some proposing that affect may explain how the electorate makes informed political choices, with some proposing that affect may explain how the electorate makes informed political choices in spite of low overall levels of political attentiveness and sophistication.

**Max. Marks: 100**

**Credits: 3**

**Min. Passing Marks: 33**

**Total No. of Lectures-Tutorials-Practical (in hours per week): 03**

Unit	Topic	No. of Lectures
Unit I	Nature of Political Democracy in India	10
Unit II	People's Representation Act	10
Unit III	Role of Caste and Religion in Electoral Politics	10
Unit IV	Analyzing Voting Pattern with field survey	20
+		

**Suggested Reading:**

- 1- How India votes and what it means by Pradeep Gupta
- 2- The Game of Votes by Farhat Basir Khan
- 3- Measuring Voting Behaviour In India by Sanjay Kumar and Praveen Rai

**Suggested Online Link:**

1. <https://www.digitalindia.gov.in/services>
2. <https://rtionline.gov.in/>

3. <https://www.india.gov.in/topics/law-justice>

**Suggested equivalent online courses:**

- <https://ndl.iitkgp.ac.in/>
- <http://epgp.inflibnet.ac.in/>
- <http://egyankosh.ac.in/>
- <https://www.ncertbooks.guru/english-skills/>
- <https://epathshala.nic.in/>
- <https://www.digitalindia.gov.in/services>
- <https://rtionline.gov.in/>
- <https://www.india.gov.in/topics/law-justice>

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

## II. FACULTY OF COMMERCE AND MANAGEMENT

<b>1. TOUR PACKAGE OPERATIONS AND MANAGEMENT</b>		
<b>Course Outcomes:</b>		<b>Credits: 03</b>
<ul style="list-style-type: none"> <li>• The course is aimed towards the development of personnel in order to meet the needs of the rapidly growing tourism industry. After completion of the course a student will be well-equipped to handle the queries and work in the travel, tour, or any other segment of the leisure industry.</li> </ul>		
<b>Max. Marks: 100</b>		<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Introduction to Tourism Industry	3T+5P
II	Domestic and International Tour Packages	4T+5P
III	Tour Package Formulation	3T+10P
IV	Tour Package Sales	5T+10P

### **Suggested Readings:**

1. Bhatia, A.K.: Tourism Development, Principles and practices: Sterling, N Delhi.
2. Burkart & Madlik : Tourism- Past, present and future, Heinemann, London.
3. Christopher J. Holloway: The Business of Tourism: Macconald and Evans, 1983.
4. Mohinder, Chand: Travel Agency Management, Anmol Pub, 2005
5. I.I.T.T.M.: Tourism as an Industry – monograph: IITTM, New Delhi, 1989.
6. Kaul, R.H.: Dynamics of Tourism: A Trilogy, Sterling Publishers, Delhi.
7. Wahab, S.B.: Tourism Management, Tourism International Press London, 1986.

### **Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

<b>2. CROSS CULTURAL MANAGEMENT</b>	
<b>Course Outcomes:</b>	
<b>Credits: 03</b>	
<ul style="list-style-type: none"> <li>• Understand culture and its dimensions as it relates to Management in general and International Business in particular.</li> <li>• Understand the importance of cross-cultural management, and of the major theoretical and empirical studies, which examine the impact of different national cultures on work and employment.</li> <li>• Apply their understanding of cultural and institutional differences to evaluate the challenges and opportunities of branding and advertising in different countries.</li> <li>• Display an understanding of cultural difference in interactions with different nationalities. In essence, take the business decisions on the basis of communication across cultures.</li> </ul>	

<b>Max. Marks: 100</b>		<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>		
<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures (Theory+ Practical)</b>
I	Introduction to Cross Cultural Management	3T+5P
II	The Dimensions of Culture	4T+5P
III	Communication across Cultures	3T+6P
IV	Culture and Marketing	5T+6P
V	Cultural Dimensions of HRM	2T+6P

**Suggested Readings:**

1. Madhavan ,S. (2012),Cross Cultural Management , New Delhi: Oxford University Press
2. Deresky Helen, *International Management: Managing Across Borders and Cultures*, 4th Ed, Prentice Hall India.

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**3. BUSINESS COMMUNICATION**

**Course Outcomes:** On completion of this course, the students will be able

1. Demonstrate online learning environment successfully by developing the implication-based understanding of Paraphrasing, deciphering instructions, interpreting guidelines, discussion boards & Referencing Styles.
2. Apply his/her ability to write error free while making an optimum use of correct Business Vocabulary & Grammar.
3. Analyze various levels of organizational communication and communication barriers while developing an understanding of Communication as a process in an organization.
4. Integrate critical thinking by designing and developing clean and lucid writing skills.

<b>Max. Marks: 100</b>		<b>Min. Passing Marks:40</b>
<b>Credits: 03</b>		
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>		
<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures (Theory+ Practical)</b>
I	<b>Prerequisites to Business Communication- Introduction to Blended Learning &amp; Blackboard. Nuances of Academic writing will be discussed which is a prerequisite to Blended Learning.</b> <ul style="list-style-type: none"> <li>• Paraphrasing</li> <li>• Deciphering Instructions</li> <li>• Interpreting Guidelines</li> <li>• Dos and Don'ts of participating in Online Discussion Boards and</li> <li>• Referencing Styles (MLA, Chicago, APA)</li> </ul>	4T+5P

II	<b>Grammar Plus/ Enriching Business Vocabulary &amp; Reading Skills</b> <ul style="list-style-type: none"> <li>• Tenses/Passive Voice</li> <li>• Conditional Sentences</li> <li>• Common errors</li> <li>• Building Blocks of Vocabulary</li> <li>• Business Idioms and Collocations</li> <li>• Reading and analysis of Business articles, short reports, success stories and caselets.</li> </ul>	4T+5P
III	<b>Effective Business Communication. Communication – An overview.</b> <ul style="list-style-type: none"> <li>• Origin, meaning and process of Communication.</li> <li>• Goals of Communication</li> <li>• Organizational Communication</li> <li>• Directions/Flow of Communication.</li> <li>• Barriers to Communication</li> <li>• Cross-cultural/Intercultural communication.</li> </ul>	4T+5P
IV	<b>Critical Thinking &amp; Writing Skills – Empower your writing skills.</b> <ul style="list-style-type: none"> <li>• Mind Mapping</li> <li>• Prerequisites to paragraph writing</li> <li>• Methods of Paragraph Development</li> <li>• Precis writing</li> <li>• Abstract writing</li> <li>• Summary writing</li> </ul>	4+5
V	<b>The Writing Strategy in Business messages &amp; Presentation skills</b> <ul style="list-style-type: none"> <li>• Preparing Effective business messages (Planning steps, organizing content, drafting, beginning &amp; ending. Proof – reading &amp; final editing)</li> <li>• Writing Good news, Bad news and Neutral messages.</li> <li>• How to draft Memo, agenda &amp; Minutes of Meeting?</li> <li>• Effective presentation skills.</li> <li>• Group Presentations (Organizational communication)</li> </ul>	4+5

**Suggested Readings:**

1. Pal, Rajendra and Korlahalli, J.S. (2011) Essentials of Business Communication. Sultan Chand & Sons. ISBN: 9788180547294.
2. Kaul, Asha. (2014) Effective Business Communication, PHI Learning Pvt. Ltd. ISBN: 9788120338487.
3. Murphy, R. (2007) Essential English Grammar, CUP. ISBN: 8175960299.
4. C. Muralikrishna and S. Mishra (2011) Communication Skills for Engineers, Pearson education. ISBN: 9788131733844

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5

Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

#### 4. ORGANIZATIONAL BEHAVIOR

**Course Outcomes:** On completion of this course, the students will be able

On completion of this course, the students will be able to

- 1: Understand the concepts of organizational behavior and behavior of people in the organizations.
- 2: Develop the applicability of concepts associated with management of individual behavior and group behavior in an organization.
- 3: Analyze the complexities associated with management of the group behavior, structures and cultures in organizations
- 4: Demonstrate how the organizational behavior can integrate with other functional areas of management, understanding the motivation behind behavior of people in the organization

**Max. Marks:** 100

**Min. Passing Marks:**40

**Credits:** 03

**Total No. of Lectures-Tutorials-Practical (in hours per week):** 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	Meaning, Fundamental concepts, Characteristics & limitations of OB, Models of OB, Historical Perspective, Challenges & Opportunities of OB.	3T+6P
II	Personality: Definition, Features, Big five model, MBTI, Johari Window, Managerial Implications of Personality. Perceptions and Attributions: Definition, Features, factors affecting perception, Process. Attribution, perceptual and attribution errors, Managerial Implications of Perception.	3T+5P
III	Learning: Definition, Features, Classical and operant conditioning, social learning theory, Behavioral modification. Attitude: Definition, Features, ABC model of Attitude, Managerial Implications of Attitude.	3T+4P
IV	Motivation: Concept, Definition, Features, Types of Motivation, Process, Managerial Implications of Motivation. Leadership: Concept, Definition, Leadership Styles, Transactional and Transformational Leadership, Leadership development.	3T+4P
V	Groups and Teams: Definition, Features, Group development stages, Group vs. Teams, Managing and developing effective teams. Conflict Management: Definition, Features, Types of Conflict, Conflict Resolution Strategies, Relationship between Conflict and Performance.	3T+4P

VI	Organizational Culture: Elements and dimensions of organizational culture, Importance of organizational culture in shaping the behavior of people. Organizational Change: Understanding the issues and managing change, Approaches to organizational change.	3T+4P
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**Suggested Readings:**

1. Organizational Behaviour, Robbins, S.P., Judge, Sanghi, S.
2. Organizational behaviour, Fred Luthans., McGraw Hill international edition
3. ORGB, Debra Nelson & James Campbell Quick, Cengage Learning.
4. Organizational Behaviour: A Strategic Approach, Hitt, Miller, & Colella, Wiley India
5. Organizational Behaviour, McShane, Glinow, & Sharma, R.R, TMH

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**5. INTRODUCTION TO MANAGEMENT & LEADERSHIP**

**Course Outcomes:** On completion of this course, the students will be able:

- 1: Demonstrate a clear understanding of the concepts related to management and leadership.
- 2: Understand the application of effective leadership and management excellence in business to gain competitive advantage and will be able to take appropriate decisions in automobile industry.
- 3: Analyze the benefits delivered by understanding of management and leadership and issues related to ethics, values and diversity in automobile industry.
4. Demonstrate how effective leadership and management excellence can integrate technological and human issues related to organizational success.

**Max. Marks:** 100

**Min. Passing Marks:**40

**Credits:** 03

**Total No. of Lectures-Tutorials-Practical (in hours per week):** 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	<b>Introduction to Management</b> Managers and managing, levels and skills of managers, Essential Managerial Tasks, Recent Changes in Management Practice, Challenges for Management in a Global Environment, Theories of management, Values, Attitudes, and Moods and Emotions, Emotional Intelligence Organizational Culture.	3T+6P
II	<b>Ethics, Diversity, and the Global Environment</b> Ethics and Social Responsibility, Approaches to Social Managers Responsibility, Managing Diverse Employees in a Multicultural Environment, Managing in the Global Environment	3T+5P

III	<b>Decision Making and Planning</b> Decision Making, Learning, Creativity, and Entrepreneurship, The Manager as a Planner and Strategist, Value Chain Management: Functional Strategies for Competitive Advantage	3T+4P
IV	<b>Organizing and Motivating</b> Managing Organizational Structure and Culture, Organizational Control and Change, Human Resource Management	3T+4P
V	<b>Leadership, Team Management, and Managing Human Resources</b> Motivation and Performance, Leadership, Effective Groups and Teams	3T+4P
VI	<b>Information Systems Management and Quality Control</b> Promoting Effective Communication, Managing Conflict, Politics, and Negotiation, Using Advanced Information Technology to Increase Performance	3T+4P

**Suggested Readings:**

Jones, G. R., & George, J. M. (2011). *Essentials of contemporary management* (4th ed.). New York, NY: McGraw-Hill. ISBN: 978-0-07-813722-5

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**6. COST ACCOUNTING – BASICS**

**Course Outcomes:** On completion of this course, the students will be able to:

- To demonstrate the applicability of the concept of Cost Accounting to understand the basic multidisciplinary nature of costing in organizations.
- To apply the applications of methods & objective of costing.
- To analyse the complexities associated with Standard Costing.
- To integrate how the concepts of Cost Accounting could integrate with the social issues in management strategies.

**Max. Marks:** 100

**Credits:** **Min. Passing Marks:**40

03

**Total No. of Lectures-Tutorials-Practical (in hours per week):** 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	<b>INTRODUCTION TO COST ACCOUNTING:</b> A Definition, Scope, objectives and significance of cost accounting, its relationship with financial accounting and management accounting b. Cost Objects, Cost centers and cost units c. Elements of cost d. Classification of costs	6T+3P
II	<b>METHODS OF COSTING:</b>	6T+3P

	a) Job Costing b) Batch Costing c) Contract Costing d) Process Costing – Normal and abnormal losses, equivalent production, Joint and By Products.	
III	<b>Marginal Costing</b> i) Meaning of Marginal Cost and Marginal Costing ii) Absorption Costing vs. Marginal Costing iii) Break-even analysis iv) Margin of safety v) Application of Marginal Costing for decision making.	6T+3P
IV	<b>Standard Costing &amp; Variance Analysis</b> Concept of standard cost and standard costing ii) Advantages and limitations iii) Computation of variances relating to material labour and overhead costs.	6T+3P
V	<b>Budget and Budgetary Control</b> i) Concepts, Types of Budgets ii) Budgetary Control Vs. Standard Costing iii) Advantages and limitations iv) Preparation of Budgets	6T+3P

**Suggested Readings:**

1. Bhatta, H S Mahabaleswara, (2003), “*Cost Accounting*”, 3<sup>rd</sup> Edition, Himalaya, Mumbai.
2. Datar, Srikant M. (2005), “*Cost Accounting: a Managerial Emphasis*”, 11<sup>th</sup> Edition, Prentice Hall of India, New Delhi.
3. Khan, M Y., (2003), “*Cost Accounting & Financial Management*”, 10<sup>th</sup> Edition, Tata McGraw Hill, New Delhi.
4. Kinney, Raiborn., (2013), “*Cost Accounting Principles*”, 9<sup>th</sup> Edition, Cengage Learning, Delhi.

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**7. LEARNING HOW TO LEARN**

**Course Outcomes:** On completion of this course, the students will be able to:

1. **Define** the basic qualities of a life-long learner.
2. **Understand** the process and elements of inquiry-based learning.
3. **Identify, contextualize and discuss** the learning tools needed to be a lifelong learner of diverse subjects and self-driven goal-oriented learning.
4. **Respond** to new learning content and develop concepts using the understanding of the learning process and tools
- 5: Use a range of basic inquiry-based techniques to draw on appropriate sources in the development of a response to a problem.
- 6: Choose and employ appropriate practice tools in the execution of a project/coursework.
- 7: Critique and articulate responses to project work undertaken by self and by others.

<b>Max. Marks:</b> 100 03		<b>Credits:</b> <b>Min. Passing Marks:</b> 40
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b>		
<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures (Theory+ Practical)</b>
I	Learning through inquiry Elements of inquiry based learning: question, investigate, use evidence (to describe, explain, and predict), evaluation and response/findings. Types of inquiry: Confirmation inquiry, Structure enquiry, Guided inquiry and Open inquiry	6T+3P
II	The learning process Interactive components of the learning process: attention, memory, language, processing and organizing, writing and synthesizing.	6T+3P
III	Learning tools Basic tools that help learning: reading, writing/annotating, exploring, experiencing, experimenting, applying, practicing, memorizing.  Exploring learning tools: Focused modes of thinking, Chunking, Recall, Pomodoro Technique, Journaling	6T+3P
IV	Collaborative learning Learning through peer and self-exploration of diverse and challenging subject Developing the lifelong learner Self-driven goal oriented learning	6T+3P
V	PROJECT and E- portfolio Submission	6T+3P

**Suggested Readings:**

- Stanley, J. (2011). *Know How*. Oxford University Press. ISBN: 9780199695362.
- Oakley, B. (2017). *Mindshift: Break Through Obstacles to Learning and Discover Your Hidden Potential*. TarcherPerigee (Amazon/Kindle Ed.)

**Reference Books**

- Kosslyn, S.M., & Rosenberg, R.S. (2007). *Psychology in Context*. Pearson. ISBN: 9780205507573

- Minsky, M. (1986). The Society of the Mind. Simon & Schuster. ISBN: 978-0671657130

### Online Links

[https://www.emeraldgrouppublishing.com/sites/default/files/2020-01/ejournal-subject-brochure-HRLOS\\_0.pdf](https://www.emeraldgrouppublishing.com/sites/default/files/2020-01/ejournal-subject-brochure-HRLOS_0.pdf)

### Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

## 8. LIVING CONVERSATIONS

**Course Outcomes:** On completion of this course, the students will be able to:

1. **Understand** the importance of being empathetic and the role of clarity in the expression.
2. **Identify** appropriate strategies to improve one's ability to express, listen and to understand people in a given situation and context.
3. **Use** speaking, writing and listening skills to create more effective and productive professional and personal relationships
4. **Build** collaborative relationships that emphasize cross cultural understanding.

**Skills and Attributes:**

- 5: **Use** a range of basic and advanced communication skills, both verbal and non-verbal to engage, inquire, ideate, collaborate and co-create.
- 6: **Choose and employ** appropriate practice tools in the execution of a project/coursework.
- 7: **Critique and articulate** responses to group and individual work undertaken by self and by others.

**Max. Marks:** 100  
03

**Credits:** **Min. Passing Marks:**40

**Total No. of Lectures-Tutorials-Practical (in hours per week):**

Unit	Topic	No. of Lectures (Theory+ Practical)
I	<b>Basics of Communication</b> Introduction to the course, Importance, use and its application in life (personal as well as professional), Basics of Communication with Practical Examples (need – principles - process – model), Introducing Types of Communication (Verbal & non-verbal), Types of non-verbal communication & its importance in overall communication	6T+3P

II	<b>Setting Communication Goals &amp; Avoiding Breakdowns</b> Communication goals, creating value in conversations, Internal & external factors impacting our conversations, Communication breakdowns and how to address them	6T+3P
III	<b>Communication Styles</b> Recognizing your style and the styles of others, closing communication gaps, being flexible without compromising one's identity.	6T+3P
IV	<b>Listening for Improved Understanding</b> Importance, Active & Passive listening, Barriers, Benefits, Features & Examples of Active Listening, Verbal and non-verbal signs of active listening skills, Tools & Tips for Practicing Active Listening.	6T+3P
V	<b>Emoting, Enunciating &amp; Expressing</b> Intonation, Enunciation & clarity, Expressions – verbal and written), Calibrating the variance between what you want and what you express, Speaking through silence	6T+3P
VI	<b>Cross-cultural Communication: navigating beyond boundaries</b> Developing greater sensitivity to cultural differences, Building greater accountability and trust on virtual teams, Uncovering hidden assumptions, Recognizing filters in oneself and others.	6T+3P
VII	<b>PROJECT and E- portfolio Submission</b>	6T+3P

#### Suggested Readings:

- Hargie, Owen (ed.) (2018). The Handbook of Communication Skills. Routledge. London.
- Anderson, Peter & Guerrero, Laura. Handbook of Communication and Emotion. 1st Edition. Elsevier.
- Bordia Crossman, Bretag. Communication Skills. Tata Macgraw Hill.
- Tuhovsky, Ian. The Science of Effective Communication.
- Murphy, Herta, Thomas, Jane P. Effective Business Communication. Tata MacGraw Hill

#### JOURNALS AND ARTICLES (Will be uploaded on LMS)

- Patterson, Kerry et.al. (2011) Crucial Conversations Tools for Talking When Stakes Are High. MacMillan. Switzerland.
- A Theory of Goal Oriented Communication:  
[https://www.researchgate.net/publication/220138297\\_A\\_Theory\\_of\\_Goal-Oriented\\_Communication](https://www.researchgate.net/publication/220138297_A_Theory_of_Goal-Oriented_Communication)

#### WEB SOURCES :

- 1) Effective Communication <http://www.free-management-ebooks.com/dldebk/dlcm-effective.htm>
  - 2) Active Listening <http://www.free-management-ebooks.com/dldebk/dlcm-active.htm>
- TED Talks:[https://www.ted.com/playlists/211/the\\_art\\_of\\_meaningful\\_conversa](https://www.ted.com/playlists/211/the_art_of_meaningful_conversa)

#### Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5

Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

### 9. HUMAN RESOURCE MANAGEMENT

**Course Outcomes:** On completion of this course, the students will be able to:

- 1 To demonstrate the applicability of the basic concept of HRM to understand the managerial Decisions and Corporate culture.
- 2 To apply understanding of HRP and related effectiveness in the recruitment and selecting under the understanding of various steps and working to achieve in the organization
- 3 To analyse the performance management system in order to enhance the skills and compensation management to develop understanding of various salary and wages types in an given organization
4. To integrate how the concepts of SHRM and Global HRM strategies assessment is done and analysing the social responsibility and labour welfare.

**Max. Marks:** 100

**Min. Passing Marks:**40

**Credits:** 03

**Total No. of Lectures-Tutorials-Practical (in hours per week):**

Unit	Topic	No. of Lectures (Theory+ Practical)
I	<b>INTRODUCTION TO HUMAN RESOURCE MANAGEMENT</b> Meaning, Functions, Significance, Job Analysis, Evaluation & Job Design, Challenges of HRM, HR Policies.	4T+2P
II	<b>HUMAN RESOURCE PLANNING</b> Introduction to HRP, Various Methods of HRP, Forecasting and HR Effectiveness	3T+2P
III	<b>RECRUITING, SELECTING &amp; SOCIALIZING</b> Policy Issues, Sources of people, Selection process & tests, Socialization.	3T+2P
IV	<b>TRAINING &amp; DEVELOPING WORKFORCE AND ORGANIZATIONAL DEVELOPMENT</b> Concept, Need of Training & Development, Methods of Training & Development, Importance & evaluation of training & development, Principle of learning, Introduction to OD and Interventions in OD.	3T+2P
V	<b>PERFORMANCE MANAGEMENT SYSTEM</b> Definition, Importance, objectives, Components and Methods of performance management system	2T+2P
VI	<b>COMPENSATION MANAGEMENT</b> Principal compensation issues, Job evaluation, Job Description and Job Specification, Pay-structures, Individual & group incentives.	3T+2P
VII	<b>INTERNAL MOBILITY</b> Introduction, Career Planning and Development.	2T+1P

VIII	<b>STRATEGIC HUMAN RESOURCE MANAGEMENT (SHRM)</b> Introduction, Strategic HR systems, Strategic role of HR and Strategic HR business implications.	2T+1P
IX	<b>GLOBAL HUMAN RESOURCE MANAGEMENT</b> Introduction and Approaches to Global HRM, Expatriate Management, Training, Appraising and Planning, Components & Tools of Job Analysis.	2T+1P
X	<b>SOCIAL SECURITY AND LABOUR WELFARE</b> Concept of Social Security, Significance of Workers Participation in Management and Various social security legislations in India.	2T+1P
XI	<b>CONTEMPORARY ISSUES IN HUMANA RESOURCE MANAGEMENT</b> Competency Mapping, HR Outsourcing, Knowledge Management and Learning Organizations.	2T+1P

**Suggested Readings:**

1. York, Kenneth M.,(2009), “*Applied Human Resource Management*”, 11<sup>th</sup> Edition, Sage Publications Inc
2. Cascio, Wayne F, (2018) ,” *Applied psychology in human resource management*”, 7<sup>th</sup> Edition, Noida : Pearson, 2018

**REFERENCE BOOKS**

1. Dessler, Gary, (2011),” *Framework for human resource management*”,3<sup>th</sup> Edition, pearson, New Delhi.

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**10. FINANCIAL LITERACY**

**Course Outcomes:**

**On successful completion of the course, the Students will be able to**

1. Describe the importance of financial literacy and list out the institutions providing financial services;
2. Prepare financial plan and budget and manage personal finances;
3. Open, avail, and manage/operate services offered by banks;
4. Open, avail, and manage/operate services offered by post offices;
5. Plan for life insurance and property insurance & select instrument for investment in shares

Max. Marks: 100

Credits: 03

Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): 03

Unit	Topic	No. of Lectures
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		Theory Hours	Practical Hours
<b>I</b>	<b>Introduction</b> Meaning, importance and scope of financial literacy; Prerequisites of Financial Literacy – level of education, numerical and communication ability; Various financial institutions – Banks, Insurance companies, Post Offices; Mobile App based services. Need of availing of financial services from banks, insurance companies and postal services.	4	6
<b>II</b>	<b>Financial Planning and Budgeting</b> Concept of economic wants and means for satisfying these needs; Balancing between economic wants and resources; Meaning, importance and need for financial planning; Personal Budget, Family Budget, Business Budget and National Budget; Procedure for financial planning and preparing budget; Budget surplus and Budget deficit, avenues for savings from surplus, sources for meeting deficit.	3	2
<b>III</b>	<b>Banking Services</b> Types of banks; Banking products and services – Various services offered by banks; Types of bank deposit accounts – Savings Bank Account, Term Deposit, Current Account, Recurring Deposit, PPF, NSC etc.; Formalities to open various types of bank accounts, PANCard, Address proof, KYC norm; Various types of loans – short term, medium term, long term, micro finance, agricultural etc. and related interest rates offered by various nationalized banks and post office; Cashless banking, e-banking, Check Counterfeit Currency; CIBIL, ATM, Debit and Credit Card, and APP based Payment system; Banking complaints and Ombudsman.	4	6
<b>IV</b>	<b>Financial Services from Post Office</b> Post office Savings Schemes: Savings Bank, Recurring Deposit, Term Deposit, Monthly Income Scheme, Kishan Vikas Patra, NSC, PPF, Senior Citizen Savings Scheme (SCSS), Sukanya Samridhi Yojana/ Account (SSY/SSA); India Post Payments Bank (IPPB). Money Transfer: Money Order, E-Money order. Instant Money Order, collaboration with the Western Union Financial Services; MO Videsh, International Money Transfer Service, Electronic Clearance Services (ECS), Money gram International Money Transfer, Indian Postal Order (IPO).	4	6
<b>V</b>	<b>Protection and Investment Related Financial Services</b> Life Insurance Policies: Life Insurance, Term Life Insurance, Endowment Policies, Pension Policies, ULIP, Health Insurance and its Plans, Comparison of policies offered by various life insurance companies. Property Insurance: Policies offered by various general insurance companies. Post office life Insurance Schemes: Postal Life Insurance and Rural Postal Life Insurance (PLI/RPLI). Housing Loans: Institutions providing housing	4	6

	loans, Loans under Pradhanmantri Awas Yojana – Rural and Urban. <b>Investment avenues in Equity and Debt Instruments:</b> Portfolio Management: Meaning and importance; Share Market and Debt Market, Sensex and its significance; Investment in Shares – selection procedure for investment in shares; Risk element; Investment Management - Services from brokers and Institutions, and self-management; Mutual Fund.		
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**Suggested Reading:**

1. Avadhani, V. A. (2019). Investment Management. Mumbai: Himalaya Publishing House Pvt. Ltd.
2. Chandra, P. (2012). Investment Game: How to Win. New Delhi: Tata McGraw Hill Education.
3. Kothari, R. (2010). Financial Services in India-Concept and Application. New Delhi: Sage Publications India Pvt. Ltd.
4. Milling, B. E. (2003). The Basics of Finance: Financial Tools for Non-Financial Managers. Indiana: universe Company.
5. Mitra, S., Rai, S. K., Sahu, A. P., & Starn, H. J. (2015). Financial Planning. New Delhi: Sage Publications India Pvt. Ltd.
6. Zokaityte, A. (2017). Financial Literacy Education. London: Palgrave Macmillan.

**Suggested Online Link:** As suggested by College or University.

**Suggested equivalent online courses:**

Swayam, Coursera

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** To study this course, a student must have had Intermediate in any stream.

<b>11. BASICS OF MARKETING</b>			
<b>Course Outcomes:</b> On completion of this course, the students will be able to			
1. To demonstrate the applicability of the concept of marketing.			
2. To apply the concept for finding the right process and structure of marketing mix and product policy.			
3. To analyse the complexities in tools for Decision making.			
4. To integrate how the legal and regulatory framework of marketing and the concepts used in case of managers role in strategy formulation.			
Max. Marks: 100		Credits: 03	
		Min. Passing Marks:40	
Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0			
<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures</b>	
		<b>Theory Hours</b>	<b>Practical Hours</b>
<b>I</b>	<b>Basic Concepts of Marketing</b> Definition, Concept of Exchange-Needs & Wants, Economic Utility, Evolution of Marketing, Marketing Concept, Marketing Myopia, Significance of Marketing.		<b>3T+3P</b>
<b>II</b>	<b>Marketing Manager's Role in Strategy Formulation</b> Delivering Values, Satisfaction & Retention: Business Components. Customer Satisfaction. Concept of Value, Attracting & Retaining Customers. Structural Ties. Relationship Marketing.		<b>4T+3P</b>
<b>III</b>	<b>Analyzing Market Opportunities</b> Marketing Environment: Competitive forces, Macro Environmental Factors.		<b>3T+3P</b>
<b>IV</b>	<b>Marketing Aids/Tools for Decision Making</b> Understanding Consumer Behavior, Organizational Markets & Buying Behavior, Market Segmentation & Market Targeting.		<b>3T+2P</b>
<b>V</b>	<b>Planning Marketing Strategy</b> Strategic Planning Process, Marketing & Competitive Strategies.		<b>3T+3P</b>
<b>VI</b>	<b>Marketing Mix Strategy Marketing Channels and Distribution</b> Interaction between Marketing Mix & Environment, Assembling & Managing Marketing Mix. Nature of Marketing Channels, Role of Marketing Channels, Functions of Marketing Channels. Designing Distribution Channels, Channel Management, Channel Dynamics, Channels & Conflicts.		<b>4T+3P</b>
<b>VII</b>	<b>Product Policy, Pricing and Advertising &amp; Promotions</b> Product & Product Line, Product Classification, Product Mix Strategy, Product Life Cycle, New Product Development. Branding & Packaging. Benefits of Advertising, Developing an Advertising Program, Sales Promotion, Public Relation, Personal Selling. Significance, Price & Non Price Competition, Pricing, Price Adjustments, Effect of Price Change.		<b>5T+3P</b>

**TEXT BOOKS**

1. A.Griffith, "101 Ways to Market Your Business"

2. Chad. Perry, "Action Research in Marketing"

**REFERENCE BOOKS**

Scott. Dacko, "The Advance Dictionary of Marketing"

**This course can be opted as an elective by the students of following subjects:**

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**12. CRITICAL THINKING AND WRITING**

**Course Outcomes:** On completing this module, the student should be able to:

1. Identify, understand and define the various arguments in different contexts.
2. To draw logical conclusions
3. Introspect and reflect on their thought processes
4. Identify the errors in reasoning
5. Listen, read and write critically

Max. Marks: 100

Credits: 03

Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
<b>I</b>	<b>Module-1 Understanding the process of critical thinking</b>	6	6
	<ul style="list-style-type: none"> <li>• What is critical thinking: definition and theories</li> <li>• Importance of Critical Thinking</li> <li>• Critical thinking Structures</li> <li>• Metacognitive skills; understanding our minds</li> </ul>		
<b>II</b>	<b>Module-2 Barriers to critical thinking</b>	5	6
	<ul style="list-style-type: none"> <li>• The critical thinking model</li> <li>• Information Literacy</li> <li>• Cognitive Biases</li> <li>• Logical Fallacies</li> </ul>		
<b>III</b>	<b>Module-3 Approaches for Critical Thinking</b>	5	6
	<ul style="list-style-type: none"> <li>• Arguments and Rationality</li> <li>• Reasoning and Persuasion</li> <li>• Six Thinking hats</li> </ul>		

	• Simplification		
<b>IV</b>	<b>Module-4 Critical thinking and writing</b>	<b>5</b>	<b>6</b>
	<ul style="list-style-type: none"> <li>• Critical thinking and clear writing</li> <li>• Presenting and communicating ideas</li> </ul>		

Suggested Reading:

Text Books / **Reference Books**

- Lewis Vaughn, The power of critical thinking, effective reasoning about ordinary and extraordinary claims, second edition, Oxford University Press
- Walter Sinnott Armstrong and Robert Fogelin, Understanding Arguments: An Introduction to Informal Logic. 8th Ed., Wadsworth Cengage Learning.
- Edward de Bono, Six Thinking Hats, ISBN 0-316-17831-4
- Richard Paul and Linda Elder, The miniature guide to critical thinking, concepts and tools, the foundation for critical thinking
- Encourage critical thinking with 3 questions:  
<https://www.youtube.com/watch?v=0hoE8mtUS1E>
- Wile E Coyote Into- Introduction to critical thinking:  
<https://www.youtube.com/watch?v=xOj13jm-GrA>
- Psychologist Diane Halpern on Critical Thinking:  
[https://www.youtube.com/watch?v=rn\\_7aJP5BTw](https://www.youtube.com/watch?v=rn_7aJP5BTw)

**This course can be opted as an elective by the students of following subjects:**

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	<b>5</b>
Quiz	<b>5</b>
Seminar/Assignment	<b>5</b>
Minor field work/excursion/lab visit/technology dissemination etc.	<b>5</b>
Attendance/ Presentation	<b>5</b>

### 13. LEADERSHIP AND TEAMWORK

**Course Outcomes:** After completing this course, you will be able to:

1. Understand the importance of being an empathetic leader and a collaborative team member.
2. Understand the skills of leadership and teamwork – including analysis of leadership and teamwork theory, as well as how they are assessed in the professional and social process.
3. Build collaborative relationships that emphasize team building and problem solving.
- 4: Use a range of basic reflective practice techniques, to evaluate their own teamwork and leadership skills.
- 5: Use leadership and teamwork skills to create more effective and productive professional and personal relationships.
- 6: Choose and employ appropriate practice tools in the execution of a project/coursework.
- 7: Critique and articulate responses to group and individual work undertaken by self and by others.

**Max. Marks:100**

**Credits 03**

**Min. Passing Marks:40**

Unit	Topic	No. of Lectures
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		Theory Hours	Practical Hours
<b>I</b>	<b>Leadership: Introduction, Self Awareness &amp; Leadership Examples</b> Introduction to the Course, Importance and Its Application in Life, Self Awareness and Leadership Examples from Different Walks of Life, Personality Assessment through (i) BIG 5, (ii) MBTI.	3	5
<b>II</b>	<b>Defining Leaders and Leadership</b> Defining Leaders and Leadership, Historical Perspective, Contemporary Perspective, Types of Leaders and Leadership Styles.	4	5
<b>III</b>	<b>Leadership Toolkit</b> Leadership Tools - Locus of Control, Goal Setting, Time Management, Interpersonal Relationship, Role of Perception, Powerful First Impression, Body Language, Elevator Pitch, Small Talk, Constructive Criticism, Assertiveness Skills, Dealing with Difficult People.	3	20
<b>IV</b>	<b>What is a Team?</b> What is a Team? Why is a Team needed? 4 Phase Model of Team Formation, What to Do as a Leader and What to Do as a Team Member in Each Phase? Effective Teams and Solving Problems as a Team – Brief Introduction to The Six Thinking Hats	5	30
<b>V</b>	<b>Positive Leadership &amp; Team Building Activity</b> 6 hours Positive Leadership - Communication, Appreciation, Empathy, Feedback, Leaders and Teams: Working Effectively towards Common Goals, Team Building Activity.		
<b>VII</b>	<b>PROJECT and E- portfolio Submission</b>		

### Text Books / Reference Books:

#### Textbooks

- Carroll, John, and Sachi Hatakenaka. "Driving Organizational Change in the Midst of Crisis." *MIT Sloan Management Review* 42, no. 3 (Spring 2001): 70-79.
- Senge, Peter M., Art Kleiner, Charlotte Roberts, Rick Ross, and Bryan Smith. "The Ladder of Inference." *In The Fifth Discipline Fieldbook*. New York, NY: Currency Publishers, pp. 242-250. ISBN: 0385472560.
- Organizational Behavior, Stephen P. Robbins, Timothy A. Judge and Seema Sanghi, 12th ed, Prentice Hall India.
- Organizational behavior-Human behavior at work by John W Newstrom, 12th edition, McGrawHill

#### Additional Reading/Viewing:

- Stephen R. Covey, *The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change*
- Katie Shonk (2018, June 19). 3 Types of Conflict and How to Address Them. Harvard

Law

School.

[climerconsulting.com/episode-23-how-conflict-impacts-team-creativity](http://climerconsulting.com/episode-23-how-conflict-impacts-team-creativity)

- Charas, S. (2013, February 27). Boardroom conflict: Productive or not? Business Insider.  
[businessinsider.com/boardroom-conflict-productive-or-not-2013-3?r=AU&IR=T](http://businessinsider.com/boardroom-conflict-productive-or-not-2013-3?r=AU&IR=T)
- Mitchell, R. (2014, January 21). Team innovation and success: Why we should fight at work. The Conversation  
[theconversation.com/team-innovation-and-success-why-we-should-fight-at-work-20651](http://theconversation.com/team-innovation-and-success-why-we-should-fight-at-work-20651)

**WEB SOURCES:**

- NACE Job Outlook Report, 2020
- [https://www.stjohns.edu/sites/default/files/2020-05/nace\\_job\\_outlook\\_0.pdf](https://www.stjohns.edu/sites/default/files/2020-05/nace_job_outlook_0.pdf)
- [Ten Leadership Theories in Five Minutes](http://TenLeadershipTheoriesinFiveMinutes.com)
- <https://courses.lumenlearning.com/wmopen-organizationalbehavior/chapter/the-history-of-leadership-theories/>
- <https://toughnickel.com/business/The-History-of-Leadership-Studies-and-Evolution-of-Leadership-Theories>
- <https://courses.lumenlearning.com/principlesmanagement/chapter/10-5-contemporary-approaches-to-leadership/>
- <https://www.bumc.bu.edu/facdev-medicine/files/2010/10/Leadership-Matrix-Self-Assessment-Questionnaire.pdf>
- <https://www.tuw.edu/business/what-kind-of-leader-are-you/>
- <https://www.thebalancesmb.com/smart-goal-examples-2951827>
- <https://examples.yourdictionary.com/examples-of-measurable-goals-and-objectives.html>
- [https://www.youtube.com/watch?v=0Mi9\\_XEXQqc](https://www.youtube.com/watch?v=0Mi9_XEXQqc)
- <https://www.youtube.com/watch?v=zc8zCSQxBhM>
- <https://www.youtube.com/watch?v=vlpKyLkIDDY&t=296s>

**This course can be opted as an elective by the students of following subjects:**

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

## 14. FUNDAMENTALS OF BUSINESS ECONOMICS

**Course Outcomes:** After the completion of the course the students will be able:

- The aim of the course is to build knowledge and understanding business economics among the student.
- The course seeks to give detailed knowledge about the subject matter by instilling them basic ideas about business economics.
- To provide knowledge about business economics.
- To provide knowledge about Demand Analysis.
- To Determine Production and cost analysis.
- To make aware with pricing and profit management.

**Max. Marks: 100**

**Credits: 03**

**Min. Passing Marks:40**

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
<b>I</b>	Introduction to Business Economics: Nature and Scope of Business Economics, its relationship with other subjects. Fundamental Economic Tools-Opportunity cost concept, Incremental concept, Principle of time perspective, discounting principle and Equi-marginal principle.	2	6
<b>II</b>	Demand Analysis: Concept of Demand & its determinants. Price, Income & Substitution effects, Elasticity of demand: meaning, types, measurement and significance in managerial decisions, Revenue concepts, Concept of demand forecasting and methods of demand forecasting.	4	6
<b>III</b>	Production and Cost Analysis: Meaning, Production function, Law of variable proportion and laws of return to scale, Various cost concepts and classification, Cost output relationship in short run & long run, Cost curves, Economics and diseconomies of scale.	4	8
<b>IV</b>	Pricing: Nature of market, Types of markets and their characteristics, Pricing under different market structures– Perfect, Monopoly, Oligopoly and Monopolistic competition, Price discrimination under monopoly competition. Profit Management & Inflation: Profit, Functions of profit, Profit maximization, Break even analysis. Elementary idea of Inflation	7	8

### **Suggested Reading:**

- Jones, T. (2004). *Business Economics & Managerial Decision Making*. John Wiley & Sons Ltd, England.
- Wilkinson, N. (2005). *Managerial economics: a problem-solving approach*. Cambridge University Press.
- Gupta, G. S. (2011). *Managerial economics*. Tata McGraw-Hill Education.
- McAuliffe, R. E. (2005). *The Blackwell Encyclopedia of Management: Managerial Economics*. Blackwell.

**Suggested equivalent online courses:**Introduction to Managerial Economics, *Indian Institute of Bangalore* via SWAYAM**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**15. FUNDAMENTALS OF ACCOUNTING****Course Outcomes:**

The aim of the course is to build knowledge and understanding fundamental of financial accounting among the students. The course seeks to give detailed knowledge about the subject matter by instilling them basic ideas about Accounting. The outcome of the course will be as follows – To Introduce about Financial Accounting Principles and other aspects of book of accounts. To provide knowledge about rectification of errors. Maintenance of final book of accounts.

**Max. Marks: 100****Credits: 03****Min. Passing Marks:40****Total No. of Lectures-Tutorials-Practical (in hours per week): 3**

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
<b>I</b>	Introduction: Meaning and process of accounting, Basic terminology of accounting, Difference between accounting & book keeping. Importance & limitations of accounting, Various users of accounting information, Accounting Principles: Conventions & Concepts.	2	6
<b>II</b>	Accounting equation, Dual aspect of accounting, Types of accounts, Rules of debit & credit, Preparation of Journal and Cash book including banking transactions, Ledger and Trial balance, Subsidiary books of accounts. Rectification of errors, Preparation of bank reconciliation statement, Bills of exchange and promissory notes.	5	6
<b>III</b>	Valuation of stocks, Accounting treatment of depreciation, Reserves and provisions, Preparation of final accounts along with adjustment entries.	4	9
<b>IV</b>	Issue of shares and debentures, Issue of bonus shares and right issue, Redemption of preference shares and debentures.	4	9

**Suggested Reading:**

- Libby, R., Libby, P. A., Short, D. G., Kanaan, G., & Gowing, M. (2014). *Financial accounting*. McGraw-Hill/Irwin.
- Maheshwari, S. N., Maheshwari, S. K., & Maheshwari Sharad, K. (1997). *Financial Accounting*. Vikas Publishing House.
- Maheshwari, S. N., Maheshwari, S. K., & Maheshwari, M. S. K. (2021). *Principles of Management Accounting*. Sultan Chand & Sons.

**Suggested equivalent online courses:**

1. Financial Accounting, Prof. CA. Varadraj Bapat, *Indian Institute of Technology (IIT), Bombay, via SWAYAM*
2. Financial Accounting, Dr. CS. Manish Sitlani, *Devi Ahilya Vishwavidyalaya, Indore via SWAYAM*

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**16. BUSINESS STATISTICS****Course Outcomes:**

The aim of the course is to build knowledge and understanding of Business Statistics among the student. The course seeks to give detailed knowledge about the subject matter by instilling them basic ideas about Business Statistics. The outcome of the course will be as follows – To provide knowledge about basic concepts of Statistics. To provide knowledge measurement of central tendency. To give an overview of correlation and regression analysis. To make able to know the sampling and probability.

**Max. Marks: 100****Credits: 03****Min. Passing Marks:40**

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Introduction: Concept, features, significance & limitations of statistics, Types of data, Classification & Tabulation, Frequency distribution & graphical representation.	4	8
II	Measures of Central Tendency (Mean, Median, Mode), Measures of Variation (Range, Quartile Deviation, Mean	4	6

	Deviation and Standard Deviation), Significance & properties of a good measure of variation, Measures of Skewness & Kurtosis.		
<b>III</b>	Correlation and Regression: Meaning and types of correlation, Simple correlation, Scatter diagram method, Karl Pearson's Coefficient of correlation, Significance of correlation, Regression concept, Regression lines, Regression equations and Regression coefficient.	<b>5</b>	<b>6</b>
<b>IV</b>	Probability: Concept, Events, Addition Law, Conditional Probability, Multiplication Law & Baye's theorem [Simple numerical]. Probability Distribution: Binomial, Poisson and Normal. Sampling: Method of sampling, Sampling and non-sampling errors, Test of hypothesis, Type-I and Type-II Errors, Large sample tests.	<b>4</b>	<b>8</b>

**Suggested Reading:**

- Gupta, S. P., & Gupta, M. P. (2007). Business Statistics Sultan Chand and Sons. *New Delhi*.
- McClave, J. T. (2005). *A first course in business statistics*. Prentice Hall.
- Roberts, H. V. (1990). Applications in business and economic statistics: some personal views. *Statistical Science*, 5(4), 372-390.
- Stephens, L. J. (2018). *Schaum's Outline of Statistics*. McGraw-Hill Education.

**Suggested equivalent online courses:**

Business Statistics by Prof. Mukesh Kumar Barua, *Indian Institute of Technology, Roorkee* via SWAYAM

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	<b>5</b>
Quiz	<b>5</b>
Seminar/Assignment	<b>5</b>
Minor field work/excursion/lab visit/technology dissemination etc.	<b>5</b>
Attendance/ Presentation	<b>5</b>

<b>17. FOUNDATION OF MANAGEMENT</b>		
<b>Course Outcomes:</b>		
The aim of the course is to build knowledge and understanding about principles of management among the student. The course seeks to give detailed knowledge about the subject matter by instilling them basic ideas about management. The outcome of the course will be as follows – To provide knowledge about management and its principles. To provide knowledge about Managerial functions. To make aware with management thinkers and their contributions.		
<b>Max. Marks: 100</b>	<b>Credits: 03</b>	<b>Min. Passing Marks:40</b>

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Introduction: Concepts, objectives, nature, scope and significance of management, Contribution of Taylor, Weber and Fayol in management, Management Vs. administration..	4	8
II	Planning: Concept, objectives, nature, importance and limitations of planning, planning process Concept of Decision Making and its Importance, forms, techniques and process.	4	6
III	Organizing: Concept, objectives, nature of organizing, Types of Organization, Delegation of authority, Authority and responsibility, Centralization and Decentralization, Span of Control.	5	6
IV	Directing: Concept, principles & aspects of directing, Concept and types of Coordination, Concept of leadership, Supervision, Motivation and Communication. Controlling: Concept, Principles, Process and Techniques of Controlling, Relationship between planning and controlling	4	8

**Suggested Reading:**

- Prasad, L. M. (2020). *Principles and practice of management*. Sultan Chand & Sons.
- Pagare, D. (1980). *Principles of Management*. Sultan Chand & Sons Pub.
- Tripathi, P.C. and Reddy. P.N. (2012). *Principles of Management*, Tata McGraw Hill Education

**Suggested equivalent online courses:**

Principles of Management by Prof. Usha Lekha, *Indian Institute of Technology, Roorkee* via SWAYAM

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**18. ETHICS AND BUSINESS GOVERNANCE**

<b>Course Outcomes:</b> The aim of the course is to build knowledge and understanding Business Ethics among the student. The course seeks to give detailed knowledge about the subject matter by instilling them basic ideas about Business Ethics. The outcome of the course will be as follows – To develop understanding of business ethics and values. To provide relationship between ethics and corporate excellence. To give an overview about Corporate Social Responsibility by Business firms in India and Abroad. The course also covers the Indian ancient philosophy of business management			
<b>Max. Marks: 100</b>		<b>Credits: 03</b>	<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Introduction: Concept and nature of ethics; ethics, values and behaviour; development of ethics, relevance of ethics and values in business, Arguments against business ethics.	4	8
II	Work life in Indian Philosophy: Indian ethos for work life, Indian values for the work place, Work-life balance, Ethos of Vedanta in management, Hierarchism as an organizational value.	4	6
III	Relationship between Ethics & Corporate Excellence, Corporate Mission; Statement, Code of Ethics, Organizational Culture, TQM. Ancient Philosophy of Wealth Management, Philosophy of Trusteeship, Indian ancient philosophy of doing business, Chanankya sutra for sustainable businesses; Concept of knowledge management and wisdom management.	5	6
IV	Corporate Social Responsibility-Social Responsibility of business with respect to different stakeholders, Arguments for and against Social responsibility of business, Social Audit.	4	8

**Suggested Reading:**

- Ciulla, Joanne B. *The Search for Ethics in Leadership, Business, and Beyond*. Springer, 2020.
- Solomon, R. C. (1992). *Ethics and excellence: Cooperation and integrity in business*.
- Melé, D. (2020). *Business Ethics in Action: Managing Human Excellence in Organizations*.

**Suggested equivalent online courses:**

Business Ethics by Prof. Archana Vechalekar, *Savitribai Phule Pune University via SWAYAM*.

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5

Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

### 19. FUNDAMENTALS OF COMPUTERS

**Course Outcomes:**

The aim of the course is to build knowledge and understanding Business Ethics among the student. The course seeks to give detailed knowledge about the subject matter by instilling them basic ideas about Business Ethics. The outcome of the course will be as follows – To develop understanding of business ethics and values. To provide relationship between ethics and corporate excellence. To give an overview about Corporate Social Responsibility by Business firms in India and Abroad. The course also covers the Indian ancient philosophy of business management

**Max. Marks: 100**

**Credits: 03**

**Min. Passing Marks:40**

**Total No. of Lectures-Tutorials-Practical (in hours per week): 03**

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Computer: An Introduction, Computers in Business. Elements of Computer system, Indian computing Environment, Management of data processing systems in Business organizations, Programmes development cycle, flow charting, Input Output analysis Programming Concept, Software Development process.	5	6
II	Components of a computer system, Generation of computer and computer languages, personal computers in Business, PC-software Packages, An Introduction to Disk. Operating system and windows, GUI, Other system softwares.	5	6
III	Text Processing, software, Introduction to spreadsheet software, creation of spreadsheet application, Range, formulas, function data base functions in spreadsheet, Graphics on spreadsheet, modes of data processing, Report generation, Presentation graphics, Creating a presentation.	5	6
IV	Computer software system, software development process, files design & Report design, Data files types, Master & Transaction file. Data Hierarchy & data file structure, Use of files in Programming. Relevance of Data base management system, data base manager, data communication, networking, LAN & WAN, Real Time Sharing, On line & off line processing.	4	8

**Suggested Reading:**

- Rajaraman, V., & Adabala, N. (2014). *Fundamentals of computers*. PHI Learning Pvt. Ltd..
- Sinha, P. K., & Sinha, P. (2010). *Computer fundamentals*. BPB publications.
- Tannenbaum,L. (2019). *Computer Applications and Networks*. TMH.

**Suggested equivalent online courses:**

Computer Application in Business by Dr. Subodh Kesharwani, *Indira Gandhi National Open University (IGNOU) via SWAYAM.*

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course Prerequisites:**

**Qualification:** To study this course, a student must have qualified 10+2 from any recognized board.

20. ADVERTISING MANAGEMENT			
<b>Course Outcomes:</b> The aim of the course is to build knowledge and understanding of advertisement among the student. The course seeks to give detailed knowledge about the subject matter by instilling them basic ideas about advertising Management. The outcome of the course will be as follows – To provide knowledge about advertisement and its use in business. To make able about advertisement concept and its management. To learn about the use of advertisement in business.			
<b>Max. Marks: 100</b>		<b>Credits: 03</b>	<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Advertising: Introduction, Scope, importance in business: Role of advertising in social and economic development of India: Ethics and truths in Indian Advertising.	4	8
II	Integrated Communication Mix (IMC)-meaning, importance; Communication meaning, importance, process, communication mix-components, role in marketing, Branding-meaning, importance in advertising.	5	6
III	Promotional objectives – importance determination of promotional objectives, setting objective DAGMAR; Advertising Budget importance, establishing the budget- approaches allocation of budget.	5	6
IV	Advertising Copy-meaning components types of advertising copy, importance of creativity in advertising; Media planning-	5	6

	importance, strategies, media mix. Advertising research – importance, testing advertising effectiveness market testing for ads; International Advertising-importance, international Vs local advertising.		
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**Suggested Reading:**

- Mohan, M. (1989). *Advertising Management: Concepts and Cases*. Tata McGraw-Hill Education.
- Rossiter, J. R., & Percy, L. (1987). *Advertising and promotion management*. McGraw-Hill Book Company.
- Hackley, C., & Hackley, R. A. (2014). *Advertising and promotion*. Sage.
- Khan, M. A. (2007). *Consumer behaviour and advertising management*. New Age International.

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course Prerequisites:**

**Qualification:** To study this course, a student must have qualified 10+2 from any recognized board.

21. BUSINESS LAW			
<b>Course Outcomes:</b>			
The objective of this paper is to give the basic knowledge about the rules and regulation of execution of Business.			
<b>Max. Marks: 100</b>		<b>Credits: 03</b>	<b>Min. Passing Marks:40</b>
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 03</b>			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	The Indian Contract Act 1872: Scope of the Act, Essential of A Valid Contract, Agreement, Performance of Contracts, Breach of Contract & Remedies, Quasi-Contracts	5	6
II	The Sale of Good Act, 1930: Formation of Contract, Conditions &	4	8

	Warranties, Rights of an Unpaid Seller, Performance of the Contract of Sale		
III	The Negotiable Instruments Act, 1881: Nature and Types of negotiable instruments, Negotiation and Assignment, Holder-in-Due Course, Dishonour and Discharge of Negotiable Instrument; Arbitration	5	6
IV	The Companies Act, 1956: Nature and Type of Companies, Formation of Companies, Memorandum and Articles of Association, Prospectus, Share capital, Membership, Meetings and Winding-Up	5	6

**Suggested Reading:**

- Beatty, J. F., & Samuelson, S. S. (2012). *Cengage Advantage Books: Introduction to Business Law*. Cengage Learning.
- Singh, A. (1974). *Company Law*.
- Rohatgi, K. B. (1970). *Indian Company Law*.

**Suggested equivalent online courses:**

Corporate Law by Prof. (Dr.) Harpreet Kaur, *National Law University, Delhi*, via SWAYAM.

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**22. TIME MANAGEMENT**

**Course Outcomes:**

Through the trainer's expertise and practical knowledge, the students will be able to define the key concepts associated with time management and will be able to:

- Identify the main obstacles to effective Time Management in your daily role
- Understand the nature of Time Management
- Understand a range of tools, techniques and concepts for Time Management
- Use these techniques to build an effective Time Management process that will enhance your productivity and lower your stress
- Explain the benefits of having an effective Time Management process

**Max. Marks: 100**      **Credits: 03**      **Min. Passing Marks: 40**

**Total No. of Lectures-Tutorials-Practical (in hours per week): 03**

Unit	Topic	No. of Lectures
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		Theory Hours	Practical Hours
I	Aspects of Time Management <ul style="list-style-type: none"> <li>■ Planning &amp; Goal Setting</li> <li>■ Managing yourself</li> <li>■ Dealing with other people</li> <li>■ Your time</li> <li>■ Getting Results</li> </ul>	6	5
II	Fundamentals of Time Management <ul style="list-style-type: none"> <li>■ Focus is on time and resources</li> <li>■ Pre-analysis of performance</li> <li>■ Analysis of goals and objectives</li> <li>■ Systemization of processes</li> </ul>	6	5
III	Productive Work <ul style="list-style-type: none"> <li>■ Busy vs. Productive</li> <li>■ Indecision &amp; Delay</li> <li>■ Overwork</li> <li>■ Urgency v's Importance</li> <li>■ Prioritization</li> </ul>	6	6
IV	Time Management System <ul style="list-style-type: none"> <li>■ Functional</li> <li>■ Portable</li> <li>■ Intelligible</li> </ul>	6	5

### Suggested Reading:

- Stella Cottrell (2013). [The Study Skills Handbook](#). Palgrave Macmillan. pp. 123+. ISBN 978-1-137-28926-1.
- Communications, Richard Lewis, Richard Lewis. ["How Different Cultures Understand Time"](#). Business Insider. Retrieved 2018-12-04.
- Pant, Bhaskar (2016-05-23). ["Different Cultures See Deadlines Differently"](#). Harvard Business Review. Retrieved 2018-12-04.
- Amen, Daniel G. (1998). [Change your brain, change your life : the breakthrough program for conquering anxiety, depression, obsessiveness, anger, and impulsiveness](#) (1st ed.). New York: Times Books. ISBN 0-8129-2997-7. OCLC 38752969.
- Lakein, Alan (1973). [How to Get Control of Your Time and Your Life](#). New York: P.H. Wyden. ISBN 0-451-13430-3.
- ["The 80/20 Rule And How It Can Change Your Life"](#). Forbes. Archived from the original on 2017-11-17. Retrieved 2017-09-16.
- Allen, David (2001). [Getting things done: the Art of Stress-Free Productivity](#). New York: Viking. ISBN 978-0-670-88906-8.
- Fiore, Neil A (2006). [The Now Habit: A Strategic Program for Overcoming Procrastination and Enjoying Guilt- Free Play](#). New York: Penguin Group. ISBN 978-1-58542-552-5.
- Le Blanc, Raymond (2008). [Achieving Objectives Made Easy! Practical goal setting tools & proven time management techniques](#). Maarheeze: Cranendonck Coaching. ISBN 978-90-79397-03-7.

- Secunda, Al (1999). The 15 second principle : short, simple steps to achieving long-term goals. New York: New York : [Berkley Books](#). p. 157. ISBN 0-425-16505-1

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**23. BUSINESS ENVIRONMENT**

**Course Outcomes:**

1. To analyze various categories that are constituting the business environment and apply various approaches that are helpful to manage both the internal and external environment of the business.
2. To apply the various types of policies in the economic environment, applying these policies change the structure of the economy and the transition thereof from the past to the present scenario.
3. To apply various constitution provisions & how government play different roles for the smooth functioning of an organization & evaluate the importance of CSR in an economy
4. To develop the understanding of technological, demographic social, and cultural factors that play an important part in an organization's functioning and to evaluate the recent trends in the environment of the firm.
5. To demonstrate the various policies of foreign institutions like the world bank. Summarize the basics of foreign investments that are helpful for the economy and interpret the terms that are related to trade and its regulation.

**Max. Marks: 100** **Credits: 03** **Min. Passing Marks:40**

**Total No. of Lectures-Tutorials-Practical (in hours per week): 03**

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	<b>Introduction</b> Concept, Significance and Nature of B. Environment. Types of environment, Interaction between Internal and External environments, Nature and Structure of Economy, Techniques for Environment Analysis, Approaches and Significance of Environment Forecasting.	6	4
II	<b>Economic Environment</b> History of Economic Systems, Market, Planned and Mixed Economy, Planning in India: Emergence and Objective; Planning Monetary Policy, Fiscal Policy. Union Budget as an instrument of growth and its Impact on Business, Industrial Policy: Meaning	6	4

	Objective and Recent Development in New Economics Policy (1991) and its Impact on Business.		
III	<b><i>Politico-Legal Environment</i></b> Relationship between Business and Government, Economics, Planning, Regulatory, Promotional and Entrepreneurial Roles of Government, Constitutional Provisions affecting Business. An overview of major laws affecting business, Consumerism, Social Responsibility of Business.	6	4
IV	<b><i>(a) Technological Environment:</i></b> Factors Influencing Technological Environment, Role and Impact of Technology on Business. Transfer of Technology – Channels, Methods, and Limitations. <b><i>(b) Demographic and Socio-Cultural Environment:</i></b> Population Size, Falling Birth Rate, Changing age structure and its impact on business, Business and Society, Business and Culture, Culture and Organisational Behaviour.	6	4
V	<b><i>Foreign Investment and Trade Regulation</i></b> Foreign Direct Investment, Foreign Institutional Investment, WTO and India: an overview, Regulation of Foreign Trade, Disinvestment in Public Sector Units.	6	4

Suggested Reading:

- Business Environment by Francis Cherunilam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**24. DIGITAL LITERACY & CYBER SECURITY**

**Course Outcomes:**

The course is a certificate level course, with an aim to equip the workforce entering into / working in government sector with the vital skill set, that is, necessary to cope up with the ever-changing scenario in IT sphere. The course is designed in such a manner, so that, it not only educate an individual with the basic skill set but also enhances the ability of individual to easily grasp the new changes in the dynamic IT field.

**Max. Marks: 100** **Credits: 03** **Min. Passing Marks:40**

**Total No. of Lectures-Tutorials-Practical (in hours per week): 03**

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	<p><b>Cyber Security:</b> Cyber Security: Basic concepts of threats, vulnerabilities, controls; risk; confidentiality, integrity, availability; security policies; security mechanisms; Data Security and protection: concept, creating strong passwords; how to stay safe when surfing on internet: “In private Browsing”, identifying secure website, clear cookies;</p> <p>Know how to identify a secure web site: https, lock symbol;</p> <p>Security Considerations: Know about security threats from web sites like: viruses, worms, Trojan horses, spyware. Understand the term malware; Netiquettes;</p> <p>Netiquettes; Security Considerations: Be aware of the possibility of receiving fraudulent and unsolicited e-mail; phishing, Recognize attempted phishing;</p> <p>Basics of Software Licensing</p> <p>Overview and understanding of IT Act 2000.</p>	6	5
II	<p><b>PC Maintenance, Security and Troubleshooting:</b> Computer Maintenance and Security: Overview of Computer Maintenance and Security, Inbuilt PC Security, tools, Securing documents, Antivirus, Upgrading Operating System and Application software. security; Cleaning the monitor, keyboard, CPU;</p> <p>Deleting unnecessary programs and files: Disk cleanup, deleting toolbars; defrag hard drive;</p> <p>Computer Maintenance Programs: Ccleaner, myDefrag, Spinrite etc.;</p> <p>Basic troubleshooting: restart computer, checking cables, uninstalling a software, start windows in safe mode etc.</p> <p>This unit will introduce about maintenance and troubleshooting of PC. This unit will introduce some maintenance and some troubleshooting techniques to use if there is a problem.</p>	6	5
III	<p><b>Latest Trends in IECT &amp; e-Governance:</b></p> <ul style="list-style-type: none"> <li>▪ Applications of IECT: e-governance, Multimedia and Entertainment;</li> <li>▪ Project Management using IT tools &amp; related applications</li> <li>▪ Introduction to Cloud Computing: What is cloud computing, Properties &amp; Characteristics, Service models, Deployment models; Concepts of: IaaS (Infrastructure as a Service), PaaS (Platform as a Service), SaaS (Software as a service), DaaS (Desktop as a Service).</li> <li>▪ Introduction to Mobile Computing, its components and characteristics.</li> <li>▪ Digital signature: definition as per ITA 2000, how digital signature works; role of certifying authorities: Digital Certificates and their uses, Certifying Authority regulation in India, Obtaining a trial version of a Digital Certificate; legal aspect covering digital signatures in India; how to use digital signatures on electronic documents.</li> </ul>	6	6

	<ul style="list-style-type: none"> <li>e-Governance: Definition of e-Governance, Pillars of e-Governance, Infrastructure for e-Governance, Mission Mode Projects (At least 5), Familiarization with terminology like change management, processing engineering, Govt. Processing engineering and Governance, e-Governance project life cycle, electronically delivery of services, messaging system and case study of any 5 public utility portal related with the Department (especially, public grievance redressal system, RTI, Vigilance, Department working and financial inclusion, linkage with Aadhar etc.)</li> </ul>		
IV	<b>Application of Digital Financial Services:</b> Why savings are needed, Why save in a bank, Banking products-ATM card, Rupay Card, Banking Instruments-Cheque, Demand Draft (DD), Currency Notes, Banking Services Delivery Channels, Know Your Customer (KYC), Opening of bank account and documents required, Types of bank accounts, Bank's services including remittances, loan, mobile banking, Overdraft, Pension etc., Types of Insurance, Pradhan Mantri Jan Dhan Yojana (PMJDY), password security and ATM withdrawal, Insurance, Social Security Schemes-Atal Pension Yojana (APY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Mudra Yojana (PMMY).	7	5

Suggested Reading:

- Digital Literacy: Concepts, Methodologies, Tools and Applications. Information Resources Management Association. USA Volume 1.
- Vuorikari, R., Punie, Y., Gomez, S. C., & Van Den Brande, G. (2016). DigComp 2.0: The Digital Competence Framework for Citizens. Update Phase 1: The Conceptual Reference Model (No. JRC101254). Institute for Prospective Technological Studies, Joint Research Centre. <https://ec.europa.eu/jrc/en/digcomp> and <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/digcomp-20-digital-competence-framework-citizens-update-phase-1-conceptual-reference-model>
- Janssen, José; Stoyanov, Slavi; Ferrari, Anusca; Punie, Yves; Pannekeet, Kees; Sloep, Peter (October 2013). "Experts' views on digital competence: Commonalities and differences". *Computers & Education*. **68**: 473–481. [doi:10.1016/j.compedu.2013.06.008](https://doi.org/10.1016/j.compedu.2013.06.008).

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5

Attendance/ Presentation	5
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25. TOURISM RESOURCES OF INDIA		
<b>Course Outcomes:</b> After completing the course students will have a familiarity to identify and manage emerging tourist destinations of India.		
<b>Max. Marks:</b> 100	<b>Credits:</b> 03	<b>Min. Passing Marks:</b> 40
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b>		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Trekking Tourism with special Reference to the Himalayas.	2+1
II	Mountaineering and Ice Skiing	2+1
III	River running, Water skiing and other water based tourist activities	2+1
IV	Wildlife Tourism, National Parks and Wildlife Sanctuaries	2+1
V	Desert Safaris and Aero Sports	2+1
VI	Museums and Art Galleries	2+1
VII	Forts, Palaces and Historical Buildings in North India	2+1
VIII	Unique Monuments of South India	2+1
IX	Architectural Landmarks of Eastern India	2+1
X	Architectural Treasures in Western India	1+1
XI	The four Dhams and other important Hindu Religious centres	1+1
XII	Key shrines Resorts of Jainisim and Buddhism	1+1
XIII	Leading Pilgrim Centers of Sikhism, Islam and Christianity	1+1
XIV	Religious fairs and festivals of Touristic importance	1+1
XV	Handicrafts and opportunities for tourist shopping	1+1
XVI	Yoga, Naturopathy and Medical Tourism	1+1
XVII	Summer and Winter Retreats	1+1
XVIII	Beaches, Backwaters and Islands	1+1

**Suggested Reading:**

- Tourism Products of India: A National Perspective - Robinet Jacob, P.Mahadevan, Sindhu Joseph, (2012)
- Indian Tourism: Tourist Places of India - Anurag Mathur, (2016)

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5

Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

<b>27. INTRODUCTION TO FOOD AND BEVERAGES</b>		
<b>Course Outcomes:</b> After completion of the course students will be expected to be able to Develop general knowledge on the origins and development of food service in hotels, restaurants, and institutions.		
<b>Max. Marks:</b> 100		<b>Min. Passing Marks:</b> 40
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b>		
<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures (Theory+ Practical)</b>
I	Introduction to Modern Hotel Kitchen	2+1
II	Job Description and Responsibilities of Kitchen Staff	2+1
III	Kitchen Tools and Equipments	2+2
IV	French Classical Menu, Accompaniments And Garnishes	2+2
V	Basic Introduction to Bakery and Confectionary	2+2
VI	Methods of Cooking	2+1
VII	Basic Preparations	2+1
VIII	Introduction to Food & Beverage Service Industry	2+1
IX	Food Service Operation	2+1
X	Mis-En-Place and Mis- En-Place	2+1
XI	Organizational Structure of Food and Beverage Service	2+1
XII	Beverage Classification, Bar And Its Types	2+1
XIII	Introduction to Spirits	2+1
XIV	Order-Taking, Service and Billing	2+1

**Suggested Reading:**

- LATTIN, G. W The Lodging and Foodservice Industry. 6th ed. The Educational Institute of the American Hotel and Motel Association. 2005 978-0-86612- 270-2
- NINEMEIER, J.D. Management of Food and Beverage Operations. 3rd . ed The Educational Institute of the American Hotel and Motel Association. 2000 0-86612-182-x

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline.

27. INTRODUCTION TO HOUSEKEEPING		
<b>Course Outcomes:</b> After the completion of the course students will be expected to be able to Develop and Understanding about Housekeeping and explain the roles of Housekeeping in Hospitality Industry.		
<b>Max. Marks:</b> 100	<b>Credits:</b> 03	<b>Min. Passing Marks:</b> 40
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b>		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Meaning and Definition Of Housekeeping	2+1
II	Layout Of Housekeeping Department	2+1
III	Attributes And Qualities of House Keeping Personnel	2+2
IV	Hotel Organizations, Job Description And Specification of Housekeeping Staff	2+2
V	Linen Rooms and Uniform Room	2+2
VI	Laundries, Store and Room Supply	2+1
VII	Cleaning Equipment	2+1
VIII	Cleaning Methods	2+1
IX	Cleaning Guest Rooms	2+1
X	Housekeeping Inspection	2+1
XI	Stain Removals	2+1
XII	Introductions to Public Area	2+1
XIII	Public Area Cleaning	2+1
XIV	Housekeeping Control	2+1

**Suggested Reading:**

- SCHNEIDER, M., TUCKER G, AND SCOVIAK, M – “The Professional Housekeeper” 4 th. ed John Wiley & Sons, Inc 1999 0-47129193-5
- KAPPA, M., NITSCHKE, A. AND SCHAPPERT, P., - “Housekeeping Management” 2 nd ed The Educational Institute of the American Hotel & Motel Association 1997 0-86612-156-0

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline.

28. FUNDAMENTALS OF WEB DESIGNING		
<b>Course Outcomes:</b> After completion of the course, Students will gain the web design knowledge, skills and project-based creativity is needed for entry into web design and development careers.		
<b>Max. Marks:</b> 100	credits: 03	<b>Min. Passing Marks:</b> 40
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b>		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Introduction to Computer, Generations of Computer, Functions of the Different Units (Input unit, Output unit, Memory unit, CPU), Input and Output Devices	3+2
II	Types of Memory, BIOS, Hardware and Software, Introduction to Operating System(CUI & GUI), Functions of OS, Translators (Assembler, Compiler & Interpreter) Computer Languages.	3+2
III	Introduction to Network, Types, Topologies, Applications and Advantages, Devices used in Networking	3+2
IV	Introduction to Internet, Applications, IP Address, Types of Internet Connection, WWW and Web Browsers, Connecting to the Internet, etc	3+2
V	Basic Terminologies and hardware software required to access Internet- (URL, Hosting, DNS, Protocols, OSI Model, Search Engines, Publishing Web Page, Surfing the web, using e-governance website).	3+2
VI	Introduction to HTML - font styles, hyper linking, images embedding, tables, inline-frame, attributes, Headings Paragraphs, Lists, Colors, Form elements etc. and Web Page Structure	3+2
VII	CSS - CSS Introduction, Selectors Id & Class, Styling Backgrounds, Fonts, pseudo classes, border, margin, padding	3+2
VIII	CSS3 Introduction, CSS Vs CSS3, Properties like Rounded Corners, Colors Gradients, Shadows Text, 2D Transforms, 3D Transforms, Transitions, Animations etc.	3+2
IX	HTML5 Introduction - Support Elements, Semantics, Migration, Style Guide Media, Sample Web Page Designing (tips and tricks), use of Div tag, Responsive web, Static V/S Dynamic Websites.	3+2

**Suggested Reading:**

- Deitel, Deitel and Nieto, Internet and World Wide Web – How to program, Pearson Education, 2000.
- Chris Bates, “Web Programming, building internet applications”, 2ndEdition, WILEY, Dreamtech, 2008.

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

## 29. OFFICE AUTOMATION TOOLS

**Course Outcomes:** After completion of the course, students would be able to documents, spreadsheets, make small presentations and would be acquainted with internet.

**Max. Marks:** 100

**Credits:** 03

**Min. Passing Marks:**40

**Total No. of Lectures-Tutorials-Practical (in hours per week):** 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	What is a computer? Hardware, Software, Types of computers, Turning the computer on and off, Operating Systems and Controls	2+1
II	Memory, Disks, Optical disk, Flash memory, SSD (Solid State disks), Files and folders, Sorting files, File extension, Windows Explorer, File properties, Concepts and Settings, Networks and the Internet, FTP, Using Filezilla, E-mail, Chat-rooms, and IM (Instant Messaging)	2+1
III	Overview of MS Word, Options for viewing a document in Word, writing right away– some important buttons and guidelines, saving documents, using files and folders, Save and Save As, Closing a document	2+2
IV	Moving with the mouse, Using the cursor keys, jumping to a particular page, Setting the zoom factor, viewing a document with Print Preview, selecting text, Deleting and adding text, Using the clipboard, Some keyboard shortcuts	2+2
V	Changing the font and font size, Bold, italic, and underline, Paragraph formatting, Borders and shading, working with indents, working with line spacing, Using tabs	2+2
VI	Creating a table, adding text to table, Adding and Deleting rows and columns, Adding ClipArt to documents, Text flow around graphics	2+1
VII	Adding page numbers, adding a header and footer, setting page orientation, setting page margins, inserting a manual page break, deleting a page break, Spelling and grammar checking, Proofing while you type, Printing a document, Word tips and tricks, Text effects with WordArt	2+1
VIII	What is Excel? The Excel 2007 window, navigating within a worksheet, selecting cells, rows or columns, entering data, Overview of data types, Deleting and Moving data, Using Autofill, Saving a workbook	2+1
IX	Editing cell contents, Inserting or deleting cells, rows columns, and worksheet, Moving or copying a worksheet, Formatting data, Cell formatting, Hiding rows and columns	2+1
X	Basic functions, Printing, print preview, printing a worksheet, Charts, Inserting graphics in a worksheet, Data manipulation, Sort, Filter, Subtotals	2+1
XI	The Basics: Creating and Editing a Presentation, The PowerPoint Window, create a New Presentation, adding a new slide, Entering Text on a Slide, Adding Clip Art to a Slide, Editing Slide Text, Formatting Text Slides, Apply Character Formats, Line Spacing, Indents	2+1

XII	Spell Check a Presentation, AutoCorrect, View the Slide Show, Arrange Slides in a Presentation, Slide Sorter View, Adding Transitions to a Slide Show, Animating Text, Printing Slides, Speaker Notes, and Handouts, Print Options, creating a Custom Design Template, Inserting Graphics, Adding Footers, Modify the Slide Master Font, Some Tips for Effective Slide Shows, Glossary	2+1
XIII	Online Discussion forum, Shared Calendar/Scheduler, Google Services, etc.	2+1
XIV	Protecting your company's data, A Security Checklist, challenges and issues	2+1

**Suggested Reading:**

- Comdex Information Technology course tool kit Vikas Gupta, WILEY Dreamtech,2005
- The Complete Computer upgrade and repair book,3rd edition Cheryl A Schmidt, WILEY Dreamtech
- Introduction to Information Technology, ITL Education Solutions limited, Pearson Education.
- PC Hardware and A + Handbook – Kate J. Chas PHI (Microsoft)

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

30. DIGITAL MARKETING & MANAGEMENT		
<b>Course Outcomes:</b> After completion of the course, students would be able to Understand the importance of Digital Marketing.		
<b>Max. Marks:</b> 100	<b>Credits:</b> 03	<b>Min. Passing Marks:</b> 40
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b>		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Introduction to Digital Marketing- I - What is digital marketing? How is it different from traditional marketing? Return on Investment (ROI) between Digital and traditional marketing?, Discussion on new trends and current scenario of Digital marketing.	T- 5
II	Digital business & commerce - Digital Business Models, Digital Commerce, Scaling up the digital Commerce, importance of digital marketing	T- 3

III	Digital ecosystem - Digital Ecological approaches, Digital Business Ecosystem, digital publicity platforms	T- 3
IV	Social media past & present - Introduction to social media, History, Trends, Current Scenario and impact on business	T- 3
V	Social media in interpersonal communication - e-Communication, importance of interpersonal communication, social media a golden bridge for communication	T- 3
VI	Facebook, Twitter, LinkedIn, Google Adwords & E-Mail Marketing - Tools and activities	T-2, P-3
VII	Digital marketing elements as engagement marketing- Tools and activities, Emerging trends and techniques in Digital Media	T- 3
VIII	Image editing tools and info graphics, Voice and Video Marketing, Online Customer Service	T- 4, P-7
IX	Introduction to Search Engine Optimization, Web searching techniques and Internet research attitude	T- 3
X	Freelance Digital Marketing, Content Marketing, Feedback and surveys	T- 3
XI	Future prospects of digital Marketing and Management-	T- 3

**Suggested Reading:**

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

31. COMMUNITY RADIO TECHNOLOGY		
<b>Course Outcomes:</b> After completion of the course, students would be able to demonstrate the use of technical equipment and editing software to produce radio programmes.		
<b>Max. Marks:</b> 100		<b>Credits:</b> 03
<b>Min. Passing Marks:</b> 40		
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b> 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Community Radio: Concept and Evolution, Context, Access and Equity, Community Radio: Policy Guidelines, Technology for CR: Guiding Principles	T-4
II	Components of CR Station, Radio Waves and Spectrum, Basics of	T-5

	Electricity, Power Backup and Voltage Stabilization	
III	Components of Transmission Chain, Components of FM Transmitter, Antenna and Coaxial Cable, Propagation and Coverage	T-3
IV	Transmitter Setup: Step-by-step, Transmission System: Preventive and Corrective Maintenance, Transmission Setup- Good Engineering Practices	T-4
V	Basics of Sound, Analog and Digital Audio, Components of the Audio Chain, Studio Acoustics	T-3
VI	Audio Hardware and Field Recording, Free and Open-Source Software, Telephony for Radio	T-3
VII	Sound Recording and Editing, Mixing and Mastering, File Formats and Compression, Storing and Retrieval	T-3, P-8
VIII	Good Engineering Practices for Studio Setup, Studio Equipment: Preventive and Corrective Maintenance, Content Distribution: Alternative Mechanisms	T-4, P-8

**Suggested Reading:**

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

<b>32. DATA SCIENCE &amp; APPLICATIONS</b>		
<b>Course Outcomes:</b> After completion of the course, students would be able to demonstrate skill in data science and management.		
<b>Max. Marks:</b> 100		<b>Credits:</b> 03   <b>Min. Passing Marks:</b> 40
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b>		
<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures (Theory+ Practical)</b>
I	What is Data? structured and unstructured Data, what is Data Analytics? Types of Data Analytics, Role of Data Analytics, Data analytics methods and techniques	T-3
II	Introduction to Data Science - What is Data Science? Why Data Science? Data Science Components, Data Manipulation and Visualization, Tools for Data Science, Challenges of Data Science Technology, Types of Data Science Jobs, Qualities of a Data Scientist, etc.	T-4
III	Data Science Applications - Real World Applications of Data Science, Some suggestive case studies.	T-2
IV	Tools for Data Science - Brief Introduction to data science tools	T-2
V	Overview of Microsoft Excel, Formatting and Data Analysis, Formulas, Introductory Statistical Functions, Functions for Personal Finance, Preparing to Print	T-1, P-3
VI	Formulas, Functions, Logical and Lookup Functions in MS Excel	T-2, P-2
VII	Presenting Data with Charts in MS Excel - Choosing a Chart Type, Formatting Charts, Using Charts with MS Excel	T-2, P-2
VIII	Basics of Programming - Why should you learn to write programs? Computer hardware architecture, understanding programming, Conversing with Python, Terminology: Interpreter and compiler, what is a program? writing a program, The building blocks of programs	T-1, P-3
IX	R Programming - Features of R, why use R? Applications of R Programming, Alternatives to R programming, Downloading and Installing R, Run R Programming on Your Computer, R's Help System, Understanding Errors.	T-2, P-3
X	R programming- The Terminal, Working with Vectors, Sub-setting Vectors - the magic "[ ]", Other Useful Functions, R Syntax, Loops in R	T-3, P-3
XI	Basics of Python- Why you should learn Python? How to download and install Python, basic syntax, Brief Overview of data analysis tools using Python	T-3, P-4

**Suggested Reading:**

**Suggested equivalent online courses:** Coursera & Swayam

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
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Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

### III. FACULTY OF SCIENCE

#### 1. MUSHROOM CULTIVATION

**Course Outcomes:** After the completion of the course the students will be able:

- To understand the instruments, techniques, lab etiquettes and good lab practices for working in a microbiology laboratory.
- Develop skills for cultivating and identifying mushrooms, using them for commercial purposes.
- Will understand the pathology associated with mushrooms and their pre-harvest & post-harvest management.
- Can start own enterprise on mushrooms

**Max. Marks:** 100

**Credits:** 03

**Min. Passing Marks:** 40

**Total No. of Lectures-Tutorials-Practical (in hours per week):** 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	Introduction to mushrooms and their significance Mushroom spawn (seed) production/ procurement	6T+2P
II	<b>Mushroom cultivation</b> Button mushroom Pearl mushroom Oyster mushroom Paddy straw mushroom. Milky mushroom.	4T+5P
III	Cultivation of other economically and medicinally important mushrooms, Mushroom; Sectioning of gills of <i>Agaricus</i> . Insect pest management in cultivated mushrooms, Disease management in cultivated mushrooms	4T+6P
IV	Value addition to mushrooms (nutrient quality improvement) Mushroom growing unit/ house.	4T+5P
V	Entrepreneurial skills and economics for small enterprise Management of spent substrates and waste disposal of various mushroom Health and Safety at workplace	4T+5P

#### Suggested Reading:

##### Course Books published in Hindi / English:

1. Practical Botany (Part I) ISBN #:81-301-0008-8 Sunil D Purohit, Gotam K Kukda & Anamika Singhvi Edition:2013 Apex Publishing House Durga Nursery Road, Udaipur, Rajasthan (bilingual)
2. Modern Mushroom Cultivation And Recipes (hindi) (hb) ISBN : 9788177545180 Edition : 01 Year : 2017 Author : Singh Riti , Singh UC Publisher : Agrobios (India)

#### Suggested Online Link:

- <https://agrimoon.com/wp-content/uploads/Mashroom-culture.pdf>
- <http://nhb.gov.in/pdf/Cultivation.pdf>
- <https://www.classcentral.com/course/swayam-vocational-mushroom-production-23137>

#### Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:**

- **Qualification:** To study this course, a student must have qualified 10+2 from any recognized board.
- **Facilities:** Smart and Interactive Class.
- **Other Requisites:** Video collection, Books, CDs, Access to On-line resources, Display Charts Lab Requisites: A drum, a room, chemicals as per protocol, gunny bags, trays, racks, packaging material, inoculum, temperature and humidity control as per protocols.

## 2. ORGANIC FARMING

**Course Outcomes:** After the completion of the course the students will be able:

- Understand the instruments, techniques, lab etiquettes and good lab practices for field work
- Develop skills for identifying organic supplements and preparing them from raw materials for safe agriculture/horticulture.
- Will understand the pathology associated with crops and their pre-harvest & post-harvest management.
- Can start own enterprise on organic farming

**Max. Marks:** 100

**Credits:** 03

**Min. Passing Marks:** 40

**Total No. of Lectures-Tutorials-Practical (in hours per week):** 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	Introduction to organic farming and its significance Concepts and Principles of Organic farming Key indicators for organic farming, sustainable agriculture and climate change	6T+2P
II	Input management, compost production, vermicomposting, Compost quality, Compost utilization and marketing	4T+5P
III	Organic crop management: field crops, horticulture and plantation crops, Plant protection measures, biopesticides, natural predators, cultural practice	4T+6P
IV	Rotation design for organic system, Transition to organic agriculture, Farming system	4T+5P
V	Quality analysis of organic foods, Antioxidants and their natural source, organic food and human health Standards of organic food and marketing	4T+5P

**Suggested Reading:**

*Course Books published in Hindi / English:*

1. Practical Botany (Part 2) ISBN #:81-301-0008-8 Sunil D Purohit, Gotam K Kukda & Anamika Singhvi Edition:2013 Apex Publishing House Durga Nursery Road, Udaipur, Rajasthan (bilingual)

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:**

- **Qualification:** To study this course, a student must have qualified 10+2 from any recognized board.
- **Facilities:** Smart and Interactive Class.
- **Other Requisites:** Video collection, Books, CDs, Access to On-line resources, Display Charts Lab Requisites: A drum, a room, chemicals as per protocol, gunny bags, trays, racks, packaging material, inoculum, temperature and humidity control as per protocols.

3. BASIC NUTRITION & HYGIENE		
<b>Course Outcomes:</b> After the completion of the course the students will be able:		
<ul style="list-style-type: none"> <li>• Understand the concepts of basic nutrition, how to use food guide, pyramid, optimum nutrition, malnutrition, sign of good health, metabolism of carbohydrate, protein &amp; fats.</li> <li>• Recognize Food borne illness , control of pest , solid &amp; liquid waste disposal</li> <li>• Be aware of cleaning procedure in catering, structure &amp; layout of food remises maintaining cleanenvironment.</li> <li>• Exhibit potential to manage the quality and safety, storage of food.</li> </ul>		
<b>Max. Marks:</b> 100	<b>Credit:</b> 03	<b>Min. Passing Marks:</b> 40
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b> 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Historical developments in Food Science and Technology-Indian perspective: <b>Introduction to nutrition</b> -Food as a source of nutrients,Function of foods, Definition of nutrition, Nutrients, Adequate optimum and good nutrition, Malnutrition. Inter-relationship between nutrition and health, Visible symptoms of good health	4T+3P
II	<b>Food guide</b> – Basic five food groups -how to use food guide Use of food in body – digestion, absorption, transport, utilization of nutrients in body.	4T+3P

	Water as a nutrients, function, sources, requirement, water balance-effect of deficiency.	
III	<b>Energy</b> -Unit of energy, Food as a source of energy, Energy value of food, The body's need for energy, B.M.R activity for utilization of food to fat energy requirement. Acid- base balance.	3T+2P
IV	<b>Minerals</b> – Function, Sources, Bio availability and deficiency of following minerals -Calcium, Iron, Iodine, Fluorine, Sodium, Potassium <b>Vitamins</b> - Classification, Units of measurement, Sources, Function, Deficiency about water and fat soluble vitamins.	3T+2P
V	<b>Food contamination</b> – Sources and transmissions by water, air, sewage and soil as reservoir of infection and type of spread. Importance of personal Hygiene of Food handler – Habits – Clothes, Illness, Education of food handler in handling and serving food.	3T+2P
VI	<b>Safety in food procurement</b> , storage, handling and preparation control of spoilage – safety of left over foods. Cleaning Methods – Sterilization and disinfection – products and methods – use of Detergents, heat, chemicals, test for sanitizer strength.	4T+2P
VII	<b>Sanitation</b> – Kitchen design equipment and systems. Structure and layout of food premises maintaining clean environment. Selecting and installing equipment cleaning equipment. Waste product handling – Planning for waste disposal, Solid wastes and liquid wastes.	3T+2P
VIII	<b>Control of Infestation</b> – Rodent control Rats, Mice- Rodent, destruction. Vector control –Use of pesticides. Food Sanitation, Control and Inspection – planning and Implementation of training programmes for health personal.	3T+2P

**Suggested Reading:**

**Course Books published in Hindi / English:**

1. S. Roday 2005 Food Hygiene and Sanitation in Food Industry 7<sup>th</sup> Edition Published by Tata McGraw Hill Publishing Company New Delhi .
2. Shubhangini A.Joshi.2015 Nutrition and Dietetics 4<sup>th</sup> Edition Published by McGraw Hill Education (India) Private Limited..

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

#### 4. PUBLIC HEALTH & HYGIENE

**Course Outcomes:**

The student at the completion of the course will be able to:

- Adjust to protocols and guidelines relevant to the assistant role in public health and hygiene practices/techniques.
- Recognize the boundary of the public health and hygiene responsibility.
- Exhibit managing potential to the quality and safety.
- Be aware of relevant legislation, standard, policies and procedures followed in the lab
- Practical and internship on all units with skill partners.

**Max. Marks:** 100

Credits: 03

**Min. Passing Marks:**40

**Total No. of Lectures-Tutorials-Practical (in hours per week):** 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	<p><b>Introduction to Public Health and Hygiene:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Introduction to Public Health and Hygiene, Relationship between health and hygiene.</li> <li><input type="checkbox"/> Physical fitness of human body and WHO definition of health. Washing habits and hygiene.</li> <li><input type="checkbox"/> Factors affecting public health. Community health and medicine.</li> </ul>	6T+1P
II	<p><b>Personal health and balanced diet:</b></p> <ul style="list-style-type: none"> <li>• Personal health and balanced diet, Food safety quality control and hygiene, Personal and Domestic hygiene, clean food and water, Ill effects of addictive substances.</li> <li>• Yoga the way of living and regular exercise</li> </ul>	6T+4P
III	<p><b>Public health and balanced diet:</b></p> <ul style="list-style-type: none"> <li>• Public Health and nutrition. Classification and Nutritional profiles of various foods and drinks.</li> <li>• Balanced diet, nutritional problems, Demography and family planning.</li> </ul>	5T+6P
IV	<p><b>An overview of metabolic conditions:</b></p> <ul style="list-style-type: none"> <li>• Epidemiology and history of epidemiological diseases in India.</li> <li>• Route of transmission of disease. Communicable and non-communicable diseases. Common community diseases like •</li> <li>• Chickengunya, Dengue, Malaria, Cholera, Tuberculosis, HIV/AIDS,</li> <li>• Hepatitis: their prevention and control.</li> </ul>	5T+12P

**Suggested Readings:**

- K.D. Chanergy, (2015), Parasitology, CBS Publishers.
- Andrew Proctor (2011), Alternatives to conventional food processing, RSC Pub.
- Willey J. Sherwood L.&WoolvertonC (2014) ,Prescott's Microbiology, 9<sup>th</sup> edition McGrawHill,

- Cathal Kearney (latest edition), Food Hygiene for Food Handlers, Environmental Health Officers's Association.
- C.RayAshfahl and David W Rieske (2009), Industrial safety and health management.
- Shashi Goyal and Pooja Gupta (2012). Food, Nutrition and Health. S. Chand & Company Ltd.

**Suggested Continuous Evaluation:**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** 10+2 in any discipline

5. FOOD CHEMISTRY & FOOD COMMODITIES		
<p><b>Course Outcomes:</b> After the completion of the course the students will be able to define, demonstrate and formulate:</p> <ul style="list-style-type: none"> <li>• Functions of carbohydrate , proteins &amp; fats</li> <li>• Understand denaturation , Rancidity ,browning reactions</li> <li>• composition and nutritive value of food</li> <li>• Storage of different food commodities.</li> </ul>		
<p><b>Max. Marks:</b> 100 <b>Credits:</b> 03</p>		<p><b>Min. Passing Marks:</b>40</p>
<p><b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b> 03</p>		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	<b>Introduction to Food chemistry</b> -Water and Ice., Moisture in Foods, Hydrogen Bonding, Bound water, Water activity and food stability	4T+3P
II	<b>Carbohydrates:</b> Classes, Structure, reactions, functions of mono, oligo and Polysaccharide in foods. Other sweetening agents. Changes on cooking and processing <b>Proteins-</b> Peptides and proteins, Physico Chemical Properties, Denaturation Modification of Food Product, through processing and storage.	4T+3P
III	<b>Lipids:</b> Nomenclature classification, Physical aspects, Chemical aspects Emulsions and Emulsifiers. Chemistry of Fats and Oil processing Role of foods lipids in flavor. <b>Digestive Enzymes:</b> Nomenclature, Definition, Specificity, Catalysis regulation of enzyme, Kinetics, Factors influencing enzyme activity, controlling enzyme action, Enzymes added to food during processing, Modification of food by endogenous enzyme, Enzyme inhibitors in foods.	3T+2P

IV	<b>General courses for loss in foods.</b> Antioxidant rich foods, Fortification, enrichment, restoration. Pigments indigenous to food, structure, chemical and physical properties, processing and storage. Flavors- Vegetables. fruit and spice flavors, from Ferments Meal and sea foods.	3T+2P
V	<b>Cereals &amp; pulses:-</b> Cereals and Millets - breakfast cereals, cereal products, fast food, structure, processing, using variety of preparation, selection, variety storage, nutrition aspects and cost. Pulses and legumes - production (in brief) selection and variety, storage, processing, using variety of preparation, nutrition aspects and cost. <b>Milk and Milk Products:-</b> Composition, classification, quality, processing, storage, uses, cost, nutritional aspects of milk., curds, buttermilk, paneer, khoa, cheese ice cream, kulfi and various kind of processed milk. <b>Eggs:-</b> Production, grade, quality, selection, storage, uses, cost and nutritional aspects.	3T+2P
VI	<b>Fish, Poultry and Meat:-</b> Selection, purchase, storage, uses, cost and nutritional aspects, Blue Foods. <b>Vegetable and Fruits:-</b> Variety, selection, purchase, storage, availability, cost, uses and nutritional aspects of raw and processed vegetable and fruits. <b>Sugar and Sugar Products:-</b> Different forms of sugar (Sugar, Jaggery, honey syrup) manufacture, selection, storage and use preserves, White sugar as white poison	4T+2P
VII	<b>Fats and Oils:-</b> Types and source of fats and oils (animal and vegetable) processing, uses, storage, cost and nutritional aspects. <b>Raising agent:-</b> Types, Constituents, Uses in cookery and bakery, preservation methods. <b>Food Adjuncts:-</b> Spices, condiments, herbs, extracts, concentrates, essences, food colors, origin, classification, description, uses, specification, procurement and storage.	3T+2P
VIII	<b>Salt-</b> Types, uses in the diet. <b>Beverages:</b> Tea( types of tea, green tea, Fermented Tea) coffee, chocolate, and cocoa powder Growth, cultivation, processing, cost and nutritional aspects.	3T+2P

**Suggested Reading:**

1. Shakuntala Manay 2008 Food Facts & Principle Second Edition Published by New Age International (P) Ltd..
2. Sukumar De 2018 Outlines of Dairy Technology 44<sup>th</sup> Published in India by Oxford University Press

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5

Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:**

To study this course, a student must have had the chemistry in 12<sup>th</sup> Class.

6. BIOCHEMICAL ANALYSIS		
<ul style="list-style-type: none"> <li><b>Course Outcomes:</b> This course will provide basic qualitative experimental knowledge of biomolecules such as carbohydrates, amino acids. Upon successful completion of this course students may get job opportunities in food, beverage and pharmaceutical industries.</li> </ul>		
<b>Max. Marks:</b> 100 03	Credit:	<b>Min. Passing Marks:</b> 40
<b>Total No. of Lectures-Tutorials-Practical (in hours per week):</b> 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Qualitative and quantitative analysis of Carbohydrates: Tests of different carbohydrates (monosaccharides, oligo, polysaccharides).	5T+4P
II	Qualitative and quantitative analysis of Proteins( Estimation of protein in eggalbumen)	6T+6P
III	Qualitative and quantitative analysis of Fats using Soxhlet's apparatus	6T+6P
IV	To determine the solubility and antioxidant activity of different amino acids indifferent mediums.	6T+6P

**Suggested Reading:**

Biochemistry lab manual by Sardar Hussain & Komal Kp

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:**

To study this course, a student must have had the chemistry in 12<sup>th</sup> Class.

## 7. FUNDAMENTALS OF MEDICAL LABORATORY

**Course Outcomes:** This course will enable students to:

- Find expected Fields of Occupation where student will be able to get job after completing this course in (Please specify name/type of industry, company etc.)
- Student will be able to get job in medical laboratories working privately or medical labs in Govt/private hospitals.

**Max. Marks:** 100

**Credits:** 03

**Min. Passing Marks:** 40

**Total No. of Lectures-Tutorials-Practical (in hours per week):**

Unit	Topic	No. of Lectures (Theory+ Practical)
I	Functional components of clinical laboratories	5T+4P
II	Basic needs of clinical laboratory technician	6T+5P
III	Sterilization and Disinfection	5T+5P
IV	Collection of Specimen and Disposal of Waste	5T+5P
V	Identification, use, maintenance and care of common laboratory glassware and equipment.	4T+3P

**Suggested Reading:**

- Text book of medical laboratory technology. Praful Godkar; Bhalani, Bhalani Publishing House
- A Hand Book of D.M.L.T. (Diploma in Medical Laboratory Technology), Payal Soan, Gitesh Amrohit), Vardhan Publishers & Distributors
- Textbook of Medical Laboratory Technology, Ramnik Sood, Jaypee Brothers Medical Publishers

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:**

- To study this course, a student must have the subject Biology in class/12<sup>th</sup>/ certificate/diploma
- If progressive, to study this course a student must have passed previous courses of this series.

## 8. CYTOLOGY, GENETICS AND INFECTIOUS DISEASES

### Course Outcomes:

The student at the completion of the course will be able to:

- Understand the structure and function of all the cell organelles.
- Know about the chromatin structure and its location.
- To be familiar with the basic principle of life, how a cell divides leading to the growth of an organism and also reproduces to form new organisms.
- How one cell communicates with its neighboring cells?
- Understand the basic principles of genetics and how genes (earlier called factors) are inherited from one generation to another.
- Understand the Mendel's laws and the deviations from conventional patterns of inheritance.
- Comprehend how environment plays an important role by interacting with genetic factors.
- How to detect chromosomal aberrations in humans and study the pattern of inheritance by pedigree analysis in families.

**Max. Marks: 100**

**Credits: 03**

**Min. Passing Marks: 40**

**Total No. of Lectures-Tutorials-Practical (in hours per week): 03**

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	<b>Structure and Function of Cell Organelles I</b> <ul style="list-style-type: none"> <li>• Plasma membrane: chemical structure—lipids and proteins</li> <li>• Cell-cell interaction: cell adhesion molecules, cellular junctions</li> <li>• Endomembrane system: protein targeting and sorting, endocytosis, exocytosis</li> </ul> <p style="text-align: center;"><b>Introduction to all national and international Biologists (Zoologists) who have contributed/contributing to Zoological and Life Sciences as a mark of tribute to ancient and modern biology will be included as part of the Continuous Internal Evaluation (CIE)</b></p>	5T	4P
II	<b>Structure and Function of Cell Organelles II</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Cytoskeleton: microtubules, microfilaments, intermediate filaments</li> <li><input type="checkbox"/> Mitochondria: Structure, oxidative phosphorylation</li> <li><input type="checkbox"/> Peroxisome and ribosome: structure and function</li> </ul>	6T	6P
III	<b>Nucleus and Chromatin Structure</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Structure and function of nucleus in eukaryotes</li> <li><input type="checkbox"/> Chemical structure and base composition of DNA and RNA</li> <li><input type="checkbox"/> DNA supercoiling, chromatin organization, structure of chromosomes</li> <li><input type="checkbox"/> Types of DNA and RNA</li> </ul>	6T	6P
IV	<b>Cell cycle, Cell Division and Cell Signalling</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Cell division: mitosis and meiosis</li> </ul>	6T	6P

	<ul style="list-style-type: none"> <li><input type="checkbox"/> Cell cycle and its regulation, apoptosis</li> <li><input type="checkbox"/> Signal transduction: intracellular signaling and cell surface receptors, via G-protein linked receptors, JAK-STAT pathway</li> </ul>		
V	<p><b>Mendelism and Sex Determination</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Basic principles of heredity: Mendel's laws, monohybrid and dihybrid crosses</li> <li><input type="checkbox"/> Complete and Incomplete Dominance</li> <li><input type="checkbox"/> Penetrance and expressivity</li> <li><input type="checkbox"/> Genic Sex-Determining Systems, Environmental Sex Determination, Sex Determination in <i>Drosophila</i>, Sex Determination in Humans</li> <li><input type="checkbox"/> Sex-linked characteristics and Dosage compensation</li> </ul>	5T	4P
VI	<p><b>Extensions of Mendelism, Genes and Environment</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Extensions of Mendelism: Multiple Alleles, Gene Interaction</li> <li><input type="checkbox"/> The Interaction Between Sex and Heredity: Sex-Influenced and Sex-Limited Characteristics</li> <li><input type="checkbox"/> Cytoplasmic Inheritance, Genetic Maternal Effects</li> <li><input type="checkbox"/> Genomic Imprinting, Anticipation</li> <li><input type="checkbox"/> Interaction Between Genes and Environment: Environmental Effects on Gene Expression, Inheritance of Continuous Characteristics</li> </ul>	6T	6P
VII	<p><b>Human Chromosomes and Patterns of Inheritance</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Human karyotype</li> <li><input type="checkbox"/> Chromosomal anomalies: Structural and numerical aberrations with examples</li> <li><input type="checkbox"/> Pedigree analysis</li> <li><input type="checkbox"/> Patterns of inheritance: autosomal dominant, autosomal recessive, X-linked recessive, X-linked dominant</li> </ul>	6T	6P
VIII	<p><b>Infectious Diseases</b></p> <ul style="list-style-type: none"> <li>• Introduction to pathogenic organisms: viruses, bacteria, fungi, protozoa, and worms.</li> <li>• Structure, life cycle, pathogenicity, including diseases, causes, symptoms and control of common parasites: <i>Trypanosoma</i>, <i>Giardia</i> and <i>Wuchereria</i></li> </ul>	6T	6P

**Suggested Reading:**

1. Lodish et al: Molecular Cell Biology: Freeman & Co, USA (2004).
2. Alberts et al: Molecular Biology of the Cell: Garland (2002).
3. Cooper: Cell: A Molecular Approach: ASM Press (2000).
4. Karp: Cell and Molecular Biology: Wiley (2002). Pierce B. Genetics. Freeman (2004).
5. Lewin B. Genes VIII. Pearson (2004).
6. Watson et al. Molecular Biology of the Gene. Pearson (2004).
7. Thomas J. Kindt, Richard A. Goldsby, Barbara A. Osborne, Janis Kuby Kuby Immunology. W H Freeman (2007).
8. Delves Peter J., Martin Seamus J., Burton Dennis R., Roitt Ivan M. Roitt's Essential Immunology, 13th Edition. Wiley Blackwell (2017).

9. Shetty Nandini Immunology Introductory Textbook. New Age International. (2005)

**Suggested Online Link:** As suggested by College or University.

**Suggested equivalent online courses:**

Swayam, Coursera

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	<b>5</b>
Quiz	<b>5</b>
Seminar/Assignment	<b>5</b>
Minor field work/excursion/lab visit/technology dissemination etc.	<b>5</b>
Attendance/ Presentation	<b>5</b>

**Course prerequisites:** To study this course, a student must have had the subject biology in class/12<sup>th</sup>

## 9. CELL BIOLOGY & CYTOGENETICS LAB

### Course Outcomes:

At the completion of the course students will learn hands-on:

1. To use simple and compound microscopes.
2. To prepare slides and stain them to see the cell organelles.
3. To be familiar with the basic principle of life, how a cell divides leading to the growth of an organism and also reproduces to form new organisms.
4. The chromosomal aberrations by preparing karyotypes.
5. How chromosomal aberrations are inherited in humans by pedigree analysis in families.

The antigen-antibody reaction.

**Max. Marks: 100**

**Credits: 03**

**Min. Passing Marks: 40**

**Total No. of Lectures-Tutorials-Practical (in hours per week): 03**

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	<ol style="list-style-type: none"> <li>1. To study different cell types such as buccal epithelial cells, neurons, striated muscle cells using Methylene blue.</li> <li>2. To study the different stages of Mitosis in root tip of onion.</li> <li>3. To study the different stages of Meiosis in grasshopper testis.</li> <li>4. To prepare molecular models of nucleotides, amino acids, dipeptides using bead and stick method.</li> <li>5. To check the permeability of cells using salt solution of different concentrations.</li> </ol>	6	5
II	<ol style="list-style-type: none"> <li>1. Study of parasites (eg. Protozoans, helminths <i>etc.</i>) from permanent slides.</li> <li>2. To learn the procedures for preparation of temporary and permanent stained/unstained slides.</li> </ol>	6	5
III	<ol style="list-style-type: none"> <li>1. Study of mutant phenotypes of <i>Drosophila</i>.</li> <li>2. Preparation of polytene chromosomes.</li> <li>3. Study of sex chromatin (Barr bodies) in buccal smear and hair bud cells (Human).</li> <li>4. Preparation of human karyotype and study the chromosomal aberrations with respect to number, translocation, deletion <i>etc.</i> from the pictures provided.</li> <li>5. To prepare family pedigrees.</li> </ol>	6	6
IV	<b>Virtual Labs (Suggestive sites)</b> <a href="https://www.vlab.co.in">https://www.vlab.co.in</a> <a href="https://zoologysan.blogspot.com">https://zoologysan.blogspot.com</a> <a href="http://www.vlab.iitb.ac.in/vlab">www.vlab.iitb.ac.in/vlab</a> <a href="http://www.onlinelabs.in">www.onlinelabs.in</a> <a href="http://www.powershow.com">www.powershow.com</a> <a href="https://vlab.amrita.edu">https://vlab.amrita.edu</a> <a href="https://sites.dartmouth.edu">https://sites.dartmouth.edu</a>	6	5

**Suggested Reading:**

1. Lodish et al: Molecular Cell Biology: Freeman & Co, USA (2004).
2. Alberts et al: Molecular Biology of the Cell: Garland (2002).
3. Cooper: Cell: A Molecular Approach: ASM Press (2000).
4. Karp: Cell and Molecular Biology: Wiley (2002). Pierce B. Genetics. Freeman (2004).
5. Thomas J. Kindt, Richard A. Goldsby, Barbara A. Osborne, Janis KubyKuby Immunology. W HFreeman (2007).
6. Kesar, Saroj and Vashishta N. (2007). Experimental Physiology: Comprehensive Manual. HeritagePublishers, New Delhi

**Suggested Online Link:** As suggested by College or University.

**Suggested equivalent online courses:**

Swayam, Coursera

**Suggested Continuous Evaluation (25 Marks):**

<b>Internal Assessment</b>	<b>Marks</b>
Class Interaction	<b>5</b>
Quiz	<b>5</b>
Seminar/Assignment	<b>5</b>
Minor field work/excursion/lab visit/technology dissemination etc.	<b>5</b>
Attendance/ Presentation	<b>5</b>

**Course prerequisites:** To study this course, a student must have had the subject biology in class/12<sup>th</sup>

The eligibility for this paper is 10+2 from Arts/ Commerce/ Science

## 10. BIOCHEMISTRY AND PHYSIOLOGY

### Course Outcomes:

The student at the completion of the course will learn:

- To develop a deep understanding of structure of biomolecules like proteins, lipids and carbohydrates
- How simple molecules together form complex macromolecules.
- To understand the thermodynamics of enzyme catalyzed reactions.
- Mechanisms of energy production at cellular and molecular levels.
- To understand systems biology and various functional components of an organism.
- To explore the complex network of these functional components.
- To comprehend the regulatory mechanisms for maintenance of function in the body.

**Max. Marks: 100**

**Credits: 03**

**Min. Passing Marks:40**

**Total No. of Lectures-Tutorials-Practical (in hours per week): 03**

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	<b>Structure and Function of Biomolecules</b> <ul style="list-style-type: none"> <li>□ Structure and Biological importance of carbohydrates (Monosaccharides, Disaccharides, Polysaccharides and Glycoconjugates)</li> <li>□ Lipids (saturated and unsaturated fatty acids, Triacylglycerols, Phospholipids, Glycolipids, Steroids)</li> <li>□ Structure, Classification and General properties of <math>\alpha</math>-amino acids; Essential and non-essential <math>\alpha</math>-amino acids, Levels of organization in proteins; Simple and conjugate proteins.</li> </ul>	4	2
II	<b>Enzyme Action and Regulation</b> <ul style="list-style-type: none"> <li>• Nomenclature and classification of enzymes; Cofactors; Specificity of enzyme action</li> <li>• Isozymes; Mechanism of enzyme action</li> <li>• Enzyme kinetics; Factors affecting rate of enzyme-catalyzed reactions; Derivation of Michaelis-Menten equation, Concept of <math>K_m</math> and <math>V_{max}</math>, Lineweaver-Burk plot; Enzyme inhibition;</li> <li>• Allosteric enzymes and their kinetics; Regulation of enzyme action</li> </ul>	4	2
III	<b>Metabolism of Carbohydrates and Lipids</b> <ul style="list-style-type: none"> <li>• Metabolism of Carbohydrates: glycolysis, citric acid cycle, gluconeogenesis, phosphate pentose pathway</li> <li>• Glycogenolysis and Glycogenesis</li> <li>□ Lipids --- Biosynthesis of palmitic acid; Ketogenesis,</li> <li>□ <math>\beta</math>-oxidation and <math>\omega</math>-oxidation of saturated fatty acids with even and odd number of carbon atoms</li> </ul>	3	2

IV	<b>Metabolism of Proteins and Nucleotides</b> <ul style="list-style-type: none"> <li>• Catabolism of amino acids: Transamination, Deamination, Urea cycle</li> <li>• Nucleotides and vitamins</li> <li>• Review of mitochondrial respiratory chain, Oxidative phosphorylation, and its regulation</li> </ul>	3	2
V	<b>Digestion and Respiration</b> <ul style="list-style-type: none"> <li>□ Structural organization and functions of gastrointestinal tract and associated glands</li> <li>□ Mechanical and chemical digestion of food; Absorptions of carbohydrates, lipids, proteins, water, minerals and vitamins; Histology of trachea and lung</li> <li>□ Mechanism of respiration, Pulmonary ventilation; Respiratory volumes and capacities; Transport of oxygen and carbon dioxide in blood Respiratory pigments, Dissociation curves and the factors influencing it; Control of respiration</li> </ul>	3	2
VI	<b>Circulation and Excretion</b> <ul style="list-style-type: none"> <li>□ Components of blood and their functions</li> <li>□ Haemostasis: Blood clotting system, Blood groups: Rh factor, ABO and MN</li> <li>□ Structure of mammalian heart</li> <li>□ Cardiac cycle; Cardiac output and its regulation, Electrocardiogram, Blood pressure and its regulation</li> <li>□ Structure of kidney and its functional unit; Mechanism of urine formation</li> </ul>	4	2
VII	<b>Nervous System and Endocrinology</b> <ul style="list-style-type: none"> <li>□ Structure of neuron, resting membrane potential</li> <li>□ Origin of action potential and its propagation across the myelinated and unmyelinated nerve fibers</li> <li>□ Types of synapse</li> <li>□ Endocrine glands - pineal, pituitary, thyroid, parathyroid, pancreas, adrenal; hormones secreted by them</li> <li>□ Classification of hormones; Mechanism of Hormone action</li> </ul>	4	2
VIII	<b>Muscular System</b>  Histology of different types of muscle; Ultra structure of skeletal muscle; Molecular and chemical basis of muscle contraction; Characteristics of muscle twitch; Motor unit, summation and tetanus	4	2

**Suggested Reading:**

1. Nelson & Cox: Lehninger's Principles of Biochemistry: McMillan (2000)
2. Zubay *et al*: Principles of Biochemistry: WCB (1995)

3. Voet&Voet: Biochemistry Vols 1 & 2: Wiley (2004)
4. Murray *et al*: Harper's Illustrated Biochemistry: McGraw Hill (2003) Elliott and Elliott:
5. Biochemistry and Molecular Biology: Oxford University Press
6. Guyton, A.C. & Hall, J.E. Textbook of Medical Physiology. XI Edition. Hercourt Asia PTE Ltd. /W.B.Saunders Company. (2006).
7. Tortora, G.J. & Grabowski, S. Principles of Anatomy & Physiology. XI Edition John Wiley & sons(2006).
8. Christopher D. Moyes, Patricia M. Schulte. Principles of Animal Physiology. 3rd Edition, Pearson Education (2016).
9. Hill, Richard W., et al. Animal physiology. Vol. 2. Sunderland, MA: Sinauer Associates, (2004).
10. Chatterjee C C Human Physiology Volume 1 & 2. 11th edition. CBS Publishers(2016).

**Suggested Online Link:** As suggested by College or University.

**Suggested equivalent online courses:**

Swayam, Coursera

**Suggested Continuous Evaluation (25 Marks):**

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

**Course prerequisites:** To study this course, a student must have had the subject biology in class/12<sup>th</sup>

### 11. FOOD AND FOOD SOURCES

**Course Outcomes:**

The student at the completion of the course will be able to:

- To understand the history, relevance of food basics.
- To learn and understand the food and its functions.
- To understand the food from plant sources.
- To gain knowledge by processing of food from various plant sources.
- To understand the food from animal sources.
- To understand the milk and its products.
- To learn and understand the types of food.
- To enable the students to get sufficient knowledge about food industry.

**Max. Marks:** 100

**Min. Passing Marks:**40

**Total No. of Lectures-Tutorials-Practical (in hours per week):** 03

<b>Unit</b>	<b>Topic</b>	<b>No. of Lectures (Theory+ Practical)</b>
I	<b>Introduction</b> Food basics, food groups, food chain, food texture, food intake and its regulation	4T+2P
II	<b>food and its functions</b> Food and its functions as physiological, body buildings, psychological and social functions, food pattern, food consummation trends, population growth and food production.	4T+2P
III	<b>Food from plant sources</b> Food from plant sources, food grains, cereals and cereal products, composition of cereals, pulses and their nutritional value,	3T+2P
IV	<b>Processing of plant sources</b> Processing of pulses, nuts and oilseeds, processing of Oilseeds, other horticulture crops, post-harvest processing of food crops.	3T+2P
V	<b>Food from animal sources</b> Food from animal sources, meat and meat products, live stocks poultry and meat production, wholesome of meat production, processed meats, egg and egg Products	3T+2P
VI	<b>Milk and milk products</b> Milk and milk products, dairy byproducts, fish and fishery products.	3T+2P
VII	<b>Types of foods</b> Organic foods, genetically modified food, energy drinks, stimulating drinks, carbonated non-alcoholic beverages/soft drinks, comfort foods, infants foods, nutraceuticals, ayurvedic medicinal foods, food taboos.	4T+2P
VII	<b>Food industry</b> Food industry, components and characteristics of the food industry, allied industries, international activities of food industry, processing and value addition, food trade, national food processing policy, food safety.	4T+2P

**Suggested Readings:**

- 1 Nelson D and Cox MM., Lehninger's Principles of Biochemistry. W.H. Freeman and Company.
- 2 Voet D and Voet JG., Principles of Biochemistry. John Wiley and sons New York.
- 3 Stryer. L. Biochemistry. W. H. Freeman and Co.
- 4 Willey J, Sherwood L. and Woolverton C. Prescott's Microbiology.
- 5 U. Satyanarayan Biochemistry, Elsevier
- 6 Andrew Proctor Alternatives to conventional food processing, RSC pub.
- 7 Frazer WC and Westhoff DC. Food Microbiology. Mcgraw Hill, New York.
- 8 B.D. Singh. Biotechnology, Kalyani Publication.
- 9 Srilakshmi B Food Science, New Age Publication.