OE (1) Biochemistry Syllabus for All Programs (Except Science)

Semester-I

Course Code :21OEBIC101	
Course Title:	**Biochemistry in Health and Disease**
Total Course credits (L:T:P) (3:0:0)	**03**
Total contact hours	**42**
Hours of teaching /week	**03**
Formative assessment marks	**40**
Semester End Assessment marks	**60**
Exam duration	**2 ½ Hrs**

COURSE OUTCOMES (COs):

- **CO1:** Gain knowledge about health, dimensions of health and various terminologies used in health and disease conditions. Classify diseases and suggest measures for general health care.
- **CO2:**Illustrate symptoms, diagnosis, treatment and preventive measures associated with different types of diseases and disorders
- **CO3:** Identify, assess, and implement personal wellness behaviors and individual health promotion strategies and illustrate the nature of infection and their defensive mechanisms.

Course Content : OE(1)- Biochemistry in Health and Disease	**42hr**
Unit 1: Introduction:	**14hr**
• WHO definition of health, Health and hygiene, General health care. Factors affecting health, Indicators of health and evaluation of health. Classification of diseases - Endemic, Epidemic, Pandemic; Professional health hazards. • **Disease conditions:** Acute disease, chronic disease, Incurable disease, Terminal disease, Illness, disorders, Syndrome, Pre-disease. • **Treatmen**t: Psychotherapy, Medications, Surgery, Medical devices, and Self-care. • **Dimensions of Health**: Physical, Mental, Spiritual, Emotional, Environmental, and Philosophical.	
Unit 2: Diseases and Disorders	**14 hr**
• **Bacterial diseases:** Tuberculosis, Cholera, Typhoid, conjunctivitis. • **Sexually transmitted diseases (STD):** Syphilis and AIDS - Information, treatment guidelines and Prevention. • **Non-communicable diseases:** Malnutrition - Under nutrition, Over nutrition, Nutritional deficiencies - Anemia, Stroke, heart diseases, Cancer, mental illness, Iodine deficiency, Epilepsy, Asthma. (Causative agents/Causes, symptoms, diagnosis, treatment, prognosis, prevention) • **Genetic disorders:** Down's syndrome &Sickle cell anemia. • **Lifestyle disorders:** Obesity, Liver cirrhosis, Diabetes mellitus, Hypertension (Causes, effects, prevention and treatment)	
Unit 3: Health Promotions:	**14 hr**
• Preventing drug abuse, Oral health promotion by tobacco control. • Mental hygiene and mental health: Concepts of mental hygiene and mental health,	

Characteristics of mentally healthy person, Warning signs of poor mental health, promotive mental health strategies and services, Ego defense mechanisms and implications, Personal and social adjustments, Guidance and Counseling.

- Infection control: Nature of infection, Chain of infection transmission, Defenses against infection transmission

References

1. Modern Nutrition in Health and Disease 2006 10th Edition by Maurice E. Shils, Moshe Shike, A Catharine Ross.
2. Clinical Biochemistry and Metabolic Medicine, 2012 Eighth Edition by Martin Andrew Crook, CRC Press,
3. Nutrition & Health in Developing Countries, 2000, Editors: R. Semba and M.W. Bloem, Humana Press

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https://www.healthline.com
https://www.medicalnewstoday.com
https://www.med-health.net/Lifestyle-Diseases.html
https://www.ncbi.nlm.nih.gov/books/NBK7627/
https://www.journals.elsevier.com/international-journal-of-medical-microbiology

COURSE ARTICULATION MATRIX: OE(1)-21OEBIC101

PO / CO	Program Outcomes											
	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**
CO1	2	2	3	1	1	1	1	1	1	2	-	2
CO2	2	2	3	1	1	1	1	1	1	2	1	2
CO3	2	2	3	1	1	1	1	1	1	2	1	2
Weighted Average	**2**	**2**	**3**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**1**	**2**

OE (2) Biochemistry Syllabus for All Programs (Except Science)

Semester-II

Course Code : 21OEBIC201	
Course Title:	**Nutrition and Dietetics**
Total Course credits (L:T:P) (3:0:0)	**03**
Total contact hours	**42**
Hours of teaching/week	**03**
Formative assessment marks	**40**
Semester End Assessment marks	**60**
Exam duration	**2 ½ Hrs**

COURSE OUTCOMES (COs):

- **CO1:** Acquire the knowledge on the basic principles of balance diet in providing energy requirements, Recommended Dietary Allowances and factors influencing BMR.
- **CO2:** Gain competence in connecting the role of various nutrients in maintaining health and ability to describe the functions and role of macronutrients and micronutrients, their requirements and the effect of deficiency and excess.
- **CO3:** Apply basic nutrition knowledge in diet planning and diet considerations in disease conditions and the impact of various functional foods on our health.

Course Content : OE (2)- Nutrition and Dietetics	**42 hr**
Unit 1: Basic Concepts of Nutrition:	**14 hr**
• Introduction, Basic principles of a balanced diet to provide energy and nutrients. Composition of foods and proximate analysis of foods. Calorific value of foods and Basal metabolism. Basal Metabolic Rate (BMR), Factors affecting BMR, Energy requirements for different physical activities, Specific dynamic action of food, Nutritive value of proteins. Energy requirements and recommended dietary allowance (RDA) for infants, children and pregnant women. Protein calorie malnutrition.	
Unit 2: Macronutrients and Micronutrients:	**14 hr**
• Carbohydrates- Digestible and non-digestible, Dietary fibers, Essential fatty acids, lipoproteins and cholesterol. • Essential amino acids, Fortification of foods, Protein requirement for different categories. • Vitamins-Sources, requirements, functions and deficiency symptoms of Vitamin-C, Thiamine, Riboflavin, Pyridoxine, Folic acid, Vitamin B12. Absorption of fat-soluble vitamins- A, D, E and K. • Micronutrients: Source, Daily requirement, functions and deficiency disease symptoms of Macro-minerals (Ca, P, and Cl) and micro minerals/trace elements (I, Fe, Zn and Se).	
Unit 3: Dietetics and Diet Therapy:	**14 hr**
• Introduction, Food pyramid, Diet planning and introduction to diet therapy. Nutritional requirements for different age groups, anemic child, expectant women, and lactating women.	

Diet planning for prevention and cure of nutritional deficiency disorders.

- Diet therapy: Functional foods, Anthropometric measurements, dietary considerations during fever, malaria, and tuberculosis. Prevention and correction of obesity, underweight, and metabolic diseases by diet therapy. Dietary interventions to correct and or manage the gastrointestinal diseases (indigestion, peptic ulcer, constipation, diarrhea, steatorrhea, irritable bowel syndrome.
- Functional foods-based diet therapy for diabetes, cardiovascular disease and cancer.

References:

1. Clinical Dietetics and Nutrition, 2002, Antia FP and Abraham P. Oxford University Press; 4th Edition. ISBN-10: 9780195664157.
2. Oxford Handbook of Nutrition and Dietetics, 2011, Webster-Gandy J, Madden A and Holds worth M. Oxford University Press, Print ISBN-13: 9780199585823.
3. Krause's Food, Nutrition and Diet therapy, 2003, Mahan KL and Escott-Stump S. Elsevier, ISBN: 9780721697840.
4. Human Nutrition and Dietitics. 1986, Passmore R. and Davidson S. Churchill Livingstone Publications, ISBN-10: 0443024863.
5. Rosemary Stanton's Complete Book of Food & Nutrition, 2007, Simon & Schuster Publishers, Australia, ISBN 10: 0731812999
6. Food Science and Nutrition, 2018, Roday S. Oxford University Press Publishers, ISBN: 9780199489084/0199489084.
7. Food Science, 2007, Srilakshmi S. New Age International (P) Limited Publishers, ISBN: 9788122420227/ 8122420222.

https://www.livestrong.com
https://www.mayoclinic.org
https://www.medicalnewstoday.com
https://www.med-health.net/Lifestyle-Diseases.html

COURSE ARTICULATION MATRIX: OE (2) - 21OEBIC201

PO / CO	Program Outcomes											
	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**
CO1	3	2	2	1	1	1	1	1	1	2	-	2
CO2	3	2	2	1	1	1	1	1	1	2	1	2
CO3	3	2	2	1	1	1	1	1	1	2	1	2
Weighted average	**3**	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**1**	**2**

OE (1) Biotechnology syllabus for All Programs (Except Science)

Semester 1

***Course code: 21OEBIT101**	**Course Title: Biotechnology for human welfare**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week: 3 hrs** (Theory)
Total Contact Hours: 42 Hours (Theory)	**Formative Assessment Marks:** 40 (Theory)
Exam Duration: 2.5 Hours (Theory)	**Semester End Examination Marks:** 60 (Theory)

Course Outcomes:

After successful completion of this Course, students will be able to:

1. Comprehend the biotechnological applications in the industry, environmental management and forensic science.

2. Appreciate contributions of biotechnology to biomedical fields, such as diagnostics, genomics and therapeutics.

3. Describe the applications of Biotechnology in solving major environmental issues related to non-biodegradable materials and production of eco-friendly products as an alternative solution.

Contents	Hours
Unit 1	
Industry: Introduction, Scope, branches and applications of Biotechnology. Biotechnology in industry: Industrial production of alcoholic beverage (wine), antibiotic (Penicillin), enzyme (lipase). Applications of biotechnology in food, detergent and pharmaceutical industries	**14**
Unit II	
Environment: Application of biotechnology in environmental aspects. Bioremediation: Degradation organic pollutants, hydrocarbons andagricultural wastes, superbug. Bioplastics and Biofuels.	**14**
Unit III	
Forensic science and health science: Application of biotechnology in forensic science. Solving crimes of murder and rape, paternity testing and theft using DNA finger printing techniques. **Application of biotechnology in health**: Genetically engineered insulin, recombinant vaccines, gene therapy, diagnostics-ELISA and PCR, human genome project.	**14**

References

1. Crueger W and Crueger A. (2000). Biotechnology: A textbook of Industrial Microbiology.2nd edition. Panima Publishing Co. New Delhi.
2. Patel AH. (1996). Industrial Microbiology. 1st edition, Macmillan India Limited.

3. Stanbury PF, Whitaker A and Hall SJ. (2006). Principles of Fermentation Technology. 2nd edition, Elsevier Science Ltd.
4. Environmental Biotechnology, Pradipta Kumar Mohapatra
5. Environmental Biotechnology – Concepts and Applications, Hans-Joachim Jordening and Jesef Winter
6. B.B. Nanda and R.K. Tiwari, Forensic Science in India: A Vision for the Twenty 1st First Century, Select Publishers, New Delhi (2001).
7. M.K. Bhasin and S. Nath, Role of Forensic Science in the New Millennium, University of Delhi, Delhi (2002).
8. S.H. James and J.J. Nordby, Forensic Science: An Introduction to Scientific and Investigative Techniques, 2nd Edition, CRC Press, Boca Raton (2005).
9. W.G. Eckert and R.K. Wright in Introduction to Forensic Sciences, 2nd Edition, W.G.Eckert (ED.), CRC Press, Boca Raton (1997).

Web links:

1. https://microbenotes.com/microbial-production-of-penicillin/
2. https://www.news-medical.net/health/Penicillin-Production.aspx
3. https://www.onlinebiologynotes.com/penicillin-production-commercially-by-fermentation-biotechnology/
4. https://courses.lumenlearning.com/boundless-microbiology/chapter/the-microbiology-of-food/#:~:text=Yeasts%20are%20the%20main%20fermentor,to%20alcohol%20and%20carbon%20dioxide.
5. https://www.britannica.com/topic/wine/Fermentation

Course Articulation Matrix

Course Code: 21OEBIT101

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
CO1	3	-	1	-	3	2	-	3	-	2	-	2
CO2	3	2	1	-	3	2	-	3	-	2	-	2
CO3	3	2	-	-	3	2	3	3	-	2	-	2
Weighted Average	**3**	**2**	**1**	**-**	**3**	**2**	**3**	**3**	**-**	**2**	**-**	**2**

OE (2) Biotechnology Syllabus for All Programs (Except Science)

Semester II

Course code: 21OEBIT201	**Course Title:** Applications of biotechnology in Agriculture
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week: 3 hrs** 03 (Theory)
Total Contact Hours: 42 Hours (Theory)	**Formative Assessment Marks:** 40 (Theory)
Exam Duration: 2.5 Hours (Theory)	**Semester End Examination Marks:** 60 (Theory)

Course Outcomes:

After successful completion of this Course, students will be able to:

1. Appreciate the concepts and scope of plant tissue culture in entrepreneurship and setting up small scale bio enterprises.
2. Interpret the importance, safety and ethical issues associated with GM crops and applications and advantages of Bio pesticides

3. Comprehend production of edible vaccines, Nutraceuticals, antisense technology and bioethical issues.

Contents	**Hours**
Unit 1	
Agricultural Biotechnology Concepts and scope of biotechnology in Agriculture. Plant tissue culture, micro propagation, entrepreneurship in commercial plant tissue culture. Banana tissue culture - primary and secondary commercial setups, Small scale bioenterprises: Mushroom cultivation	**14**
Unit II	
Transgenic plants The GM crop debate – safety, ethics, perception and acceptance of GM crops GM crops case study :Bt cotton, Btbrinjal Biopesticides: Baculovirus pesticides, Mycopesticides Genetic Engineering for quality improvement: Golden rice, Seed storage proteins, Flavours– capsaicin, vanillin	**14**
Unit III	
Molecular pharming and post harvest protection Plants as biofactories for molecular pharming: edible vaccines, plantibodies, nutraceuticals Post-harvest Protection: Antisense RNA technology for extending shelf life of fruits and shelf life of flowers. Biosafety, bioethics and IPR	**14**

References

1. Chrispeels M.J.et al. Plants, Genes and Agriculture-Jones and Bartlett Publishers, Boston.1994.

2. Gamborg O.L. and Philips G.C.Plant cell, tissue and organ culture (2nd Ed.) Narosa Publishing House. New Delhi.1998

3. Hammound J, P McGravey&Yusibov.V. Plant Biotechnology, Springer verlag.2000

4. Heldt. Plant Biochemistry and Molecular Biology.Oxford and IBH Publishing Co. Pvt.Ltd. Delhi. 1997

5. LydianeKyte and John Kleyn.Plants from test tubes. An introduction to

6. Micropropagation (3 rd. Ed.). Timber Press, Portland. 1996

7. Murray D.R. Advanced methods in plant breeding and biotechnology.Panima Publishing Corporation.1996

8. NickoloffJ.A.Methods in molecular biology, Plant cell electroporation and electrofusion protocols-Humana press incorp, USA. 1995.

9. Sawahel W.A. Plant genetic transformation technology.Daya Publishing House, Delhi.1997

10. Gistou, P and Klu, H.Hand book of Plant Biotechnology (Vol. I & II).John Publication.2004

11. Sateesh M.K. 2008. Biosafety and Bioethics. Oxford and IBH Publishers, New Delhi.

WEB LINKS

1. https://www.fda.gov/food/consumers/agricultural-biotechnology
2. https://dbtindia.gov.in/schemes-programmes/research-development/agriculture-animal-allied-sciences/agriculture-biotechnology
3. https://www.isaaa.org/resources/publications/pocketk/26/default.asp
4. https://www.frontiersin.org/articles/10.3389/fpls.2018.01893/full

Course Articulation Matrix: 212260
Course code: 21OEBIT201

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
CO1	3	1	-	1	2	2	2	1	-	2	3	2
CO2	3	1	-	1	2	2	3	3	-	2	1	2
CO3	3	1	-	1	2	2	3	3	-	2	1	2
Weighted Average	**3**	**1**	**-**	**1**	**2**	**2**	**3**	**2.6**	**-**	**2**	**1.6**	**2**

OE (1) Syllabus for BBA

Semester - I

Course Code: 21OEBBA101	Course Title: Business Organization
Course Credit (L:T:P): 3(3:0:0)	Teaching Hours/Week:3
Total Contact Hours:45	Formative Assessment Marks: 40
Duration of Exam: 2 ½ Hours	Semester End Examination Marks: 60

Pedagogy: Classroomslecture,tutorials,Groupdiscussion,Seminar,Casestudies&field worketc.,

Course Outcomes: On successful completion of the course, the Students will:

CO1: Acquire the knowledge on the nature, objectives and social responsibilities of business

CO2: Exemplify the different forms of organizations

CO3: Appraise the features and functions of public enterprises

CO4: Identify and compare different types of business combinations

CO5: Illustrate the basic concepts and functions of management

Syllabus:	**Hours**
Module No.1: INTRODUCTIONTOBUSINESS	**10**
Business: Meaning, Nature**,** Scope and Social responsibility of Business, Objectives, Essentials of successful business; Functionl areas of business. Concept of Business Organisation.	
Module No.2:FORMSOFBUSINESSORGANIZATION:	**12**
Sole proprietorship: Definitions, Features, Merits and Demerits. Partnership: Definitions, partnership deed, Features, Merits and Demerits. Joint Stock Company: Definitions, Features, Merits and Demerits. Co-operatives: Definitions, Features, Merits and Demerits.	
Module No. 3:PUBLICENTERPRISES	**08**
Departmental Undertaking: Definitions, Features, Merits and Demerits. Public Corporations: Definitions, Features, Merits and Demerits. Government Companies: Definitions, Features, Merits and Demerits	
Module No. 4:BUSINESS COMBINATIONS	**08**
Meaning Definitions, Causes, Types, Forms, merits and demerits of Business Combinations, Recent Trends in Business Combinations.	
ModuleNo5: **MANAGEMENTOFORGANIZATIONS**	**07**
Management- Meaning, Definitions, Difference between Management and Administration, Levels of Management, Objectives of Management, Functions of management-planning,organizing,staffing,directing,coordinating,controlling,Principlesof Management.	

Skill Developments Activities:

1. Preparation of partnership deed
2. Draw a business tree
3. Make a list of 10 PSUs
4. Prepare a list of different types of business combinations

Text Books:

1. CB.Guptha-BusinessOrganisationandManagement,SultanChand&Sons.
2. Dr.S.C.Saxena-BusinessAdministration&Management,SahityaBhawan.
3. M.C.Shukla-BusinessOrganisationandManagement.SChand&CompanyPvt.Ltd.
4. S.ASherlekar-BusinessOrganization,HimalayaPublishingHouse.
5. Y.K.Bhushan.FundamentalsofBusinessOrganisationandManagement,SultanChand&Sons.
6. R.K.Sharma,BusinessOrganisation&ManagementKalyaniPublishers
7. Dr.I.M.Sahai,Dr.PadmakarAsthana,'**BusinessOrganisation&Administration',** SahityaBhawanPublicationsAgra.

Note: Latest edition of text books may be used.

Course Articulation Matrix - 21OEBBA101

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	-	-	-	-	1	-	1	1	-	1	1
CO2	2	-	-	-	-	1	-	1	1	-	1	1
CO3	2	-	-	-	-	1	-	1	1	-	1	1
CO4	2	-	-	-	-	1	-	1	1	-	1	1
CO5	2	-	-	-	-	1	-	1	1	-	1	1
WA	**2**	**-**	**-**	**-**	**-**	**1**	**-**	**1**	**1**	**-**	**1**	**1**

OE (1) Syllabus for BBA
Semester - I

Course Code: 21OEBBA102	Course Title: Office Organisation and Management
Course Credit (L:T:P): 3(3:0:0)	Teaching Hours/Week:3
Total Contact Hours:45	Formative Assessment Marks: 40
Duration of Exam: 2 ½ Hours	Semester End Examination Marks: 60

Pedagogy: Classroomslecture,tutorials,Groupdiscussion,Seminar,Casestudies&field work etc.,

Course Outcomes: On successful completion of the course, the Students will;

CO1: Acquire knowledge with respect to office organization and management
CO2: Apply skills in effective office organisation
CO3: Proficiency to maintain office records
CO4: Maintain digital records effectively
CO5: Analyzedifferenttypesoforganisationstructuresandresponsibilitiesasfuture office managers.

Syllabus:	**Hours**
ModuleNo.1: FUNDAMENTALSOFOFFICEMANAGEMENT	**08**

Introduction: Meaning, importance and functions of modern office
ModernOfficeOrganisation:Meaning;Stepsinofficeorganisation;PrinciplesofOfficeorganisation,Organisationstructuretypes,
Natureofofficeservices:Typesofservicesinamodernoffice,decentralisationandcentralisationofofficeservices,DepartmentationofOffice
Officemanagement:Meaning,ElementsandmajorprocessesofOfficemanagement
Office Manager: Functions and qualifications of Office manager.

Module No. 2: ADMINISTRATIVE ARRANGEMENT AND FACILITIES	**07**

OfficeAccommodationanditsImportance: LocationofOffice,ChoiceofLocation:UrbanvsSuburban,FactorstobeConsideredinSelectingtheSite,SecuringOfficeSpace,
OfficeLay-out:ObjectivesofOfficeLay-out,PrinciplesofOfficeLay-out,StepsinLay-outPlanning,AdvantagesofaGoodLay-out.
Types of offices: Open Office and Private Office- advantages and disadvantages.

Module No. 3: OFFICE ENVIRONMENT:	**10**

Meaning and Components of Office Environment
InteriorDecoration:ColourConditioning,FloorCoverings,Furnishings,
FurnitureandFixtures: TypesofFurniture,ChoicebetweenWoodenandSteelFurniture,PrinciplesGoverningSelectionofFurniture
Lighting and Ventilation,
Noise: Internal Noise, External Noise
Cleanliness, Sanitation and Health Safety and Security

ModuleNo.4: RECORDS MANAGEMENT	**10**

Introductiontorecords:ImportanceofRecords,typesofofficerecords,
RecordsManagement: Meaning,PrinciplesofRecordKeeping,Functionsof'RecordsManagement
Filing: ElementsofFilingandFilingFunctions,ObjectivesandImportanceofFiling,
AdvantagesofFiling,EssentialsofaGoodFilingSystem,ClassificationofFiles,FilingProcedureorRoutine. **Filing Methods:** Horizontal Filing -meaning, types and advantages, Vertical Filing-

meaning,equipmentused,advantageanddisadvantages.
CentralisationandDecentralisationofFiling-CentralisedfilingandDecentralisedFiling
Officemanual:contents,Importance,typesofofficemanuals.
Indexing: Meaning, importance, advantages and essentials of good indexing, type of index**Retentionanddisposaloffiles**:Meaningandbenefitsofrecordretention,needfordisposaloffiles,life-cyclestagesoffiles.

ModuleNo.5: OFFICEMECHANISATIONANDDATA PROCESSING	**10**

Meaning,ImportanceandObjectivesofOfficeMechanisation,AdvantagesanddisadvantagesofOfficeMechanisation,FactorsDeterminingOfficeMechanisation
Kinds of Office Machines: Duplicating Machines and Photocopying Machines, Accounting, tabulating and computing machines, communication machines
IntroductiontoDataandInformation: DistinctionbetweenDataandInformation,ImportanceofDataandInformation,ClassificationofData,ClassificationofInformation,Data Lifecycle (chart), **Data Collection Methods-** Primary and secondary data collection methods
Data presentation Methods of Presentation of Data
Data processing using computers: Components of Computers, Input and Output Devices, SoftwareusedinComputers(namesandusesonly),ComputerApplicationsinOffice'Management,AdvantagesandLimitationsofComputerisation

Skill Developments Activities:

1. Visitanofficeandenlistthedifferenttypesofmachinesusedintheoffice
2. Identify the different types of stationery used in offices today
3. Draw a data life cycle chart
4. Draw charts indicating different types of office layouts.

TextBooks:

1. S.PArora,OfficeOrganisationandManagement,VikasPublishingHousePvtLtd
2. M.EThakuramRao,OfficeorganisationandManagement,Atlantic
3. JudithRead,MaryLeaGinn,RecordManagement,10th Edition,CengageLearning.

Note: Latest edition of textbooks may be used.

Articulation Matrix - 21OEBBA102

PO / CO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
CO1	3	2	2	2	2	2	1	2	2	2	2	2
CO2	2	2	2	2	2	2	-	2	2	2	2	2
CO3	2	2	2	2	2	2	-	2	2	2	2	2
CO4	2	2	2	2	3	2	-	2	2	1	2	2
CO5	2	2	2	2	2	3	1	2	2	2	2	2
WA	**2.2**	**2**	**2**	**2**	**2.2**	**2.2**	**1**	**2**	**2**	**1.8**	**2**	**2**

OE (2) Syllabus for BBA Semester - II	
Course Code: 21OEBBA201	Course Title: People Management
Course Credit(L:T:P): 3 (3:0:0)	Teaching Hours/Week:3
Total Contact Hours:45	Formative Assessment Marks: 40
Duration of Exam: 2 ½ Hours	Semester End Examination Marks: 60

Pedagogy: Classroom'slecture,tutorials,Groupdiscussion,Seminar,Casestudies.

Course outcome: On successful completion of the course, student will:

CO1: Examine the difference between People Management with Human resource Management

CO2: Perform the role of manager in different stages of performance management and List modern methods of performance and task assessment.

CO3: Illustrate the importance of peer network and essentials of communication

CO4: Analyze and relate the concept of motivation.

CO5: Examine the importance of self management, stress management and work life balance

Syllabus:	**Hours**
ModuleNo.1: Introduction to People Management	**06**
Diversityinorganisation:age,gender,ethnicity,race,andability.PeopleManagement:Meaning,Features,Significanceofpeoplemanagement,DifferencebetweenPeopleManagement and Human Resource Management, impact of individual and organizational factors on people management.	
ModuleNo.2:GettingWorkDoneandAssessmentandEvaluation	**12**
Getting work done: Challenges of getting workdone, significance of prioritization and assigning work to team members. Performance Management: meaning, role of a manager in the different stages of the performance management process, Types of Performance assessment, Assessment and Evaluation Process of evaluation of tasks in the organisation. Modern tools of assessment and evaluation of tasks and performance.	
ModuleNo.3:BuildingPeerNetworksandEssentialsof Communication	**12**
BuildingPeerNetworks: Understanding the importance of peer networks in an organization; being able to influence those on whom you have no authority; challenges Peer networking and different types of people networking in the workplace. **Essentials of Communication**: Concept of the communication process with reflection onvariousbarrierstoeffectivecommunicationandwaystoovercome,Types of Communication and Channels of Communication.	
ModuleNo.4: Motivation	**08**
Meaning, Importance and need for motivation, team motivation- meaning, importance team motivation, types of Motivators and Modern methods of motivation	

ModuleNo.5: Managing Self	**07**
Reflectiononwhatdoesitmeantobeapeoplemanager;buildingapersonaldevelopment planforoneself,Self-StressManagement:Causesforstress,worklifeBalance,ImportanceofWorklifebalance,FactorsinfluencingWorklifeBalance.	

SkillDevelopmentsActivities:

1. Analysetwocasesonanyoftheabovecontentindicatedabove.
2. Listoutthemoderntoolstoperformanceassessmentandevaluation.
3. Conductasurveyofworklifebalanceofworkingindividuals
4. DraftaCareerdevelopmentofworkingindividualinthemiddlelevelmanagement.

TextBooks:

1. McShane, Steven L. and Mary Ann Von Glinow, Organizational Behavior: EmergingKnowledge and Practice for the Real World. McGraw-Hill, latest edition, ISBN: 0-07-115113-3.
2. Bernardin, H. John and Joyce E. A. Russell. Human Resource Management: AnExperientialApproach.McGraw-Hill,6/e.ISBN:0078029163
3. Argyris, C. (1974). Personality vs. Organization. Organizational Dynamics. Vol. 3. No.2,Autumn.
4. Blume, B. Baldwin, T. and Ryan, K. (2013). Communication Apprehension. A barriertostudentsleadership,adaptabilityandmulticulturalappreciation.AcademyofManagementLearning &Education,Jun,Vol.12Issue2,p158-172.
5. Colquitt, J.A., LePine, J.A., & Wesson, M.J. (2009) Organizational Behavior: ImprovingPerformance and Commitment in the Workplace (International edition). New York:McGraw-Hill.
6. Goleman,D.(1998).WorkingwithEmotionalIntelligence.BantamBooks,

Note: Latest edition of textbooks may be used.

Course Articulation Matrix - 21OEBBA201

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
CO1	2	1	-	-	-	1	-	-	1	1	-	1
CO2	2		1	-	-	1	-	-	1	1	-	1
CO3	2		1	-	-	1	-	-	1	1	-	1
CO4	2	1	1	-	-	1	-	-	1	1	-	1
CO5	2		1	-	-	1	-	-	1	1	-	1
WA	**2**	**1**	**1**	**-**	**-**	**1**	**-**	**-**	**1**	**1**	**-**	**1**

OE (2) Syllabus for BBA Semester - II	
Course Code: 21OEBBA202	Course Title: Retail Management
Course Credit (L:T:P): 3(3:0:0)	Teaching Hours/Week:3
Total Contact Hours:45	Formative Assessment Marks: 40
Duration of Exam: 2 ½ Hours	Semester End Examination Marks: 60

Pedagogy: Classroom'slecture,tutorials,Groupdiscussion,Seminar,Casestudies.

Course Outcomes: On successful completion Student will;

Co1: Acquire knowledge on the types and forms of Retail business.

CO2: Review Consumer Behavior in various environment.

CO3: Understand various Retail operations and evaluate them.

CO4: Analyze various marketing mix elements in retail operations.

CO5: Equip with the applications of Information Technology in retail business.

Syllabus:	**Hours**
ModuleNo.1: INTRODUCTIONTORETAILBUSINESS	**08**
Definition–functionsofretailing-typesofretailing–formsofretailbusinessownership.Retailtheories–WheelofRetailing–Retaillifecycle.RetailbusinessinIndia:Influencing factors–present Indian retail scenario.	
ModuleNo.2: CONSUMERBEHAVIOURINRETAILBUSINESS	**08**
Buyingdecisionprocessanditsimplicationonretailing–Influenceofgroupandindividual factors,Customershoppingbehaviour,Customerserviceandcustomersatisfaction.	
ModuleNo.3: RETAILOPERATIONS	**08**
FactorsinfluencinglocationofStore-Marketareaanalysis–Tradeareaanalysis–RatingPlanmethod-Siteevaluation.RetailOperations: Stores Layout and visual merchandising, Stores designing, Space planning, Inventory management, Merchandise Management, Category Management.	
ModuleNo.4: RETAILMARKETINGMIX	**14**
Introduction -Product: Decisions related to selection of goods (Merchandise Managementrevisited)–Decisionsrelatedtodeliveryofservice.Pricing:Influencingfactors–approaches to pricing – price sensitivity - Value pricing – Markdown pricing. Place : Supplychannel–SCMprinciples–Retaillogistics–computerizedreplenishmentsystem–corporate replenishment policies. Promotion: Setting objectives – communication effects - promotionalmix.	
ModuleNo.5: INFORMATIONTECHNOLOGYINRETAILING	**07**
Non store retailing (e-retailing) - The impact of Information Technology in retailing – Integrated systems and networking–EDI– Bar coding– Electronic article surveillance– Electronic shelf labels –customer database management system.	

Skill Developments Activities:

1. Draw a retail life cycle chart and list the stages
2. Draw a chart showing a store operations
3. List out the major functions of as to re manager diagrammatically
4. List out the current trend sine-retailing
5. List out the Factors Influencing in the location of a New Retail outlet

TextBooks:

1. SujaNair;RetailManagement,HPH
2. Karthic–RetailManagement,HPH
3. S.K.Poddar&others–RetailManagement,VBH.
4. R.STiwari;RetailManagement,HPH

Note:Latesteditionoftextbooksmaybeused.

Course Articulation Matrix - 21OEBBA202

	PO1	PO2	P03	P04	P05	P06	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	--	1	--	1	2	1	2	2	2
CO2	1	2	1	--	1	--	1	1	1	2	2	1
CO3	1	3	2	--	1	--	2	1	1	2	2	2
CO4	1	3	2	--	1	--	2	1	1	2	1	1
CO5	1	3	2	--	1	--	1	1	1	2	1	1
WA	**1.2**	**2.4**	**1.6**	**--**	**1**	**--**	**1.4**	**1.2**	**1**	**2**	**1.6**	**1.4**

COMMERCE I SEMESTER
OPEN ELECTIVE 1

Course Code: 21OECOM101	**Course Title: Basics of Accounting**
Course Credits: 3. (L:T:P): 3:0:0	**Teaching Hours/Week: 03 Hours**
Total Contact Hours: 42 Hours	**Formative Assessment Marks: 40**
Exam Duration: **2 1/2 Hours**	**Semester End Examination Marks: 60**

Course Objective:

To enable the students to understand the basics of accounting, need for accounting in business and the system of preparing financial statements - to create awareness in the students about Financial Reporting Standards

Course Outcome:

CO1-Gain the knowledge of the Accounting Concepts and Conventions adopted in preparation of Financial Statements

CO2-Identify business transactions and record it in Journal entries

CO3- Preparation of subsidiary books.

CO4-Analyze and prepare financial statements of sole trading concern.

UNIT – I. Introduction to Accounting: (08 Hours)

Meaning – Need for accounting – Internal and Externalusers of Accounting – Accounting Concepts and Conventions – Indian Accounting Standards (INDAS)–International Financial Reporting Standards(IFRS) Distinction between INDAS and IFRS.

UNIT – II – Accounting Systems and Process: (11 Hours)

Nature of accounting – Systems of accounting: Single entry and Double entry – Process of accounting – Business transactions – Journal entries -Ledger(simple problems)

UNIT – III Subsidiary Books: (17 Hours)

Sales book – Sales returns book – Purchases book – Purchase returns book – Bills Receivable book – Bills Payable book – Cash book – Petty Cash book – Journal proper – Problems on preparation of Sales book, Sales returns book, Purchases book, Purchase returns book, Cash book (single column, double column, three column) and Petty Cash book(simple problems)

UNIT – IV.Final Accounts of Sole Trading Concern: (12 Hours)

Preparation of Trial Balance – Preparation of Trading and Profit and Loss account and Balance sheet (simple problems)

SKILLDEVELOPMENT

1. Collect the final accounts of a Sole Trading concern.
2. Prepare Subsidiary books with imaginary figures.
3. Collect Cash book prepared by Sole Trading Concern.
4. Identify the businesses where Single entry and Double entry systems of Book-keeping are followed.

Books for Reference:

1. AccountingPrinciples;Anthony,R.N.andReece, J.S.:RichardIrwin Inc.
2. FinancialAccounting;Gupta,R.LandRadhaswamy,M:SultanChandandSons,
3. Accountancy;B.S.Raman,UnitedPublishers,Mangalore.
4. AdvancedAccounts;Shukla.M.C.,GrewalT.S.,andGupta,S.C.:S.Chand&Co.
5. CompendiumofStatementandStandardsofAccounting:TheInstituteofCharteredAccountantsof India, New Delhi.

Web Links:

https://www.geeksforgeeks.org/introduction-to-accounting/
www.tutorialspoint.com/accounting_basics/accounting_process.htm

Course Articulation Matrix – 21OECOM101

Course/Program Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	-	-	-	1	-	1	-	1	-	1
CO2	2	1	1	-	1	-	-	1	-	1	-	1
CO3	2	1	1	1	-	-	-	1	1	1	1	1
CO4	2	1	-	-	-	1	1	1	-	1	1	1
W/AVG	**2**	**1**	**1**	1	**1**	**1**	1	**1**	1	**1**	1	**1**

I SEMESTER
OPEN ELECTIVE 1

Course Code: 21OECOM102	**Course Title: Managing Workforce**
Course Credits: 3. (L:T:P): 3:0:0	**Teaching Hours/Week: 03 Hours**
Total Contact Hours: 42 Hours	**Formative Assessment Marks: 40**
Exam Duration: **2 1/2 Hours**	**Semester End Examination Marks: 60**

Course Objective:

To enable the students to understand the basics of managing work force at work place and know the process of selection, training and development.

Course Outcome:

CO1- Managing themselves at work place.
CO2-Skill of handling the employees.
CO3-Focus on developing training activities.
CO4-Knowledge of rewarding the employees.

UNIT – I Introduction: (10 Hours)

Concepts of human resource management- Meaning - Objectives-Scopeand functions**.**

UNIT–II Human Resources Planning and Procurement:(14 Hours)

Human resource planning-importance- objectives and problems. Recruitment-meaning - recruitment policy - sources –factors affecting recruitment-selection decision -selection procedure.

UNIT - III Human Resource development: (12 Hours)

Meaning-concepts of HRD-objectives of training-organization of training programmers–methods of training–advantages and limitations of training.

UNIT - IV Compensation: (12 Hours)

Meaning - Factors determining employee compensation and rewards -dearnessallowance-employeebenefits-bonusandsocialsecurity-managerialcompensation.PerformanceAppraisal: concepts-objectives–Types

SKILLDEVELOPMENT

1. CollectinformationregardingtherecruitmentandselectionprocessadoptedbyanyoneoftheCompanies/organisationslocated in your District.
2. Visit and collect the training method adopted by a company.
3. Visit and collect the methods of compensation adopted by any company.
4. Identify the methods of Performance appraisal adopted by any company.

Books for Reference:

1. HumanResourceManagement-P.SubbaRao
2. HumanResourceManagement-Dr.Ashwathappa
3. PersonnelandHumanResourceManagement-D.A. DeonzandF.P.Robins
4. HumanResourceManagement –PrasannaChandra.

Web Links:

https://www.whatishumanresource.com/human-resource-development
https://scm.ncsu.edu/scm-articles/article/what-are-differences-in-procurement-contract-management-and-supply-chain-management

Course Articulation Matrix – 21OECOM102

Course/Program Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	-	-	-	1	-	1	-	1	-	1
CO2	2	1	1	-	1	-	-	1	-	1	-	1
CO3	2	1	1	1	-	-	1	1	1	1	1	1
CO4	2	1	-	1	-	1	-	1	-	1	1	1
W/AVG	**2**	**1**	**1**	1	**1**	**1**	1	**1**	1	**1**	1	**1**

II SEMESTER
OPEN ELECTIVE 2

Course Code: 21OECOM201	**Course Title: Financial Literacy**
Course Credits: 3. (L:T:P): 3:0:0	**Teaching Hours/Week: 03 Hours**
Total Contact Hours: 42 Hours	**Formative Assessment Marks: 40**
Exam Duration: 2 1/2 Hours	**Semester End Examination Marks: 60**

Course Objective:

To create awareness in student about the need for possessing financial literacy education.

Course Outcomes:

CO1- Knowledge of finance by preparing financial plans and budgets.
CO2- Benefit of knowing NBFI
CO3- Update with advanced technology of banking services.
CO4- Describe the importance of insurance services as social security measures.

UNIT – I Introduction: (16 Hours)

Financial Literacy- Meaning and Importance- Components of Financial Literacy- Financial Institutions : Meaning, Banking and Non Banking Financial Institutions, Post offices . Investment: Meaning, Difference between Investment Vs Gambling- Risk and Return -Principles of investment - Investment Avenues –Financial Planning and Budgets , Family Budget, Business Budget and National Budget. Budget deficit and Surplus.

UNIT – II Banking: (12 Hours)

Meaning and Types of Banks, Various services offered by banks, types ofbank deposit accounts, Formalities to open various types of bank accounts, KYC norms.VarioustypesofLoans:Short-term,MediumtermandLongtermloans.Cashlessbanking,e-banking,ATM,Debit and Credit cards, banking Complaints.

UNIT – III Financial Services from Post Office: (09 Hours)

Post office Savings Schemes: Savings account -Recurring deposit -Term Deposit - Monthly Income Scheme – Kissan Vikas Pathra – NSC – PPF -SeniorCitizenSavingsScheme-SukanyaSamriddhiYojana/Account-IndianPostPaymentsBank-MoneyTransfer -MoneyOrder.

UNIT – IV Insurance Services: (11 Hours)

Life Insurance – Life Insurance Policies - Term Insurance and Endowment Policies - Pension Policies - Health Insurance Plans – ULIP - Property Insurance -General Insurance - Types, Postal Life Insurance Schemes- Housing Loans - Institutions providing Housing Loans, Pradhanmantri Awas Yojana: Rural and Urban.

SKILLDEVELOPMENT

1. Visitanationalizedbanknearyourareaandcollectinformationregardingservicesofferedbythe bank.
2. Visitapostofficeinyourareaandcollectinformationaboutvariousdepositschemesavailable.
3. Collectanaccountopeningformfromanationalizedbankandfilluptheformwithnecessaryenclosures. Collect an account opening form from a post office and fill the form.
4. Prepare an annual family budget considering the income of your family. Also prepare a

personal budget for six months.

5. Visit a LIC branch in your area and collect information regarding any five insurance policy

Books for Reference:

1. Avadhani, V A (2019), Investment Management , Mumbai: Himalaya Publishing House Pvt Ltd
2. Chandra,P(2012),InvestmentGame:HowtoWin.NewDelhi:TataMcGrawHillEducation.
3. Kothari,R(2010),financialServicesinIndia:Conceptandapplication.NewDelhi:SagePublicatio nIndia Pvt td
4. MillingB.E,(2003),TheBasicsofFinance:FinancialToolsforNonFinancialManagers,Indiana: UniverseCompany.
5. Zokaityte,A(2017), FinancialLiteracyEducation.London:PalgraveMacmillan.

Web links:

https://scripbox.com/pf/what-is-financial-literacy/
https://www.geeksforgeeks.org/banking-and-its-types/

Course Articulation Matrix – 21OECOM201

Course/Program Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	1	1	1	-	1	-	1	-	1
CO2	2	-	-	-	-	1	-	1	-	1	1	1
CO3	2	1	1	1	2	-	1	1	-	1	-	1
CO4	2	1	-	1	1	1	-	1	1	1	1	1
W/AVG	**2**	**1**	**1**	**1**	**1.3**	**1**	1	**1**	1	**1**	1	**1**

II SEMESTER
OPEN ELECTIVE 2

Course Code: 21OECOM202	**Course Title: Retail Management**
Course Credits: 3. (L:T:P): 3:0:0	**Teaching Hours/Week: 03 Hours**
Total Contact Hours: 42 Hours	**Formative Assessment Marks: 40**
Exam Duration: **2 1/2 Hours**	**Semester End Examination Marks: 60**

Course Objective:

To enable students to understand how the retail business functions and highlight the scope of retail business in India and across the world

Course Outcome:

CO1- Acquire skills required for managing retail business
C O 2 - Starttheir own retail business in the future
CO3- Recruiting the human resources
CO4- Updated with modern technology in retailing.

UNIT I Retailing:(12 Hours)

Meaning –Definition -Nature - Importance- Functions of Retailing -Factors influencing retailing-Types of Retailing – Forms of Retail Business ownership,Theory of Retail Development-Wheel of Retailing - Retail Life Cycle - Retail Business inIndia - Globalization of Retailing - Reasons for globalization -Problems in GlobalisationofRetailing .

UNIT II Retail Organisation and Management:(12 Hours)

Introduction-Classification of Retail Organization. Store Operations: Retail Store Planning - Factors influencing location of a store -Store Layout – Merchandise Management - Category Management - Shelf Management-POS(Point of Sale)/Cash Process.

UNIT III Human Resource Management in Retailing:(09 Hours)

Man power Planning–Recruitment in Retail sector - Problems in Retail Recruitment -Retail Training -Retail Managers: Roles –Skill -Employment Opportunities in Retail Industry.

UNIT IV E-Retailing: (15 Hours)

Meaning of E Retailing - Types of Technology in Retailing – Factors Influencing use of IT in Retailing -Electronic Article Surveillance – Electronic Shelf Labels -Effective Management of Online catalogues - Customer Relationship Management: Customerdatabase-Identifyinginformation-Analysingcustomerdatabaseandidentifyingtargetcustomers-Customer pyramid-Customer retention.

SKILLDEVELOPMENT:

1. Visitamodern retailstoreinyourareaandidentifyits organizationstructure
2. Visita mall and identify thevarioustypes ofshops in the mall
3. Nameanyten e-retailersintheworld
4. Visitasupermarketinyourareaandcollectinformationabouttherolesandresponsibilitiesof themanager
5. NameanyTen Globalretailers.

Books for Reference:

1. SujaRNair,RetailManagement, VEdition,HPH, Mumbai,2006
2. SwapnaPradhan,RetailingManagement-TextandCases,IIEdition,TataMcGrawHill,India,2007
3. S.K.Pradhan andOthers, RetailManagement ,VPH.
4. PiyushKumarSinhaandDwarikaPrasadUniyal-ManagingRetailing,OxfordUniversityPress,Delhi
5. R.S.Tiwari,RetailManagement ,HimalayaPublishingHouse.
6. LevyMichael,WeitzBarton-RetailingManagement,VEdition,TataMcGrawHill,NewYork,2006
7. LucasG.H.,BushRobert,GreshamLarry-Retailing,HoughtonMifflinCompany,Boston,1994.

Web links:

https://www.icmrindia.org/courseware/retail%20management/Retail%20Organiz-Manage.htm
https://www.yourarticlelibrary.com/retailing/hrm-objectives-top-4-objectives-of-hrm-inretailing/48316

Course Articulation Matrix – 21OECOM202

Course/Program Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	-	-	2	1	1	-	3	-	1
CO2	2	2	2	2	1	1	1	1	2	2	1	1
CO3	1	2	2	2	2	1	1	2	2	2	1	1
CO4	2	1	1	-	-	-	1	1	1	2	-	1
W/AVG	**1.75**	**1.75**	**1.5**	**2**	**1.5**	**2**	**1**	**1.25**	**1.25**	**2.25**	**1**	**1**

OE(1) Computer Science Syllabus for All Programs (Except Science)

Semester I

Course Code: 21OECMS101	**Course Title: OE(1) - Office Automation**
Course Credits (L:T:P): 03 (3:0:0)	**Hours of Teaching/Week:** 3 Hours (Theory)
Total Contact Hours: 42 Hours (Theory)	**Formative Assessment Marks:**40
Exam Duration: $2\frac{1}{2}$ Hours	**Semester End Examination Marks:**60

Course Outcomes (COs):

CO 1: Acquire knowledge on computers & office automation tools and exhibit the potential to use a word processor for creating various types of documents.
CO 2: Analyze and use spreadsheets for performing computational tasks.
CO 3: Customize and create a presentation on a desired topic.

Course Content

UNIT - 1	**14 HOURS**
Introduction, Block diagram of a computer, Input and output devices, memory and storage devices, Types of software, Introduction to operating system – functions, types of operating system andexamples. Introduction to word processing – creating and saving a document, formatting a document – Line spacing, paragraph, Fonts, inserting symbols, header and footer, shape, Tables, Find and replace, Mail merge, saving a document in different formats.	
UNIT - 2	**14 HOURS**
Introduction to spread sheet – entering different types of data like text, numbers, date, functions and formulae, different categories of functions, chart - creating and formatting a chart, filter, working with single and multiple work books, cell referencing, printing and previewing a document.	
UNIT - 3	**14 HOURS**
Introduction to presentation tools - creating and viewing a presentation, applying design template, formatting options, inserting different objects in a presentation, customize a presentation, adding audio to a presentation, Slide animation, preview Slide transitions Slide show options, adding effect to presentation.	

Text Books:

1. Computer Fundamentals and Office Automation: Dr. R Deepalakshmi, Charulatha Publications.
2. Office Automation: Dr. P Rizwan Ahmed, Margham Publications.

References:

1. Computer Basics with Office Automation: Archana Kumar, Dreamtech Press, 1st Edition.
2. The Handbook of Office Automation: Ralph Tomas Reilly, iUniverse Publication, 1st Edition.
3. https://www.youtube.com/watch?v=eEo_aacpwCw
4. https://www.youtube.com/watch?v=EeiLMV81Ujw
5. https://www.youtube.com/watch?v=Vl0H-qTclOg
6. https://www.youtube.com/watch?v=XF34-Wu6qWU

Course Articulation Matrix – 21OECMS101

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	1	2	2	-	3	-	-	1	1	1	-	2
CO 2	2	2	1	-	3	-	-	-	1	1	1	2
CO 3	3	2	3	-	3	2	1	2	1	2	1	2
Weighted Average	**2**	**2**	**2**	**-**	**3**	**2**	**1**	**1.5**	**1**	**1.33**	**1**	**2**

Course Code: 21OECMS102	Course Title: OE(1) - C Programming Concepts
Course Credits (L:T:P): 03 (3:0:0)	**Hours of Teaching/Week:** 3 Hours (Theory)
Total Contact Hours: 42 Hours (Theory)	**Formative Assessment Marks:**40
Exam Duration: $2\frac{1}{2}$ Hours	**Semester End Examination Marks:**60

Course Outcomes (COs):

CO 1: Acquire knowledge on computers and elementary concepts of C programming.
CO 2: Develop C programs with input output statements, operators, expressions and control structure.
CO 3: Implement simple C programs with array, strings and pointers.

Course Content

UNIT - 1	**14 HOURS**
Fundamentals of Computers: Introduction to Computers -Hardware, software System software, Application software, Utility software, Operating System; Computer Languages - Machine Level, Assembly Level & High-Level Languages, Translator Programs – Assembler, Interpreter and Compiler; Planning a Computer Program – Algorithm and Flowchart with Examples. **Introduction to C Programming:** Over View of C; History and Features of C; Structure of a C Program with Examples; Creating and Executing a C Program; Compilation process in C. **C Programming Basic Concepts:** C Character Set; C tokens - keywords, identifiers, constants, and variables; Data types; Declaration & initialization of variables; Symbolic constants.	
UNIT - 2	**14 HOURS**
Input and output with C: Formatted I/O functions - printf and scanf, control stings and escape sequences, output specifications with printf functions; Unformatted I/O functions to read and display single character and a string - getchar, putchar, gets and puts functions **C Operators & Expressions:** Arithmetic operators; Relational operators; Logical operators; Assignment operators; Increment & Decrement operators; Bitwise operators; Conditional operator; Special operators; Operator Precedence and Associatively; Evaluation of arithmetic expressions; Type conversion. **Control Structures:** Decision making Statements - Simple if, if_else, nested if_else, else_if ladder, Switch-case, goto, break & continue statements; Looping Statements - Entry controlled and Exit controlled statements, while, do-while, for loops, Nested loops.	
UNIT - 3	**14 HOURS**
Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays - Declaration, Initialization and Memory representation. **Strings:** Declaring & Initializing string variables; String handling functions - strlen, strcmp, strcpy and strcat; Character handling functions - toascii, toupper, tolower, isalpha, isnumeric etc. **Basics of Pointers in C:** Understanding pointers - Declaring and initializing pointers, accessing address and value of variables using pointers; Pointer Arithmetic; Advantages and disadvantages of using pointers.	

Text Books

1. Computer Fundamentals: Anita Goel, Pearson Publication.
2.Problem Solving with C: M T Somashekara, D S Guru and K S Manjunatha, PHI Publication.
3. C in Depth: S K Srivastava and DeepaliSrivastava, BPB Publications.

References

1. Computer Fundamentals: Pradeep K Sinha and PritiSinha, 6th Edition, BPB Publication.
2. Programming in C: V Rajaraman, PHI Publication.
3. Programming in C: Ashok N. Kamthane, Pearson Publication.
4. https://www.youtube.com/watch?v=r5nXIzK3DoE
5. https://www.youtube.com/watch?v=fdSPUKSe_Xk
6. https://www.youtube.com/watch?v=8PopR3x-VMY

Course Articulation Matrix – 21OECMS102

CO/PO	PO 1	PO 2		PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	2	1		-	-	1	1	1	1	-	1	1	2
CO 2	2	2		1	-	1	-	-	-	-	-	-	2
CO 3	1	2		1	-	1	-	-	-	1	-	-	2
Weighted Average	**1.66**	**1.66**		**1**	**-**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**

OE(2) Computer Science Syllabus for All Programs (Except Science)

Semester II

Course Code: 21OECMS201	**Course Title: OE(2) - Web Designing**
Course Credits (L:T:P): 03 (3:0:0)	**Hours of Teaching/Week:** 3 Hour (Theory)
Total Contact Hours: 42 Hours (Theory)	**Formative Assessment Marks:**40
Exam Duration: $2\frac{1}{2}$ Hours	**Semester End Examination Marks:**60

Course Outcomes (COs):

CO 1: Acquire basic knowledge on internet, XHTML Programming and CSS.
CO 2: Analyze a web page, identify its elements & attributes and Apply the knowledge gained on JavaScript.
CO 3: Create webpages using CSS and java script (client-side programming).

Course Content

UNIT - 1	**14 HOURS**
Fundamentals: Internet, WWW, Web Browsers and Web Servers, URLs, MIME, HTTP, Security, the Web Programmers Toolbox. XHTML- Introduction, Basic syntax, Standard Structure of the Program, Basic Text Markup, Images, Grouping Using Div Span, Lists, Hyperlink, Table, Forms, Frames. Introduction to CSS, Levels of style sheets, Style specification formats, Selector forms, Property value forms, Font properties, List properties, Color, Alignment of text, The Box model, Background images, <Span> and <Div> tags.	
UNIT - 2	**14 HOURS**
The Basics of JavaScript: Overview of JavaScript, Object orientation and JavaScript, Object Creation and Modification, Syntactic characteristics, Primitives, operations, and expressions, Screen output and keyboard input, Control statements, Constructors, Pattern Matching, Errors, Arrays, Functions in JavaScript, The JavaScript Execution Environment, The DOM, Element Access, Event Handling.	
UNIT - 3	**14 HOURS**
The DOM 2 Event Model, The Navigator Object, DOM Tree Traversal, Button elements, Text box and Password elements, Dynamic documents with JavaScript: Introduction, Positioning Elements, Moving Elements, Element visibility, Changing Colors and Fonts, Dynamic content, Locating the Mouse cursor, reacting to a Mouse click, Slow movement of elements, Dragging and Dropping elements. Dynamic Documents with JavaScript - Stacking Elements.	

Text Books:

1. Programming the World Wide Web: Robert W Sebesta, 4th Edition, Pearson Education, 2008.
2. HTML, CSS & JavaScript Web Publishing: Laura Lemay, Rafe Colburn and Jennifer Kyrnin, BPB Publications.

References:

1. Internet & World Wide Web How to Program: M Deitel, P J Deitel, A B Goldberg, 4th Edition, Pearson Education, 2004.
2. Web Programming Building Internet Applications: Chris Bates, 3rd Edition, Wiley India, 2007.
3. https://www.geeksforgeeks.org/design-a-web-page-using-html-and-css/
4. https://blog.hubspot.com/marketing/web-design-html-css-javascript

Course Articulation Matrix – 21OECMS201

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	2	1	1	-	1	1	1	1	1	1	-	2
CO 2	2	1	1	-	1	-	-	-	1	1	-	2
CO 3	1	1	1	-	1	-	-	-	1	1	-	2
Weighted Average	**1.66**	**1**	**1**	**-**	**1**	**1**	**1**	**1**	**1**	**1**	**-**	**2**

Course Code: 21OECMS202	**Course Title: OE(2) - e-Commerce**
Course Credits (L:T:P): 03 (3:0:0)	**Hours of Teaching/Week:** 3 Hour (Theory)
Total Contact Hours: 42 Hours (Theory)	**Formative Assessment Marks:**40
Exam Duration: 2– Hours	**Semester End Examination Marks:**60

Course Outcomes (COs):

CO 1: Acquire knowledge on e-commerce and its various modes.
CO 2: Classify and analyze real-time problems based on various types of e-commerce.
CO 3: Interpret the knowledge on e-commerce infrastructure and impact of internet & technology on e-commerce, e-business and e-payments.

Course Content

UNIT - 1	**14 HOURS**
Introduction to e-commerce, the difference between e-commerce and e-business, Technological building blocks underlying e-commerce: the Internet, Web, and Mobile Platform, Major Trends in e-commerce, Unique Features of e-commerce Technology. Modes of electronic commerce: Overview, Electronic data interchange (EDI), e-commerce with www/Internet. Payments and Security: Electronic cash and Electronic payment Schemes: Internet monetary payment and Security requirements, payment and purchase order process, Online electronic cash.	
UNIT - 2	**14 HOURS**
PES of e-commerce: Business-to-Consumer (B2C) , Business-to-Business (B2B) , Consumer-to-Consumer (C2C), Mobile e-commerce (M-commerce), Social e-commerce, Local e-commerce. Consumer-oriented e-commerce: Introduction, Traditional retailing and e-retailing, benefits of e-retailing, Key success factors, Models of e-retailing, features of e-retailing, developing a consumer-oriented e-commerce system, The PASS model.	
UNIT - 3	**14 HOURS**
e-Commerce Infrastructure: The Internet, Technology Background , Internet – Key Technology concepts, TCP/IP, IP addresses, Domain names, DNS and URLs, Client Server Computing, Cloud computing model, Mobile platform. Internet and Web: Hypertext, HTML, XML, Web servers and clients, Web browsers, Communication tools – Email, messaging apps.	

Text Books:

1. E-Commerce 2020-2021: Laudon, Kenneth C and Carol GuercioTraver, Pearson Publications, 2020.

References:

1. Frontiers of Electronic Commerce: Ravi Kalakota, Andrew B, Addison Wesley Publications, 1996.
2. https://www.gasckovilpatti.com/studymaterial/commerce/II%20MCOM%20E%20COMMERCE%20pKCM33.pdf
3. http://www.simplynotes.in/e-notes/mbabba/electronic-commerce/
4. https://onlinecourses.swayam2.ac.in/cec19_cm01/preview

Course Articulation Matrix – 21OECMS202

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	2	1	-	-	1	2	-	2	1	1	1	2
CO 2	2	1	1	-	-	2	-	2	1	2	1	2
CO 3	1	1	-	-	1	1	1	2	-	1	-	2
Weighted Average	**1.66**	**1**	**1**	**-**	**1**	**1.66**	**1**	**2**	**1**	**1.33**	**1**	**2**

BCA

Course Code: OE210EBCA101	**Course Title: BUSINESS INTELLIGENCE (Open Elective)**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03 Theory
Total Contact Hours: 42 Theory	**Formative Assessment Marks:** 40 Theory
Exam Duration: 2 1/2 Hours	**Semester End Exam Marks:** 60 (Theory)

Course Outcomes (COs):

CO1: Develops basic concepts on Business Intelligence, Business Intelligence systems, databases , data warehouses, data analysis, applications of Data Mining, Data Warehouse and Data Marts and knowing Decision support systems.

CO2: Comprehending the basics of OLTP and OLAP and its applications, types of Digital data, its characteristics and its comparison.

CO3: Knowing the uses of Business analytics and Business Intelligence, and its differences, applications of Business Intelligence and Business Analytics, BI Data Processing techniques, Basics of Enterprise Reporting.

Course Content:

Unit 1: BI definitions, concepts and Data Warehouse:14 Hrs

Definition: Business Intelligence (BI), Data mining, Data analysis, Understanding Business Intelligence (BI), Types of BI Tools and Software systems, Benefits/uses of Business Intelligence, BI Applications, BI Users, BI Features, Top BI Systems, BI roles and responsibilities(Business Analysts).

Definition of Database, Data Warehouse and Data Marts, Need for data Warehouse, Data Warehouse Architecture, Decision support systems (DSS), Data Warehouse vs. Data Marts, Operational database and Data Warehouse, Data-mining Applications (Credit Card Fraud, UI Optimization, Marketing).

Unit 2: Introduction to OLTP and OLAP:14 Hrs

OLTP (Online Transaction Processing): Definition, Applications, Advantages, Operational Database, Challenges of an OLTP System, OLAP(Online Analytical Processing): Definition, Applications, Characteristics , Advantages of an OLAP System, Difference between OLTP and OLAP.

Digital data, Forms/Types of digital data, Structured data, Unstructured data, Semi-structured data, Characteristics of Unstructured Data, Manage Unstructured Data, Difference between Semi structured and Structured.

Unit 3: Business analytics, Data Processing& Enterprise reporting: 14 Hrs

Introduction to Business analytics, Transformation of raw data to business benefits through BI, BI Benefit - Visibility into Enterprise Performance, Differences between Business Intelligence and Business Analytics.

BI Data Processing, Processing: RFM analysis, Analytical Processing: Drill-up, Drill-down, Slice and Dice.

Basics of Enterprise Reporting: Reporting perspectives common to all levels of Enterprise, Report Standardization and Presentation practices, Report Delivery Formats, Enterprise Reporting characteristics in OLAP World , Balanced Scorecard , Dashboards, Types of Corporate Dashboards, Benefits of Enterprise Dashboard

Text Books:

1. R.N.Prasad, SeemaAcharya , Fundamentals of Business analytics, First Edition , 2011, Wiley-India

Reference Books:

1. GaliShmueli,.Nitin R Patel , peter C . Bruce, " Data mining for Business Intelligence" Wiley-India, 2011.

2. Ralph Kimball ,Margy Ross, "Practical tools for Data Warehosuing and Business Intelligence" , second Edition Wiley-India 2011.

3. "BUSINESS INTELLIGENCE" Edited By SartajSingh ,Printed by EXCEL BOOKS PRIVATE LIMITED A-45, Naraina, Phase-I, New Delhi-110028 for Lovely Professional University, Phagwara

Course Articulation Matrix - OE210EBCA101

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	2									1
CO2	1	1	2			1						1
CO3	1	1	2	1	1	1	1	1	1	1	1	1
WA	**1**	**1**	**2**	**0.3**	**0.3**	**0.6**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**1**

CRIMINOLOGY AND FORENSIC SCIENCE

OE (1) Syllabus for All Programs (Except B A)

Semester I

Course Code: 21OECRI101	**Course Title** : OE (1) Police Organization in India (Theory)
Course Credits : 03 (3:0:0)	**Hours of Teaching/ Week :** 03 (Theory)
Total Contact Hours : 42Hours (Theory)	**Formative Assessment Mark** :40 (Theory)
Exam Duration : 2 ½ Hours (Theory)	**Semester End Examination Marks :** 60 (Theory)

Content of Theory Course	Hours
Unit-I:Introduction to Police Organization	**14**
Chapter-1 Police Organization: Concept and Brief Historical Background **Chapter-2**CentralPoliceOrganizationandInstitutes:OrganizationalBasisandtypes Line Units: Assam Rifles, Central Reserve Police Force, Border Security Force, Indo Tibetan Border Police, Central Industrial Security Force and Seema SurakshaBal. Staff Units: BPR&D&NCRB. Mixed Units: CBI, RAW and Narcotic Control Bureau– NCB. **Chapter-3**RelationshipbetweenPoliceandLocalGovernment:Magistracy, Executive Magistrates and Other Departments (Forest, Excise, Prison, Health etc.) **Chapter-4**Police Administration: Enforcing law of the land, Maintaining Law and Order, other citizen services, etc.	
Unit-II: State Police and Special Units	**14**

Chapter-5 General Organizational structure, State Crime Record Bureau, State Finger Print Bureau, State Forensic Science Laboratory and Intelligence Department/ Special branch. **Chapter-6** Types of Police station and their Function: Civil, Traffic and Women police stations, cyber-crime policestations. **Chapter-7**Vigilance Units: ACB,Lokayukta andotherinstitutionalvigilance(KPTCL, KSRTC, BMTF, BDA, Revenue TaskForce)	
Unit-III: Auxiliary Units and Other Organizations	**14**
Chapter-8 Home guards, Special Police Officers, Students Police Cadets and Civil Defense **Chapter-9** Karnataka State and District Legal Authority and their functions **Chapter-10** State women commission, State SC/ST and Minority Commissions,State Human Rights Commissions.	

Text Books:

1. Banerjee,D, 2005, Central Police Organization,PartI&PartII,AlliedPublishers. Pvt.Ltd.,
2. DovalAjit andLalBR, 2010, ManasPolice SecurityYearBook 2010-2011,ManasPublications.
3. EarleHoward H. 1970, PoliceCommunityrelations, Charles C. Thomas Publisher.
4. GhoshGautam, 2007 Police Accountabilityat theCuttingEdge Level,APH PublishingCorporation.
5. GuharoyJT, 1999, Policingin the21st CenturyIndianInstitute of PublicAdministration.
6. Gupta,Anandswarup, 2007, Crime andPolice inIndia,SahityaBhavan,Agra.
7. James, Vadckumchery, 1998, Crime, Police andCorrection, APH PublishingC., New Delhi.
8. JusticeMallimathCommitteeon CriminalJustice Reforms,UniversalLawPub, 2003.
9. K. Padmanabaiah Committeeon Police Reforms,2001.
10. Ramanjam,T, 1992, Prevention andDetection ofCrime, MadrasBookAgency.
11. MisraK.K., 1987, PoliceAdministration in AncientIndia,K.K.Publications.
12. Mayhill,ParnelaD, 1998 Police– Communityrelations&administrationof justice, PrenticeHallEnglewoodCliffs.
13. Ramanjam,T, 1992, PreventionandDetection ofCrime, MadrasBookAgency.
14. SinghSoibamIbocha, 2007 CommunityPolicing,AkanshaPublishingHouse, New Delhi
15. SrivastavaAparna, 1999,Role ofPolice in ChangingSociety, APH PublishingHouse.
16. Karnataka Police Manual, Vol-i, ii and iii.

Journals:

Indian PoliceJournal publishedbyBureau of PoliceResearchandDevelopmentNewDelhi.

CrimeinIndiapublishedbyNational Crime RecordBureau. MHAGovernment ofIndia New Delhi

Course Articulation Matrix – 21OECRI101

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO1	2	1	3	2	3	2	2	3	2	2	2	3
CO2	2	3	3	2	2	2	1	3	2	3	2	1
CO3	2	2	2	3	1	2	2	2	2	2	3	2
Weighted Average	2	2	2.66	2.33	2	2	1.66	2.66	2	2.33	2.33	2

OE (1) Syllabus for All Programs (Except B A)

Semester I

Course Code: 21OECRI102	**Course Title** : OE(1)Elements of Forensic science (Theory)
Course Credits :03 (3:0:0)	**Hours of Teaching/ Week :** 03 (Theory)
Total Contact Hours : 42 Hours (Theory)	**Formative Assessment Mark** :40 (Theory)
Exam Duration : 2 ½ Hours (Theory)	**Semester End Examination Marks :** 60 (Theory)

Course outcomes (CO's):

CO1: Recognize the meaning, characteristics, applications, and historical background of forensic science.

CO2: Acquire basic knowledge on fundamental components, several branches, and guiding concepts of forensic science.

CO3: What are the central and state forensic science laboratories' responsibilities and significance & describe the functions of the DTI, BPRD, and National Crime Record Bureau.

Content of Theory Course	Hours
Unit-I:FundamentalConcepts of Forensic Science	**14**
Chapter-1 Definitions, Nature, Scope and role of forensic science. **Chapter-2** Historical development and contribution of pioneers **Chapter-3** Principles of forensic science	
Unit-II: Branches of Forensic Science	**14**
Chapter-4 Branches of Forensic Science **Chapter-5** Traditional and Contemporary **Chapter-6** Frye Case and Daubert Standards.	
Unit-III: Forensic Science Laboratories and Training institutes	**14**
Chapter-7 Hierarchical set up of Central Forensic Science Laboratories, State Forensic Science Laboratories and Directorate of Forensic Science. **Chapter-8** Government Examiners of Questioned Documents and Fingerprint Bureaus. **Chapter-9**NationalCrimeRecordsBureau,Police&DetectiveTrainingInstitutes, **Chapter-10**Bureau of Police Research& Development,	

Text Books:

1. B.B. Nanda and R.K. Tiwari,ForensicScience in India: A Vision for the TwentyFirstCentury,SelectPublishers, New Delhi(2001).
2. M.K.Bhasin and S. Nath,Roleof Forensic Sciencein the NewMillennium,University of Delhi,

Delhi(2002).
3. S.H. James andJ.J.Nordby, ForensicScience:AnIntroduction to Scientific and InvestigativeTechniques, 2nd Edition, CRC Press, Boca Raton (2005).
4. W.G.Eckert and R.K.Wright in Introduction to ForensicSciences, 2nd Edition,W.G. Eckert(ED.),CRC Press, Boca Raton (1997).
5. R. Safferstein,Criminalistics, 8th Edition, Prentice Hall, NewJersey(2004).

Journals:

Journal of ForensicResearchISSN: 2157-7145
Journal of ForensicSciences&CriminalInvestigation,ISSN: 2476-1311.

Course Articulation Matrix- 21OECRI102

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO1	3	1	2	3	3	2	2	1	2	1	3	2
CO2	2	3	3	3	3	2	2	1	2	1	2	2
CO3	2	3	2	3	3	2	1	1	3	2	2	2
Weighted Average	2.3	2.3	2.3	3	3	2	1.6	1	2.3	1.3	2.3	2

OE (2) Syllabus for All Programs (Except B A)

Semester II:

Course Code: 21OECRI201	**Course Title** : OE(2)Social Problems & Crime (Theory)
Course Credits :03 (3:0:0)	**Hours of Teaching/ Week :** 03 (Theory
Total Contact Hours : 42 Hours (Theory)	**Formative Assessment Mark** :40 (Theory)
Exam Duration : 2 ½ Hours (Theory)	**Semester End Examination Marks :** 60 (Theory)

Course Outcomes (COs):

CO1: Recognize the various societal issues India faces, as well as the factors that contribute to crime, criminality, and social unrest.

CO2: Describe the many crimes, concerns, and legislation that are relevant to women and children.

CO3: Considering alcoholism and drug abuse associates to communal disturbance and criminality & discuss the consequences of corruption and terrorism on society and the relevant legislation.

Content of Theory Course	Hours
Unit-I:Introduction to Social Problems	**14**
Chapter-1 Social problem and crime: concept, types and stages in the development of social problems. **Chapter-2**Theoreticalapproaches to social problems, social disorganization, cultural lag, value conflict and personal deviation **Chapter-3**Causes of social problems leading to crime	
Unit-II: Women and Child Related Social Problems and Crimes	**14**
Chapter-4 Child abuse and child labour: Meaning, Causes and effects of child Abuse **Chapter-5**Special Acts-Prohibition of Child Marriage Act 2006, Child labour (Prohibition &Regulation) Act 1986,ImmoralTraffic(Prevention)Act 1956 and Protection of Children from Sexual Offences Act, 2012 **Chapter-6** WomenRelatedIssues,CrimesandLaws:Prostitution,DomesticViolence,DowryHarassment,SexualHarassmentofWomenatWorkplace,Indecentrepresentationofwomen,etc..,andrelatedlaws,SatiSystemandHonourkilling.	
Unit-III: Other Social Problems	**14**
Chapter-7 Alcoholism:Meaning, definitions of alcoholism causes, consequences and societal costs of alcoholism. **Chapter-8**Drug Addiction: Nature and impact of drug addiction– Role of family and peergroup, Narcotic Drugs and Psychotropic Substance Act. 1985 **Chapter-9**Untouchability,Corruptionand Terrorism: Meaning, Types, Causes, and Related Laws	

Text Books:

1. Ram,Ahuja,1992.SocialProblemsinIndia,RawatPublications,NewDelhi.
2. Turner, Jonathan H., 1987;The Structure of Sociological Theory, Fourth Edition, RawatPublications,Jaipur.
3. Henry,Kenneth, 1978,SocialProblems:InstitutionalandInterpersonalPerspectives, Scott,FopresmanandCompany,Illinois,London.
4. Kothari,Rajani, 1988,TransformationandSurvival,AjantaPublications,Delhi.
5. Lerner,Daniel,1964,ThePassingofTraditionalSociety,TheFreePress,London.
6. Polanyi,Karl, 1957,TheGreatTransformation: ThePoliticalandEconomic OriginofourTime,BeaconPress,Boston.
7. Merton, RobertK.&Nisbet,Robert,1976,Contemporary SocialProblems, HercourtBraceJovanovich,InternationalEditing,NewYork,Chicago.
8. Singh, Yogendra, 1988, Modernisationo f Indian Tradition, Reprint, RawatPublication,Jaipur.
9. Bhattacharya, Rinki. Ed. 2004. Behind Closed Doors: Domestic Violence inIndia. NewDelhi:Sage.
10. Uberoi,Patricia.Ed. 1993.Family,KinshipandMarriageinIndia.Delhi,Oxford UniversityPress.
11. Uberoi,Patricia. 2006. Freedom and Destiny: Gender, Family, andPopular Culture inIndia. Delhi:OxfordUniversityPress.

Journals:

EuropeanJournalonCriminalPolicyandResearch, Springer

TheInternational JournalforCrime,JusticeandSocialDemocracyISSN2202-8005

DigitalReference:

- https://www.taylorfrancis.com/books/mono/10.4324/9780203791578/framingvictim-nancy-berns
- https://psycnet.apa.org/record/1973-31083-001
- https://academic.oup.com/socpro/article/18/3/298/1691981?login=true
- https://www.jstor.org/stable/798932
- https://academic.oup.com/socpro/article-abstract/16/4/409/2925015

Pedagogy: Lecture,Assignments,InteractiveSessions,ICT,Group Discussion

Course Articulation Matrix - 21OECRI201

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO1	2	3	2	2	2	1	2	2	3	2	3	3
CO2	2	3	3	3	2	2	2	2	3	2	3	3
CO3	2	2	3	3	2	3	3	2	3	2	3	3
Weighted Average	2	2.6	2.6	2.6	2	2	2.3	2	3	2	3	3

OE (2) Syllabus for All Programs (Except B A)

Semester II:

Course Code: 21OECRI202	**Course Title** : OE (2)Fingerprint Science (Theory)
Course Credits :03 (3:0:0)	**Hours of Teaching/ Week :** 03(Theory)
Total Contact Hours : 42 Hours (Theory)	**Formative Assessment Mark** :40 (Theory)
Exam Duration : 2 ½ Hours (Theory)	**Semester End Examination Marks :** 60 (Theory)

Course Outcomes (CO'S):

CO1: Recognize the significance, meaning, and historical context of fingerprints.

CO2: Analyzing the biological processes involved in the production of fingerprints, as well as the main types.

CO3: Learn how latent fingerprints form and how valuable they are in legal proceedings, describe the imprints and their significance in a judicial inquiry.

Content of Theory Course	Hours
Unit-I:Basics of Fingerprinting	**14**
Chapter-1 Fingerprint: Meaning, Concept and history background, with special reference to India. **Chapter-2** Biological basis of fingerprints, Formation of ridges and Fundamental principles of finger printing. **Chapter-3**Typesoffingerprints, Finger print patterns and Finger print characters/minutiae. **Chapter-4**Methods of Recording of Plain and rolled fingerprints. **Chapter-5**Classificationof fingerprint record.	
Unit-II: Development of Fingerprints	**14**
Chapter-6 Type of Chance prints at a crime scene and their development. **Chapter-7** Latent finger prints "detection by physical and chemical techniques. **Chapter-8** Preservation of developed fingerprints. **Chapter-9** Digital imaging for fingerprint enhancement.	
Unit-III: Other Impressions and Prints	**14**
Chapter-10 Footprints: Meaning and Importance. **Chapter-11**Castingof foot prints and Electrostatic lifting of latent foot prints. **Chapter-12**Palm prints and their historical importance. **Chapter-13**GaitPatternand its use in crime investigation.	

Text Books:

1. B.S.Nabar.,ForensicScienceinCrimeInvestigation,3rdEdn.,AsiaLawHouse,Hyderabad
2. Barry,A.J.Fisher;TechniquesofCrimeSceneInvestigation,7thEd,CRCPress,NY,2003.
3. Bennett, W.W. &Karen, M.Hass,Criminal Investigative, 6thEd. Worsworth ThompsonLeaming,2001.
4. ForensicScience,AnIntroductiontoCriminalistics. ByPeterR.DeForest,R.E.GaensslenandHenryC.Lee.
5. ForensicScienceinCriminalInvestigationandTrials,BySharma.B.R.
6. SaffersteinR."Criminalistics:-AnIntroductiontoForensicScience".
7. WertheimK,MaceoA(2002)Thecriticalstageoffrictionridgeandpatternformation.JforIdent
8. WilderHH,WentworthBPersonalidentification.Boston:GorhamPress1918.
9. DrorIE,CharltonP,PeronAE(2006)Contextualinformationrendersexpertsvulnerabletomakingerroneousidentifications.ForensicScienceInternational
10. SnadyLZ(2005)Fingerprintevidence.LLaw&Policy
11. VokeyJR,TangenJM,ColeSA(2009)On thepreliminarypsychophysicsoffingerprintidentification.QuartJExpPsycho
12. SennDR,StimsonPG(2010)ForensicDentistry.NewYork:CRCPress.

Journals:

TheJournalofForensicSciences(JFS)ISSN:1556-4029

DigitalReference: http://www.fbi.gov/hg/cjisd/ident.pdf

Pedagogy: Lecture, Assignments, Interactive Sessions, ICT, Group Discussion

Course Articulation Matrix-21OECRI202

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO1	3	2	3	2	3	2	1	2	3	1	2	3
CO2	3	3	3	3	3	2	1	2	3	2	3	3
CO3	3	3	3	3	3	2	2	3	3	3	3	3
Weighted Average	3	2.6	3	2.6	3	2	1.3	2.3	3	2	2.6	3

ECONOMICS

Semester I

Course Code: 21OEECO101	**Course Title:OE1 :**Kautilya's Arthashastra
Course Credit (L:T:P): 3 (3:0:0)	**Teaching Hours/Week:** 3 Hours
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Duration of Exam: $2\frac{1}{2}$ Hours	**Summative Assessment Marks:** 60

Course Outcomes (COs):

CO1: Enlighten the students about the ancient fundamentals about political and economic constituents, which will frame out a basic Knowledge of understanding the modern trends.

CO2: Identify the upcoming needs in the area of policy making for states at national and internationallevel.

CO3: Equip them with the science of Governance, so it projects out all the dimensions needed to be evaluated by the students about the present socio-economic and political rules and regulations of thestate.

Unit	Description	42 Hrs
I	**Chapter 1:** Introduction to Arthashastra **Chapter 2:** Various disciplines of Indian Education System **Chapter 3:** Place of Kautilya's Arthashastra among them	9
II	**Chapter 4:** Importance of science dealing with governance - Introduction to Tantrayuktis – The methods of preparing a compendium, tools and techniques of writing a compendium **Chapter 5:** Governance Procedure- Appointment of the ministers, duties of Government superintendents, treasury, spies, royal writ, punishment- Vakparushyaand Dandaparushya; **Chapter 6:** Laws of Inheritance – Determination of forms of Agreements, determination of legal disputes, Division of inheritance, Special shares in inheritance, Distinction between sons	15

III	**Chapter 7:** Economic Dimension- Body of income of the state, collection of revenue, duties of a Chamberlin (Koshadhyksha), Forty ways of embezzlement of the revenue, Punishment for the embezzlement of revenue, Expenditure, Loss andProfit, Keeping up the Accounts, Recovery of Debts, Deposits of the state, Resumption of the gifts, Remission of Taxes **Chapter 8:** Political Dimension- Six-fold Policy- War, Combination of Powers, Agreement of Peace with or without definite terms, Double Policy, Circle of States Conduct of Corporations, Secret means, Plan of treatise	18

Suggested readings:

1. Arthashastra of Kautilya by T. GanapatiShastri, ChaukhambhaSurbhartiPrakashana, Varanasi, India,2005.

2. Arthashastraof Kautilya by Sri. VacaspatiGairola, ChaukhambhaVidyabahavan, Varanasi, India,2013.

3. Kautilya, TheArthashastraby L.N. Rangarajan, Penguin Books Ltd,London.

4. Kautilya'sArthashastra: The Way of Financial Management and Economic Governance, Jaico Publishing House, Mumbai,India.

WEBLINKS:

- https://en.wikipedia.org/wiki/Arthashastra
- https://www.youtube.com/watch?v=Yg_yOUPrB5s
- https://www.youtube.com/watch?v=-WV9KPqjV_I
- https://www.amazon.in/Arthashastra-Kautilya/dp/0140446036

Course Articulation Matrix - 21OEECO101

PO's / CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	P09	PO10	PO11	PO12
CO1	1	1	-	1	1	2	1	2	1	1	-	-
CO2	1	1	2	2	1	1	-	2	1	1	-	-
CO3	1	1	1	2	1	1	2	1	-	1	-	1
Weighted Average	1	1	1.5	1.6	1	1.3	1.5	1.6	1	1	-	1

Semester 1

Course Code: 21OEECO102	**Course Title: OE1 :** Pre-Reforms Indian Economy
Course Credit (L:T:P): 3 (3:0:0)	**Teaching Hours/Week:** 3 Hours
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Duration of Exam: $2\frac{1}{2}$ Hours	**Summative Assessment Marks:** 60

Course Outcomes (COs):

CO1: Trace the evolution of Indian Economy; Identify the structural features and constraints of the Indian Economy

CO2: Evaluate planning models and strategy adopted in India

CO3: Analyze the sector specific problems and their contributions and Review various economic policies adopted towards overall economic growth

Unit	Description	Hours
I	**Features and problems of Indian Economy:**	15
	Chapter 1: Features of Indian Economy: • India as a DevelopingEconomy • DemographicFeatures Problems of Poverty: Unemployment and IncomeInequality **Chapter 2: Issues in Agriculture sector in India:** Agriculture Marketing inIndia • Agricultural PricePolicy **Chapter 3: Industrial and Service Sectors:** • IndustrialPolicy • Micro, Small and MediumEnterprises Service Sector inIndia. **Practicum:** 1. Identifying economic problems and their causes; 2.Mini-project on any aspect of Indian Agriculture, Industry, Service and Public Sectors	
II	**Economic Policies:**	13
	Chapter 4: Planning: • BombayPlan • GandhianModel • Nehru-MahalanobisModel • Objectives and Achievements of Economic Planning in India (before1991)	

	Chapter 5: Monetary policy in India • Instruments of MonetaryPolicy Black money in India – Magnitude andImpact **Chapter-6: Fiscal Policy in India:** • TaxRevenue • PublicExpenditure • Budgetary Deficit **Practicum:** Assignment on successes and failures of India's planning; Monetary and Fiscal Policy instruments	
III	**External sector and Nature of Reforms in India**	**14**
	Chapter-7: India's Foreign Trade: • SalientFeatures • Volume, Composition and Direction ofTrade • Balance ofPayments **Chapter-8: Pre-reforms Strategies:** • Stabilization Strategies/Measures in all the three sectors of theeconomy • Tariff Policy: Types andImpact • Exchange RateDynamics **Chapter 9: Planning Commission:** • Organization andObjectives • Functions Practicum: Calculation of BoP and evaluating trade policies; Assignment and group discussion on the planning commission.	

References:

1. DuttRuddar and K.P.M Sundaram (2001): Indian Economy, S Chand & Co. Ltd. NewDelhi.
2. Mishra S.K & V.K Puri (2001) "Indian Economy and –Its development experience", Himalaya PublishingHouse.
3. KapilaUma: Indian Economy: Policies and Performances, AcademicFoundation
4. Bardhan, P.K. (9th Edition) (1999), The Political Economy of Development in India, Oxford University Press, NewDelhi.
5. Jalan, B. (1996), India's Economic Policy- Preparing for the Twenty First Century, Viking,

Weblinks:

- https://www.insightsonindia.com/indian-economy-3/structure-of-indian-economy
- https://www.yourarticlelibrary.com/agriculture/top-13-problems-faced-by-indian-agriculture/62852
- https://www.economicsdiscussion.net/industries/role-of-industries-in-indian-economy/29539
- https://www.yourarticlelibrary.com/foreign-trade/11-main-features-of-volume-composition-and-direction-of-indias-foreign-trade/5901
- https://www.slideshare.net/BharathiRaj3/monetary-and-fiscal-policy-of-india

Course Articulation Matrix - 21OEECO102

PO's / CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	P09	PO10	PO11	PO12
CO1	2	1	1	2	2	1	2	1	1	1	-	1
CO2	1	2	2	2	1	1	-	1	1	1	2	1
CO3	1	2	1	2	1	1	2	1	1	1	1	1
Weighted Average	1.3	1.6	1.3	2	1.3	1	2	1	1	1	1.5	1

Semester I

Course Code: 21OEECO103	**Course Title: OE1:** Development Studies
Course Credit (L:T:P): 3 (3:0:0)	**Teaching Hours/Week:** 3 Hours
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Duration of Exam: $2\frac{1}{2}$ Hours	**Summative Assessment Marks:** 60

Course Outcomes (COs):

CO1: Provide solid foundation of fundamentals required to solve socio economic problems

CO2: Acquire knowledge to appreciate the dimensions of contemporary development issues to generate sensitivity to problems concerning ethicsandhumanvaluestodeveloporientationtowardseffectivecommunication and critical analysis

CO3: Cultivate professional and ethical attitude, effective Communication skills, teamwork skills, multidisciplinary approach, and to facilitate an advanced understanding and appreciation of the principles, methodologies, value systems, and thought processes employed in human inquiries.

Unit	Description	Hrs
I	**Development: Meaning and Current Challenges**	**9**
	Chapter-1: Meaning of Development: • The Concept of Development, • Growth and Development • Transition from quantitative to qualitative indices **Chapter-2: Modern economic growth:** • Characteristics of Modern Economic Growth • Regional and Global Disparities • Common Characteristics and Dissimilarities among Developing Countries. **Chapter-3: Current Development Challenges:** • Inequality • Migration • Conflicts • Practicum: Group discussion on migration	
II	**Approaches to Development:**	**12**
	Chapter-6: Approaches of Development: • AdamSmith • Marx • Schumpeter • StructuralistApproach • Neo-liberalism, IMF and StructuralAdjustment • CapabilitiesApproach • Practicum: Calculation of different Human Development Indices	
III	**Theories and Current Issues in Development:**	**21**

	Chapter-7: Theories of Development • Theorizing Development - Modernization Theory, DependencyTheory • Capitalist WorldSystem • The Evolution of Thought on PovertyReduction • Colonial Regimes and TheirLegacies **Chapter-8: The Industrial Revolution** • Genesis andSpread • International specialization ofLabour/Industry • IndustrialLabour • ILO and its activities to promote labourstandards **Chapter-9: Environment and Development** • Increasing degradation of natural environment – Water and Air pollution andDeforestation • Depletion of GlobalCommons • Sustainable development - Concept andMeasures • Sustainable Development Goals(SDGs) • Climate Change – Causes, Impact, Measures of Mitigation and • Adaptations Practicum: Identify the different pollution sources	

References:

1. Crocker, D. (2008). Ethics and development theory-practice, Ethics of Global Development Agency, Capability, and DeliberativeDemocracy,67-106
2. Des Gasper (2008), 'Denis Gouletand the Project of Development Ethics: Development, 8, 99. 481-9, Elsevier Science,1,pp.10-26.
3. Drèze, Jean and AmartyaSen(2002), India: Development and Participation, second edition. Oxford: Oxford UniversityPress.
4. Gasper, D. (2004). The ethics of development: From Economism to human development. Edinburgh: EdinburghUniversityPress
5. Myrdal, Gunnar. (1974), "What is Development?" Journal of EconomicIssues8(4):729-736.
6. Sen, Amartya(1999) Development as Freedom. New York: AnchorBooks.

WEB LINKS:

- **https://www.investopedia.com/terms/d/development-economics.asp**
- **https://press.princeton.edu/books/hardcover/9780691132921/introduction-to-modern-economic-growth**
- **https://www.investopedia.com/terms/i/industrial-revolution.asp**
- **https://testbook.com/learn/development-and-environment**
- **https://www.acciona.com/sustainable-development/?_adin=02021864894**
- **https://www.nrcm.org/climate/global-warming-air-pollution**

Course Articulation Matrix- 21OEECO103

PO's / CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	P09	PO10	PO11	PO12
CO1	1	2	2	2	2	1	3	2	1	2	1	1
CO2	2	2	1	2	1	2	2	2	1	1	-	1
CO3	1	2	1	2	1	2	2	2	-	-	1	1
Weighted Average	1.3	2	1.3	2	1.3	1.6	2.3	2	1	1.5	1	1

Semester II

Course Code: 21OEECO201	**Course Title:OE2**: Contemporary Indian Economy
Course Credit (L:T:P): 3 (3:0:0)	**Teaching Hours/Week:** 3 Hours
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Duration of Exam: $2\frac{1}{2}$ Hours	**Summative Assessment Marks:** 60

Course Outcomes (COs):

CO1 Evaluate the LPG Concept and current problems of IndianEconomy

CO2 Identify the factors contributing to the recent growth of the IndianEconomy

CO3 Examine the sector specific policies adopted for achieving the rationalgoals & review of various economic policiesadopted.

Content of Course 1	42 Hrs
Unit – 1 LPG POLICIES, ECONOMIC REFORMS AND AGRICULTURE:	**14**
Chapter No. 1 Recent Issues: Concept ofLPG India's populationpolicy DemographicDividend	4
Chapter No. 2 Urbanization and governance: Urbanization and Smart CityMission Impact of COVID-19Pandemic AtmaNirbhara BharatAbhiyan	4
Chapter No. 3 Economic Reforms and Agriculture: Commercialization andDiversification of Agriculture Public Distribution System :TPDS Doubling Farm Incomes -MGNREGS (briefintroduction) **Practicum** 1. Mini-project to ascertain the impact of pandemic on lives of different sections ofpopulation 2. Field visits to understand the agrariansituation	6
Unit – 2 INDUSTRY, BUSINESS, FISCAL POLICY:	**14**
Chapter No. 4. Industrial Policy: New Industrial Policy and Changes Public Sector Reforms Privatisationand Disinvestment	4
Chapter No. 5. Business: Ease of Doing Business Performance ofMSMEs Role of MNC's in IndustrialDevelopment **Chapter No. 6. Fiscal Policy:** Tax, Expenditure, BudgetaryDeficits GST (meaning and features), Fiscal Federalism andFiscal Consolidation (in brief)	5 5

Recommendations of the Current FinanceCommission **Practicum**: Mini-projects to assess the business climate	
Unit – 3 MONETARY POLICY, FOREIGN TRADE AND INVESTMENT:	**14**
Chapter No. 7 Monetary Policy: Organisation of India's MoneyMarket Financial SectorReforms	5
Chapter No. 8. Money and Capital Markets Working of SEBI inIndia Changing roles of the Reserve Bank ofIndia Foreign Banks and Non-Banking FinancialInstitutions Demonetization and itsimpact	5
Chapter No. 9. Foreign Trade and Investment:	4
Direction of India's foreigntrade Balance of payments since1991(trends) FDI – Trends andPatterns New EXIMpolicy Bilateral and Multilateral Trade Agreements (inbrief) **Practicum:** Computation and analysis of Wholesale Price Index, Consumer PriceIndex: Group Discussions on India's trade policies and trade agreements	

References:

- Bardhan, P.K. (9th Edition) (1999), The Political Economy of Development inIndia, Oxford University Press, New Delhi.
- BhaduriAmit, (2015), A Model of Development By Dispossession, FourthFoundation
- DuttRuddar and K.P.M Sundaram (2001): Indian Economy, S Chand & Co. Ltd.New
- Delhi.
- Jalan, B. (1996), India's Economic Policy- Preparing for the Twenty First Century, Viking, NewDelhi.
- Joshi Vijaya and L.M.D. Little, (1998), India's Economic Reform 1991-2001,Delhi,OUP.
- Mishra S.K & V.K Puri (2001) "Indian Economy and –Its development experience", Himalaya PublishingHouse.

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- **https://en.wikipedia.org/wiki/Smart_Cities_Mission**
- **https://en.wikipedia.org/wiki/Smart_Cities_Mission**
- **https://prepp.in/news/e-492-new-industrial-policy-1991-indian-economy-notes**
- **https://www.jagranjosh.com/general-knowledge/population-policies-of-india-1448689756**
- **https://en.wikipedia.org/wiki/Foreign_trade_of_India**
- **https://tavaga.com/tavagapedia/sebi**
- **https://entri.app/blog/role-of-rbi-in-indian-banking-system**
- **https://www.drishtiias.com/daily-updates/daily-news-editorials/a-new-foreign-trade-policy-for-india**
- **https://www.jagranjosh.com/general-knowledge/population-policies-of-india-1448689756-1**

Course Articulation Matrix -21OEECO201

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	P09	PO10	PO11	PO12
CO1	2	2	3	3	2	2	2	2	1	1	1	2
CO2	2	2	2	2	2	1	2	1	1	1	-	1
CO3	1	1	1	1	1	-	2	1	1	1	-	1
Weighted Average	1.6	1.6	2	2	1.6	1.5	2	1.3	1	1	1	1.3

Semester II

Course Code: 21OEECO202	**Course Title:OE2**: Sustainable Development Goals
Course Credit (L:T:P): 3 (3:0:0)	**Teaching Hours/Week:** 3 Hours
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Duration of Exam: $2\frac{1}{2}$Hours	**Summative Assessment Marks:** 60

Course Outcomes (COs):

CO1 Comprehend the basic concept of Sustainable Development (SD), the environmental, social and economic dimensions.

CO2 Know the history and evolution of the SD concept and discuss the conflicts which are involved in the SD concept on the national as well as on the global scale.

CO3 Examine the disadvantages of instruments involved in SD; Evaluate the sustainable development goals and their attainments.

Unit	Description	42 Hrs
I	**Development, Environment and Pollution**	**15**
	Chapter-1: Environmental Goods and Services: • Relationship between Environment andDevelopment • Environmental Kuznets Curve – Meaning andEvidence	3
	Chapter-2: Resource Use and Management: • Resource Taxonomy – Renewable and Non-renewableResources • Economic Theory of DepletableResources • Optimal Use of RenewableResources • Resource Scarcity and Economic Growth – Limits to GrowthModel • Tragedy of Commons and Common PropertyResources • Resource Pricing and Resource Conservation	6
	Chapter-3: Sustainable Development Sustainable Development – Meaning andIndicators • Objectives andPrinciples Approaches and Strategies for SustainableDevelopment • Environmental AccountingMeasures **Practicum:** Mini project on the impact of local environment	6
II	**Sustainable Development Goals**	**10**
	Chapter-4: Introduction and History Brundt land Committee Recommendations Rio Summit andAgenda21 SDGs: Targets and Indicators	3
	C**hapter-5: Government and the SDGs** • Planning Localizing the SDGs • SDG Policy Instruments • Industrial Policies and theSDGs	4
	Chapter-6: Financing the SDGs • Types ofFinancing • New Financing Mechanisms and GlobalFunds • **Practicum:** Assignments on Progress in attainment of various SDGs in India and their states	3

III	**SDGs and their Achievement:**	**17**
	Chapter-7: Realizing the SDGs: • De-growth and CircularEconomy • Sustainable Production andConsumption • Sustainable Cities andTransportation • Sustainable Designs, Technology, Digital Revolution andInnovation • RenewableEnergy	8
	Chapter-8: Tools for SDGs Achievement: • Effectiveness andCoherence • India's framework for SustainableDevelopment	5
	Chapter-9: Other Issues in SDGs: • Social business, Civil Society Organizations (CSOs) andOperations • DevelopmentAssistance • Cross-BorderCooperation	4
	Practicum: Group Discussion on sustainable practices – other agriculture	

Course Articulation Matrix -21OEECO202

PO's **CO's**	**PO 1**	**PO2**	**PO 3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**P09**	**PO10**	**PO11**	**PO12**
CO1	2	2	2	2	2	1	3	2	1	1	-	1
CO2	2	-	-	-	1	2	2	2	1	1	-	-
CO3	2	2	1	2	2	2	2	2	1	1	1	-
Weighted Average	2	2	1.5	2	1.6	1.6	2.3	2	1	1	1	1

Semester II

Course Code: 21OEECO203	**Course Title:OE2**: Economics of Business Environment:
Course Credit (L:T:P): 3 (3:0:0)	**Teaching Hours/Week:** 3 Hours
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Duration of Exam: $2\frac{1}{2}$ Hours	**Summative Assessment Marks:** 60

Course Outcomes (COs):

At the end of the course the student should be able to:

CO1 Examine the elements and concepts of Business Environment.

CO2 Identify the environmental constraints in the growth of a business firm.

CO3 Analyze the ways to utilize the current environmental conditions to achieve higher growth in the field of Business.

Unit	Content of Course:	42 Hrs
I	**Introduction to Business Environment:**	12
	Chapter-1: Introduction: • Definition, Objectives, Importance of Business Environment. • Strategies of Business Environment • Business Environment Determinants • The Micro Environment of Business and The Macro Environment of Business. **Chapter-2: Economic Environment:** • Meaning of Economic Environment • Impact of Liberalization Privatization &Globalization (LPG) on Indian Business Environment. • Monetary policy – Meaning and Objectives • Fiscal policy – Meaning and Objectives • EXIM policy – Meaning and Objectives • Industrial policy – Meaning and Objectives (Latest Policy Measures). **Chapter-3: Global Business Environment:** • Meaning • Globalization: Nature and Impact of Globalization • Challenges of International Business • WTO and its Implications on Indian Economy. **Practicum** 1. Group discussion on WTO and its impact on Indian business	3 6 3
II	**Non-Economic Environment:**	16

	Chapter-4: Social and Cultural Environment: Business and Society Social Objectives of Business Corporate Social Responsibility Consumer Rights & Corporate Governance Business Ethics **Chapter-5: Technological Environment:** Meaning, Technological Changes – R & D in India Public and Private Investment in R and D. **Chapter-6: Financial Environment:** • Introduction and Meaning • An Overview of Indian Financial System • Financial Institutions and their Roles • Role of Foreign Direct Investment and its impact on Indian Business **Practicum:** Students are expected to analyze the major economic and financial indicators such as GDP/BSE/NSE and submit the report	5 5 6
II	**Non-Economic Environment:**	**16**
	Chapter-4: Social and Cultural Environment: Business and Society Social Objectives ofBusiness Corporate Social Responsibility Consumer Rights & Corporate Governance Business Ethics **Chapter-5: Technological Environment:** Meaning, Technological Changes – R & D inIndia Public and Private Investment in R andD. **Chapter-6: Financial Environment:** • Introduction and Meaning • An Overview of Indian Financial System • Financial Institutions and their Roles • Role of Foreign Direct Investment and its impact on Indian Business **Practicum:** Students are expected to analyze the major economic and financial indicators such as GDP/BSE/NSE and submit the report	5 5 6

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1. Francis Cherunilam: Business Environment, Himalaya Publishing House, Mumbai.
2. K. V. Sivayya and VBM Das: Indian Industrial Economy, Sulthan Chand Publications, Delhi.
3. M. Adhikari: Economic Environment of Business, Sulthan Chand and Sons, New Delhi. Raj
4.Agarwal: Business Environment, Excel Publications, New Delhi.

WEB LINKS:

- **https://www.toppr.com/guides/business-environment**
- **https://www.marketingtutor.net/economic-factors-affect-business-environment**
- **https://pestleanalysis.com/legal-factors-affecting-business**
- **https://www.mca.gov.in/MinistryV2/easeofdoingbusiness.html**
- **https://www.india.gov.in/spotlight/national-monetisation-pipeline-nmp**

Course Articulation Matrix- 21OEECO203

PO's / CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	P09	PO10	PO11	PO12
CO1	3	1	1	1	2	2	2	1	1	1	2	2
CO2	2	2	2	2	2	1	2	1	2	1	2	2
CO3	3	2	2	2	3	1	2	3	2	1	2	1
Weighted Average	2.6	1.6	1.6	1.6	2.3	1.3	2	1.6	1.6	1	2	1.6

Annexure: English Open Elective Syllabus - I

For all Undergraduate Programs

Title of the Paper-Functional English Grammar and Study Skills

Semester I **Course Code: 21OEENG101**	**Course Title: Functional English Grammar and Study Skills**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Exam Duration: 2½ Hours	**Semester End Examination Marks:** 60

Course Outcomes

CO1: Knowledge of elements of grammar for better written and oral communication.

CO2: Enhanced ability in rudiments of written process for functional uses of English for various purposes- personal, academic and business.

CO3: Equipped with the mechanics of effective reading skills.

Course Content

Section I: Functional English Grammar

1. Grammar of Spoken and Written English
2. Basic Sentence Patterns in English
3. Analysis of Sentence Patterns (SVO, SV, SVOC, SVOA, SVO A/C)
4. Functions of Various Types of Phrases: Noun Phrases, Verb Phrases, Adjective Phrases, Adverbial Phrases, Prepositional Phrases
5. Functions of Clauses: Noun Clause, Adjective Clause and Adverbial Clause and Prepositional Clauses
6. Verbs – Tense and Aspects, Modal Verbs, Functions and Uses

Section II: Writing Skills

1. Writing as a Skill–Its Importance, Mechanism of Writing, Words and Sentences, Paragraph as a Unit of Structuring the Whole Text, Analysis of Paragraph
2. Functional Uses of Writing: Personal, Academic and Business
3. Writing Process: Planning a Text, Finding Materials, Drafting, Revising, Editing, Finalising Draft
4. Models of Writing: Expansion of Ideas, Dialogue Writing, Drafting an Email

Section III: Reading Skills

1. Meaning and Process of Reading
2. Strategies and methods to Improve Reading Skill
3. Sub-skills of Reading: Skimming, Scanning, Extensive Reading, Intensive Reading

References:

- Geoffrey Leech and Svartik. *Communicative Grammar English*, Pearson
- Geoffrey Leech. *English Grammar for Today*, Palgrave
- Leena Sen. *Communication Skills*, Princeton Hall
- Prasad P. *The Functional Aspects of Communicative Skills*.

- Vandana Singh. *The Written Word*, OU

Course Articulation Matrix - 21OEENG101

COs / POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1	3	-	-	-	1	2	1	1	2	2	1	3
CO 2	3	1	1	3	1	2	1	1	3	3	1	3
CO 3	3	1	-	3	1	2	1	1	3	3	1	3
WA	3	1	1	3	1	2	1	3	2.6	2.6	1	3

Annexure: English Open Elective Syllabus - II
For all Undergraduate Programs

Title of the Paper-Spoken English for Corporate Jobs

Semester II **Course Code: 21OEENG201**	**Course Title: Spoken English for Corporate Jobs**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Exam Duration: 2½ Hours	**Semester End Examination Marks:** 60

Course Outcomes

CO1: Skills for Enhanced Job opportunities

CO2: Enriched vocabulary and Knowledge of Business English

CO3: Effective communication for various social situations

CO4: Ability to thrive in a multi-cultural society

Course Content

Section I: English for Front Desk Management

1. Greeting, Welcoming
2. Dealing with Complaints, Giving Instructions or Directions
3. Giving Information: About Various Facilities, Distance, Area, Local Specialties
4. Consultation and Solution of Problems
5. Accepting Praises and Criticism, Apologizing

Section II: Fluency and Etiquettes

1. Polite sentences and Words
2. Use of persuading words
3. Intonation and Voice Modulation
4. Developing Vocabulary

Section III: Business Speeches

1. Principles of Effective Speech and Presentations
2. Speeches: Introduction, Vote of Thanks, Occasional Speech, Theme Speech

3.Use of Audio -Visual Aids in Presentations

Section IV: Cross-Cultural Communication

1.Dealing with Language Differences

2. Probing Questions to get Information
3. Etiquettes in Cross-cultural Communication

References:

- JV Vilanilam, More effective communication, Sage Publication Pvt. Ltd.
- Krishna Mohan and Banarji, Developing Communication Skills.
- Lesikar& Pettit, Business Communication, AITBS, Publishers Delhi
- Ludlow & Panton PHI, The Essence of Effective Communication, New Delhi.
- N Krishnaswamy, LalithaKrishnaswamy and others, Mastering Communication Skills and Soft Skills - Bloomsbury, New Delhi, 2015
- PradhanBhende&Thankur, Business Communication Himalaya Publishing House, Mumbai.

- Rai& Raj - Effective Documentation & Presentation, Himalaya Publishing House – Mumbai
- Ray Rubeen, Communication Today - Himalaya Publishing House, Mumbai.
- R S N Pillai&Bhagawati, S Chand & Co.- Commercial Correspondence & Office Management
- SushilBahl , Business Communication Today, Response Books, Sage Publication, New Delhi.

Course Articulation Matrix
21OEENG201

COs / POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1	3	2	1	1	3	1	1	1	2	3	1	3
CO 2	3	2	1	1	2	3	1	2	2	3	1	3
CO 3	3	1	1	2	1	2	1	2	2	3	1	3
WA	3	1.5	1	1.5	1.75	2.25	1	2	2	3	1	3

OE(1) Geography Syllabus for All Programs(Except Arts)

Semester I

CourseCode:21OEGEO101	**Course Title: Introduction to Physical Geography**
CourseCredits: 03 (3:0:0)	**Hours of Teaching/Week:**3Hours(Theory)
TotalContactHours: 42Hours(Theory)	**Formative Assessment Marks:** 40
Exam Duration:$2\frac{1}{2}$Hours (Theory)	**Semester End Examination Marks:**60

Course Outcomes(COs):

1. Acquire the knowledge of structure and movement of the earth.
2. Analyze the interior and exterior aspects of earth sciences.
3. Analyze and interpret atmospheric phenomena.
4. Examine and describe the structure, composition and nature of water bodies.

Course Content

UNIT –1	**10HOURS**
Origin, Shape and Size of the Earth, MovementoftheEarth-RotationandRevolution,EffectsofthemovementofEarth, Coordinates -Latitude, Longitude and Time. Structure of the Earth,	
UNIT –2	**12HOURS**
Rocks - types, significance, Weathering – types. Agents of Denudation-River, Glacier, Windand Under Groundwater. Volcanicity, Earthquakes and Tsunamis	
UNIT –3	**10HOURS**
Structure and Composition of Atmosphere, Weather and Climate. Atmospheric Temperature, Heat Budget of the atmosphere Atmospheric Pressure, Winds and Precipitation	
UNIT –4	**10HOURS**
Distribution of Land and Sea, Submarine Relief of the Ocean, Temperature and salinity of Sea Water. Ocean Tides, Waves and Deposits, Ocean currents - Atlantic, Pacific and Indian Oceans. Marine Resources: Biotic, mineral and energy resources	

References

1. B.S.Negi(1993)PhysicalGeography.S.J.Publication,Meerut
2. D.S.Lal(1998)Climatology.Chaitnyapublishinghouse,Allahabad
3. K.Siddhartha(2001)Atmosphere,WeatherandClimate.Kisalayapublication,New Delhi
4. R.N.Tikka(2002)PhysicalGeography.KedarnathRamnath&co,Meerut.
5. WillianD.Thornbury(1997)PrincipleofGeomorphology.NewAge,International (Pvt.Ltd.)New Delhi.

Reference Websites

1. http://www.physicalgeography.net
2.https://www.geography.com
3. https://libguides.tru.ca › physicalgeography › websites
4. https://www.nationalgeographic.org › activity › reason
5. https://www.gale.com › physical-geography

Course Articulation Matrix- 21OEGEO101

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	-	1	2	2	3	1	2	1	-	3
CO2	3	2	2	2	2	2	3	2	2	2	2	3
CO3	3	2	1	1	1	2	3	2	1	1	-	3
CO4	3	2	1	1	-	2	3	2	1	1	-	3
Weighted Average	**3.66**	**2.33**	**1.33**	**1.25**	**1.66**	**2**	**3**	**2.33**	**1.5**	**1.25**	**2**	**3**

OE(1) Geography Syllabus for All Programs(Except Arts)

Semester I

CourseCode:21OEGEO102	**Course Title: Fundamentals of Remote Sensing**
CourseCredits: 03 (3:0:0)	**HoursofTeaching/Week:**3Hours(Theory)
TotalContactHours: 42Hours (Theory)	**FormativeAssessmentMarks:** 40
Exam Duration:$2\frac{1}{2}$Hours (Theory)	**SemesterEnd Examination Marks:**60

Course Outcomes:

1. Demonstrate the basic concepts and impart necessary skills of remote sensing
2. Analyze sensing and recording reflected or emitted energy and processing it.
3. Analyze and interpret remotely sensed satellite images on the Earth surface.
4. Comprehend the concepts of Remote sensing and describe its practical significance.

Course Content

UNIT -1 Introduction	**10HOURS**
Definition of Remote Sensing, developmental stages, Laws of Physics, electromagnetic waves, spectrum, regions, wavelength, frequencies, and applications. Types-Satellites, Sensors, Payloads, Orbits, telemetry of satellites.	
UNIT -2 Process and types of Remote Sensing	**10HOURS**
Process of remote sensing, interaction of radiation with atmosphere and targets, atmospheric noises, attenuation in radiance, resolutions of remote sensing, optical remote sensing, visible region of the spectrum, thermal remote sensing, micro wave remote sensing, Hyper spectral remote sensing, LiDAR, and other remote sensing Platforms.	
UNIT -3 Image Classification and Interpretation	**10HOURS**
Satellite products and its spectral characteristics, composite images, band ratios; Land use land cover classification schemes-Anderson and NRSC;Visual image interpretation, elements, stages of interpretation and interpretation keys. Image classification- supervised, unsupervised, and principal component analysis (PCA) and accuracy assessment.	
UNIT –4 Applications of Remote Sensing	**12HOURS**
Disaster Management, Meteorological Studies, Agricultural and Irrigation Studies, Forestry Studies, Hydrological Studies, Natural Resource, Oceanic and Coastal mapping, Soil resource mapping, Urban and Rural Mapping and Management.	

Reference

1. Image processing and GIS for remote sensing: techniques and applications; Second Edition (2016) - Liu, Jian-Guo, Mason, PhilippaJ
2. Introduction to Remote Sensing and Image Interpretation (2003);LillesandT.M.
3. IntroductiontoRemoteSensing,FifthEdition(2011);JamesB.Campbell,RandolphH.Wynne
4. IntroductoryDigitalImageProcessing:ARemoteSensingPerspective,FourthEdition(2015)- John R.Jensen
5. Practical handbook of remote sensing, First Edition (2016) - Lavender, Andrew, Lavender,Samantha
6. RemoteSensingandGIS,SecondEdition(2011),Bhatta,B.
7. Remote sensing and image interpretation (2015); Chipman, Jonathan W., Kiefer, Ralph W., Lillesand
8. RemoteSensingoftheEnvironment:AnEarthResourcePerspective(PrenticeHallSeries in GeographicInformationScience)-SecondEdition(2006),JohnJensen

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1. https://onlinecourses.nptel.ac.in/noc19_ce41/preview
2. http://www.rsi.ca
3. http://www.earthsat.com
4. http://www.cr.usgs.gov
5. http://edc.usgs.gov/

Course Articulation Matrix- 21OEGEO102

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	3	3	2	3	2	2	2	2	2	2	3
CO2	2	2	3	2	2	2	3	-	1	1	1	2
CO3	2	2	2	2	2	1	2	-	1	1	1	2
CO4	3	2	3	2	2	2	3	1	2	1	2	3
Weighted Average	**2.25**	**2.25**	**2.75**	**2**	**2.25**	**2.33**	**2.50**	**1.5**	**1.5**	**1.25**	**1.5**	**2.5**

OE(2) Geography Syllabus for All Programs(Except Arts)

Semester II

CourseCode:21OEGEO201	**Course Title: Introduction to Human Geography**
CourseCredits: 03 (3:0:0)	**Hours of Teaching/Week:**3Hours(Theory)
TotalContactHours: 42Hours(Theory)	**FormativeAssessmentMarks:** 40
Exam Duration:$2\frac{1}{2}$Hours (Theory)	**SemesterEnd Examination Marks:**60

Course Outcomes(COs):

1. Comprehend the evolution, approaches and development of Human Geography.
2. Understand the geographical analysis of population dynamics and migration.
3. Determine and introspect the concept of culture, cultural diffusion, factors, pattern and process of realm.
4. Analyze and describe the Economic activities and human settlements.

Course Content

UNIT -1 Introduction to Human Geography **10HOURS**
Nature and scope, Development Environmental Determinism and Possiblism, Neo determinism (stop and go-determinism) Approaches to human geography: Exploration and Descriptive approach, regional analysis Approach, Areal Differentiation Approach, Spatial organization Approach. Modern approaches: Welfare or Humanistic Approach, Radical Approach, Behavioral Approach, Post Modernism in geography, Fields and sub fields in Human geography
UNIT -2 Geographical Analysis of Population **10HOURS**
Distribution and Growth of Population Density of population: meaning and Types: Arithmetic Density and Physiological Density. Regional distribution of Density of Population. Population Movement: Migration, Raventein's Law of Migration, Factors of population Migration, Economic Push and Pull factors, Cultural Push and Pull Factors, Environmental Push and Pull Factors. Migration Types: Immigration and Emigration, Internal and International Migration
UNIT -3 Cultural Patterns and Processes **10HOURS**
Concept of Culture, Material and Non material culture Cultural Regions, cultural Traits and Complexes, cultural Hearths, cultural Diffusion. Languages of the World: Types, Classification and Distribution. Religions: Types and Classification. Distribution. Universalizing Religions: Christianity, Islam, Buddhism. Ethnic Religions: Hinduism, the Chinese religion, Shintoism, Judaism. The Major tribal population of the world.
UNIT –4.Human Economic Activities, Development and Settlements **12HOURS**

Primary Economic Activities – Agriculture, Types: Primitive Subsistence, Intensive subsistence, Plantation Agriculture, Extensive Commercial grain cultivation, Mixed Farming, Dairy Farming
Secondary Activities: Manufacturing, classification – based on size – Small Scale and Large scale. Based on Raw material – Argo-based, Mineral based, Chemical Based and Forest based. Industrial Regions of the world.
Tertiary Activities: Types: Trade and commerce, Retail Trading services, Wholesale trading. Transport and communications: Factors, communication services – Telecommunication.
Services: Informal and Non formal sector. Information technology and service.
Human Settlements: Factors, Classification, Types and Patterns: Rural, Urban. Compact or Nucleated and Dispersed settlements. Rural settlement Patterns: linear, rectangular, circular, star shaped, T shaped.

References

1. Hartshorne,T.A.,&Alexander,J.W.(2010).EconomicGeography.NewDelhi:PHI Learning.
2. .Knox,P.,Agnew,J.,&McCarthy,L.(2008).TheGeographyoftheWorldEconomy. London: HodderArnold.
3. .Lloyd,P.,&Dicken,B.(1972).LocationinSpace:ATheoreticalApproachto Economic Geography. New York: Harper andRow.
4. Siddhartha,K.(2000).EconomicGeography:Theories,ProcessandPatterns,NewDelhi: KisalayaPublications.
5. Smith,D.M.(1971).IndustrialLocation:AnEconomicGeographicalAnalysis,NewYork: John Wiley andSons.

Reference Websites

1.https://open.umn.edu ›
2.https://sccollege.edu ›
3.https://web.ung.edu ›
4.https://oer.galileo.usg.edu ›
5.https://geography.wisc.edu ›
6.https://www.pdfdrive.com ›
7.https://old.amu.ac.in ›

Course Articulation Matrix- 21OEGEO201

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	1	-	1	2	1	-	-	-	2
CO2	2	2	1	1	1	2	2	2	1	1	2	2
CO3	2	2	1	1	-	2	2	1	-	-	1	3
CO4	3	2	2	1	-	2	2	2	1	1	1	3
Weighted Average	**2.25**	**1.75**	**1.25**	**1**	**1**	**1.75**	**2**	**1.5**	**1**	**1**	**1.33**	**2.5**

OE(2) Geography Syllabus for All Programs(Except Arts)

Course Code:21OEGEO202	**Course Title: Basics of Geographic Information Systems(GIS)**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:**3Hours(Theory)
Total Contact Hours: 42Hours(Theory)	**Formative Assessment Marks:** 40
Exam Duration:$2\frac{1}{2}$Hours (Theory)	**Semester End Examination Marks:**60

Course Outcomes:

1. Acquiring the knowledge of concept development components and functions of GIS
2. Analyze the theoretical concepts in a practical way through the mathematical models of geography.
3. Understand the various modes of data collection and scale.
4. Solve geographical problems through the preparation of thematic maps.

Course Content

UNIT -1 Introduction	**10HOURS**
Emergence of GI Science, Milestone and Developmental stages in GIS, Definition, scope,role of GIS in digital world; Components, functionalities, merits and demerits, global market, interdisciplinary domains, and its integration with GIS.	
UNIT -2 Geodesy and Spatial Mathematics	**10HOURS**
Cartesian coordinates, latitude, longitudes, formats of angular units, geographical coordinates, Datum: WGS84, vs NAD32. UTM, Aerial Distance measurement using Geographic and projected coordinates, Area, Perimeter, length by coordinates and various international measures.	
UNIT -3 GIS Data and Scale	**10HOURS**
Spatial Data and its structures; sources and types of data collection; data errors, topology of data and relationship. Large Scale vs Small Scale, generalization; precision and accuracy of data-logical consistency and non-spatial data integration	
UNIT –4. Geo processing and Visualization	**12HOURS**
Spatial and Non-Spatial Queries, proximity analysis, Preparation of Terrain and Surface models. Hotspot and density mapping. Types of maps, thematic maps and Its types, relief maps, flow maps and cartograms. Tabulations: Graphs and Pivot tables	

References

1. An Introduction to Geographical Information Systems-IanHeywood(2011)
2. GeographicInformationSystemsandCartographicModelling-Tomlin,C.D.(1990)
3. GeographicInformationSystemsandEnvironmentalModelling-Clarke,C.,K.(2002)
4. GeographicInformationSystemsandScience-PaulA.Longley,et.al.(2015)
5. Geographic Information Systems: AManagement Perspective-Aronoff,S.(1989)
6 GIS-Fundamentals, Applications, and Implementations-Elangovan,K.(2006)
7. IntroductiontoGeographicalInformationSystems-Chang,Kang-Tsung(2015)
8. Mathematical Modeling in Geographical Information System, Global Positioning System and Digital Cartography - Sharma, H.S.(2006)
9. Remote Sensing and GIS-Bhatta,B.(2011)

11 SpatialanalysisandLocation-AllocationModels-Ghosh,A.andG.Rushton(1987)

Reference Websites

1. IIRS MOOC programme:https://isat.iirs.gov.in/mooc.php
2. ITC Netherlands, Principles of GIS
3. https://webapps.itc.utwente.nl/librarywww/papers_2009/general/principlesgis.pdf
4. GeographicalInformationSystems:Principles,Techniques,Managementand Applications
5. https://www.geos.ed.ac.uk/~gisteac/gis_book_abridged/

Course Articulation Matrix- 21OEGEO202

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	3	2	3	2	2	1	2	1	2	3
CO2	2	2	2	2	3	2	2	1	1	1	2	2
CO3	2	2	2	2	2	1	2	1	1	1	2	3
CO4	2	2	3	2	3	2	3	1	2	1	2	3
Weighted Average	**2**	**2**	**2.5**	**2**	**2.75**	**1.75**	**2.25**	**1**	**1.5**	**1**	**2**	**2.75**

Open Elective

OE-1 Course Code: 21OEHIS102

Course Title: Introduction to Archaeology	
Total Contact Hours: 39 to 42	Course Credits: 3
Formative Assessment Marks: 40	Duration of ESA/Exam: 60
Syllabus Authors: BOS (UG)	Summative Assessment Marks: 100

Course Outcomes (COs):

- **CO1.** Understand the concept of Archaeology as an ancillary for study of history and the various features of Archaeology in understanding history
- **CO2.** Familiarize with the scope of Archaeology. Understand the various tools and techniques imbibed in Archaeology
- **CO3.** Study various schools of disciplines of Archaeology.

Content of Course	**39/42 Hrs**
Unit-1 : Introduction	**13/14**
Chapter-1 : Definition of Archeology Its Aims and Scope : difference between History and Archeology	07
Chapter-2 : Kinds of Archaeology – Ethno -Marine and Salvage	07
Unit – II : Archaeology by Period	**13/14**
Chapter-3 : Lower Paleolithic Middle Paleolithic – Upper Paleolithic – Mesolithic – Neolithic - Chalcolithic – Bronze age – Iron Age	06
Chapter-4 : Archaeology in India William Jones, James Princep, Alexander Cunningham, John Marshall, Sir Mortimer Wheeler, Allchin, H. D. Sankalia, S.R.Rao. M. H. Krishna**.**	06
Chapter-5 : Archaeological Survey of India – Department of Archaeology Government of Karnataka	02
Unit-III : Exploration, Excavation and Analysis	**13/14**
Chapter-6 :Identification of a site – field survey – sampling techniques – Application of Scientific methods.	04
Chapter-7 : Methods of Excavation – vertical and horizontal – Trenching -Gridding	02
Chapter-8 : Excavation of burial mounds – Open Stripping – Quadrant method – Excavation of pits – Excavation of a typical site	04
Chapter-9 : Visit to Local Archaeological Sites and Preparation of Field Study Report for Assignment is Mandatory	04

Suggested Readings:

1. Agrawal D.P - Archaeology in India
2. Aiken M.J - Science based dating in archaeology
3. Allchin Bridget
4. & Raymond Allchin - Rise of Civilisation in India and Pakistan
5. Atkinson RJC - Field Archaeology
6. Basker .P - Techniques of Archaeological Excavation
7. Chakrabarthi D.K - A History of Indian Archaeology from the Beginning to 1947
8. Chakrabarthi D.K - Theoretical Perspectives in Indian Archaeology
9. Gosha .A - Encyclopedia of Indian Archaeology
10. Rajan .K - Archaeology, Principles and Methods

11. Raman K.V - Principles and Methods in Archaeology
12. Dr.Srinivas V Padigar - Principles of Archaeology.
13. Dr Srinivas V Padigar - PuratattvaParichaya-(Kan)
14. Sundara (Ed.) - Kannada VishayaVishvakoshaIthihasamattuPuratattva
15. SrikantaShastri - PuratattvaShodane

Course Articulation Matrix - Course Code: 21OEHIS102

COs/ POS	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	1	1	2	1	2	2	1	1	2
CO2	2	1	1	1	1	2	1	2	2	1	1	2
CO3	2	-	1	-	-	3	1	3	1	1	1	2
Weighted Average	**2**	**1**	**1**	**1**	**1**	**2.33**	**1**	**2.33**	**1.66**	**1**	**1**	**2**

Open Elective

OE-2 **Course Code:** 21OEHIS202

Course Title : Manuscriptology	
Total Contact Hours: 39 to 42	Course Credits: 3
Formative Assessment Marks: 40	Duration of ESA/Exam: 60
Syllabus Authors: BOS (UG)	Summative Assessment Marks: 100

Course Outcomes (COs):

CO1. Understand the importance of manuscripts. Manuscripts as an ancillary for study of history, and the concept of cataloguing of manuscripts.
CO2. Practice the Science of conservation and preservation of manuscripts.
CO3. Visit Libraries and Achieves to study conservation and preservation.

Content of Course-1	**39/42 Hrs**
Unit-1 : Introduction	**13/14**
Chapter-1 : Cultural Heritage Meaning – Definitions –Characteristics – Scope and Importance	04
Chapter-2 : Types of Manuscripts Methods of Study – Writing Materials – Palm Leaf, Kadtatas (Black Book)	05
Unit – II : Collection	**13/14**
Chapter-3 : History of Manuscriptology	05
Chapter-4 : Introduction of Indian Manuscriptology	04
Chapter-5 : Manuscripts in Kannada, Tigalari, Samskrita, Pali, Tamil/Grantha, Tulu, Nandinagari and Modi	05
Unit-III : Editing	**13/14**
Chapter-6 : Collection of Manuscripts – Oriental Research Institute, Mysore, Melukote	03
Chapter-7 : Process of Editing	05
Chapter-8 : Preservation of Manuscripts – Regional Conservation Laboratory	06
Chapter-9 : Visit to Oriental Research Institute and Regional Conservation Laboratory Mysore, Academy of Sanskrit Research Centre, Melukote. Visit to Oriental Research Centres – Preparation Field Study Report for Assignment is Mandatory**.**	05

Suggested Readings:

1. ChintharChakravathi - Study of Manuscriptology
2. M.V.Seetharamaih& M.Chidananda Murthy - HastipratiSastra
3. N. Geethacharya - HastipratiSastraadhyayana
4. SitharamJahagirdarParichaya - Kannada GranthaSampadhanaSastra
5. S. Jagannath - GranthaSampadanaShastra
6. Devarakondareddy - LipiyaHuttumattuBelavanige
7. MadhavanaKatti - PipishastraPravesha
8. B.S.SanayaSoochi - Kannada Hasta Prathigala Micro film
9. T.V.VenkatachalaSastry - HalayaHonnu
10. A.K.Sashtri - SringeriKadathagalu
11. S.ShankarappaToranagallu - LipiNiguda

Course Articulation Matrix -21OEHIS202

COs/ POS	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
CO1	2	-	-	-	-	1	1	1	1	1	-	2
CO2	2	1	1	1	1	1	-	1	2	1	1	2
CO3	2	1	1	1	1	1	-	1	2	1	1	2
Weighted Average	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1.66**	**1**	**1**	**2**

OE (1) Syllabus for BA Journalism and Mass Communication

Semester I

Course Code: 21OEJOU101	**Course Title: OE (1) Writing for Media**
Course Credits: 3 (3:0:0)	**Hours of Teaching/Week: 03 Hours (Theory)**
Total Contact Hours: 42 Hours (Theory)	**Formative Assessment Marks: 40**
Exam Duration: 2½ Hours (Theory)	**Semester End Examination Marks: 60**

Course Outcomes (COs):

CO1. Acquire hand-on training in content writing, art of headline writing, rewriting and translation for various media.

CO2. To instill and cover and write balanced reports through objectivity, accuracy, and brevity and understand the duties and qualities of a responsible Media Person.

CO3. To equip the students with recent trends in media writing. Acquire the knowledge of Radio and Television News Production and Social Media.

Course Content **Hours**

Unit I: **14 hrs.**

Print Media: Introduction to Writing for Print Media, Principles & Techniques of Writing for Print Media. – Clarity, Brevity, Simplicity, Readability and Accuracy.

Forms of Journalistic Writing - News Writing – Inverted Pyramid, Writing Columns, Articles, Features, Editorials, Letters to the Editor, Preparing Press Releases.

Unit-II: **14 hrs.**

Electronic Media:

Radio: Writing for Radio, Language and Grammar, Writing News Scripts, Preparing Ad Scripts, Radio Jockey Skills.

Television: Basic Principles and Techniques of TV Writing, Elements of TV Scripting, Language and Grammar, Writing News Scripts.

Unit-III: **14 hrs.**

New Media: Writing Techniques for New Media, Writing for Social Media (Facebook, Twitter, Linkedin, Instagram), Introduction to Blogging and Vlogging, Current Trends in Web Journalism.

IA / Assignments

1. Two Letters to the Editor to be published in any registered newspaper.
2. Present a two minute long radio segment on a topic of your choice.
3. Prepare a news script of three minute duration.
4. Create a blog/vlog on any two topics of your choice. (eg: Health, Cooking, Travel, Fashion)

Write a travel or a personality feature.

Books for Reference:

1. History of Indian Journalism: Nadig Krishnamurthy-University of Mysore press
2. Dilwali, Ashok.(2002).All about photography. New Delhi: National Book Trust.

3. Kobre, Kenneth. (2000). Photojournalism. The professional approach (4th Ed). London: Focal Press
4. Horton, Brian. (2000). Guide to photojournalism. New York: McGraw-Hill
5. Chapnick, Howard. (1994). Truth needs no ally: Inside photojournalism. New York: University of Missouri Press
6. British Press Photographers Association. (2007). 5000 Days: Press photography in a changing world. London: David &Charles.
7. Nair, Archana. (2004). All about photography. New Delhi: Goodwill Publishing House.

Weblinks:

https://ohiostate.pressbooks.pub/stratcommwriting/chapter/media-writing-skills/

https://blog.copify.com/post/different-types-of-media-writing

https://india.oup.com/product/writing-for-the-media-9780195699388

https://www.jprof.com/lecture-notes/writing-in-the-media-environment/

https://www.studocu.com/in/document/bangalore-university/ba/writing-for-media-journalism-paper-notes/29654727

https://egyankosh.ac.in/bitstream/123456789/75385/1/Unit-4.pdf

http://14.139.185.6/website/SDE/sde67.pdf

https://kkhsou.ac.in/eslm/E-SLM-for-Learner/5th%20Sem/Bachelor%20Degree/Journalism/Writing%20For%20the%20Media%20c/writing%20for%20the%20media%20English/BLOCK%202/WRITING%20FOR%20THE%20MEDIA%20BLOCK%202.pdf

Course Articulation Matrix - 21OEJOU101

COs/ POS	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
CO1	2	1	1	1	1	1	1	2	2	3	-	2
CO2	2	1	1	1	1	1	1	2	2	3	-	2
CO3	2	1	1	1	1	1	1	2	2	3	-	2
Weighted Average	2	1	1	1	1	1	1	2	2	3	-	2

OE (2) Syllabus for BA Journalism and Mass Communication

Semester I

Course Code: 21OEJOU201	**Course Title: OE (2) Photo Journalism**
Course Credits: 3 (3:0:0)	**Hours of Teaching/Week: 03 Hours (Theory)**
Total Contact Hours: 42 Hours (Theory)	**Formative Assessment Marks: 40**
Exam Duration: 2½ Hours (Theory)	**Semester End Examination Marks: 60**

Course Outcomes (COs):

CO1. Ability to learn the history of Photography and Photo Journalism.
CO2. Acquire the knowledge digital technology in photography and various types of cameras, its components and accessories
CO3. Inculcate the legal and ethical aspects of photography and photo journalism.

Course Content **Hours**

Unit-I **14 hrs.**

Concept of Photography, Evolution of Photography, Different Types of Cameras--Manual, Digital and Phone Cameras, Types of Photography – Portrait, Landscape, Street Photography, Wildlife, News Photography, Celebrity Photography.

Unit-II **14 hrs.**

Meaning of Photo Journalism, Qualifications, Role and Responsibilities of Photo Journalists, Photo Features, Techniques of Photo Editing, Caption Writing, Leading Press Photographers and Photo Journalists in India.

Unit-III **14 hrs.**

Mobile Journalism - Using Smartphone's for News Reporting, Photo Editing on Smart Phones, Publishing News Content using Smartphone's on Digital Platforms, Techniques of Short Film Making.

IA / Assignment Component:

1. Capture Food Photos (5), News Photos (5) Portraits (5) Human Interest Pictures/Street Photography (5)
2. Edit & caption 10photographs
3. Create a thematic Photo Montage/Feature with 15photographs.
4. Present a video report on a current issue of your choice.
5. Produce a minimum of a three minute long Short Film.

Books for Reference:

1. Milten Feinberg- Techniques of Photo Journalism
2. Michel Long ford- Basic Photography
3. Tom Ang- Digital Photography- Master classes
4. N Manjunath- ChayachitraPatrikodyama

5. Cyernshem G R- History of Photography

Weblinks:

http://dcac.du.ac.in/documents/E-Resource/2020/Metrial/417NehaJingala2.pdf
https://en.wikipedia.org/wiki/Photojournalism
https://nytlicensing.com/latest/marketing/what-is-photojournalism/
https://www.adobe.com/in/creativecloud/photography/discover/photojournalism.html
https://jmcstudyhub.com/photojournalism-concept-definition-and-characteristics/
https://www.newworldencyclopedia.org/entry/Photojournalism
https://firsthand.co/professions/photojournalists
https://contrastly.com/photojournalism-101/
https://www.careerexplorer.com/careers/photojournalist/
https://ischoolconnect.com/blog/basics-of-photojournalism/
https://in.indeed.com/career-advice/career-development/what-is-photojournalism
https://streetbounty.com/what-is-photojournalism/
https://www.masterclass.com/articles/what-is-photojournalism
https://www.indianetzone.com/5/photojournalism_or_press_photography.htm

Course Articulation Matrix: 21OEJOU201

COs/ POS	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
CO1	2	1	1	1	1	1	1	2	2	3	-	2
CO2	2	1	1	1	1	1	1	2	2	3	-	2
CO3	2	1	1	1	1	1	1	2	2	3	-	2
Weighted Average	2	1	1	1	1	1	1	2	2	3	-	2

OE(1) Mathematics Syllabus for All Programs (Except Science)

Semester I

Course Code: 21OEMAT101	**Course Title: OE(1) Optional Mathematics – I**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03 Hour (Theory)
Total Contact Hours: 42 Hours (Theory)	**Formative Assessment Marks:**40
Exam Duration:2 ½ Hours	**Semester End Examination Marks:**60

Course Outcomes (COs):

CO 1: Design solutions and implement the elementary operations for matrices and system of linear equations.

CO 2: Examine and develop solution for polynomial equations using various methods.

CO 3: Evaluation of Polar co-ordinates applying methods of differential calculus.

Course Content

UNIT – 1	**Matrices**	**14 HOURS**
Recapitulation of Symmetric and Skew Symmetric matrices, Algebra of Matrices; Row and column reduction, Echelon form. Rank of a matrix; Inverse of a matrix by elementary operations; Solution of system of linear equations; Criteria for existence of non-trivial solutions of homogeneous system of linear equations. Solution of non-homogeneous system of linear equations. Cayley- Hamilton theorem, inverse of matrices by Cayley-Hamilton theorem (Without Proof).		
UNIT – 2	**Theory of equations**	**14 HOURS**
Euclid's algorithm, Polynomials with integral coefficients, Remainder theorem, Factor theorem, Fundamental theorem of algebra(statement only), Irrational and complex roots occurring in conjugate pairs, Relation between roots and coefficients of a polynomial equation, Symmetric functions, Transformation, Reciprocal equations, Descartes' rule of signs, Multiple roots, Solving cubic equations by Cardon's method, Solving quartic equations by Descarte's Method.		
UNIT – 3	**Polar Co-ordinates**	**14 HOURS**
Polar coordinates, angle between the radius vector and tangent. Angle of intersection of two curves (polar forms), length of perpendicular from pole to the tangent, pedal equations. Derivative of an arc in Cartesian, parametric and polar forms, curvature of plane curve-radius of curvature formula in Cartesian, parametric and polar and pedal forms- center of curvature, circle of curvature.		

Books for References:

1. University Algebra - N.S. Gopala Krishnan, New Age International (P) Limited.
2. Algebra – Natarajan, ManicavasagamPillay and Ganapathy.
3. Theory of Matrices - B S Vatsa, New Age International Publishers.
4. Matrices - A R Vasista, Krishna PrakashanaMandir.
5. Differential Calculus - Shanti Narayan, S. Chand & Company, New Delhi.
6. Applications of Calculus, DebasishSengupta, Books and Allied (P) Ltd., 2019.
7. Calculus – LipmanBers, Holt, Rinehart & Winston.
8. Calculus - S Narayanan & T. K. ManicavachogamPillay, S Viswanathan Pvt. Ltd.,vol. I & II.

Course Articulation Matrix – 21OEMAT101

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	3	2	1	2	2	1	-	1	1	-	1
CO 2	3	3	2	1	1	1	-	1	-	1	-	1
CO 3	2	2	1	1	3	2	1	1	1	1	1	1
Weighted Average	**2.67**	**2.67**	**1.67**	**1**	**2**	**1.67**	**1**	**1**	**1**	**1**	**1**	**1**

OE(1) Mathematics Syllabus for All Programs (Except Science)

Semester I

Course Code: 21OEMAT102	**Course Title: OE(1) Business Mathematics – I**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03 Hour (Theory)
Total Contact Hours:42 Hours (Theory)	**Formative Assessment Marks:** 40
Exam Duration: 2 ½ Hours	**Semester End Examination Marks:** 60

Course Outcomes (COs):

CO 1: Illustration of Set theory, Relations, functions, indices, logarithms, permutation and combination and their applications.

CO 2: Classify and design solutions for matrices and system of linear equations applying elementary operations.

CO 3: Analyze and apply the knowledge of limits, continuity and differentiability in solving problems. Construct extremum values function of higher order derivatives using partial and total derivatives.

Course Content

UNIT – 1	**Algebra**	**14 HOURS**
Set theory and simple applications of Venn Diagram, relations, functions, indices, logarithms, permutations and combinations. Examples on commercial mathematics.		
UNIT – 2	**Matrices**	**14 HOURS**
Definition of a matrix; types of matrices; algebra of matrices. Properties of determinants; calculations of values of determinants up to third order; Adjoint of a matrix, elementary row and column operations; solution of a system of linear equations having unique solution and involving not more than three variables. Examples on commercial mathematics.		
UNIT – 3	**Differential Calculus**	**14 HOURS**
Constant and variables, functions, Limits & continuity. Differentiability and Differentiation, partial differentiation, rates as a measure, maxima, minima, Partial Derivatives up to second order; Homogeneity of functions and Euler's Theorem; Total Differentials; Differentiation of implicit function with the help of total differentials, Maxima and Minima; cases of one variable involving second or higher order derivatives; Cases of two variables involving not more than one constraint.		

Books for References:

1. Basic Mathematics, Allel R.G.A, Macmillan, New Delhi.
2. Mathematics for Economics, Dowling, E.T. ,Schaum's Series, McGraw Hill, London.
3. Quantitative Techniques in Management, Vohra, N.D., Tata McGraw Hill, New Delhi.
4. Business Mathematics, Soni R.S., Pitamber Publishing House, Delhi.

Course Articulation Matrix – 21OEMAT102

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	3	1	-	1	2	1	1	1	1	1	1
CO 2	3	2	1	1	1	2	1	-	1	1	-	1
CO 3	3	3	2	2	1	2	1	1	1	1	1	1
Weighted Average	**3**	**2.67**	**1.33**	**1.5**	**1**	**2**	**1**	**1**	**1**	**1**	**1**	**1**

OE(1) Mathematics Syllabus for All Programs (Except Science)

Semester I

Course Code: 21OEMAT103	**Course Title: OE(1) Mathematical Aptitude - I**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03 Hour (Theory)
Total Contact Hours: 42 Hours (Theory)	**Formative Assessment Marks:** 40
Exam Duration: 2 ½ Hours	**Semester End Examination Marks:** 60

Course Outcomes (COs):

CO 1: Evaluate problems on Number system, Series, divisibility, LCM, HCF, Fraction.

CO 2: Strategies to solve problems on Trains, Boats and Streams with Speed and Accuracy.

CO 3: Analyze and Evaluate problems on Time, Work and Wages, Pipes and Cistern, Problems on Clock and Calendar.

Course Content

UNIT – 1	**14 HOURS**
Number System, Types of Numbers, series (AP and GP), Algebraic operations BODMAS, Divisibility, LCM and HCF, Fraction, Simplification.	
UNIT – 2	**14 HOURS**
Time and Distance, Problems based on Trains, Boats and Streams.	
UNIT – 3	**14 HOURS**
Time, work and wages, Pipes and Cistern, Problems on Clock, Problems on Calendar.	

Books for References:

1. R.S. Aggarwal, "Quantitative Aptitude for Competitive Examinations", Revised Edition, S. Chand and Co. Ltd, New Delhi, 2018.
2. Quantitative Aptitude and Reasoning by R V Praveen, PHI publishers.
3. Quantitative Aptitude : Numerical Ability (Fully Solved) Objective Questions, Kiran Prakashan, Pratogita prakasan, Kic X, KiranPrakasan publishers.
4. Quantitative Aptitude for Competitive Examination by AbhijitGuha, Tata McGraw hill publications.

Course Articulation Matrix – 21OEMAT103

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	2	3	1	2	1	3	1	1	-	-	1	3
CO 2	2	3	1	2	1	3	1	1	1	1	1	3
CO 3	2	3	1	2	1	3	1	1	1	1	1	3
Weighted Average	**2**	**3**	**1**	**2**	**1**	**3**	**1**	**1**	**1**	**1**	**1**	**3**

OE(2) Mathematics Syllabus for All Programs (Except Science)

Semester II

Course Code: 21OEMAT201	**Course Title:** **OE(2) Optional Mathematics – II**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03 Hour (Theory)
Total Contact Hours:42 Hours (Theory)	**Formative Assessment Marks:** 40
Exam Duration:2 ½ Hours	**Semester End Examination Marks:** 60

Course Outcomes (COs):

CO 1: Acquiring the basic knowledge of divisibility, congruency, GCD, Prime and prime factorization, applying the concept of Euler function, Fermat's and Wilson's Theorem, Evaluating the product of r consecutive integers is divisible.

CO 2: Applying the skills of fundamental theorems in solving problems.

CO 3: Construct extreme values of function of the variables using partial derivatives and total derivatives.

Course Content

UNIT – 1	**Number Theory**	**14 HOURS**
Division Algorithm, Divisibility, Prime and composite numbers, Euclidean algorithm, Fundamental theorem of Arithmetic, The greatest common divisor and least common multiple. Congruence, Linear congruence, Simultaneous congruence, Euler's Phi-function, Wilson's, Euler's and Fermat's Theorems and their applications.		
UNIT – 2	**Partial Derivatives**	**14 HOURS**
Functions of two or more variables-explicit and implicit functions, partial derivatives. Homogeneous functions- Euler's theorem and extension of Euler's theorem, total derivatives, differentiation of implicit and composite functions, Jacobians and standard properties and illustrative examples. Taylor's and Maclaurin's series for functions of two variables, Maxima-Minima of functions of two variables.		
UNIT – 3	**Integral Calculus**	**14 HOURS**
Line integral: Definition of line integral and basic properties, examples on evaluation of line integrals. *Double integral*: Definition of Double integrals and its conversion to iterated integrals. Evaluation of double integrals by changing the order of integration and change of variables. Computation of plane surface areas, *Triple integral*: Definition of triple integrals and evaluation-change of variables, volume as triple integral.		

Books for References:

1. Differential Calculus, Shanti Narayan, S. Chand & Company, New Delhi.
2. Applications of Calculus, DebasishSengupta, Books and Allied (P) Ltd., 2019.
3. Calculus – LipmanBers, Holt, Rinehart & Winston.
4. Calculus - Shanthinarayanan& T. K. ManicavachogamPillay, S. Viswanathan Pvt. Ltd., vol. I & II.
5. Schaum's Outline of Calculus - Frank Ayres and Elliott Mendelson, 5th ed. USA: Mc. Graw Hill, 2008.
6. Integral Calculus, Shanthinarayan, S. Chand and Co. Pvt. Ltd.
7. Integral Calculus, Shantinarayan and P K Mittal, S. Chand and Co. Pvt. Ltd.
8. Text Book of B.Sc. Mathematics, G K Ranganath, S Chand & Company.
9. David M Burton, Elementary Number Theory, 6th edition, McCraw Hill, 2007.
10. Emil Grosswald, Topics from the Theory of Numbers, Modern Birhauser, 1984.
11. Ivan Niven, Herbert S. Zuckerman and Hugh L. Montgomery, An Introduction to the Theory of Numbers, John Willey (New York), 1991.

Course Articulation Matrix – 21OEMAT201

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	2	1	1	1	1	-	1	-	1	-	1
CO 2	3	3	1	1	1	2	1	1	-	1	1	2
CO 3	3	3	1	2	1	-	-	1	1	1	-	1
Weighted Average	**3**	**2.67**	**1**	**1.33**	**1**	**1.5**	**1**	**1**	**1**	**1**	**1**	**1.33**

OE(2) Mathematics Syllabus for All Programs (Except Science)

Semester II

Course Code: 21OEMAT202	**Course Title:** **OE(2) Business Mathematics – II**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03 Hour (Theory)
Total Contact Hours:42 Hours (Theory)	**Formative Assessment Marks:** 40
Exam Duration:2 ½ Hours	**Semester End Examination Marks:** 60

Course Outcomes (COs):

CO 1: Apply the concept of profit, loss, discount, marked price, simple and compound interest, Taxes, Ratio, Installments, Percentage, Interest of reducing balance and flat interest to evaluate problems in everyday life.

CO 2: Measure the central tendency, Describing median, mode, AM, GM, HM. Represents dispersion by range, deviation, variance, standard deviation and standard error.

CO 3: Analyze and interpret correlation and regression by various methods for ungrouped data. Evaluate correlation and regression applying their properties.

Course Content

UNIT – 1	**Commercial Arithmeti14 HOURS**
Interest**:** Concept of Present value and Future value, Simple interest, Compound interest, Nominal and Effective rate of interest, Examples and Problems Annuity: Ordinary Annuity, Sinking Fund, Annuity due, Present Value and Future Value of Annuity, Equated Monthly Installments (EMI) by Interest of Reducing Balance and Flat Interest methods, Examples and Problems.	
UNIT – 2	**Measures of central Tendency and Dispersion 14 HOURS**
Frequency distribution: Raw data, attributes and variables, Classification of data, frequency distribution, cumulative frequency distribution, Histogram and give curves. Requisites of ideal measures of central tendency, Arithmetic Mean, Median and Mode for ungrouped and grouped data. Combined mean, Merits and demerits of measures of central tendency, Geometric mean: definition, merits and demerits, Harmonic mean: definition, merits and demerits, Choice of A.M., G.M. and H.M. Concept of dispersion, Measures of dispersion: Range, Variance, Standard deviation (SD) for grouped and ungrouped data, combined SD, Measures of relative dispersion: Coefficient of range, coefficient of variation. Examples and problems.	
UNIT – 3	**Correlation and regression 14 HOURS**
Concept and types of correlation, Scatter diagram, Interpretation with respect to magnitude and direction of relationship. Karl Pearson's coefficient of correlation for ungrouped data. Spearman's rank correlation coefficient. (with tie and without tie) Concept of regression, Lines of regression for ungrouped data, predictions using lines of regression. Regression coefficients and their properties (without proof). Examples and problems.	

Books for References:

1. Practical Business Mathematics, S. A. Bari New Literature Publishing Company New Delhi
2. Mathematics for Commerce, K. Selvakumar Notion Press Chennai
3. Business Mathematics with Applications, Dinesh Khattar& S. R. Arora S. Chand Publishing New Delhi
4. Business Mathematics and Statistics, N.G. Das &Dr. J.K. Das McGraw Hill New Delhi
5. Fundamentals of Business Mathematics, M. K. Bhowal, Asian Books Pvt. Ltd New Delhi
6. Mathematics for Economics and Finance: Methods and Modelling, Martin Anthony and Norman, Biggs Cambridge University Press Cambridge
7. Financial Mathematics and its Applications, Ahmad NazriWahidudinVentus Publishing APS Denmark
8. Fundamentals of Mathematical Statistics, Gupta S. C. and Kapoor V. K.:, Sultan Chand and Sons, New Delhi.
9. Statistical Methods, Gupta S. P.: Sultan Chand and Sons, New Delhi.
10. Applied Statistics, MukhopadhyaParimal New Central Book Agency Pvt. Ltd. Calcutta.
11. Fundamentals of Statistics, Goon A. M., Gupta, M. K. and Dasgupta, B. World Press Calcutta.
12. Fundamentals of Applied Statistics, Gupta S. C. and Kapoor V. K.:, Sultan Chand and Sons, New Delhi.

Course Articulation Matrix – 21OEMAT202

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	3	1	-	1	3	1	2	-	1	1	1
CO 2	3	2	1	1	-	1	1	-	-	1	-	1
CO 3	3	2	1	1	1	2	1	1	1	1	-	1
Weighted Average	**3**	**2.33**	**1**	**1**	**1**	**2**	**1**	**1.5**	**1**	**1**	**1**	**1**

OE(2) Mathematics Syllabus for All Programs (Except Science)

Semester II

Course Code: 21OEMAT203	**Course Title:** **OE(2) Mathematical Aptitude - II**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03 Hour (Theory)
Total Contact Hours:42 Hours (Theory)	**Formative Assessment Marks:** 40
Exam Duration:2 ½ Hours	**Semester End Examination Marks:** 60

Course Outcomes (COs):

CO 1: Evaluate percentage, Average, Ratio & proportion, partnership, Mixture and Problems based on Ages.

CO 2: Imbibe the concept of profit, loss, discount, simple & compound interest, Shares and debentures in Everyday life.

CO 3: Execute various ways of particular assignments by the help of permutation and combination, probability, True and Banker's Discount.

Course Content

UNIT – 1	**14 HOURS**
Percentage, Average, Problems based on Ages, Ratio and Proportion, Partnership and share, Mixtures.	
UNIT – 2	**14 HOURS**
Profit, Loss and Discount, Simple Interest, Compound Interest, Shares and Debentures.	
UNIT – 3	**14 HOURS**
Permutations and Combinations, Probability, True discount and Banker's discount.	

Books for References:

1. R.S. Aggarwal, "Quantitative Aptitude for Competitive Examinations",Revised Edition, S. Chand and Co. Ltd, New Delhi, 2018.
2. Quantitative Aptitude and Reasoning by R V Praveen, PHI publishers.
3. Quantitative Aptitude : Numerical Ability (Fully Solved) Objective Questions, KiranPrakashanPratogitaprakasan, Kic X, KiranPrakasan publishers.
4. Quantitative Aptitude for Competitive Examination by AbhijitGuha, Tata McGraw hill publications.

Course Articulation Matrix – 21OEMAT203

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	3	1	-	-	3	1	2	1	1	1	2
CO 2	3	3	1	-	-	3	1	2	1	1	1	2
CO 3	3	3	1	1	1	3	1	1	1	1	1	1
Weighted Average	**3**	**3**	**1**	**1**	**1**	**3**	**1**	**1.67**	**1**	**1**	**1**	**1.67**

OE (1) Microbiology Syllabus for All Programs (Except Science)

Semester I

CourseCode:21OEMIB101	**Course Title:** Microbial Technology for Human Welfare
Course Credits (L:T:P): 03 (3:0:0)	**Hours of Teaching/Week:**3Hours(Theory)
Total Contact Hours: 42Hours(Theory)	**Formative Assessment Marks:** 40
ExamDuration:2½Hours(Theory)	**Semester End Examination Marks:**60

Course Outcomes(COs):

CO1: Acquire information about Fermentation Microbial Technology.
CO2: Considerate broader goals of Agricultural Microbiology.
CO3: Appreciate the comprehension of antibiotic therapy, drugs and Vaccines.

Course Content

Content	Hours
UNIT –1 Food and Fermentation Microbial Technology	
Fermented Foods– Types, Nutritional Values, Health Benefits- Prebiotics, Probiotics, Synbiotics and Nutraceutical Foods. **Fermented Products**–Alcoholic and non alcoholic beverages, fermented dairy products, Fruit fermented drinks.	**14**
UNIT –2 Agricultural Microbial Technology	
Microbial Fertilizers, Microbial Pesticides, Microbial Herbicides, Mushroom Cultivation and its nutritional value, Biogas Production.	**14**
UNIT –3 Pharmaceutical Microbial Technology	
Microbial Drugs– General Characteristics and Development of Drug Resistance. Antibiotics – Types, Functions and Antibiotic Therapy, Vaccines–Types, Properties, Functions and Schedules.	**14**

References:

1. Prescott,Harley,Klein'sMicrobiology,J.M.Willey,L.M.Sherwood,C.J.Woolverton,7th International,edition2008,McGrawHill.
2. BrockBiologyofMicroorganisms,M.T.Madigan,J.M.Martinko,P.V.Dunlap,D.P.Clark -12thedition, PearsonInternational edition2009,PearsonBenjaminCummings.
3. Microbiology– AnIntroduction,G.J.Tortora,B.R.Funke,C.L.Case,10thed.2008,PearsonEducation.
4. Schlegel,H.G.1995.GeneralMicrobiology.CambridgeUniversityPress,Cambridge,65 5pp.

Weblinks:

1. https://www.frontiersin.org/articles/10.3389/fpls.2015.00659/full
2. https://www.who.int/health-topics/vaccines-and-immunization#tab=tab_1
3. https://www.healthline.com/nutrition/8-fermented-foods

CourseArticulationMatrix–21OEMIB101

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO1	2	1	1	-	-	2	2	-	-	1	-	1
CO2	2	1	1	-	1	2	2	-	-	1	-	1
CO3	2	1	1	1	-	2	2	-	-	1	-	1
Weighted Average	2	1	1	1	1	2	2	-	-	1	-	1

OE (2) Microbiology Syllabus for All Programs (Except Science)

Semester II

CourseCode:21OEMIB201	**Course Title:** Environmental and Sanitary Microbiology
Course Credits : 03 (3:0:0)	**Hours of Teaching/Week:**3Hours(Theory)
Total Contact Hours: 42Hours(Theory)	**Formative Assessment Marks:** 40
Exam Duration:2½Hours(Theory)	**Semester End Examination Marks:**60

Course Outcomes(COs):

CO1: Comprehend the concepts of Microbial distribution in the environment.
CO2: Considerate broader goals of detection and control of microbial contaminants**.**
CO3: Impact of microbial infections and diseases on public health.

Course Content

Content	Hours
UNIT –1 Soil and Air Microbiology	
Soil and Air as a major component of environment. Types and properties ofsoil and air. Distribution of microorganisms in soil and air. Major types of beneficial and harmful micro organisms in soil and air.	**14**
UNIT –2 Water Microbiology	
Water as a major component of environment. Types, properties and uses of water. Micro organisms of different water bodies. Standard qualities of drinking water.	**14**
UNIT –3 Sanitary Microbiology	
Public health hygiene and communicable diseases. Survey and surveillance of microbial infections. Air borne microbial infections (Tuberculosis), water borne microbial infections (Cholera), Food borne microbial infections (Botulism). Epidemiology of microbial infections, their detection and control.	**14**

References:

1. Prescott,Harley,Klein'sMicrobiology,J.M.Willey,L.M.Sherwood,C.J.Woolverton,7th International,edition2008,McGrawHill.
2. ATextbookof Microbiology,R.C.DubeyandD.K. Maheshwari,1stedition, 1999,S.Chand&Company Ltd.
3. BrockBiologyofMicroorganisms,M.T.Madigan,J.M.Martinko,P.V.Dunlap,D.P.Clark -12thedition, PearsonInternational edition2009,PearsonBenjaminCummings.
4. Microbiology-ConceptsandApplications,PelczarJr,Chan,Krieg,Internationaled,McGrawHill.

Weblinks:

1. https://gcwgandhinagar.com/econtent/document/1587964691air,soil%20and%20water%20b Orne%20microorganisms%20in%20food.pdf
2. https://repo.knmu.edu.ua/bitstream/123456789/28121/1/Kovalenko%20Sanitary%20microbiology.pdf
3. https://asm.org/Articles/2020/December/Why-Studying-Microorganisms-in-the-Air-Is-Vital

CourseArticulationMatrix–21OEMIB201

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	2	1	1	-	-	1	1	-	-	1	-	1
CO 2	2	1	1	2	-	1	1	-	-	1	-	1
CO 3	2	1	1	2	-	1	1	-	-	1	-	1
Weighted Average	2	1	1	2	-	1	1	-	-	1	-	1

OE Physics Syllabus for All Programs (Except Science)
Semester I

Course Code: 21OEPHY101	**Course Title:** OE(1): Energy Sources
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03 Hour (Theory)
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Exam Duration: $2\frac{1}{2}$ Hours	**Semester-End Examination Marks:** 60

Course Outcomes (COs)	
CO1	Acquiring knowledge of energy concepts and conventional energy sources in nonrenewable energy sources.
CO2	Gaining knowledge of renewable energy sources and solar energy with their applications.
CO3	Comprehending the knowledge of wind energy, tidal energy harvesting, geothermal and hydro energy utilization.

Course Content

Content	**Hrs**
Unit– 1: Non-Renewable energy sources	
Introduction: Energy concept-sources in general, its significance & necessity. Classification of energy sources: Primary and Secondary energy, Commercial and Non-commercial energy, Renewable and Non-renewable energy, Conventional and Non-conventional energy, Based on Origin-Examples and limitations. Importance of Non-commercial energy resources.	05
Conventional energy sources: Fossil fuels & Nuclear energy-production & extraction, usagerateand limitations. Impact on environment and their issues &challenges.OverviewofIndian&worldenergyscenariowithlateststatistics-consumption&necessity.Needofeco-friendly & green energy & their related technology.	08
Unit – 2: Renewable energy sources	

Introduction: Need of renewable energy, and non-conventional energy sources. An overview of developments in Offshore Wind Energy, Tidal Energy,Wave energy systems, Ocean Thermal Energy Conversion, solar energy, biomass, biochemical conversion, biogas generation, geothermal energy tidal energy, and Hydroelectricity.	05
SolarEnergy-Key features its importance, Merits& demerits of solar energy, and Applicationsofsolarenergy.Solarwaterheater,flatplatecollector,solardistillation,solarcooker,solargreenhouses,solarcell-a briefdiscussionofeach.Needandcharacteristicsofphotovoltaic(PV)systems,PVmodelsandequivalentcircuits,andsun-trackingsystems.	08
Unit – 3	
Wind and Tidal Energy harvesting: Fundamentals of Wind energy, Wind Turbines and different electrical machines in wind turbines, Power electronic interfaces, and grid inter connection topologies. Ocean Energy Potential against Wind and Solar, Wave Characteristics and Statistics, Wave Energy Devices. Tide characteristics and Statistics, Tide Energy Technologies, Ocean Thermal Energy.	08
Geothermal and hydro energy: Geothermal Resources, Geothermal Technologies. Hydro power resources, hydro power technologies, and the environmental impact of hydro power sources. Carbon-captured technologies, cell, batteries, power consumption.	05
SuggestedActivities	03
1. Demonstration of Solar energy, wind energy, etc, using training modules at Labs. 2. Conversion of vibration to voltage using piezo electric materials. 3. Conversion of thermal energy into voltage using thermoelectric (using thermo couplesor heat sensors) modules. 4. Project report on Solar energy scenario in India 5. Project report on Hydro energy scenario in India 6. Project report on wind energy scenario in India 7. Field trip to nearby Hydro electric stations. 8. Field trip to wind energy stations like Chitradurga, Hospet, Gadag, etc. 9. Field trip to solarenergy parks like Yeramaras near Raichur. Videos on solar energy, hydro energy and wind energy.	

Text books

1. Non-conventionalenergysources-G.D Rai-KhannaPublishers, NewDelhi
2. Solarenergy-M P Agarwal-S Chand and Co.Ltd.
3. Solarenergy-Suhas P Sukhative TataMcGraw -HillPublishingCompanyLtd.

Reference books

1. GodfreyBoyle,"RenewableEnergy,Powerfor asustainablefuture",2004,OxfordUniversityPress,inassociationwithThe OpenUniversity.
2. Dr. PJayakumar, Solar Energy:Resource AssessmentHandbook, 2009
3. J.Balfour,M.Shaw and S.Jarosek,Photovoltaics,LawrenceJ Goodrich(USA).

Weblinks

- http://en.wikipedia.org/wiki/Renewable_energy
- https://www.energy.gov/energy-sources
- https://www.eia.gov/energyexplained/what-is-energy/sources-of-energy.php

Course Articulation Matrix- 21OEPHY101												
Course outcomes	Program outcomes											
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
CO1	3	2	2	1	2	2	2	1	1	1	___	1
CO2	3	2	2	1	2	2	2	1	2	1	1	1
CO3	3	1	2	1	2	2	2	1	2	1	1	1
Weighted average	**3**	**1.66**	**2**	**1**	**2**	**2**	**2**	**1**	**1.66**	**1**	**1**	**1**

OE Physics Syllabus for All Programs (Except Science)
Semester I

Course Code: 21OEPHY102	**Course Title:** OE(2): Climate Science
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03 Hour (Theory)
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Exam Duration: $2\frac{1}{2}$ Hours	**Semester-End Examination Marks:** 60

Course Outcomes (COs)	
CO1	Developing knowledge about atmospheric science as a multidisciplinary concept.
CO2	Analyze the impact of atmospheric circulation on world climate and the influence of meteorological parameters and atmospheric stability.
CO3	Evaluate the contribution of greenhouse gases in Global warming and thereby bringing change in the climate.

Course Content

Content	**Hrs**
Unit– 1: Atmosphere	
Atmospheric Science (Meteorology) is a multi disciplinary science. Physical and dynamic meteorology, Some terminology, the difference between weather and climate, weather and climate variables, the composition of the present atmosphere: fixed and variable gases, volume mixing ratio (VMR), sources and sinks of gases in the atmosphere. Green house gases. Structure (layers) of the atmosphere. Temperature variation in the atmosphere, temperature lapse rate, mass, pressure and density variation in the atmosphere. Distribution of winds.	13
Unit – 2: Climate Science	
Overview of meteorological observations, measurement of: temperature, humidity, wind speed and direction and pressure. Surface weather stations, upper air observational network, satellite observation. Overview of clouds and precipitation, aerosol size and concentration, nucleation, droplet growth and condensation (qualitative description). Cloud seeding, lightning and discharge. Formation of trade winds, cyclones.	13

Modeling of the atmosphere: General principles, Overview of General Circulation Models (GCM) for weather forecasting and prediction. Limitations of the models. Rand Dinstitutions in India and abroad dedicated to climate Science, NARL, IITM, CSIR Centre for Mathematical Modeling and Computer Simulation, and many more	
Unit – 3: Global Climate Change	
Green house effect and global warming, Enhancement in concentration of carbon di oxide and other green house gases in the atmosphere, Conventional and non-conventional energy sources and their usage. ELNino/LANino Southern oscillations. Causes for global warming: Deforestation, fossil fuel burning, industrialization. Manifestations of global warming: Sea level rise, melting of glaciers, variation in monsoon patterns, increase in frequency and intensity of cyclones, hurricanes, and tornadoes. Geo-engineering as a tool to mitigate global warming? Schemes of geo engineering.	13
Suggested Activities	03

1. Try to find answer to the following questions:
   (a) Imagine you are going in a aircraft attanaltitude greatenthan100 km. The air temperature atthataltitude will be greater than 200°C. If you put your hands out of the window of the aircraft, you will not feel hot.
   (b) What would have happened if ozone is not present in the stratosphere?
2. Visit a nearby weather Station and learn about their activities.
3. Design your own rain gauge for rain fall measurement at your place.
4. Learn to determine atmospheric humidity using the wet bulb and dry bulb thermometers.
5. Visit the website of the Indian Institute of Tropical Meteorology(IITM),and keep track of the occurrence and land fall of cyclone prediction.
6. Learn about the ozone layer and its depletion and ozone hole.
7. Keep track of the melting of glaciers in the Arctic and Atlantic region through a database available over several decades.
8. Watch documentary films on global warming and related issues (produced by amateur film makers and promoted by British Counciland BBC).

References Books

1. BasicsofAtmosphericScience–AChandrashekar,PHILearningPrivateLtd.NewDelhi,2010.
2. Fundamentalsof AtmosphericModelling-Mark Z Jacbson,CambridgeUniversityPress, 2000.

Weblinks

- https://climatescience.org
- https://wild.org/climate/
- https://warmheartworldwide.org/climate-change/

Course Articulation Matrix- 21OEPHY102												
Course outcomes	Program outcomes											
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
CO1	3	1	1	1	2	2	2	1	1	1	___	1
CO2	3	1	1	1	2	2	2	1	2	1	___	1
CO3	3	2	2	1	2	2	2	1	2	1	1	1
Wtd. Avg.	**3**	**1.33**	**1.33**	**1**	**2**	**2**	**2**	**1**	**1.66**	**1**	**1**	**1**

OE Physics Syllabus for All Programs (Except Science)
Semester II

Course Code: 21OEPHY201	**Course Title:** OE(3): Astronomy
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03 Hour (Theory)
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Exam Duration: $2\frac{1}{2}$ Hours	**Semester-End Examination Marks:** 60

Course Outcomes (COs)	
CO1	Gaining knowledge of Ancient Indian, Medieval and modern astronomy and Comprehending tool and methods implemented to observe heavenly bodies.
CO2	Acquiring knowledge of the solar system.
CO3	Monitoring the prominent stars and constellations visible during stipulated periods.

Unit – 3: MajorAstronomyObservations	
March to June Prominent Stars and Constellations Visible during this period, Methods of Spotting June to September Prominent Stars and Constellations Visible during this period, Methods of Spotting September to December Prominent Stars and Constellations Visible during this period, Methods of Spotting December to March Prominent Stars and Constellations Visible during this period, Methods of Spotting.	13
Suggested Activities	03
Experiment **1.** Measuring Seasons using Sun's Position. **2.** Measuring Distance using Parallax **3.** Estimation of the Stellar Diameter using Pin Hole **4.** Measuring Height o fan Object Using Clinometer. **5.** Star spotting using constellation maps **6.** Constellation spotting using Sky maps **7.** Estimation of' Suitable Periods' to observe deep sky objects using	

Planisphere. **8.** Estimation of the Size of the Solar System in using Light Years. **9.** Identification of Lunar Phases across a year. **10.** Measuring the Constellation of the Sun using Night Sky maps or Planispheres.	

Text Books

1. P. N.SHANKAR A GUIDE TOTHENIGHTSKY
2. BimanBasu, Joy of Star Watching, National Book Trust of India 2013

Reference books

1. TheStargazer's Guide-Howto ReadOurNightSkybyEmilyWinterburn
2. A guide tothe NightSky– Beginner'shandbookbyP.N.Shankar
3. TheCompleteIdiot'sGuideto AstronomybyChristopherDePree and AlanAxelrod
4. ChristopherDePree: TheCompleteIdiot's Guide to Astronomy,PenguinUSA, 2008.
5. EmilyWinterburn, TheStargazer's Guide:How to ReadOurNightSky,ConstableandRobinson,2008.

Weblinks

- https://www.arvindguptatoys.com/arvindgupta/nightskyshankar.pdf
- https://egyankosh.ac.in/

Course Articulation Matrix- 21OEPHY201

Course outcomes	Program outcomes											
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
CO1	3	1	1	1	2	2	1	1	1	1	___	1
CO2	3	1	1	1	2	2	1	1	1	1	1	1
CO3	3	1	1	2	2	2	----	1	1	1	----	1
Weighted average	**3**	**1**	**1**	**1.33**	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**1**

OE Physics Syllabus for All Programs (Except Science)
Semester II

Course Code: 21OEPHY202	**Course Title:** OE(4): Medical Physics
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:** 03 Hour (Theory)
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Exam Duration: $2\frac{1}{2}$ Hours	**Semester-End Examination Marks:** 60

Course Outcomes (COs)	
CO1	Developing knowledge about human anatomy and physiology.
CO2	Analyze the knowledge in the field of Physics in medical diagnostics instruments.
CO3	Acquire knowledge about the physics behind radiotherapy.

Course Content

Content	**Hrs**
Unit– 1: Human Anatomy and Physiology	
Overview of human anatomy -cells, cell structure, type of cells and their functions, tissues, organs, and their functions. Different systems in the human body, their structure and function, physiological properties of thecirculatorysystem,digestivesystem,respiratorysystem,reproductivesystem,excretorysystem,endocrinesystemand nervous system.	13
Unit – 2: Physics of Medical Diagnostics	
Principle of production of X-rays. Use of X-rays in medical diagnosis,X-ray imaging systems. Computed Tomography(CT): principle and generation of CT. Magnetic Resonance Imaging(MRI): basic principle and image characteristics. Ultrasound Imaging: Interaction of sound waves with body tissues, production of ultrasound, transducers, acoustic coupling, image formation, modes of image display and color Doppler.	13
Unit – 3: Physics of Radio therapy	

Clinical aspects of radiation therapy: Biological basis of radiotherapy, radiation sources, radiation dose, time dose fractionation. External beam radiation therapy, radiation therapy modalities, production of radioisotopes, use of radioisotopes in therapy, particle and ion beam radio therapy. Brachy therapy - the principle of brachy therapy and classification of brachy therapy techniques.	13
Suggested Activities	03
Class Room Activities- 1-3	
Activity No. 1	Students can demonstrate the shape, size, positions and functions of different organs in the body with the help of models.
Activity No. 2	The use of X-rays in the diagnosis of the fractured bone can be demonstrated with the help of a gamma source and a gamma ray survey meter. As the density of materials between the source and the detector changes there ading on the meter (or intensity of the beefing sound)changes.
Activity No. 3	i) Students can be asked to list out different type of cancers and possible causative factors. They can be asked to list out the healthy practices to reduce the risk of cancers. ii) As there will be students from different disciplines in the OE course, group discussion can be arranged to discuss about their programme and outcome. This will be an opportunity for the students to know about other disciplines.
Activity No. 4	**Other related activities/projects:** 1. Visit nearby hospitals/diagnostic centers to study the working of X-ray machines. 2. Visit ultra sound diagnostic centers to study the principle and use of ultrasound in diagnosis. 3. Projecton principle and use of X-ray films in imaging. 4. Visit radio therapy centers to study the modalities of radiotherapy.

Text Books

1. C.H.BestandN.B.Taylor.ATestinAppliedPhysiology.WilliamsandWilkins Company,Baltimore, 1999.
2. C.K.Warrick.AnatomyandPhysiologyforRadiographers.OxfordUniversityPress, 2001.
3. JerroldT.Bushberg.TheEssentialPhysicsforMedicalImaging(2ndEdition). LippincottWilliams& Wilkins, 2002.
4. JeanA. Pope.MedicalPhysics:Imaging.HeinemannPublishers,2012.
5. FaizM.KhanandRogerA.Potish.TreatmentPlanninginRadiationOncology. Williams and Wilkins.
6. D. Baltas.Thephysicsofmodernbrachytherapyforoncology.TaylorandFrancis, 2007.

Reference book s

1. J.R.Brobek.PhysiologicalBasisofMedicalPractice.WilliamsandWilkins,London, 1995.
2. EdwardAlcamo,BarbaraKrumhardt.Barron'sAnatomyandPhysiologytheEasy Way.Barron'sEducationalSeries,2004.
3. Lippincott,Anatomyand Physiology.LippincottWilliams& Wilkins, 2002.
4. G.S.Pant.AdvancesinDiagnositcMedicalPhysics.HimalayaPublishingHouse, 2006.

5. AAPMReportNo.72.BasicApplicationsofMultileafcollimators,AAPM,USA, 2001.
6. AAPMReportNo.91.ManagementofRespiratorymotioninradiationoncology, 2006.
7. CAJoslin,A.Flynn,E.J.hall.PrinciplesandPracticeofBrachytherapy.Arnold publications,2001.
8. PeterHoskin,CatherineCoyle.RadiotherapyinPractice.OxfordUniversityPress, 2011.
9. W.R.Handee.MedicalRadiationPhysics.YearBookMedicalPublishersInc., London,2003.
10. DonaldT.Graham,PaulJ.Cloke.PrinciplesofRadiologicalPhysics.Churchill Livingstone,2003.

Weblinks

- https://aapm.onlinelibrary.wiley.com/journal/24734209
- https://en.wikipedia.org/wiki/Medical_physics
- https://www.medphys.org/

Course Articulation Matrix- 21OEPHY202

Mapping of Course Outcomes (CO) Program Outcomes(PO)

Course outcomes	Program outcomes											
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**
CO1	3	1	1	1	2	2	1	1	1	1	___	1
CO2	3	1	1	1	2	2	1	1	2	1	___	1
CO3	3	1	1	1	2	2	1	1	2	1	1	1
Weighted average	**3**	**1**	**1**	**1**	**2**	**2**	**1**	**1**	**1.66**	**1**	**1**	**1**

OE (1)Syllabus of Psychology

Semester I

Course Code: 21OEPSY101	**Course Title O.E (1): Psychology of Health & Wellbeing**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:**03Hour(Theory)
Total Contact Hours: 42Hours(Theory)	**Formative Assessment Marks:** 40
Exam Duration:2:30Hours	**Semester End Examination Marks:**60

Course Outcomes(COs):

CO1 – Analyze and describe the spectrum of health & illness for better health management.
CO2 - Identify and introspect the impact of stressors and determine the coping strategies.
CO3 - Conceptualize and reflect upon the health protective and health compromising behaviors, further determine illness management.
CO4 – Synthesize and determine various strategies to Life enhancement for overall wellbeing.

Course Content

Content	**Hours**
UNIT – 1 Introduction	
Illness, Health and Wellbeing; Health continuum; Models of Health and Illness: Medical, Bio-psychosocial; Holistic Health.	**11 Hrs**
UNIT – 2Stress & Coping	
Stress and Coping: Nature and Sources of Stress; Personal and Social Mediators of Stress; Effects of Stress on Physical and Mental Health; Coping and Stress management.	**11 Hrs**
UNIT – 3 Health Management	
Health Management: Health enhancing behaviours: Exercise, Nutrition, Meditation, Yoga; Health compromising behaviours - alcoholism, smoking, internet addiction; Illness Management – Prevention & Treatment.	**10 Hrs**
UNIT – 4 Promoting Human Strengths and Life Enhancement	
Promoting Human Strengths and Life Enhancement: Strength- Meaning and Realizing strength; Maximizing Unrealized Strength. Weakness – Meaning, Identifying & Overcoming – Practices of Mindfulness.	**10 Hrs**

References:

Carr. A. (2004) Positive Psychology: The science of happiness and human strength UK: Routledge.

DiMatteo, M.R &. Martin, L.R.(2002). Health Psychology. New Delhi: Pearson.

Farshaw, M 2DD3) Advanced PsychoIo9Y: Health Psychology. London:Hodder and Stoughton

Forshaw, M. (2003).Advanced Psychology: Health Psychology. London: Hodder and Stou9htan.

Hick.J.W. (2005).Fifty signs of Mental Health.A Guide to understanding mental health.Yale University Press.

Snyder, C R., & Lopez. S.J.(2007) Positive Psychology: The scientific and practical explorations of human strengths. Thousand Oaks, CA Sage.

Taylor. S.E. 2006).Health Psychology.6th Edition.FlewDelhI: Tata M

Online E-resources

1. **https://www.ahajournals.org/doi/10.1161/CIR.0000000000000947**
2. **https://iaap-journals.onlinelibrary.wiley.com/journal/17580854**
3. **BPCG-173 Psychology for Health and Wellbeing - https://egyankosh.ac.in/handle/123456789/73140**
4. **Health Psychology Promotes Wellness - https://www.apa.org/education-career/guide/subfields/health**

Course Articulation Matrix - 21OEPSY101

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO1	3	2	1	-	-	1	-	1	1	3	-	1
CO2	3	3	1	-	-	2	1	-	1	3	-	2
CO3	3	2	1	-	1	3	1	1	1	3	-	2
CO 4	3	2	1	-	1	3	1	1	1	3	-	2
Weighted Average	**3**	**2.2**	**1**	**0**	**1**	**2.2**	**1**	**1**	**1**	**3**	**0**	**1.75**

OE (1) Syllabus of Psychology (Except B.A Streams)

Semester I

Course Code: 21OEPSY102	**Course Title O.E (1) : Life Skills - I**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:03Hour(Theory)**
Total Contact Hours: 42Hours(Theory)	**Formative Assessment Marks: 40**
Exam Duration:2:30Hours	**Semester End Examination Marks:60**

Course Outcomes(COs):

CO1 – Describe the basics and conceptual features of Life skills.
CO2- Comprehend the basic framework of Self-awareness and empathy understanding their association.
CO3 - Determine and classify the nature and relevance of Critical and Creative Thinking in Life Skills.
CO4 – Describe and analyze the dynamics of Decision making and Problem Solving.

Course Content

Content	**Hours**
UNIT – 1 Overview of Life Skills	
● Meaning and significance of life skills ● Life skills identified by WHO: Self-awareness, Empathy, Critical thinking, Creative thinking, Decision making, problem solving, Effective communication, interpersonal relationship, coping with stress, coping with emotion ● Use of Life skills in personal and professional life ● Life Skills Training – Models-4 H, ● Life Skills Education in the Indian Context.	**11 Hrs**
UNIT – 2Self-awareness and empathy	
● Definition and need for self-awareness and empathy; ● Self-esteem and self-concept ● Human Values, tools and techniques of Self-awareness and empathy Activities: Johari window and SWOC analysis, Journaling, reflective questions, meditation, mindfulness, psychometric tests and feedback.	**11 Hrs**
UNIT – 3 Critical and creative Thinking	
● Definition and need for Creativity and Critical Thinking ● Need for Creativity in the 21st century, Imagination, Intuition, Experience and Sources of Creativity	**10 Hrs**

• Lateral Thinking • Critical thinking Vs Creative thinking, Convergent & Divergent Thinking. • Activities: Fish Bowl, Debates, 9 dots puzzle, Circles of possibilities, Best out of waste, Socratic seminars, Group discussion, brain storming and lateral thinking exercises.	
UNIT – 4 **Decision Making and Problem Solving**	
• Definition of decision making and problem solving • Steps in problem solving: Problem Solving Techniques • Analytical Thinking, Numeric, symbolic, and graphic reasoning. • Activities: Six Thinking Hats, Mind Mapping, Forced Connections, A shrinking vessel, reverse pyramid.	**10 Hrs**

References:

- Barun K. Mitra, "Personality Development & Soft Skills", Oxford Publishers, Third impression, 2017.
- ICT Academy of Kerala, "Life Skills for Engineers", McGraw Hill Education (India) Private Ltd., 2016.
- Caruso, D. R. and Salovey P, "The Emotionally Intelligent Manager: How to Develop and Use the Four Key Emotional Skills of Leadership", John Wiley & Sons, 2004.
- Kalyana, "Soft Skill for Managers"; First Edition; Wiley Publishing Ltd, 2015.
- Larry James, "The First Book of Life Skills"; First Edition, Embassy Books, 2016.
- ShaliniVerma, "Development of Life Skills and Professional Practice"; First Edition; Sultan Chand (G/L) & Company, 2014.

Online E-resources

1. Basic Life Skills Curriculum – UNICEF https://www.unicef.org › azerbaijan › media › file
2. **Module 7 Life Skills – UNODC** - https://www.unodc.org › message › escap_peers_07
3. https://wachemo-elearning.net/courses/general-psychology/lessons/chapter-8introduction-to-life-skills

CourseArticulationMatrix - 21OEPSY102

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO1	3	2	1	2	1	1	-	1	1	3	-	1
CO2	3	3	-	3	1	1	1	-	2	3	-	1
CO3	3	1	1	3	1	1	1	1	2	3	1	1
CO 4	3	1	1	3	1	1	1	1	1	3	1	1
Weighted Average	**3**	**1.7**	**0.7**	**2.8**	**1**	**1**	**0.7**	**0.7**	**1.5**	**3**	**0.5**	**1**

OE (2) Syllabus of Psychology (Except B.A Streams)

Semester II

Course Code:21OEPSY201	**Course Title O.E (2): Youth, Gender & Identity**
Course Credits: 03 (3:0:0)	**Hours of Teaching/Week:**03Hour(Theory)
Total Contact Hours: 42Hours(Theory)	**Formative Assessment Marks:** 40
Exam Duration:2:30Hours	**Semester End Examination Marks:**60

Course Outcomes (COs):

CO1 – Conceptualize the concept of Youth and determine the dynamics involved in Identity Formation.
CO2 – Elucidate and describe the attributes, conflicts and challenges to identity formation in youth.
CO3 – Demonstrate and analyze the complexities associated with Youth, Gender and Identity Crisis.
CO4 – Describe and critique the laws associated with Youth.

Course Content

Content	Hours
UNIT – 1 Introduction	
a. Concepts of Youth: Transition to Adulthood, Extended Youth in the Indian context b. Concepts of Gender: Sex, Gender Identity, Sexual Orientation and Issues c. Gender and Identity - Gender Roles, Gender Role Attitudes, Gender Stereotypes, Gender discrimination d. Concepts of Identity: Multiple identities.	**11 Hrs**
UNIT – 2Youth and Identity	
a. Family: Parent-youth conflict, sibling relationships, intergenerational gap b. Peer group identity: Friendships and Romantic relationships c. Workplace identity and relationships d. Youth culture: Influence of globalization on Youth identity and Identity crisis	**11 Hrs**
UNIT – 3 Issues related to Youth, Gender and Identity	
a. Youth, Gender and violence b. Enhancing work-life balance c. Changing roles and women empowerment d. Encouraging non-gender stereotyped attitudes in youth.	**10 Hrs**
UNIT – 4 Law and Youth	

a. Juvenile Justice act b. LGBT rights in India c. UNICEF programs for youth	**10 Hrs**

References:

Carr. A. (2004) Positive Psychology: The science of happiness and human strength UK: Routledge.

DiMatteo, M.R &. Martin, L.R.(2002). Health Psychology. New Delhi: Pearson.

Farshaw, M 2DD3) Advanced PsychoIo9Y: Health Psychology. London:Hodder and Stoughton

Forshaw, M. (2003).Advanced Psychology: Health Psychology. London: Hodder and Stou9htan.

Hick.J.W. (2005).Fifty signs of Mental Health.A Guide to understanding mental health.Yale University Press.

Snyder, C R., & Lopez. S.J.(2007) Positive Psychology: The scientific and practical explorations of human strengths. Thousand Oaks, CA Sage.

Taylor. S.E. 2006).Health Psychology.6th Edition.FlewDelhI: Tata M

Online E-resources

1. Youth Psychology :Concept of Youth and Youth across cultures-https://www.docsity.com › youth-psychology-concept
2. Psychology of Youth -https://www.idymop.org/post/psychology-of-youth
3. Positive youth Development & Wellbeing: Gender Differences - https://www.frontiersin.org/articles/10.3389/fpsyg.2021.641647/full

CourseArticulationMatrix - 21OEPSY201

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO1	3	2	1	-	-	1	-	1	1	3	-	1
CO2	3	3	-	-	-	1	1	-	1	3	-	1
CO3	3	1	1	-	1	1	1	1	1	3	-	1
CO 4	3	1	1	-	1	1	1	1	1	3	-	1
Weighted Average	**3**	**1.75**	**1**	**0**	**1**	**1**	**1**	**1**	**1**	**3**	**0**	**1**

OE (2)Syllabus of Psychology (Except B.A Streams)

Semester II

CourseCode:21OEPSY202	**CourseTitle O.E (2): Life Skills - II**
CourseCredits: 03 (3:0:0)	**HoursofTeaching/Week:**03Hour(Theory)
TotalContactHours: 42Hours(Theory)	**FormativeAssessmentMarks:** 40
Exam Duration:2:30Hours	**SemesterEnd Examination Marks:**60

Course Outcomes(COs):

CO1 – Identify the nature of Effective Communication and comprehend the skills necessary for effective communication.
CO2 – Elucidate the dynamics involved in Interpersonal Relationships and interpret the techniques of enhancing Interpersonal skills.
CO3 – Demonstrate effective Stress management and analyze stress coping skills.
CO4 – Synthesize the dynamics of a Group or Team, comprehending the techniques to resolve conflict and enhance group performance.

Course Content

Content	Hours
UNIT – 1 Effective Communication	
● Effective communication and Presentation skills. ● Verbal and nonverbal communication, types of barriers ● Writing Skills: Activities: Letter Writing, Job Application, Resume writing. ● Listening Skills: Activities : Listen and Draw , Blindfold walk ● Activities : Interview Skills, Group Discussion, Presentation Skills, stand up for fillers, Just A Minute	**11 Hrs**
UNIT – 2 Interpersonal Relationship	
● Meaning and benefits of Interpersonal skills ● Components of Interpersonal skills, ● Techniques of improving Interpersonal skills, ● Activities: Role play, Ice breakers, circle time discussions, group discussion, two truths and a lie and SWOC analysis of peer	**11 Hrs**

UNIT – 3	Coping with Stress and emotions	
	• Stress Management: Stress, reasons and effects • Identifying stress, the four A's of stress management • Identifying and managing emotions, harmful ways of dealing with emotions • Activities : Stress Dairies, PATH method and relaxation techniques, Zen / Mandala drawing, creating Joy Collage, Gratitude Journaling, Eye Contact games	**10 Hrs**
UNIT – 4	**Group and Team Dynamics**	
	• Introduction to Groups: Composition, formation, expectations, Problem Solving, Consensus, Dynamics techniques, • Group vs Team, Team Dynamics, • Managing team performance and managing conflicts • Activities : Chinese Puzzle, Use what you have game ,Group timeline, Do the Math : Cooperation and competition in groups, Barter Puzzle.	**10 Hrs**

References:

- Barun K. Mitra, "Personality Development & Soft Skills", Oxford Publishers, Third impression, 2017.
- ICT Academy of Kerala, "Life Skills for Engineers", McGraw Hill Education (India) Private Ltd., 2016.
- Caruso, D. R. and Salovey P, "The Emotionally Intelligent Manager: How to Develop and Use the Four Key Emotional Skills of Leadership", John Wiley & Sons, 2004.
- Kalyana, "Soft Skill for Managers"; First Edition; Wiley Publishing Ltd, 2015.
- Larry James, "The First Book of Life Skills"; First Edition, Embassy Books, 2016.
- ShaliniVerma, "Development of Life Skills and Professional Practice"; First Edition; Sultan Chand (G/L) & Company, 2014.

Online E-resources

1. https://www.tutorialspoint.com/effective_communication/effective_communication_tutorial.pdf1.
2. .https://www.tutorialspoint.com/interpersonal_skills/interpersonal_skills_tutorial.pdf
3. **Module 7 Life Skills – UNODC** - https://www.unodc.org › message › escap_peers_07

CourseArticulationMatrix - 21OEPSY202

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO1	3	2	1	-	-	1	-	1	1	3	-	1
CO2	3	3	-	-	-	1	1	-	1	3	-	1
CO3	3	1	1	-	1	1	1	1	1	3	-	1
CO 4	3	1	1	-	1	1	1	1	1	3	-	1
Weighted Average	**3**	**1.75**	**1**	**0**	**1**	**1**	**1**	**1**	**1**	**3**	**0**	**1**

OE(01)Sociology Syllabus for All Programs (Except Arts)

Course Code: 21OESOC101	**Course Title: OE (1) Indian Society: Continuity & Change**
Course Credits: 03(3:0:0)	**Hours of Teaching/Week: 03**
Total Contact Hours: 42 Hrs	**Formative Assessment Marks: 40**
Exam Duration: $2\frac{1}{2}$Hrs	**Semester-End Examination Marks: 60**

Course Outcomes (COs)

CO1:Analyse the nature and direction of change in Indian society, basically from tradition to modernity.

CO2:Examining the changing conditions of the socially excluded group through movements for social justice.

CO3: Evaluate globalization and its impact on Indian society & social values & family relationships.

Course content

Unit – 1 Tradition in Transition	**13**
Chapter 1: The Nature and Direction of Change in Indian Society **Chapter 2**: The Changing Face of Indian Social Institutions: Family, Caste, Polity and Economy **Chapter 3**:The Rural-Urban Divide: Infrastructure, Education, Health and Local Governance	
Unit – 2 Movements for Social Justice	**16**
Chapter 4: A Background View: Role of the Constitution of India and Legislation **Chapter 5**: Backward Classes and Dalit Movements **Chapter 6:**New Social Movements: LGBTQ, Civil Rights, Ecological, Anticorruption Movements **Chapter 7:**Opportunities for Social Mobility for Scheduled Castes, Scheduled Tribes and Women	
Unit – 3 India in the Globalization Era	**13**
Chapter 8: Globalization and Indian Culture: Impact on Food Habits, Language, Ideas and Life Styles **Chapter 9**:Globalisation and Social Values: Impact on Youth and their World View, Changing Landscape of Love and Marriage, Impact on Familial Relationships and Understanding Others	

Books for Reference:

1) Ahuja, Ram 1993, Indian Social System, Rawat Publications, Jaipur

2) Ambedkar, B R 1948, The Untouchable: Who are they and Why they become Untouchable? Amrith Book Co., New Delhi

3) Beteille, Andre 1965, Caste, Class and Power, University of California Press, Berkeley

Weblinks:

https://www.intechopen.com/chapters/38348 Globalisation and Culture: The Three H Scenarios

https://www.business-standard.com/article/education/india-s-gross-enrolment-in-higher-education-rosemarginally-in-2019-20-121061001249_1.

https://www.wionews.com/south-asia/yoga-indias-new-cultural-tool-of-global-dominance-17104

Course Articulation Matrix – 21OESOC101

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	2	2	1	2	2	2	1	1	1	1
CO2	1	2	2	1	2	2	2	1	1	2	2	2
CO3	1	2	2	1	2	2	1	2	2	2	1	2
Weighted Average	1	2	2	1.3	1.6	2	1.6	1.6	1.6	1.6	1.3	1.6

OE(01)Sociology Syllabus for All Programs (Except Arts)

Course Code: 21OESOC102	**Course Title: OE (1) Sociology of Everyday Life**
Course Credits: 03(3:0:0)	**Hours of Teaching/Week: 03**
Total Contact Hours: 42 Hrs	**Formative Assessment Marks: 40**
Exam Duration: 2 1/2 Hrs	**Semester-End Examination Marks: 60**

Course Outcomes (COs)

CO1: Analyse the familiar world from a new perspective.

CO2: Analyze& appreciate how our social world is constructed.

CO3: Illustrate the types of Culture, Mass media, Globalization & Cultural diffusion in everyday life.

Course Content

Unit – 1 Introduction	**16**
Chapter 1: Sociology as a study of Social Interaction and its Need. **Chapter 2:** Everyday Life - Meaning; Why Study Everyday Life? (Contributions of Erving. Goffman and Anthony Giddens); Role of Socialisation in establishing habits and practices of action,thinking and feeling. **Chapter 3:** Social Institutions as Established Practices and Customs - Definition and Elements. **Chapter 4:** Challenges and Problems of Everyday Life.	
Unit – 2 Self and Society	**13**
Chapter 5: Definition of Situation (W I Thomas' Principle). **Chapter 6:** The Looking-Glass Self; Relation between Individual and Society. **Chapter 7:** Role of Social Media in Constructing Self and Identity.	
Unit – 3 Culture in Everyday Life	**13**
Chapter 8: Definition of Culture; Types of Culture: High Culture, Popular Culture, Recorded Culture and Lived Culture. **Chapter 9:** Mass Media and Everyday Life. **Chapter 10:** Globalisation and Cultural Diffusion.	

Books for Reference:

1) Berger, P L 1963, Invitation to Sociology: A Humanistic Perspective, Doubleday, Garden City, N.Y

2) Bruce, Steve, 2018, Sociology: A Very Short Introduction, 2nd edition, Oxford University Press, New York

3)Corrigall-Brown, Catherine 2020, Imagining Sociology: An Introduction with Readings, 2nd Edition, Oxford University Press, Canada

Weblinks

http://www.csun.edu/~hbsoc126/soc1/Charles%20Horton%20Cooley.pdf
https://www.khanacademy.org/test-prep/mcat/individuals-and-society/self-identity/v/charles-cooley- lookingglass- self
https://en.wikisource.org/wiki/Body_Ritual_among_the_NaciremaThis is an excellent article on how a group of people take care of their bodies every day of their life.

Course Articulation Matrix – 21OESOC102

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	1	2	2	2	2	1	1	1	1
CO2	1	2	2	1	1	2	2	2	2	2	2	1
CO3	1	1	2	2	2	1	1	2	1	1	1	1
Weighted Average	1.3	1.6	1.6	1.3	1.6	1.6	1.6	2	1.3	1.3	1.3	1

OE(02)Sociology Syllabus for All Programs (Except Arts)

Course Code: 21OESOC201	**Course Title: OE (2) Social Development In India**
Course Credits: 03(3:0:0)	**Hours of Teaching/Week: 03**
Total Contact Hours: 42Hrs	**Formative Assessment Marks: 40**
Exam Duration: 2 ½ Hrs	**Semester-End Examination Marks: 60**

Course Outcomes (COs)

CO1:Distinguish between growth and development.
CO2:Appreciate the importance of the Social component of development.
CO3:Appreciate the need for sustainable and inclusive human development.

Course Content

Unit – 1 Social Change and Development	**16**
Chapter 1: Rethinking Development: From economic development to social development and Human Development Index (HDI). **Chapter 2:** Development: Concept - changes in values and social relations as development; S.C. Dube's contributions; Importance of Social Development. **Chapter 3**: Indian thinking about Social Development - Swami Vivekananda, Ravindranath Tagore, M.K. Gandhi and Dr B. R. Ambedkar.	
Unit - 2. Components of Social Development	**13**
Chapter 4: Political Freedom, Economic Facilities. **Chapter 5:** Social Opportunities, Transparency, Security.	
Unit - 3 Challenges to Social Development	**13**
Chapter 6: Sustainable and Inclusive Development, Environmental Sustainability. **Chapter 7:** Responsible Private Corporations, Redressing Regional Imbalance, Harnessing Demographic Dividend.	

Books for Reference:

1) So, Alvin Y 1990 Social Change and Development. Sage Publication.
2) Sen, Amartya 1999 Development as Freedom, Oxford University Press, Delhi
3) Rai, Hirendranath 2013 Economic Thinking of Swami Vivekananda, Mahatma Gandhi and Ravindranath Tagore: AdvaitaAshrama Calcutta
4) Dayal, P 2006 Gandhian Theory of Reconstruction. Atlantic

Weblinks:

https://blogs.lse.ac.uk/southasia/2016/01/13/5689/ Top 100 economic and development challenges for India

220016

http://dotcue.net/swtn/upload_newfiles/2.SocialDevelopment-TheConcept.pdf

https://uk.sagepub.com/sites/default/files/upm-assets/57961_book_item_57961.pdf Defining Social Development

Course Articulation Matrix – 21OESOC201

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	2	2	2	2	2	1	2	2	1
CO2	2	1	2	2	2	2	2	1	2	1	1	2
CO3	1	2	1	1	1	1	1	2	2	2	2	1
Weighted Average	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.3

OE(02)Sociology Syllabus for All Programs (Except Arts)

Course Code: 21OESOC202	**Course Title: OE (02) Society Through Gender Lens**
Course Credits: 03(3:0:0)	**Hours of Teaching/Week: 03**
Total Contact Hours: 42Hrs	**Formative Assessment Marks: 40**
Exam Duration: 2–Hrs	**Semester-End Examination Marks: 60**

Course Outcomes (COs)

CO1: Realize the role of socialisation as a constructor of gender roles and status.

CO2: Appreciate the role of defining one's self-identity in terms of gender.

CO3: Examine the gender bias and discrimination present in everyday social structure & take informed decisions about addressing gender justice issues.

Course Content

Unit – 1 Social Construction of Gender	**14**
Chapter 1: Gender and Sex, Patriarchy, Gender Relations, Gender Discrimination, Gender ,Division of Labour. **Chapter 2:**Gender Equality, Gender Neutrality, Androgyny and Gender Sensitivity. **Chapter 3:** Gender Representation of Women and Third Gender in Indian Social Institutions.	
Unit - 2 Gender Representation and Violence	**14**
Chapter 4: Mass Media and Politics. **Chapter 5:** Education, Employment and Health. **Chapter 6:** Domestic Violence, Sexual Harassment at Work Place, Dowry and Rape, Dishon our Killing, Cyber Crime.	
Unit - 3 Addressing Gender Justice	**14**
Chapter 7: The Convention on the Elimination of All Forms of Discrimination Against Women(CEDAW) **Chapter 8**: 73rd and 74th Constitutional Amendment and Women's Empowerment **Chapter 9:** Right to self-determination of gender - Supreme Court of India's Judgment in NLSA Vs Union of India and others (Writ Petition (Civil) No 400 of 2012)	

Books for Reference:

1) Giddens, Anthony and Philip W Sutton, 2013, Sociology, 7th edition, Wiley India Pvt. Ltd. New Delhi

2) Gouda, M Sateesh, Khan, A G and Hiremath, S L 2019, Spouse Abusal in India: A Regional Scenario, GRIN Publishing, Munich

3) Harlambos, M and R M Heald, 1980, Sociology: Themes and Perspectives, Oxford University Press, Delhi

Web Links:

https://web.stanford.edu/~eckert/PDF/Chap1.pdf An Introduction to Gender
https://hbr.org/2019/06/tackling-the-underrepresentation-of-women-in-media
https://en.wikipedia.org/wiki/National_Legal_Services_Authority_v._Union_of_India

Course Articulation Matrix – 21OESOC202

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	2	2	2	1	2	2	2	2	1	2
CO2	2	2	2	2	1	2	1	2	1	2	2	1
CO3	2	1	1	1	2	2	1	2	1	2	1	2
Weighted Average	1.6	1.6	1.6	1.6	1.6	1.6	1.3	2	1.3	2	1.3	1.6

ಕನ್ನಡ ಮುಕ್ತ ಆಯ್ಕೆ (OE) ಸೆಮಿಸ್ಟರ್ – 1

Course Code: 21OEKAN101	**Course Title:** ಕನ್ನಡವ್ಯಾಕರಣ
Course Credits (L:T:P): 03 (3:0:0)	**Hours of Teaching/Week:** 03 (Theory)
Total Contact Hours: 42 Hours	**Formative Assessment Marks:** 40
Exam Duration: $2\frac{1}{2}$Hours	**Semester End Examination Marks:** 60

Course Outcomes (COs):

CO 1. ಕನ್ನಡ ಸಂಧಿ, ಸಮಾಸಗಳ ಪ್ರಯೋಗಗಳನ್ನು ಕಲಿಯುತ್ತಾರೆ.

CO 2.ಕನ್ನಡವನ್ನು ಶುದ್ಧವಾಗಿ ಬರೆಯಲು ಮತ್ತು ಮಾತನಾಡಲುಕಲಿಯುತ್ತಾರೆ.

CO 3.ಕನ್ನಡ ಬಳಕೆಯಲ್ಲಿ ಲಿಂಗ, ವಚನಗಳ ಬಳಕೆಯನ್ನು ಕಲಿಯುವರು.

CO 4.ಕನ್ನಡ ದ್ವಿರುಕ್ತಿ ಪದಗಳ ಪರಿಚಯವಾಗುತ್ತದೆ.

ಘಟಕ– 1: ಸಂಧಿ–ಸಮಾಸಗಳು **20 ಗಂಟೆಗಳು**

- **ಸಂಧಿ : ವಿಧಗಳು : ಕನ್ನಡ ಸಂಧಿಗಳು :** ಲೋಪ, ಆಗಮ, ಆದೇಶ,
- **ಸಂಸ್ಕೃತ ಸಂಧಿಗಳು :** ಸವರ್ಣದೀರ್ಘ ಸಂಧಿ, ಗುಣಸಂಧಿ, ವೃದ್ಧಿ ಸಂಧಿ, ಯಣ್ ಸಂಧಿ, ಜಸ್ತ್ವ, ಶ್ಚುತ್ವ, ಅನುನಾಸಿಕ
- **ಸಮಾಸ : ವಿಧಗಳು :**ತತ್ಪುರುಷ, ಕರ್ಮಧಾರಯ, ದ್ವಿಗು, ಬಹುವ್ರೀಹಿ, ಅಂಶಿ, ದ್ವಂದ್ವ, ಕ್ರಿಯಾ, ಗಮಕ, ಅರಿಸಮಾಸ

ಘಟಕ– 2: ನಾಮಪದ ಹಾಗೂ ಇನ್ನಿತರ ವಿಚಾರಗಳು **10 ಗಂಟೆಗಳು**

- ನಾಮಪದ, ವಿಭಕ್ತಿಪ್ರತ್ಯಯ, ಗುಣವಾಚಕಗಳು, ಕ್ರಿಯಾಪದಗಳು,

ಘಟಕ– 3: ಲಿಂಗ, ವಚನ, ತತ್ಸಮ–ತದ್ಭವಗಳು **06 ಗಂಟೆಗಳು**

ಘಟಕ– 4: ದ್ವಿರುಕ್ತಿ, ಜೋಡುನುಡಿ **06 ಗಂಟೆಗಳು**

ಪರಾಮರ್ಶನ ಗ್ರಂಥಗಳು

1. ಕನ್ನಡಕೈಪಿಡಿ– ಕುವೆಂಪು ಕನ್ನಡಅಧ್ಯಯನ ಸಂಸ್ಥೆ
2. ಕನ್ನಡ ಛಂದಸ್ಸಿನ ಚರಿತ್ರೆ – ಕುವೆಂಪು ಕನ್ನಡಅಧ್ಯಯನ ಸಂಸ್ಥೆ
3. ಕನ್ನಡ ಮಧ್ಯಮ ವ್ಯಾಕರಣ– ಶೀ.ನಂ.ಶ್ರೀ.
4. ಹೊಸಗನ್ನಡ ಸಮಗ್ರ ವ್ಯಾಕರಣ – ಪ್ರೊ. ಅರಳಗುಪ್ಪಿ
5. ಕನ್ನಡದಅಲಂಕಾರಶಾಸ್ತ್ರ– ಕೆ. ಕೃಷ್ಣಮೂರ್ತಿ

6. ಹೊಸಗನ್ನಡಛಂದಸ್ಸುಛಂದಃ ಸ್ವರೂಪ – ಪ್ರೊ. ಟಿ.ವಿ. ವೆಂಕಟಾಚಲಶಾಸ್ತ್ರಿ

7. ಛಂದಃಸ್ಸಂಪುಟ–ಡಾ. ಎಲ್. ಬಸವರಾಜು

8. ಭಾರತೀಯಕಾವ್ಯಮೀಮಾಂಸೆ– ತೀ.ನಂ.ಶ್ರೀ.

9. ಭಾರತೀಯ ಮತ್ತು ಪಾಶ್ಚಾತ್ಯಕಾವ್ಯಮೀಮಾಂಸೆ–ಅಬ್ದುಲ್ ಬಷೀರ್

10. ಅಲಂಕಾರ ಸಂಗಾತಿ–ಡಾ. ಗಿರಿಜಾಪತಿ ಎಂ.

11. ಛಂದೋಮಿತ್ರ – ಅ.ರಾ. ಮಿತ್ರ

Course Articulation Matrix - 21OEKAN101

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	3	3	2	2	2	1	1	1	3	2	2
CO 2	3	2	3	2	2	2	1	2	2	3	2	2
CO 3	3	2	1	2	1	2	1	2	2	1	2	2
CO 4	3	2	1	2	1	2	2	1	2	1	2	2
Weighted Average	**3**	**2.25**	**2**	**2**	**1.5**	**2**	**1**	**1.25**	**1.75**	**2**	**2**	**2**

ಕನ್ನಡ ಮುಕ್ತ ಆಯ್ಕೆ (OE) ಸೆಮಿಸ್ಟರ್ – 2

Course Code : 21OEKAN201	Course Title: ಆಡಳಿತಾತ್ಮಕ ಕನ್ನಡ
Course Credits (L:T:P): 03 (3:0:0)	Hours of Teaching/Week: 03 (Theory)
Total Contact Hours: 42 Hours	Formative Assessment Marks: 40
Exam Duration: $2\frac{1}{2}$Hours	Semester End Examination Marks: 60

Course Outcomes (COs):

CO 1.ಯಾವುದೇ ಬಗೆಯ ವರದಿ ಮಾಡುವುದನ್ನುಕಲಿಯುತ್ತಾರೆ.

CO 2.ಎಲ್ಲರೀತಿಯ ಪತ್ರಗಳನ್ನು ಬರೆಯುವುದನ್ನುಕಲಿಯುವರು.

CO 3.ಆಡಳಿತದಲ್ಲಿ ಕನ್ನಡ ಬಳಕೆಯನ್ನು ಕಲಿಯುತ್ತಾರೆ.

CO 4.ಕನ್ನಡ ಗಾದೆಗಳು, ಒಗಡುಗಳು, ನುಡಿಗಟ್ಟುಗಳ ಬಳಕೆಯನ್ನು ರೂಢಿಸಿಕೊಳ್ಳುವರು.

ಘಟಕ–1 :ಸಂಕ್ಷಿಪ್ತ ಲೇಖನ **11 ಗಂಟೆಗಳು**

ಘಟಕ–2 :ಪತ್ರಲೇಖನ, ಪ್ರಬಂಧರಚನೆ **10 ಗಂಟೆಗಳು**

ಘಟಕ–3 :ಆಡಳಿತಾತ್ಮಕ ಪದಕೋಶ – ಪರಿಕಲ್ಪನೆಗಳು **11 ಗಂಟೆಗಳು**

ಘಟಕ–4 :ಗಾದೆಗಳು, ನುಡಿಗಟ್ಟುಗಳು, ಒಗಟುಗಳು **10 ಗಂಟೆಗಳು**

ಪರಾಮರ್ಶನ ಗ್ರಂಥಗಳು

1 ಕಛೇರಿಕೈಪಿಡಿ– ಕುವೆಂಪು ಕನ್ನಡಅಧ್ಯಯನ ಸಂಸ್ಥೆ, ಮೈಸೂರು

2 ಆಡಳಿತ ಕನ್ನಡ– ಎಚ್ಚೆಸ್ಕೆ

3 ವಾಣಿಜ್ಯಕನ್ನಡ – ಎಚ್ಚೆಸ್ಕೆ

4 ವಾಣಿಜ್ಯಕನ್ನಡ ಪರಿಚಯ – ಪ್ರೊ.ಎಂ.ಎನ್. ಲಕ್ಷ್ಮೀದೇವಿ, ಪ್ರೊ.ಜಿ.ಅಬ್ದುಲ್ ಬಷೀರ್

5 ಆಡಳಿತ ಕನ್ನಡ – ಸಂ.ಡಾ. ಅಶೋಕ್‌ಕುಮಾರ್‌ರಂಜೇರ ಮತ್ತುಇತರರು

6 ಮುತ್ತಿನಕಣಜ–ಡಾ.ಪಿ.ಕೆ.ರಾಜಶೇಖರ

7 ಭೂಮಿತೂಕದ ಮಾತು – ಡಾ.ಪಿ.ಕೆ.ರಾಜಶೇಖರ

Course Articulation Matrix - 21OEKAN201

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	2	3	2	2	2	1	1	2	3	2	2
CO 2	3	2	3	2	2	2	1	1	2	3	2	2
CO 3	3	1	2	1	2	1	2	2	1	1	2	2
CO 4	3	1	2	1	2	1	2	1	2	2	1	2
Weighted Average	**3**	**1.5**	**2.5**	**1.5**	**2**	**1.5**	**1.5**	**1.25**	**1.75**	**2.25**	**1.75**	**2**