

ORIENTAL COLLEGE (AUTONOMOUS) TAKYEL, IMPHAL



VALUE ADDITION COURSES FOR 1ST to 6th SEMESTER

**SYLLABI FOR UNDER GRADUATE ACADEMIC
PROGRAMMES UNDER NEP-2020**

VALUE ADDITION COURSES

Value Addition Courses (VAC) are those courses that will help develop the capacities of human beings – intellectual, aesthetic, social, physical, emotional and moral in an integrated manner. While the courses will be developed according to the decisions taken by the VAC Committee of the college, the main areas which are to be covered under the VAC courses are Solid Waste Management, Radiation Hazard And Safety Principles, Methods Of Yoga, Nutrition And Physical Fitness, Women Empowerment, Human Rights And Duties, Bio Fertilizer, Vermicomposting, NCC, NSS, English Communication Skills, Computer Skills, Health Care, Dance, Fine Arts, Drama, Music, Thang-Ta, different sports disciplines, etc. The list is indeed not exhaustive.

As far as the Course Structure is concerned, each VAC carries 2 credits. A total of 8 VAC courses are to be offered in undergraduate. Semester I and II will have two VAC courses each i.e. a total of 4 VAC courses in 1st year while there will be one VAC course each in III, IV, V and VI semesters. Students should offer at least five VACs in undergraduate course.

Year	Semester	No. of VAC (each with 2 credits of 30 Contact hours)	No. of course option
1	1 st	2	6
	2 nd	2	6
2	3 rd	1	3
	4 th	1	3
3	5 th	1	3
	6 th	1	3
Total		8	24

2. Course structure of VAC shall be as follows:

COURSE CODE	TOTAL CREDIT	CONTACT HOURS	ASSESSMENT WEIGHTAGE in P.C.	
			Written	Other Assessment Modes: i. Practical/ Demonstration; ii. Seminar/Presentation; iii. Field /Project Work; iv. Assignment
V01 XXX	2	30	60	40 (Weightage to be distributed according to relevance)
V02 XXX	2	30	60	-do-
V03 XXX	2	30	60	-do-
V04 XXX	2	30	60	-do-
V05 XXX	2	30	60	-do-
V06 XXX	2	30	60	-do-
V07 XXX	2	30	60	-do-
V08 XXX	2	30	60	-do-

3. The college shall offer 12 VACs initially for the 1st Year of 2022-23 session. Other VACs to be introduced in the 2nd and 3rd years shall be subsequently developed based on feedback from stakeholders.

4. List of Value Addition Courses to be offered in the 1st Year:

1. Solid Waste Management
2. Radiation Hazard and Safety
3. Principles and Methods of Yoga
4. Introduction to Women Empowerment
5. Composting
6. Basic Computer Skills
7. Creative Writing

8. Human Rights & Duties
9. NSS (National Service Scheme)
10. Nutrition & Physical Fitness
11. Vermi Composting
12. Personality Development

5. In Semester I, students shall opt 2 (two) Value Addition Courses in the following manner:

- i. Choose any one VAC within the serial no. 1 to 3.
- ii. Choose any one VAC within the serial no. 4 to 6.

Similarly, in Semester II, students shall opt 2 (two) Value Addition Courses in the following manner:

- i. Choose any one VAC within the serial no. 7 to 9.
- ii. Choose any one VAC within the serial no. 10 to 12.

6. Instructions:

- i. No repetition of courses is allowed in the entire programme.
- ii. Assessment will be done internally by the concerned Departments).
- iii. Evaluation may be conducted by adopting of the following methods:
 - Written test (MCQ in online/offline/blended mode)
 - Practical examination
 - Laboratory work
 - Field work/Project
 - Assignment
 - Presentation

7. List of subject experts for developing the VAC syllabi of the 1st year:

- i. Kongkham Biplob Singha, Assistant Prof., Political Science Dept.
- ii. Dr. M. Babita Devi, Assistant Prof., Education Dept.
- iii. Dr. N. Nilima Chanu, Assistant Prof., Physics Dept.
- iv. Dr. R.K. Imosana Singh, Assistant Prof., Environmental Science Dept.
- v. Dr. Sarat Pebamcha, Associate Prof., Physical Education & Sports Dept.
- vi. Dr. S. Sanayaima Devi, HoD, Zoology Dept.
- vii. H. Bikram Sharma, Guest Faculty, IT course
- viii. Sachidananda Angom, Assistant Prof., English Dept.
- ix. Dr. M. Phalguni Singh, Assistant Prof., Chemistry Dept.

8. Detail of Courses

SEMESTER I								
COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE				
				Written	Practical	Seminar	Field /Project work	Assignment
VAC 01	V 01 SWM Solid Waste Management	02	30	60	10	10	10	10
VAC 01	V 01 RHS - Radiation Hazard And Safety	02	30	60	10	10	10	10
VAC 01	V 01 YOG - Principles And Methods Of Yoga	02	30	60	10	10	10	10
VAC02	V 02 WEM - Introduction To Women Empowerment	02	30	60	-	10	20	10
VAC02	V 02 BIO Composting	02	30	60	20	-	-	20
VAC02	V 02 COM Basic Computer Skills	02	30	60	20	-	-	20
SEMESTER II								
VAC 03	V03 CWR - Creative Writing	02	30	60	10	-	20	10
VAC 03	V03 HRD- Human Rights And Duties	02	30	60	-	10	20	10
VAC 03	V03 NSS - National Service Scheme	02	30	60	-	10	20	10
VAC04	V04 NPF - Nutrition And Physical Fitness	02	30	60	10	10	10	10
VAC04	V04 VER- Vermicomposting	02	30	60	20	-	-	20
VAC04	V04 PDE - Personality Development	02	30	60	10	10	10	10

SEMESTER III								
COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE				
				Written	Practical	Seminar	Field /Project work	Assignment
VAC 05	V05 PEQ- Personality Development and Employability Quotient	02	30	60	10	-	20	10
VAC 05	V05 ARA- Arithmetic Ability	02	30	60	-	10	20	10
VAC 05	V05 MUC- Mushroom Cultivation	02	30	60	-	10	20	10
SEMESTER IV								
VAC06	V06 DAT-Dating and its Application	02	30	60	20	-	-	20
VAC06	V06 – DMA Disaster Management	02	30	60	10	10	10	10
VAC06	V06 –FAS First Aid and Safety	02	30	60	10	10	10	10

SEMESTER V								
COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE				
				Written	Practical	Seminar	Field /Project work	Assignment
VAC07	V08 EVE- Environmental Ethics	02	30	60	10	10	10	10
VAC07	V08 IPC – Indian Polity for Competitive Examinations	02	30	60	10	10	10	10
VAC07	V08 ITC- Introduction to Cartography	02	30	60	10	10	10	10
SEMESTER VI								
VAC08	V08 MUM - Museum Method	02	30	60	20	-	-	20
VAC08	V08 INE- Indian Economy	02	30	60	10	10	10	10
VAC08	V08 CSD- Chemistry of Soaps and Detergents	02	30	60	10	10	10	10

9. Syllabi of the above Value Addition Courses are given below:

SEMESTER - I

VALUE ADDITION COURSE – V01 SWM SOLID WASTE MANAGEMENT (Total Credits -2, Contact hours - 30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V01	V01 SWM – Solid Waste Management	02	30	60	10	10	10	10

COURSE OBJECTIVES:

- To impart the knowledge about Solid waste Management
- To make the students aware about relevance of solid waste management to maintain a clean and safe environment.
- To give the students an overview of municipal solid waste management including collection, transfer, transport and disposal.
- To instruct the students about the methods of processing, basic disposal facilities, disposal options, and the environment issues of solid waste management will be covered in this course.

COURSE OUTCOMES:

- To know the sources and composition of solid waste
- Understand the components of solid waste management and laws governing it.
- Understand the solid waste collection systems, route optimization techniques and processing of solid wastes.
- Understand the design, operation and maintenance of different method of waste treatment and the operation and maintenance of sanitary landfill
- Know the operation and maintenance of incineration process and the recent trends in reuse of solid waste.

Unit-I: Sources and Composition of Municipal Solid Waste (6 hours)

Introduction, sources of solid waste, Types of solid waste, composition of solid waste and its determination.

Physical properties of municipal solid waste, chemical properties of municipal solid waste, biological properties of municipal solid waste, transformation of municipal solid waste.

Unit-II Solid Waste Generation and Collection (6 hours)

Quantities of solid waste, measurement and method, solid waste generation and collection, factors affecting solid waste generation rate.

Unit-III Processing and Disposal of Solid Waste (6 hours)

Processing of solid waste at residence e.g. storage, conveying, compacting, shredding, pulping, granulating, etc., processing of solid waste at commercial and industrial site.

Combustion and energy recovery of municipal solid waste, landfill processes, differentiate sanitary landfill and incineration as final disposal for solid waste.

Unit-IV Hazardous Solid Waste (6 hours)

Definition, Identification and classification of hazardous solid waste, Characteristics, hazardous waste toxicity, reactivity, infectiousness, flammability, radioactivity, corrosiveness, biomedical waste, its sources, generation, storage and disposal.

UNIT –V Field Visit with students to relevant sites. (6 hours)

Reference:

1. Waste to Resources: a waste management handbook TERI Press, New Delhi
2. Solid Waste Management: Present and Future Challenges by AL. Ramanathan Jagbir Singh

VALUE ADDITION COURSE – V01RHS
RADIATION HAZARD AND SAFETY
(Total Credits -2, Contact hours - 30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V01	V01 RHS – Radiation Hazard And Safety	02	30	60	10	10	10	10

COURSE OBJECTIVES:

- The aim of this course is for awareness and understanding regarding radiation hazards and safety.

COURSE OUTCOME:

- Students will learn about the radiation safety measurement.

Unit I: Interaction of Radiation with matter (8 hours)

Types of Radiation: Alpha, Beta, Gamma and Neutron and their sources, Interaction of Photons - Photoelectric effect, Compton Scattering, Pair Production, Linear and Mass Attenuation Coefficients, Interaction of Charged Particles: Channeling and Cherenkov radiation. Beta Particles- Collision and Radiation loss (Bremsstrahlung), Interaction of Neutrons- Collision, slowing down and Moderation.

Unit II: Radiation Hazard (6 hours)

Radiation hazard, evaluation, control and radiation protection Hazard evaluation by calculation, area monitoring, personal monitoring. Detection and measurement of contamination on work surface and person. Methods of decontamination. External and internal exposure.

Unit III: Radiation detection and monitoring devices: (6 hours)

Basic idea of different units of activity, exposure, absorbed dose, equivalent dose, effective dose, Annual Limit of Intake (ALI) Radiation detection: Basic concept and working principle of gas detectors (Ionization Chambers, Proportional Counter, and Gieger Muller Counter), Thermoluminescent Dosimetry.

Unit IV: Radiation safety management (4 hours)

Biological effects of ionizing radiation, basics of radiation hazards evaluation and control: radiation protection standards, introduction of safety and risk management of radiation. Nuclear waste and disposal management.

Demonstrations (6 hours)

Demonstration of Training modules on the background radiation levels using Radiation meter.

References:

1. Radiation Protection (Adam Hilger Ltd. International Publishers Services, 1985), Ronald L. Kathren.
2. Environmental Radioactivity (Academic Press, Orlando, 1987), Merrill Eisenbud.
3. Atoms, Radiation & Radiation Protection (Pergamon Press, 1986), James E Turner.
4. Attix F H et al, "Radiation Dosimetr", Vol. I, II and III (Academic Press, NY, 1968)
5. Radiation: Fundamentals, Applications, Risks, and Safety by Ilya Obodovski

**VALUE ADDITION COURSE V01YOG
PRINCIPLES AND METHODS OF YOGA**

(Total Credits - 2, Contact hours - 30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V01	V01 YOG: Principles And Methods Of Yoga	02	30	60	10	10	10	10

COURSE OBJECTIVES:

- The Students will gain the fundamental knowledge of Yoga.
- The study will know the importance of Yoga.
- The theoretical and practical approaches will be learned.

COURSE OUTCOMES:

- The students will have a clear understanding about the basic fundamental of yoga and its benefits;
- They will also be able to perform some of the important “asanas” of yoga in their daily life.

Unit – 1: Introduction

Meaning and Definition of Yoga

Aims and Objectives of Yoga

Yoga in Early Upanisads

Need and Importance of Yoga in Physical Education and Sports.

Unit – II: Foundation of Yoga

The Astanga Yoga: Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana and Samadhi.

Yoga in the BhagavadGita – Karma Yoga, Raja Yoga, Jnana Yoga and Bhakti Yoga.

Unit – III: Asanas

Effect of Asanas and Pranayama on various systems of the body.

Classification of Asanas with special references to Physical Education and Sports.

Influences of relaxation, meditative posture on the various system of the body.

Types of Bandhas and Mudras.

Type of Kriyas.

References:

1. Brown, F. L. (2000). How to use Yoga. Delhi: Sports Publication.
2. Gharote, M. L. & Ganguly, H. (1988). Teaching methods for Yogic practices. Lonawala: Kaixydahmoe.
3. Rajjan, S. M. (1985). Yoga strengthening of relaxation for sports man. New Delhi: Allied Publishers. Shekar, K. C. (2003). Yoga for health. Delhi: Khel Sahitya Kendra.

VALUE ADDITION COURSE
V02 WEM: INTRODUCTION TO WOMEN EMPOWERMENT
(Total Credits -2, Contact hours - 30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V02	V02 WEM: Introduction To Women Empowerment	02	30	60	-	10	20	10

COURSE OBJECTIVES:

This paper introduces learners to a basic understanding and analysis of the different dimensions of women empowerment. The paper is divided into four distinct units. Unit I is concerned with a conceptual understanding of women empowerment while highlighting its challenges and determinants. It introduces learners to different issues confronting women in society. Unit II deals with social and economic empowerment of women in India along with relevant legal and statutory provisions. Unit III analyses political empowerment of women and its implications while also focusing on patterns of their political participation and influence in decision-making. Unit IV deals with different national and international Acts, Commissions and Laws that seek to safeguard women's rights. It also includes aspects of certain social movements and institutions of women empowerment in Manipur.

COURSE OUTCOMES:

Upon completion of the course, the students will be able to:

- a) explain the concept of women empowerment along with the different determinants and challenges
- b) understand the different issues confronting women, gain insights into existing government measures and schemes for women's welfare, and also know the working of important constitutional and statutory bodies
- c) understand the different dimensions of political empowerment, including inclusivity in political participation and decision-making bodies, instruments under national and international law
- d) make an in-depth analysis of the different barriers to women empowerment, while also understanding women empowerment movements in Manipur.

Unit I:

Women Empowerment: Definition, Determinants, Challenges

Key issues in Women Empowerment: Sex Ratio, Female Infanticide, Female Foeticide, Child Marriage, Dowry, Property Rights of Women, Violence against women

Unit II

Socio-economic empowerment of women - Gender issues in Health, Education and Environment

Economic status of women in contemporary India,

Government policies, schemes and welfare measures for women and girls in India,

National Policy for the Empowerment of Women, 2001

Unit III

Political Empowerment of women- Political participation, Women leaders in politics

Women in legislative decision-making bodies; Barriers in participation and reservation policies,

Women's political rights in India

Unit IV

National Commission for Women

The Protection of Women from Domestic Violence Act, 2005

Women under International Law – UN Women, CEDAW

Women Empowerment in Manipur; Nupi Lal; Meira Paibi Movement

Suggested Readings:

- a. Devaki Jain and Pam Rajput (Ed). (2003). Narratives from the Women's Studies Family, Recreating Knowledge, Sage New Delhi.
- b. Jasbir Jain (Ed). (2005). Women in Patriarchy: Cross Cultural Readings. Rawat Publications, Jaipur
- c. Maithreyi Krishna Raj. (1986). Women Studies in India: Some Perspectives. Popular Prakashan, Bombay.
- d. Mala Khullar, (Ed). (2005). Writing the Women's Movement: A Reader. Zubaan, Kali for Women, New Delhi.
- e. Mies, Maria. (1980), Indian Women and Patriarchy, Concept Publishing Company, New Delhi
- f. Sushama Sahay, (1998), Women and Empowerment: Approaches and Strategies, Discovery Publishing
- g. Salam Irene, (2014), Women of Manipur: An Alternative Perspective, Neha Publications

**VALUE ADDITION COURSE – V02 BIO
COMPOSTING
(Total Credits -2, Contact hours - 30)**

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V02	V02 BIO: Composting	02	30	60	20	-	-	20

COURSE OBJECTIVES:

- To study the impact of soil management practices on microbial functions and soil health.
- To improve bio fertilizer technology to ensure high quality and improved delivery.
- To diversify bio fertilizer research and application in dry lands, and degraded soils.
- To impart hands on training on the skills associated with Bio fertilizer organisms isolation, production and application.

COURSE OUTCOMES:

- Students will be acquiring the technical knowledge in Bio fertilizer production technology.
- Have knowledge different types of microbes and their role in composting.
- To understand different types of residues for composting.
- Development of integrated management for best results uses both nitrogenous and phosphatic bio fertilizers.
- Ability to distinguish the types of biofertilizers.

Unit I:

Introduction to Composting:

Types – aerobic and anaerobic, factors influencing composting of organic waste.

Unit II:

Process of composting:

Types of microorganisms used in composting, Process of composting, Different methods of composting (small and large scale)

Unit III:

Residues of composting:

Different residues: Sugar factory waste, Oil cakes, Industrial effluents, Saw dust, Poultry waste, Kitchen waste.

Unit IV:

Products:

Qualities of good compost, Advantages and disadvantages of composting

Unit IV: Practical:

1. Formation of different types of composting bin.
2. Kitchen waste composting.
3. Collection of waste.
4. Different methods of filling pit.
5. Harvesting of compost

Reference:

1. Arun K. Sharma (2017) Biofertilizers for Sustainable Agriculture: Agrobios (India)
2. Dr. Anil Kumar, Th. Dr. Susheelkumar Thakar, etat. (2021). Biofertilizers. S. Dinesh & Co.
3. Davis W. Rawlings (2021). Composting Book for Beginners.
4. Steve Solomon. (1993). Easy Composting for Organic Gardeners
5. Michelle Baez (2017). Composting for a New Generation

VALUE ADDITION COURSE
V02 COM BASIC COMPUTING SKILLS
(Total Credits -2, Contact hours - 30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V02	V02 COM: Basic Computer Skills	02	30	60	20	-	-	20

COURSE OBJECTIVES:

1. To familiarize with basics of Computers
2. To understand the used of Microsoft Windows and other OS.
3. To make students perform basic functions in a word processor, spreadsheet & powerpoint presentation.
4. To explore the impact of technology has on individuals and organizations

COURSE OUTCOMES:

1. Select and use the appropriate software application to complete a particular task
2. Create documents in MS Word format text and develop the ability to use automatic formatting tools.
3. Critically sort and manipulate data using formulas and functions in a worksheet
4. Create and format simple presentations.
5. Knowledge of various types of networks and topologies
6. Use of the Internet and e-mail.

UNIT I -Basics of Computer

Knowledge of Computer hardware and its peripherals, Input & output devices types and its functions, computer handling on the MS Windows 10 and other open source OS Linux

UNIT II - MS Word

Creating new Documents –Document template – Typing Text – Editing Text – Insert Text – Go to, Find, and Replace text or word- Formatting of Text – Format painter – Cut and Paste utility, Creating tables – Working with table – Merging cells – Splitting a cell – Splitting a table -using auto correct option.

UNIT III - MS Excel

The typical worksheet or spread sheet – cell and their properties – formatting cell – text, numbers, currency, accounting, date, time, percentage, scientific – formats.

Formula using arithmetic and relational operators in a worksheet -Advanced Formulas sum, count, countif, Average, Max, Min, Product, if.

Creating Bar diagrams, pie charts, Area, - Building Line Diagrams, Histograms, Scatter plots - Frequency Graphs

UNIT IV-MS Power point

Create Slide Presentation – Design Theme – Add Text – Editing Techniques – Format Slide.- Transition and Animation, Slide Shows & Creating custom slide shows.

Unit V Network & Internet

Networking types and importance, LAN, WAN, types of media used in computer networking & Concept of internet, world wide web (www) & email.

Reference Books:

1. Fundamentals Of Computers - Prof V. Rajaraman, Neeharika Adabala - Prentice- Hall of India
2. Introduction to Computers- Peter Norton 6th Edition, Tata McGraw Hill
3. Computer Fundamentals - P. K. Sinha Publisher: BPB Publications
4. Computer & Internet Basics Step-by-Step – Etc End the Clutter - Infinity Publishing
5. Microsoft Office Step by Step- John Lambert, Curtis Frye-
6. Mastering MS Office - Kumar Bittu, V&S Publishers
7. Office 2010 in Easy Steps- Michael Price, In Easy Steps Limited

SEMESTER II
VALUE ADDITION COURSE
V03 CWR: CREATIVE WRITING
(Total Credits: 02, Contact hours: 30)

Course Structure:

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V03	V03 CWR: Creative Writing	02	30	60	10	-	20	10

COURSE OBJECTIVES:

- To understand ideas related to creative writing
- To understand the principles of creative writing
- To explain the differences in writing for various literary and social media
- To put into practice the various forms of creative writing

COURSE OUTCOMES:

At the end of the course, students will be able to

- write for various literary and social media
- critically appreciate various forms of literature
- make innovative use of their creative and critical faculties
- seek employment in various creative fields

Unit - I: 8 hours

Meaning, Scope and Significance of creative writing, Genres of creative writing: poetry, fiction, non-fiction, drama and other forms.

Unit - II: 8 hours

Plot, Setting, Character, Dialogue, Point of View, Literary Devices and Figurative Language, Elements of Style, Grammar and the Structure of Language, Proof Reading and Editing

Unit - III: 6 hours

Fiction: Short Story, Novel, Poetry, Drama, Essay, Fable, Biography, Memoire and Autobiography, Travelogues, Diaries, Self-Narrative Writing

Unit – IV : 8 hours

New Trends in Creative Writing, Web Content Writing and Blog Writing, Script Writing, Journalistic Writing, Copywriting, Graphic Novel, Flash Fiction

Reference:

1. Bell, Julia and Magrs, Paul. The Creative Writing Course-Book. London: Macmillan, 2001.
2. Clark, Roy Peter. Writing Tools.US: Brown and Company, 2008.
3. Johnson, Jeannie. Why Write Poetry? US: F. D. Univ. Press, 2007

VALUE ADDITION COURSE
V03 HRD: HUMAN RIGHTS AND DUTIES
(Total Credits -2, Contact hours - 30)

Course structure:

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V03	V03 HRD: HUMAN RIGHTS AND DUTIES	02	30	60	-	10	20	10

COURSE OBJECTIVES:

This introductory course is divided into two sections:

Section A introduces the students to the theoretical and conceptual origins of human rights. It deals with the typology and the diverse nature of rights while emphasizing its interlinkages with duties and responsibilities. It also highlights the significance of UDHR 1948 and the global role of United Nations in the protection and promotion of human rights.

Section B is centred on human rights and duties in the Indian context. It deals with the constitutional and statutory provisions for human rights in India, and their significance within the Indian political system. It also focuses on the importance of understanding citizens' Fundamental Duties and the importance of Directive Principles of State Policy.

LEARNING OUTCOMES:

At the end of the course, the students shall:

- be able to explain the nature, different meanings, and types of rights and build their own understanding of human rights.
- be able to understand the evolution of human rights across generations and establish the intricate relationship of rights with duties and responsibilities.
- be able to answer how the United Nations occupy a central place in the discourses on human rights.
- gain insights into India's own constitutional, statutory, and other provisions that seek to protect and safeguard human rights of its citizens.
- be able to understand rights violations of weaker and vulnerable groups in India and the existing mechanisms for their protection.

Unit I: Conceptual background of Human Rights and Duties

1. Rights: Meaning, Nature and Types
2. Origin of the concept of Human Rights, Three Generations of Rights
3. Relationship between Rights and Duties, Freedom and Responsibility
4. Universal Declaration of Human Rights, 1948
5. United Nations and Human Rights

Unit II: Human Rights and Duties in India

1. Indian Constitution: Fundamental Rights, Directive Principles of State Policy, Fundamental Duties and their interrelationships
2. The Protection of Human Rights Act 1993
3. Role of Indian Judiciary in enforcement and protection of Human Rights
4. Role of National Human Rights Commission and State Human Rights Commissions.
5. Protection of the human rights of women, children and the disadvantaged groups.

References:

1. Adil-ul-Yasin and Acharna Upadhyay: Human Rights, Akansha Publishing House, New Delhi, 2004
2. Agarwal, H.O., Human Rights, Central law Publications, 16th Edition, 2016
3. Bajwa, G.S. and Bajwa, D.K.: Human Rights in India: Implementation and Violations, New Delhi, D.K. Publishers, 1996
4. Basu, D.D.: Introduction to the Constitution of India, 26th Edition, Lexis Nexis Publications
5. Girija, M., Pushpavalli, K., Subasree, P.: Human Rights: An Overview, S. Chand & Co. Ltd.
- Jayapalan, N: Human Rights, New Delhi, Atlantic Publishers, 2000
- Justice
6. V.R. Krishna Iyer: Human Rights and Inhuman Wrongs, B.R. paperback, New Delhi, 2001
7. Mohanti, M: Human Rights Education, Deep and Deep, New Delhi, 2000
8. National Human Rights Commission: Human Rights Education for Beginners, 2005

SEMESTR –II

VALUE ADDITION COURSE-VO3NSS
V03 NSS - NATIONAL SERVICE SCHEME
(Total Credits-2, Contact hours-30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V03	V03 NSS National Service Scheme	02	30	60	-	10	20	10

COURSE OBJECTIVES:

1. To understand History, aim and objective of NSS
2. To understand Education through Community Service and community service through Education
3. To help about learners about NSS funding regular activity Special Camping.
4. Practice national integration and social harmony.

COURSE OUTCOMES:

At the end of the course, learners will be able to understand:

1. The knowledge about NSS aim, objective, Moto and flag.
2. The volunteerism its roles in the field of health, hygiene, sanitation, and emergence needs so as to build a strong country.

Unit -1 (6 hours).

Introduction to NSS, History, philosophy, aim and objectives of NSS.

Unit-II (8 hours)

Organization of NSS funding, regular activities, Special Camping, Adopted Village, maintain records, collaboration government agencies NGOs, NSS Moto, NSS logo, NSS Day.

Unit-III(8 hours)

Community Service: Organized a Social service camp in the institution campus, to understand need of volunteerism for neat and clean, health & hygiene.

Unit-IV (8 hours)

Organise and awareness camp to neighbouring village/adopted village and write a report based on that.

References:-

1. National Service Scheme Manual (Revised)2006 Government of India, Ministry of youth affairs and Sports, New Delhi.
2. Dr. O. Sanajaobi Devi 2022NSS

SEMESTER - II
VALUE ADDITION COURSE
V04 NPF: NUTRITION AND PHYSICAL FITNESS

(Total Credits -2, Contact hours - 30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V04	V04 NPF: NUTRITION AND PHYSICAL FITNESS	02	30	60	10	10	10	10

COURSE OBJECTIVES:

- To understand the Nutrition and Physical fitness.
- The study will know the importance of different types of nutrition.
- The theoretical and practical approaches of nutrition will be learned.

COURSE OUTCOMES:

- The students will gain knowledge about the importance of nutrition and its relevance in physical fitness.
- They will also be able to make their own diet chart and apply them when they undergo any form of physical activity.

Unit – I - Introduction to Sports Nutrition

- 1.1 Meaning, Definitions and Sports Nutrition
- 1.2 Basic Nutrition and guidelines.
- 1.3 Role of nutrition in Sports.
- 1.4 Factor to consider for developing Nutritional plan.

Unit – II Nutrients: Ingestion to Energy Metabolism

2.1 Macro and Micro nutrients.

2.2 Carbohydrates, Fat and Protein energy sources during physical activities and exercise

2.3 Vitamins, Mineral, Water – Meaning, classification and its function.

2.4 Daily caloric requirement and expenditure.

Unit – III Introduction to Physical Fitness

3.1 Definition, Aims and Objectives of Physical fitness and wellness.

3.2 Importance and Scope of fitness.

3.3 Modern concept of Physical fitness and wellness.

3.4 Components of Physical fitness – Strength, Speed, Endurance, Power and Flexibility.

3.5 Factors influencing Physical fitness.

References:

1. Bassesen, D. H. (2008), Update on obesity, J Clin Endocrinol Metab, 93(6), 2027-2034.
2. Difiore, J. (1998). Complete guide to postnatal fitness. London: A & C Black.
3. Chu, S.Y. & Kim, L. J. (2008), Maternal obesity and risk of stillbirth: a meta- analysis. Am J Obstet Gynecol, 197(3).
4. Giam, C.K. (1994). Sports medicine exercise and fitness. Singapore: P.G. Medical Book.
5. McGlynn, G., (1993). Dynamics of fitness. Madison: W.C.B Brown.
6. Bucher, Charles A. “Administration of Health and Physical education”.
7. Sharkey, B. J. (1990). Physiological fitness, Human Kinetics Book.
8. International Fitness Association Web at [http:// www. ifafitness. Com](http://www.ifafitness.com)

VALUE ADDITION COURSE
V04 BIO: VERMICOMPOSTING
(Total Credits -2, Contact hours - 30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V04	V04 VER: VERMICOMP OSTING	02	30	60	20	-	-	20

COURSE OBJECTIVES:

- To make the students aware about the significance of Vermicomposting as a profit-making enterprise.
- To help the students to understand the biology of Earthworms, nutritive values of Vermicompost & Vermicast.

COURSE OUTCOMES:

- Upon completion of the course, students shall be able to know the history of Vermiculture.
- Recognize various species of Earthworms in India, both exotic and indigenous races.
- Be aware about the opportunities and employment in rural cottage industry.
- Gain thorough knowledge about the techniques involved in Earthworm rearing and Vermicompost preparation.
- Develop entrepreneurial skills necessary for self-employment in Vermicomposting.

Unit I: Introduction to Vermiculture

Introduction to vermiculture: definition, Earthworm as indicators as soil fertility, Interaction of vermicompost- earthworm-mulch-plant root (VEMP), Recycling of waste through vermitech, Advantage of organic manure / vermicompost and the role of earthworms, Vermiculture process.

Unit II: Biology of Earthworm.

Types of worms – local and exotic. Selection of suitable species (Epiges, Endoges, Aneciques), Basic characteristics of suitable species, Biology of Earthworm, Pests & Diseases and preventive measures.

Unit III: Vermicompost preparation & Physico-chemical parameters

Physico-chemical parameters of vermicompost, different methods of vermicomposting – small, large-scale bed farming, pit methods, limiting methods in vermicomposting. Requirements for vermicomposting. Extraction, harvesting, processing, packaging, transport and storage of vermin compost.

Unit III: Practical:

1. Methods of formation of different types culture pit.
2. Different types of food materials and its collection.
3. Rearing of Earthworms
4. Harvesting of compost

Reference:

1. Eiri. (2009) Biofertilizers & Vermiculture. Engineers India Research Institute.
2. Loren Nancarrow and Janet Hogan (1998). The Worm Book
3. Jaime Rainer (2014). Composting the Garden Guide.

VALUE ADDITION COURSE

V04 PDE: PERSONALITY DEVELOPMENT (Total credit-2, Contact Hour-30)

Course Structure:

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V04	V04 PDE: Personality Development	02	30	60	10	10	10	10

COURSE OBJECTIVE :

- The course aims to bring about personality development with regard to the different behavioural dimensions that have far reaching significant in the direction of organisational effectiveness.
- The programs intends to develop talent, facilitate employability enabling the incumbent to excel and sustain in a highly competitive world business.
- To make students know about self – awareness, life skills, soft skill, need for personal development etc.

COURSE OUTCOME :

- The students will be able to understand, analyse develop and exhibit accurate sense of self.
- Think critically
- Demonstrate knowledge of personal belief and values and a commitment to continuing personal reflection and re assessment.
- Learn to balance confident with humility and overcome problems associated with personality.

Unit : 1: Introduction to Personal Development

The concept of personality-Dimension of personality – Theories of Freud & Erickson-Significant of personality development. The concept of success and failure –Hurdles in achieving success- Over coming hurdles- Factors responsible for success –Causes for failure. SWOT analysis

Unit 2 Attitude & Motivation :

The attitude-concept-Significant-Factor affecting attitude-positive attitude-Advantages-Negative attitude-disadvantages-Ways to develop positive attitude. Concept of motivation-significant-Eternal & external motive-important of self motivation.

Unit 3 Self - Esteem

Term Self-Esteem-Symptoms-Advantages-do's and don'ts to develop positive self-esteem-Low self-esteem-Symptoms-Personality having low self esteem-positive and negative self-esteem. Interpersonal relationship

Unit 4 Other aspect of Personality Development

Body language-Problem-solving-Conflict and stress management-decision making skills-Leadership and qualities of a successful leader-Character building-team work-time management-Work ethics-good manners and etiquette.

Unit 5 Employable Quotient

Resume building-the art of participating in group decisions-Facing the personal (HR&Technical) Interview-Psychometric analysis-Mock interview session.

Reference Books:

1. Andrews, Sudhir. How to succeed at Interviews. 21st (rep) New Delhi.Tata McGraw-Hill 1988
2. Heller,Robert,Effective Leadership, Essential Manager series. Dk Publishing, 2002
3. Hindle, Tim, Reducing Stress. Essential Manger series. Dk. Publishing 2003
4. Lucas,Stephen, Art of Public speaking.New Delhi. Tata-Mc graw Hill 2001
5. Mile, D.J, Power of positive thinking, Delhi. Rohan Book Company, 2004
6. Pravesh Kumar, All about self-Motivation. New Delhi Goodwill Publishing House. 2005
7. Smith B. Body Language. Delhi. Rohan Book Company 2004

VALUE ADDITION COURSE - V05 PDE
PERSONALITY DEVELOPMENT & EMPLOYABILITY QUOTIENT
(Total Credits -2, Contact hours - 30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V05	V05 PEQ- Personality Development & Employability Quotient	02	30	60	10	10	10	10

COURSE OBJECTIVES:

- To equip students with the required Soft Skills needed to reach their full potential in any professional setting.
- To accelerate employment prospects of learners
- To analyse behavioural attributes, habits, critical understandings, and practicality which are essential in a constantly transitioning world

COURSE OUTCOMES:

- To get a thorough knowledge of accurate grooming etiquette and body language required in a professional setting
- To build confidence through class demonstrations and practical sessions
- To have an amplified competence for job prospects and advancements
- To handle professional relations in a healthy manner
- Be job-ready through critical, practical and analytical learning

UNIT I: Grooming Etiquette and Body Language (4 hours)

Professional grooming; accurate sitting or standing postures and presentable body gestures; appropriate body language in an interview or in any other professional setting.

UNIT II: Introduction to Personality Development Skills, Communication Skills and Public Speaking (6 hours)

Basics of personalities and soft skills for creating positive impact; essential communication skills; basic grammar (English); audibility, tone, and emotions; listening and speaking

(Verbiage); pronunciation (MTI) and communication etiquette; microphone holding etiquettes; professional email etiquettes and telephonic etiquettes.

UNIT III: Leadership, Discipline, Time Management and Organisational Skills

(5 hours)

Identifying a true leader vs. a toxic leader/ boss; self-discipline, time management - urgent work, important work, unimportant work, and organizational skills for easy and smooth functioning, less stress, and quicker way to achieve required goals.

UNIT IV: Amiability, Adaptability, Flexibility and Empathy

(5 hours)

Importance of amiability and empathetic values; perks of benefitting through breaking one's comfort zone; inculcating flexible attitude, stimulating adaptive behaviour in a professional space; handling negative emotions and coping with stress.

UNIT V: Teamwork, Customer Service and Hospitality

(5 hours)

Teamwork- an art of diplomacy and meeting goals together; aiding and assisting customers or passengers, handling customers with ethics and eloquent decorum.

UNIT VI: Employability Equation Class

(5 hours)

Resume making, analysis of frequently asked questions, group discussions, and HR Rounds, types of questions during interviews, mock interviews.

Reference Books:

1. IMCTF. Personality Development (English). Chennai. 2015
2. Vivekananda, Swami. Personality Development. Kolkata. 2009
3. Sharma, Prashant. Personality development for Life Success. BPB Publications, 2021
4. Gupta, Seema. Soft Skills: Interpersonal & Intrapersonal Skill Development. New Delhi. 2020

5. Please add 3 to 4 reference materials (May include websites/web links /web sources)

SEMESTER – III

VALUE ADDITION COURSE : V05 - ARA ARITHMETIC ABILITY

(Total Marks: 100)

(Credits – 2)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	Contact Hours	ASSESSMENT WEIGHTAGE IN PC				
				Written	Practical/ Demonstration	Seminar/ Presentation	Field Work/Project Work	Assignment
V05	Arithmetic Ability	02	30	60	10	10	10	10

COURSE OBJECTIVES:

This course aims to provide knowledge of elementary ideas about arithmetic abilities which one finds in daily life. It will help the students from any background to get acquainted with this knowledge and get prepared for any competitive examinations.

COURSE OUTCOMES:

This course will enable the students to gain sufficient ideas of mental and arithmetic abilities, to handle / quantitative aptitude test questions with great ease, to acquire the skill of solving problems of daily life quickly.

UNIT – I: Arithmetic Ability – A (30 marks)

H.C.F and L.C.M. of Numbers (Chapter – 2), Simplification (Chapter -4), Average(Chapter – 6).

(10 hours)

UNIT – II: Arithmetic Ability – B (35 marks)

Percentage (Chapter – 11), Profit and Loss (Chapter – 12), Ratio and Proportion (Chapter – 13).

(10 hours)

UNIT – III: Arithmetic Ability – C (35 marks)

Area (Chapter – 24), Volume and Surface Area (Chapter – 25), Height and Distances (Chapter – 34).

(10 hours)

RECOMMENDED BOOKS:

1. Scope and treatment as in “Quantitative Aptitude”, S. Chand and Company Ltd. Ram Nagar, New Delhi (2007).

SEMESTER - III

VALUE ADDITION COURSE – V05 MUC MUSHROOM CULTIVATION (Total Credits -2, Contact hours - 30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V05	V05 MUC – Mushroom Cultivation	02	30	60	10	10	10	10

COURSE OBJECTIVES:

- To impart the knowledge about the mushroom growing techniques,
- To make student aware about appreciate the medicinal and nutritional values of mushroom
- To instruct the students about the economic importance of mushroom cultivation

COURSE OUTCOMES:

On completion of this course, the students will gain knowledge of or be able to:

- Identify various types and categories of mushrooms.
- Gain the knowledge of cultivation of different types of edible mushrooms and spawn preparation
- Manage the diseases and pests of mushroom
- Learn mushroom cultivation as a means of self -employment and income generation.

Unit-I: Introduction to mushrooms (3 hours)

History. Nutritional and medicinal value of edible mushrooms; Poisonous mushrooms; Types of edible mushrooms available in India (with local emphasis)- *Volvariella volvacea*, *Pleurotus spp.*, *Agaricus bisporus*.

Unit-II Cultivation Technology (7 hours)

Infrastructure: substrates (locally available), polythene bag, vessels, inoculation hook, inoculation loop, low-cost stove, sieves, culture rack, mushroom unit (Thatched house) water sprayer, tray, small polythene bag.

Pure culture: Media preparation, preparations of spawn, multiplication. Mushroom bed preparation - paddy straw, sugarcane trash, maize straw, banana leaves.

Factors affecting the mushroom bed preparation - Low cost technology; Composting technology in mushroom production.

Unit-III Cultivation methods (5 hours)

Pleurotus, *Volvariella*, *Lentinula* and *Agaricus*; Methods of harvesting, processing, grading and packing; Short-term storage (Refrigeration – up to 24 hours); Long term storage (canning, pickles, papads), drying, storage in salt solutions; Use of spent mushroom in vermicomposting and organic farming.

Unit-IV Disease control and pest management (5 hours)

Types of diseases and pests of mushrooms and methods to control; Mushroom Research Centres - National level and Regional level.

Marketing and cost economics of mushroom culture - Cost benefit ratio; Marketing in India and abroad; Export Value.

UNIT –V Mushroom Cultivation - Practical (10 hours)

Principle and functioning of instruments used in the various techniques; Preparation of various types of media; Preparation of spawn; Study of edible and poisonous mushrooms;

Study of diseases of mushroom; Nutritional and market value of mushroom; Centres of mushroom; Techniques for the cultivation of *Agaricus*, *Pleurotus* and *Ganoderma*; Field visit to Institutes and cultivation centres.

Suggested Readings

1. Bahl, N. 2015. Hand book of Mushrooms, IV Edition, Oxford & IBH Publishing Co Ltd., New Delhi
2. Kannaiyan, S. and Ramasamy, K. 1980. A Hand Book of Edible Mushroom. Today & Tomorrows printers & publishers, New Delhi
3. Marimuthu, T., Krishnamoorthy, A.S., Sivaprakasam, K. and Jayarajan. R. 1991. Oyster Mushrooms, Department of Plant Pathology, Tamil Nadu Agricultural University, Coimbatore.
4. Swaminathan, M. 1990. Food and Nutrition. Bappco, The Bangalore Printing and Publishing Co. Ltd., No. 88, Mysore Road, Bangalore - 560018.
5. Tewari, P. and Kapoor, S.C., 1988. Mushroom cultivation, Mittal Publications, Delhi.

SEMESTER - IV

VALUE ADDITION COURSE – V06 DAT

Dating and its Application
(Total Credits -2, Contact hours - 30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
VAC 06	V06 DAT – Dating and its Application	02	30	60	10	10	10	10

Course Objectives:

- Provide students with a thorough understanding of key dating techniques such as carbon dating, thermoluminescence dating, and meteorite dating.
- Develop a solid foundation in the scientific theories and principles that underpin various dating methods used in different scientific disciplines.
- Learn how to apply dating techniques to real-world scenarios, analysing their use in fields such as archaeology, geology, and paleontology.
- Teach students to assess the reliability, limitations, and accuracy of different dating methods used to determine the age of materials.
- Highlight the importance of dating methods across diverse scientific fields, emphasizing their interdisciplinary application in research.

Course Outcomes:

- Students will demonstrate a clear understanding of carbon dating, thermoluminescence dating, meteorite dating, and other relevant methods.
- Students will be able to explain the theoretical principles behind each dating method and their relevance to various scientific disciplines.
- Students will be capable of applying these dating techniques to practical situations, particularly in archaeology, geology, and paleontology.
- Students will critically analyse and evaluate the strengths, limitations, and potential sources of error in various dating techniques.
- Students will understand and appreciate the application of dating methods across multiple scientific fields, enhancing their ability to integrate these methods into broader research contexts.

Unit I: Introduction to Dating: Understanding the Basics. (Lecture: 6 class: 6 hrs)

Definition of dating, Basic idea of dating, Types of Dating: Relative Dating and Absolute Dating and their principle. Importance of Dating.

Unit II: Carbon Dating: (Lecture: 6 class: 6 hrs)

Definition and principles of radiocarbon dating, Historical background and development of the method, Properties and formation of carbon-14 isotopes, Natural occurrence and its relevance in dating organic materials, Scope of radiocarbon dating in archaeology, geology, and environmental sciences, Factors affecting accuracy and precision of carbon dating

Unit III: Principles and Techniques of Carbon Dating: (Lecture: 6 class: 6 hrs)

Radioactive Decay and Half-Life, Explanation of radioactive decay and half-life concept, Mathematical calculations in carbon dating, Examples of carbon dating in archaeological sites, Dating artifacts, bones, and organic remains, Carbon dating in studying climate change and ecological history, Dating of sediments, peat, and tree rings, Carbon dating in geological formations and processes, Dating of rocks, minerals, and volcanic eruptions

Unit IV: Thermoluminescence Dating (Lecture: 6 class: 6 hrs)

Thermoluminescence, Principle of thermoluminescence, Natural radioactivity and annual dose, gamma irradiation, beta irradiation, alpha irradiation, measurement of thermoluminescence, basic thermoluminescence dating, age equation and evaluation.

Unit V: Meteorite dating (Lecture: 6 class: 6 hrs)

Meteorite, Meteorite in history, determination of the age of the meteorite and its application to the determination of the age of the earth

Reference:

- 1) Radiocarbon Dating: An Archaeological Perspective by W. W. Beck
- 2) Radiocarbon Dating by J. E. K. T. H. Smith
- 3) Radiocarbon and Archaeology by R. E. Taylor and O. E. Craig
- 4) Thermoluminescence Dating by M. Aitken
- 5) Luminescence Dating in Archaeology, Geology and Earth Science by A. D. Smith
- 6) Principles of Thermoluminescence Dating by A. H. M. O. H. Aitken
- 7) Meteorites and the Early Solar System II edited by D. S. Lauretta and H. Y. McSween Jr.
- 8) "Geochronology of Meteorites" by H. B. P. J. M. DeWit

VALUE ADDITION COURSE – V06 DIM
DISASTER MANAGEMENT
(TOTAL CREDITS -2, CONTACT HOURS - 30)

Course Objectives:

- To introduce students to the fundamental concepts and principles of disaster management.
- To equip students with the knowledge and skills necessary for effective disaster preparedness planning and implementation.
- To familiarize students with various strategies for mitigating the impact of disasters on individuals, communities, and infrastructure.
- To enable students to understand the importance of coordinated response efforts and develop the ability to participate in disaster response activities.
- To provide students with insights into the complexities of post-disaster recovery and rehabilitation processes.

Course Outcomes:

- By the end of the course, students will be able to demonstrate an understanding of the different types of disasters and their potential impacts on communities and infrastructure.
- Students will be able to develop comprehensive disaster preparedness plans incorporating early warning systems, evacuation procedures, and emergency response strategies.
- Upon completion of the course, students will be able to assess disaster risks and implement appropriate mitigation measures to minimize the impact of disasters.
- Students will acquire practical skills in conducting search and rescue operations, providing medical assistance, and facilitating psychological first aid during disaster response efforts.
- Upon successful completion of the course, students will be able to contribute to post-disaster recovery and rehabilitation efforts by participating in assessment, planning, and implementation activities aimed at restoring communities and infrastructure.

Unit I: Introduction to Disaster Management

- Overview of Disaster Management
- Types of Disasters
- Disaster Risk Reduction
- Role of Individuals and Communities in Disaster Management

Unit II: Disaster Preparedness

- Disaster Preparedness Planning
- Early Warning Systems
- Emergency Response Procedures

- Evacuation Strategies

Unit III: Disaster Mitigation

- Mitigation Strategies for Different Types of Disasters
- Infrastructure and Building Resilience
- Environmental Conservation and Disaster Mitigation
- Public Education and Awareness

Unit 4: Disaster Response

- Search and Rescue Operations
- Medical and Health Response
- Psychological First Aid
- Coordination and Communication during Response

Unit 5: Disaster Recovery and Rehabilitation

- Post-Disaster Assessment and Recovery Planning
- Socio-Economic Rehabilitation
- Infrastructure Restoration
- Community Resilience Building

References:

1. "Introduction to Emergency Management" by George D. Haddow, Jane A. Bullock, and Damon P. Coppola
2. "Disaster Management: Global Challenges and Local Solutions" by Alka Acharya and N. Jayaram
3. "Disaster Risk Management: A Reader" edited by Alcira Kreimer, Margaret Arnold, and Anne Carlin
4. "Disaster Management: Principles and Practices" by Jha, M. K., & Khanna, R. K.
5. "Handbook to Practical Disaster Preparedness for the Family" by Arthur T. Bradley

VALUE ADDITION COURSE
VAC V06
FIRST AID AND SAFETY EDUCATION (FAS)
(Total credit-2, Contact Hour-30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
VAC06	V06 –FAS First Aid and Safety	02	30	60	10	10	10	10

Learning Outcomes:

There are several benefits of First Aid and Safety Education for Students

1. The students will develop the teaching qualities of both theory and practical knowledge.
2. The students will understand the need and importance of First Aid and Safety Education.
3. The Students will learn the theoretical and practical approaches.

FASE- V06: First Aid and Safety Education

2 Credits

Couse Contents:

Unit -1: Introduction

- 1.1 Aims and Objectives of First Aid and Safety Education.
- 1.2 Type of First Aid
- 1.3 First Aid Box
- 1.4 Reason of Sports Injuries
- 1.5 Principles od First Aid
- 1.6 Functions of First Aider

Unit- 2: Basic steps to reduce the Risk of Injuries.

- 2.1 Injury Classification, Causes and Prevention
- 2.2 Management of Injuries: The first aid and emergency treatment in various cases- Bone fracture, Sprain, Dislocation of bone, Bleeding, wounds, Bruises, Insect stings or Bites, Unconsciousness, Poison , Sun stroke or Heat stock, Foreign matter, Drowning, Burns and Scalds.

Unit – 3: Safety Education;

- 3.1 School/College Situation; Building, Furniture and Medical Examination.

- 3.2 Safety on Road.
- 3.3 Safety at Home and Personal hygiene.
- 3.4 Safety at Playground.

Teaching learning Strategies; The class will be taught by using Lectures, Demonstration, Seminars, Classroom discussion, Videos, Charts and Presentation method.

References:

1. Dandiya, P.C. Jafer, Z.Y.K., and Jafer Afifa, "Health education and Community Pharmacy"
Second Edition 1992, Reprint in 1998, Vallabh Prakashan pilampura, New Delhi.
2. Muckle, david. S., " Sport Injuries" Oriel press, !st Ed. 1971, Reprinted in 1983, London, Boston.
3. The St. John Ambulance association of India, "First aid", 1. Red Cross Road, New Delhi, 1963
4. Winter Griffith, "Sports Injuries" 1st Indian Edition, 1989, Metropolitan Book Co. Pvt. Ltd., New Delhi .
5. Yudenich, U.V. "Accident First Aid", Mir Publishers, Moscow, 1982.

SEMESTER - V

VALUE ADDITION COURSE – VAC07

V07 EVE-Environmental Ethics.

(Total Credits -2, Contact hours - 30)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
VAC 07	V07 EVE-Environmental Ethics	02	30	60	10	10	10	10

Course Objectives:

- Explore the ethical principles governing human relationships with the environment to promote sustainable use of natural resources for future generations.
- Analyse key environmental issues such as air and water pollution, resource depletion, biodiversity loss, and ecosystem destruction.
- Understand global climate change and its root causes, linking environmental problems to broader economic, social, and political factors.
- Explore the fundamental concepts of environmental ethics, including sustainability, conservation, and stewardship in relation to modern environmental challenges.

Course Outcomes:

- Students will be able to identify and explain major environmental problems such as air and water pollution, depletion of natural resources, biodiversity loss, and ecosystem degradation.
- Students will demonstrate the ability to critically analyse how human actions contribute to environmental degradation and the global climate crisis.
- Students will develop the ability to suggest ethical and practical solutions to environmental issues based on sustainability principles.
- Students will be capable of applying ethical reasoning to address current environmental challenges and think critically about the moral obligations of humans towards the environment.

Unit- I: 8 hours

Introduction to environmental ethics. Its history, examples and importance of environmental ethics, conservation ethics.

Unit -II: 8 hours

Principles and philosophical aspects of environmental ethics. Types of environmental ethics.

Unit – III: 8 hours

Issues of environmental ethics and challenges.

Unit - IV: 6 hours.

Right- based ethics with examples. Ethics and morals. Promotion of ethics.

References:

1. The Oxford Handbook of Environmental Ethics 2016 Edited by Stephen M. Gardiner Allen Thompson, Oxford.
2. Niranjana Dev Bharadwaj 2017. Environmental Ethics and India's Perspective on Environment.
3. Ananda Mishra, Devendra Nath Tiwari, 2012. Environmental Ethics: Indian Perspectives.
4. Environmental science: Botany and forestry perspective by Sett. Rupnurayan.

VALUE ADDITION COURSE
V07 IPC: Indian Polity for Competitive Examinations
(Total Credits -2, Contact hours - 30)

Course structure:

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Unit Test /Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V07	V07 IPC: Indian Polity for Competitive Examinations	02	30	60	20	10	-	10

Course Objectives

1. To understand the nature, structure and functions of Indian constitution and government.
2. To comprehend and analyse key constitutional provisions, different political institutions and evaluate political processes at the Union and State levels.
3. To serve as a basic foundation course in Indian Polity and develop requisite skills for Competitive Examinations.

Course Outcomes

After completion of the course, students will be able to:

1. Comprehend and articulate the salient features of Indian constitutional and political system.
2. Understand the structures, functions, responsibilities and interrelationships of the various branches of government in India, including the Executive, Legislature, and Judiciary.
3. Demonstrate proficiency in identifying and interpreting critical articles and amendments of the Indian constitution, explaining their implications for governance and public policy.
4. Acquire essential skills in critical thinking, reasoning, analytical writing, and problem-solving tailored to the requirements of competitive examinations, especially UPSC and MPSC examinations.

UNIT- I:	Constitutional Development; Nature and Salient Features of the Indian Constitution; The Preamble;	5 Hrs
UNIT- II:	The Union and its Territory; Citizenship	5 Hrs
UNIT – III:	Fundamental Rights; Fundamental Duties; Directive Principles of State Policy	5 Hrs
UNIT - IV:	Union Executive; Union Legislature; the Judiciary; Centre-State Relations	5 Hrs
UNIT- V:	State Government – Governor, Chief Minister, State Legislature; Local Government	5 Hrs
UNIT – VI:	Emergency Provisions; Elections; Amendment of the Constitution; Public Service Commissions; Political Parties and Pressure Groups	5 Hrs

Reading List:

1. BASU, D. D. (2022). *Introduction to the constitution of India*. LEXIS NEXIS.
 2. Pylee, M. V. (2005). *An introduction to the constitution of India*. Vikas Publishing House.
 3. Laxmikanth, M. (2022). *Indian polity*. Mc Graw Hill.
 4. Bakshi, P.M. (2023). *The Constitution of India*. 19th Edition, Lexis Nexis
 5. Indian Polity for UPSC (1st Edition) UPSC CSE 2024-2025, State PCS & Other Govt Exams, Study IQ Publications
 6. Rangarajan R, *Polity Simplified for UPSC* (2023), 1st Edition, Mc Graw Hill
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VAC 07**INTRODUCTION TO CARTOGRAPHY****TOTAL CREDITS – 2, Contact hours -30**

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V07	V07 ITC – Introduction to Cartography	02	30	60	10	10	10	10

Course objectives:

- To impart the knowledge about Cartography and its relevance
- To make the students aware about its importance and its application of Cartography
- To impart the use of cartographic techniques such as map making, scales, interpretation of weather maps, weather instrument and its symbol.

Course outcomes:

After the completion of the course the students will be able to:

- Differentiate between various type scales and map projections.
- Define various type map projections and their uses and importance.
- Read and prepare map

Unit I: Cartography: nature and Scope. Importance of Cartography (6hours)

Unit II: Scales, Definition of Scales; Conversion of scales; Methods of scale and its expression (6 hours).

Unit III: Maps: introduction to maps; Types of maps; Interpretation of topographical maps and symbols (6 hours)

Unit IV: Acquainting weather instruments and symbols; Differences of weather and climate; conversion techniques of Celsius and Fahrenheit (6 hours)

Unit V; Statistical methods and techniques; Tabulation of data; Histogram, Polygon, line and bar graph (6 hours)

References:

Gupta K. K. and Tyagi V. C. (1992). Working with Maps. Survey of India, DST, New Delhi.

Mishra , R.P & Ramesh, A., 1989 Fundamentals of Cartography. New Delhi, Concept publishing Pvt. Ltd.

Monkhouse, F. J. and Wilkinson, H. R. (1973). Maps and Diagrams. Methuen.

Kraak, M.J. (2010). Cartography: Visualization of Geospatial Data (3rd edition). Pearson

Education Ltd., London. UK. Mishra R. P. and Ramesh A. (1989). Fundamentals of Cartography. Concept Publication, New Delhi

**VALUE ADDITION COURSE –
VAC 08
Museum Method
(Total Credits=2, Marks =100)**

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V08	V08 MME – Museum Method	2	30	30	10	5	NIL	5

Course objectives:

- Introduce and provide a basic understanding of Museum methods.
- Explore the origin and historical developments of museums.
- Discuss the significance of museums as centers for preservation and dissemination of knowledge.
- Cover collection and display methods employed in museums.
- Examine factors deteriorating museum exhibits.
- Provide insights into preservation and curative measures for museum artifacts.

Course outcome:

- Upon completion of this course the student shall be able to:
- Understand museum as a resource center
- Understand the historical process of culture through museum
- Develop an insight into the various roles of museum - an organizer, preserver and manager of artifacts

Teaching and Assessment details:

Unit I: Definition and origin of museum, history and development of Indian museum - post independence era. Importance of museum (**6 hours**)

Unit II: Collection of museum materials, methods of display and arrangement in ethnological museum - cultural heritage method, geo-ethnic arrangement **(6 hours)**

Unit III: Factors causing deterioration to museum exhibits - climate and environmental conditions, biological agents, human neglect and ignorance **(6 hours)**

Unit IV: Preservative and curative measures - Carbon disulphide chamber, Formaldehyde chamber, Thymol chamber, treatment of bamboo and wood specimens, metals and fabrics **(6 hours)**

Practical: Documentation of technological implement and preparation of Index card **(6 hours)**

Credit distribution: 1 credit-Unit I and II, 1 credit-Unit III and IV, Practical or Laboratory work- 10 marks

References:

1. Agrawal, O.P. (2006), Essentials of Conservation and Museology, Sandeep Prakashan
2. Ambrose, Timothy and Crispin Paine (2012), Museum Basics, 3rd Ed, Routledge, New York
3. Behera, B.K. and S.K. Mohanty (2007), Museology and Museum Management in India, Mayur Publications, Bhubaneshwar
4. Burdhan, Anand (2017), Colonial Museum: An Inner History, Research India Press, Delhi
5. Dwivedi, V.P. (2018), Museum and Museology: New Horizon, Agam Kala Prakashan
6. Wittlin, Alma S (1949), The Museum: Its History and Tasks in Education, Routledge and Kegan Raul Limited

VAC 08

Indian Economy (Total Credits=2, Marks =100)

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V08	V08 INE – Indian Economy	02	30	60	10	10	10	10

Course Objectives:

- Impart basic knowledge about the Indian economy, including its current trends and various economic issues such as population, poverty, and unemployment.
- Provide insights into economic planning and changes in India's economic policies.
- Serve as an essential part of general studies for different competitive examinations.
- Foster an understanding of the role of the Indian economy in the global context.

Course Outcomes:

- Gain knowledge about the features of the Indian economy both at the time of independence and its current state.
- Understand concepts related to National Income and demographic features, along with their implications on economic growth.
- Identify and analyse the issues of poverty and unemployment prevalent in India.
- Develop awareness of economic planning processes and changes in India's economic policies over time.

Unit – I: Indian economy since Independence

Features of Indian economy as a developing country; Economic Planning – Objectives & achievements, LPG Model of development.

Unit- II: Structural Change & prospects of Indian Economy

Structural Change; Green Revolution; MSME & its role;

Unit -III: Population in India

Growth & features of Indian population; demographic dividend.

Unit -IV: Current Issues in Indian economy Poverty: Poverty head count ratio, National poverty line; Unemployment- types of unemployment; Poverty alleviation & employment generation programmes & policies of the government.

References

1. Gaurav Datt & Ashwani Mahajan (latest edition): Indian Economy, S. Chand & Co. Limited, New Delhi.
 2. Uma Kapila: Indian Economy: Performance & Policies, Academic Foundation, New Delhi.
 3. Singh, Ramesh. Indian Economy. McGraw-Hill Education, 2020.
 4. Kapila, Uma. Indian Economy: Performance and Policies. Academic Foundation, 2021.
 5. Jhingan, M. L. Indian Economy: Problems of Development and Planning. Vrinda Publications, 2019.
 6. Kapila, Uma. Indian Economy Since Independence. Academic Foundation, 2017.
 7. Desai, Vasant. Indian Economy: Economic Development and Policy. Himalaya Publishing House, 2018.
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**VALUE ADDITION COURSE –
VAC 08**

**CHEMISTRY OF SOAPS AND DETERGENTS DEPARTMENT OF CHEMISTRY
(Total Credits=2, Marks =100)**

COURSE CODE	COURSE TITLE	TOTAL CREDITS	CONTACT HOURS	ASSESSMENT WEIGHTAGE in PC				
				Written	Practical/ Demonstration	Seminars /Presentation	Field Work /Project Work	Assignment
V08	V08-CSD – Chemistry of Soaps and Detergents	02	30	60	10	10	10	10

Course Objectives:

- Help students understand different types of soaps and detergents and their applications in everyday life.
- Familiarize students with the cleaning action of soap and detergents.
- Develop a basic understanding of the manufacturing processes of soaps and detergents.

Course Outcomes:

- Identify different types of soaps and detergents and their specific applications.
- Acquire knowledge about the manufacturing processes of soaps and detergents and their cleaning action.
- Develop entrepreneurial skills necessary for self-employment in making different types of soaps and detergents.

UNIT I: Introduction to soaps and detergents: Definition, properties, different types and applications **(6 hrs)**

UNIT II: Cleaning action of soap and detergent Basic chemical compositions of soap and detergent: head and tail, hydrophobic and hydrophilic, micelle formation and emulsion **(6 hrs)**

UNIT III: Manufacturing process of soap and detergent Raw materials: selection of raw materials, Saponification process, Neutralization process, fat and oil, anionic surfactants, non-ionic surfactants **(6 hrs)**

UNIT IV: Advantages and disadvantages of soap and detergent (6 hrs) Difference between soap and detergent, advantages of soap over detergent and detergent over soap **(6 hrs)**

UNIT V: Practical

- 1) Methods of formation of different types of soap
- 2) Preparation of detergents
- 3) Investigation of the foaming capacity of different washing soaps
- 4) Determination of the effect of addition of sodium carbonate on the foaming capacity of soap

(6 hrs)

References:

Handbook of Industrial chemistry: Organic Chemicals, 1st Edition, McGraw-Hill Education

Soaps, Detergents and Disinfectants Technology Handbook, Niir Project Consultancy Services

Soaps and Detergents, Engineers India Research Institution

Herbal Soaps and Detergents by H.Panda ,Niir Project Consultancy Services

Soap making handbook by Lateefah Raji