

6.1 Institutional Vision and Leadership

6.1.1 The institutional governance and leadership are in accordance with the vision and mission of the Institution and it is visible in various institutional practices such as NEP implementation, sustained institutional growth, decentralization, participation in the institutional governance and in their short term and long-term Institutional Perspective Plan.

Interdisciplinary Courses of Study

The institution imparts value conscious integrated education to the young women of the marginalised sections of the society ensuring their continual growth. It has empowered the young women to face the challenges in the world proving their mettle as all round personalities. Interdisciplinary courses were added in the curriculum framework which provide a transformation from traditional approach of learning only through the respective domains of study to incorporate a holistic approach to education. These courses help the students think critically from multiple dimensions and have an innovative and broader outlook beyond the traditional boundaries. The students through the study of these courses develop a deep insight of their respective domain in association with other the domains which lead to new innovations. It also encourages the research aptitude in different perspectives to identify the research problems and find out the ways and means to solve the problem. The courses were designed to attain the learning outcomes in effective ways which envisage the essence of various disciplines and acclaim the new branches of study in the respective domain. Interdisciplinary research projects are carried out to find solution to the real world problems. Inter disciplinary approach instill a thirst for new finding and innovations which revolutionized the world. Interdisciplinary learning aids the students to be more active and learn new ideas with enthusiasm while interdisciplinary teaching encourages and supports critical thinking and analytical skills beyond the boundaries among the students. Common Core Courses for the students of all branches directs them towards the acquisition of necessary transferable skills for the progress of their career. These courses were updated at a regular interval to ensure the academic flexibility of the curriculum. The institution through its Part V curricula focuses on the community development programme through TOUCH, on social service through NSS and Criterion VI SSR Cycle V

NCC and through the curricula for the Ability Enhancement courses highlight the essential features of environment, and value-education and thereby prepares them for a future in which they step forward as the better stewards of the world. The interdisciplinary approach supports different disciplines with new boundaries and the recent trends across the disciplines. Thus cross-cutting issues in various disciplines were taken for studies to inculcate a better and deeper understanding of the subjects.



Criterion VI

SSR Cycle V

	SEMESTER	V	
Common Core Core VII -	- Solid state and Ma	terial Science	
Code : 18UPCC51	Hrs/Week: 6	Hrs/Sem :90	Credits : 4

Vision: To understand the usage of the appropriate materials while designing electronic systemMission: To enrich the students with the knowledge of theory and properties of different materials

Course Outcome:

CON	Unon completion of this course, students will be able to	PSO	CL
CO.NO.	Opon completion of this course, students will be able to	addressed	
CO-1	understand the basic symmetry elements and operations of	1, 2	Un
	crystals		
CO-2	distinguish the types of crystals and enumerate the various	3,4	An
	crystal imperfections		
CO–3	get a clear knowledge about metallic glasses, ceramics and	1, 3, 5,7, 8	Re
	biomaterials.		
CO -4	justify the wave nature of matter and its experimental study	1,3	Ev
CO –5	apply Bragg's law for x –ray study	2	Ар
СО –6	distinguish magnetic materials based on susceptibility	1,2	An
CO –7	use magnetic materials in various field	1,2	Ар
CO -8	discuss the synthesis methods of nano materials	2,3	Un

	SEMESTER	V	
Common Core Core VII	– Solid state and Ma	aterial Science	
Code : 18UPCC51	Hrs/Week : 6	Hrs/Sem :90	Credits : 4

Unit I: Crystal Structure and Crystal imperfections

Crystal lattice – Primitive and unit cell – Basic symmetry elements and operations – Plane of Symmetry, centre of symmetry & axis of symmetry – Types of Crystals – Bravais lattices – Simple cubic, body centered, FCC structures with an example – Miller indices, Inter planar spacing – Crystal imperfections – Point defects – Schotty and Frenkel defects – Line Defects –Edge & screw dislocations – Surface defects – Volume defects(imperfection).

Unit II: New Materials

New materials – Metallic glasses – Fibre reinforced plastics – Fibre reinforced metals – Bio materials – Ceramics – Cements – High temperature materials – Intermetallic compounds – Alloys – Smart materials.

Unit III: Wave Nature of Matter and X-ray Diffraction

Wave nature – Introduction – De Broglie Hypothesis – Experimental study of matter waves – Davision –Germer's experiment – Heisenberg's Uncertainity Principle.

Bragg's law – Derivation of Bragg's equation – Experimental methods of X –ray study – Laue rotating crystal and powder methods.

Unit IV: Magnetic and Dielectric materials

Classification of magnetic materials – Langvein theory of diamagnetism – Theory of Paramagnetism – Domain theory of Ferromagnetism – Antiferro magnetic materials – Application of Different magnetic materials.

Dielectric materials – Types of dielectric materials – Different types of electric polarization – Internal field – Clausius –Mossotti equation – Frequency and temperature dependence of dielectric constant.

Unit V: Nanomaterials

Nanomaterials – Synthesis – Plasma Arcing – Chemical vapour Deposition – Sol gels – Electro deposition – Ball milling – Properties of nano particles and applications. Carbon nanotubes fabrication – Arc method – Pulsed laser deposition – Chemical vapour deposition – Structure – properties – applications.

Text books:

1. M.Arumugam Material Science, Anuradha Publications, 2008.

- 2. C M Sri Vasta & C Srinivasan, Science of Engineering materials, New Age International (P) Ltd, Second Edition, 1999.
- 3. P. K. Palanisamy, Solid state Physics Copyright (2003), Scitech Publication (India) Pvt Ltd, Chennai, 3rd reprint, 2008.

- 4. R.Murughesan, Modern Physics, Kiruthiga Sivaprasath, S.Chand & Co Ltd, 17th Edition2013.
- 5. Dr. P. Mani, A Text book of Engineering Physics, Dhanam Publications Chennai, RevisedEdition, 2008.

Book for Reference:

1. Charles Kittel, Introduction to solid State Physics, John Willey and sons, 2010.

2. P. K. Palanisamy, Material Science, Scitech Publication (India) Pvt Ltd ., Chennai, 2005. M.H Fulekar, Nano Technology: Importance and Application, I K International PublishingHouse Pvt Ltd, 2010.

SEMESTER- V			
Common Core VII	Psychology and Micro	biology for Health c	are
Code: 18UBCS51	Hrs/Week: 6	Hrs/Sem: 90	Credit: 4

Vision:

To familiarize the concepts of psychological aspects in health.

Mission:

To understand the complex interactions of biological, psychological, social factors of human health and disease.

Course Outcome:

CO. No	Upon completion of this course, students	PSO	CL
	will be able to	addressed	
CO-1	learn the nature of psychology and microbiology	1	Re
CO-2	understand the importance of human system	1	Re
CO-3	gain knowledge about the acute stressors.	2	Un
CO-4	analyze the various problems in menstrual cycle	5	An
CO-5	develop a proper lifestyle	3	Cr
CO-6	understand about sleep related disorders	6	Un
CO-7	create a depth knowledge about the warning and health	2	Un
	risk		
CO-8	evaluate the concept of health care.	4	Ev

	SEMESTI	ER-V	
Common Core VII	Psychology and Microbi	ology for Health car	e
Code: 18UBCS51	Hrs/Week: 6	Hrs/Sem: 90	Credit: 4

Unit – I:

Introduction to Microbiology - The History and Contributions of Microbiology (Antony Van Leeuwenhoek, Joseph Lister, Pasteur, Robert Koch) Classification of microorganisms (Bacteria, fungi, virus), Applied fields of Microbiology.

Psychology as a science - Schools of psychology, Various fields in psychology, Nature and scope of psychology .

Unit – II:

Introduction and historical overview of Immune system, Basic Immunology- Specific immune mechanisms and functions – Immuno mediators: [Immune-specific (e.g., cytokines); Non-immune-specific (e.g., aging, sleep)], Neuro immunology- Lymphocyte neuro hormonal receptors. Human stressor - Laboratory acute stressor effects on immunity.

Unit – III:

Personality disposition. CHD, Asthmatics, Allergy, Eczema, Hiding, Rheumatoid Arthritis, Peptic Ulcer, Diabetes and menstrual disorders.

Unit – IV:

Keeping the motor running -Neurobiological process that govern exercise, related psychological effects, Nutrition, Eating-related process, Overweight and obesity -making changes – Healthy foods-public health-Sleep, Sleep disorders, accidents at work and at home. **Unit – V:**

Recognizing illness symptoms and what needs to be done-recognizing warning and health risks -illness perceptions and beliefs – Relation between patients and the health provider-obtaining health care.

Text books:

- 1. Cacioppo, J.T., Tassinary, L.G., & Berntson, G.G 2007. *Handbook of Psycho physiology*. 3rdedition. Cambridge, UK: Cambridge University Press.
- 2. Marks, D. F., Murray, M., Evans, B., & Estacio, E.V. 2006. *Health Psychology* India; Sage Publication.
- 3. Thomas J. Kindt, Richard A. Goldsby, Barbara A. Osborne. 2007. *Kuby Immunology*. 6th edition. W. H. Freeman and Company, New York.
- 4. Wiley, Sherwood, Woolverton. 2014. *Prescott's Microbiology*. Ninth Edition. McGraw Hill International Edition.

Books for Reference:

- 1. Sarafino, E.P. 1999. Health Psychology. John Wiley & Sons Inc.
- 2. Hymie Anisman ,2016. Health Psychology. Sage publication Ltd.
- 3. Taylor, S.E. 2014. *Health psychology*. Mc Graw-Hill Education.
- 4. VamanRao. C. 2007. Immunology. 2nd Edition. Narosa Publishing House, New Delhi.

	Semes	ter – V	
Part III Cor	e XI (Common Core)	Human Resource Mana	gement
Code:18UMCC51	Hrs/Week: 6	Hrs/Sem: 90	Credit : 4

Vision:

To enable students to understand the basic concepts in HRM

Mission:

To familiarize students on the various aspects of HRM

Course Outcome:

CO No.	Upon completion of this course, students will be able to:	PSO addressed	Cognitive Level
CO – 1	gain knowledge on the basic concepts of planning human resource and help them to understand basic techniques of business.	1,2	Un
CO – 2	understand the basic selection process in HR.	1,2,3	Un
CO – 3	know the importance of training and development in HR.	2,3,4	Ар
CO – 4	know about the transfer policies	2,3,5	Un, Re
CO – 5	gain knowledge on compensation methods.	3,4	Un, An
CO – 6	understand the promotional policies in business	3,4	Un, Re
CO – 7	know about the significance and problems in performance appraisal.	3,4,5	Ар
<u>CO - 8</u>	know about the methods of performance appraisal	3,4,5	Ap

	Semester V		
Part –III	Core – XI (Common Core)	Human Resource M	Ianagement
Code: 18UMCC51	Hrs/Week: 6	Hrs/Sem: 90	Credits: 4

Unit-I: Introduction

15 Hours

Human Resource Management: Meaning - Objectives - Nature and Scope - Importance – Functions - and Problems of HRM - Personnel Management Vs. HRM - Qualities and Qualifications of Human Resource Managers.

Unit-II: Human Resource Planning, Recruitment and Selection 20 Hours
Human Resource Planning: Meaning - Need and Importance - Objective
Problems - Process - Recruitment: Meaning - Factors Influencing
Recruitment - Sources of Recruitment - Problems in Recruitment Selection: Meaning - Factors Affecting Selection Decisions - Selection
Policy - Steps in Selection.

Unit-III: Training and Development

Training: Need and Importance - Objective - Types - Steps in Training Programme – Methods of Training - Evaluation of Training Programmes – Development: Meaning - Concept and Essentials of Management Development Programmes.

Unit IV: Transfer, Promotion and Compensation15 Hours

Transfer: Objective - Transfer Policy - Promotion: Purpose - Promotion Policy – Demotion - Compensation: Objective – Principles.

Unit-V: Performance Appraisal

20 Hours

20 Hours

Performance Appraisal: Meaning - Need and Importance - Objective - Problems in Performance Appraisal - Factors Influencing Performance Appraisal – Methods of Performance Appraisal.

Text Book:

Chitra, Atmaram, Naik. Human Resource Management. Ane Books Pvt., 2016.

Books for Reference:

- 1. Dr.C.B.Gupta. *Human Resource Management*. New Delhi: Sultan Chand & Sons, 2018.
- 2. C.P.Memoria, Personnel Management, Himalaya Publishing House, 2011
- 3. L.M.Prasad., *Human Resources Management*. New Delhi: Sultan Chand & Sons,2014.
- 4. Gary Dessler. Human Resource Management. Prentice Hall, 2013.
- 5. Michael Armstrong. A Handbook of Human Resource

Management Practice. KoganPage,2012.

Semester IV

Part	Components	Course Code	Course Title	Hrs/	Credits		Max.M	larks
				Week		CIA	ESE	Total
I	Tamil / French	21ULTA41 / 21ULFA41	பொதுத்தமிழ் தாள் 4: சங்க இலக்கியம்: (செய்யுள், இலக்கணம்,இலக்கிய வரலாறு, உரைநடை, நாடகம்) French Course and	6	4	40	60	100
II	General English	21UGEN41	Poetry, Prose, Extensive Reading and Communicative English – IV	6	4	40	60	100
	Core IV	21UBOC41	Taxonomy of Angiosperms and Economic Botany	4	4	40	60	100
	Core Practical IV	21UBOCR4	Taxonomy of Angiospermsand Economic Botany	2	2	40	60	100
III	Allied IV	21UCHA41	Allied Chemistry - II	4	3	40	60	100
	Allied Practical II	21UCHAR2	Allied Chemistry – I Allied Chemistry – II	2	2	40	60	100
	Skill Based Elective	21UBOS41/ 21UBOS42	1.Organic Farming and Biofertilizer 2.Weed Science	2	2	20	30	50
	NME II	21UBON41	Food Technology	2	2	20	30	50
	Ability Enhancement Course - IV	21UAYM41	Yoga & Meditation	2	2	20	30	50
IV	Self Study / Online course / Internship (Optional)	21UBOSS2	Preservation of fruits and vegetables		+2		50	50
v	NCC, NSS &Sports Extension Activities/CDP/				1 +1			
		Total		30	26+3			

c	37
Somostor	v
Semester	•

Part	Components	Course Code	Course Title	Hrs/	Credits	Max.Marks		
				Week		CIA	ESE	Tota
	Core V (Common Core)	21UBCC51	Biotechnology	4	3	40	60	100
	Core VI	21UBOC51	Biochemistry	4	4	40	60	100
	Core VII	21UBOC52	Ecology and Phytogeography	4	4	40	60	100
	Core VIII	21UBOC53	Biostatistics and Bioinformatics	4	4	40	60	100
Ш	Core Practical V	21UBOCR5	Biochemistry Ecology and Phytogeography Biostatistics and Bioinformatics	6	3	40	60	100
	Common Core Practical VI	21UBCCR1	Biotechnology	2	1	40	60	100
	Core Elective	21UBOE51/ 21UBOE52	Genetics and Evolution / Pharmacognosy	4	3	40	60	100
IV	Common Skill Based Course	21UCSB51	Computer for Digital Era and Soft Skills	2	2	20	30	50
	Self Study/ Online course / Internship (Optional)	21UBOSS3	Seed Biology		+2		50	50
		Total		30	24+2			