

Academic Council Meeting No. and Date:

Agenda Number:

Resolution Number:



**Vidya Prasarak Mandal's
B. N. Bandodkar College of
Science (Autonomous), Thane**



Syllabus for

Programme : Bachelor of Science

Specific Programme :

[T.Y.B.Sc. (Human Science)]

Revised under NEP and Autonomy

From academic year 2025 - 2026

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Preamble

Eligibility: Level 4.0

Duration: 1 Year (includes SEM V and SEM VI)

Mode of Conduct: Offline

Laboratory Practicals / Offline lectures / Online lectures

Total Credits for the Program: 44 Starting year of implementation: 2025- 26

Name of the Degree Program: B.Sc

Discipline/Subject:

Specific Programme : T.Y.B.Sc. (Subject (Major))
Credits: 44

Program Specific Outcome: By the end of the program the students will be able to:

- Understand how to conduct research using various methods
- The curriculum fosters critical thinking skills, enable students to analyze information/evaluate evidence and solve complex problem.

Assessment: Weightage for assessments (in percentage)

Type of Course	Formative Assessment / IA	Summative Assessment
Theory		
Practical		
Project		

Experimental learning		
Internship		

VPM's B.N. Bandodkar College of Science (Autonomous), Thane

T.Y.B.Sc.

Curriculum Structure for the Undergraduate Degree Program T.Y.B.Sc Human Science

NEP IMPLEMENTATION ON 2025

Semester V

Structure of Programme

Semester V

	Course Code	Course Title	No. of lectures	Credits
MAJOR (Human Science)	25BUHS5T01	Industrial Psychology	30	2
	25BUHS5T02	Constitutional Law	30	2
	25BUHS5T03	Nutritional Biochemistry	30	2
	25BUHS5P01	Practical Based on Industrial Psychology	60	2
	25BUHS5P02	Practical based on Constitutional Law	60	2
	25BUHS5P03	Practical based on Biochemistry	60	2
DSE (Discipline Specific Elective)	25BUHS5T04	Human Development & Ageing	30	2
		DSE Practical based on Human Development	60	2
	25BUHS5T05	Introduction to Anthropology and archaeology	30	2
		DSE Practical based on Introduction to Anthropology and archaeology	60	2
MINOR (Humanities management skills in human Science)	25BUHS5T06	Entrepreneurship Management	30	2
VSC (Vocational and Skill Enhancement Course)	VSC	Forensic science	15	1
	VSC	Practical based on forensic science	30	1
Field Project	25BUHS5P04	Field project/ On job training	30	2
		Total		22

Semester V

MAJOR			
Course Code Major	Course Title HUMAN SCIENCE	No. of lectures	Credits
25BUHS5T01	Industrial Psychology	30	2
Unit 1	Introduction to I/O Psychology	15	
Unit 2	Selecting and training employees	15	
25BUHS5T02	Constitutional Law	30	2
Unit 1	Overview of Indian constitution	15	
Unit 2	Human Rights and Legal agreements	15	
25BUHS5T03	Nutritional Biochemistry-	30	2
Unit 1	Carbohydrates and Lipids	15	
Unit 2	Proteins	15	
Total		90	6

Course Code	Course Title (DSE)	No. of lectures	Credits
25BUHS5T07	Human development		2
Unit 1	Human development (Biological & Psychological)	15	
Unit 2	Aging	15	
DSE	Practical based on Human development	60	2
Total		90	4

Course Code	Course Title (DSE)	No. of lectures	Credits
25BUHS5T07	Anthropology and Archeology		2
Unit 1	Introduction to Anthropology	15	
Unit 2	Introduction to Archeology	15	
DSE	Practical based on Anthropology	60	2
Total		90	4

Minor			
Course Code	Course Title	No. of lectures	Credits
25BUHS5T05	Entrepreneurship management		2
Unit 1	Concept of management	15	
Unit 2	Marketing	15	
Total		30	2

(VSC)			
Course Code	Course Title	No. of lectures	Credits
25BU5VSC07	Forensic Science		2
Unit 1	Introduction to Forensic Science	15	1
Practical based on forensic sciences		30	1
Total		45	2

Course Code	Course Title and Contents (MAJOR-Human Science)	Lectures	Credit Points
25BUHS5T01	Industrial Psychology	30	2
Course objective: <ul style="list-style-type: none">To understand importance of industrial psychology, develop skills related to organization			
Unit I	Introduction to I/O Psychology:	15	
	<ul style="list-style-type: none">What is I/O psychology?Assessment of Jobs, Performance and People:Job AnalysisPerformance appraisalNeed assessment, Training designDelivery of training programEvaluation of training program		
Unit II	Individual and organization:	15	
	<ul style="list-style-type: none">Theories of employee motivationFeelings about work- Job satisfaction,Effects of job satisfaction, organization commitment,Emotions at work		
TEXT BOOK: <ul style="list-style-type: none">Psychology and Work Today by Schultz.Industrial/ Organizational psychology: An applied approach by Michael Aamodte.Work in the 21St century: An Introduction to Industrial/Organizational Psychology by Frank . Landy and Jeffrey. Conte			
<ul style="list-style-type: none">Course outcome : After studying this paper students should be able to -Learn managerial skillsLearn to manage the challenges at workplace			

Course Code	Course Title and Contents (MAJOR- Human Science)	Lectures	Credit Points
25BUHS5T02	Constitutional law	30	2
Course objective: To understand constitution, fundamental rights and laws.			
Unit I	Indian Constitution	15	
	<ul style="list-style-type: none">Indian Constitution -An OverviewFundamental Rights and DutiesDirective Principle of State PolicyUCC, RTI, PIL		
Unit II	Human Right and legal agreement	15	
	<ul style="list-style-type: none">Family Law – (Hindu and Muslim) Marriage & DivorceWomen empowermentOffences against women and children and corrective measures138 of N.I. Act, 1881WillGift DeedAgreementPOA		
<p style="text-align: center;">TEXT BOOK:</p> <ul style="list-style-type: none">Introduction to the constitution of India by Durga Das BasuIndian Polity by M . LaxmikanthOur Constitution by Subhash Kashyap			
Course outcome: After studying this paper students should be able to - <ul style="list-style-type: none">Understand the fundamental rights and dutiesUnderstand the power of attorney and legal agreements			

Course Code	Course Title and Contents (MAJOR)	Lectures	Credit Points
25BUHS5T03	Nutritional Biochemistry	30	2

Course objective:

- To understand the basic elements of food biochemistry.

Unit I	Carbohydrates & Lipids	15
	<ul style="list-style-type: none"> • Composition and Classification, • Physical & chemical properties, • Source • Biological role • Nutritional significance of dietary fibres. • Deficiency and excess, fatty acids- essentials and non-essential, • Significance of Fatty acids. 	
Unit II	Proteins	15
	<ul style="list-style-type: none"> • Proteins: • Composition, classification, sources, and functions. Nutritional • Classification of amino acids. • Enzymes: Classification and factors affecting enzyme activity and enzymes of clinical significance. 	

TEXT BOOK:

- Lehninger Principles of Biochemistry by David L.Nelson and Michael Cox.
- Biochemistry by U. Satyanarayana and U. Chakrapani
- Biochemistry by Pamela Champe , Richard Harvey and Denise Ferrier.

Course outcome: After studying this paper students should be able to -

- **Learn the importance and sources of biomolecules**
- **Learn the difference between essential and non-essential micromolecules**
- **Learn importance of enzymes in clinical research**

Course Code 24BUHS5P01	Course Title (Major) Practical based on Industrial Psychology	Credits 2	No. of lectures in hrs.
Practical 1	Biases in performance appraisal		4
Practical 2	Conflict management styles		4
Practical 3	Maslach Burnout Inventory (MBI)		4
Practical 4	Brief resilience scale		4
Practical 5	Kessler Psychological Distress scale (K10)		4
Practical 6	Job satisfaction assessment		4
Practical 7	Beck Anxiety Inventory.(BAI)		4
Practical 8	Ethics and practicality in I/O		4
Practical 9	Ten item personality inventory (TIPI)		4
Practical 10	Performance appraisal techniques		4
Practical 11	Work preference inventory (WEIMS)		4
Practical 12	Case study - Work Stress and Burnout.		4
Practical 13	Johari Window.		4
Practical 14	Small scale Industrial Visit.		4
Practical 15	Large scale Industrial Visit.		4

Course Code 24BUHS5P02	Course Title (Major) Practical based on Constitutional law	Credits 2	No. of lectures in hrs.
Practical 1	Case study- 1. M C Mehta VS Union of India 2. Vishakha & other VS State of Rajasthan 3. Nirbhaya Case study		4
Practical 2	Case studies -Related to violation of fundamental rights- 1.IC Golaknath v/s state of Punjab 2.Keshwananand Bharti v/s state of Kerala (related to prisoners' rights)		4
Practical 3	Case studies - Related to consumer protection act 1986 1.Murli Deora v/s union of India (ban on smoking at public places) 2.Shriram fertilizer v/s union of India		4
Practical 4	Visit to District court/ Magistrate court/ Civil Court		6
Practical 5	Case studies related to environmental law 1.M.C Mehta v/s union of India (Bhopal gas tragedy) 2.Minrva mill v/s union of India		4
Practical 6	Visit to labour Court/ Family Court/ Consumer Court		6
Practical 7	Visit to central jail		6
Practical 8	Case studies related RTI & PIL		4
Practical 9	Case studies related to fundamental rights & duties		4
Practical 10	Case studies related to muslim marriage act 1. Mohd. Ahmed Khan Vs Shah Bano Begum 2. Shayara Bano Vs Union of India		4
Practical 11	Case studies related to parsi marriage act 1.Manekabai Nadirshaw Vachha vs Nadishaw Jamshedji Vaccha		4
Practical 12	Case studies related to hindu marriage act 1. Yamunabai Adhav Vs Anantrao Adhav 2. Bhaurao Shankar Lokhande Vs State of Maharashtra		4
Practical 13	Case study related to special marriage act 1. Geeta @Nilofer Vs Ram Beti 2. Rajesh Francis Vs Preethi Roslin		4
Practical 14	Case study related to Christian marriage act- Geo Vs State of Kerala		2

Course Code 24BUHS3P03	Course Title (Major) Practical based on Nutritional Biochemistry	Credits 2	No. of lectures in hrs.
Practical 1	Separation of amino acid by paper chromatography		4
Practical 2	Estimation of lipid by phosphovanilline method from the given sample of serum		4
Practical 3	Effect of pH on amylase activity		4
Practical 4	Effect of temperature on amylase activity		4
Practical 5	mEffect of substrate concentration on amylase activity		4
Practical 6	Effect of inhibitor on acid phosphatase		4
Practical 7	Study of rancidity of lipid by titrimetric method		4
Practical 8	Study of clinical disorders due to carbohydrates, proteins & lipids imbalance a. Hyperglycemia & Hypoglycemia b. Thalassemia , Kwashiorkor & Marasmus		4
Practical 9	Extraction of casein from milk & it's qualitative estimation		4
Practical 10	Qualitative estimation of Vitamin C by Iodometric method		4
Practical 11	Estimation of maltose from brown/white bread		4
Practical 12	Estimation of plasma proteins		4
Practical 13	Estimation of blood sugar level		4
Practical 14	Colorimetric estimation of total lipids from egg yolk of two different varieties		4
Practical 15	Colorimetric estimation of total fat in milk of different varieties (FeCl 3 method)		4

Course Code	Direct Subject Elective (DSE)	Lectures	Credit Points
25BUHS5T04	Human Development	30	2

Course objective:

- To understand stages in human development and sexuality.
- To understand the ageing process and related problems.

Unit I	Human Development	15
	<ul style="list-style-type: none"> ● Human development – Biological, psychological, behavioral ● Factors influencing biological and psychological development (Mother and Foetus) ● Post -Traumatic Stress Disorder- Social, Psychological, Biological, Treatment. ● Human dev. Stages (prebirth, birth, infancy, early, middle and late childhood, adolescence, early, middle and late adulthood, death) 	
Unit II	Ageing	15
	<ul style="list-style-type: none"> ● Ageing – Meaning, natural process, physiology of aging, apoptosis Causes of aging – Oxidative loss, concept of telomere, ● Problems- Eye, Ear, Memory, Strength, Arteries, Stamina, Neuro- degenerative disorders ● Aging and population- In context to Global, India, other developing Countries 	

TEXT BOOK:

- Lifespan Human Development by Carol.K. Sigelman and Elizabeth Rider
- Essentials of human development : A Lifespan view by Robert Kail and John Cavanaugh.

Course outcome: After studying this paper students should be able to -

- Learn embryological stages (Physical and psychological)
- Understand different factors accelerating aging

Course Code 24BUHS5P01	Course Title (Major) Practical based on Human Development	Credits 2
Practical 1	Schutte self – Report Emotional intelligence scale	4
Practical 2	Study of common teratogenic drugs	4
Practical 3	Study case studies related to infertility.	4
Practical 4	Examine histological slides of developing organs.	4
Practical 5	Identification of age related disorders	4
Practical 6	Study of placentae	4
Practical 7	Study of Different types of Sexually transmitted Diseases- Viral (Photographs)	4
Practical 8	Identification on Human development embryo (Photographs)	4
Practical 9	Identification of Different types of birth control- Hormonal (Photographs)	4
Practical 10	Identification of different types of birth control other than hormonal (Photographs)	4
Practical 11	Case study based on cognitive development	4
Practical 12	Study of Different types of Sexually transmitted Diseases- Bacterial (Photographs)	4
Practical 13	Solve case studies on the effect of post-traumatic stress disorder on an individual.	4
Practical 14	MTP Act Related Rules	4
Practical 15	Surrogacy related cases	4

Course Code	Course Title and Contents (ELECTIVE)	Lectures	Credit Points
25BUHS5T06	Anthropology through Archaeology.	30	2
Course objective: <ul style="list-style-type: none">● To understand the field of Archaeology and Anthropology.● To understand the various branches of Anthropology.			
Unit I	Introduction to Anthropology & Archaeology	15	
	<ul style="list-style-type: none">● History of anthropology● Anthropology : Definition, Concept, Scope● Branches of anthropology● Study of anthropology through archaeology● Archaeology & History: Archaeology and other sciences		
Unit II	Archaeology	15	
	<ul style="list-style-type: none">● Definition and aims of archaeology.● Branches of archaeology.● Archaeology and History, archaeology and other sciences. Field● Archaeology, exploration, excavation and dating antiquities.● Folklores and food.		
TEXT BOOK : <ul style="list-style-type: none">● Introducing Anthropology by Michael Alan Park.● An introduction to social anthropology by D.N.Majumdar and T.N. Madan			
Course outcome: <ul style="list-style-type: none">● The learner will get knowledge of branches and source of Anthropology.● To study the basics of Archaeology.			

Course Code 24BUHS3P03	Course Title (DSE) Practical based on Anthropology	Credits 2	No. of lectures in hrs.
Practical 1	Antiquities from archaeological site		4
Practical 2	Identification of Excavation site in India		4
Practical 3	Identification of Archaeological site in India		4
Practical 4	Identification of coins & ornaments found in excavation site		4
Practical 5	Film review of heritage site & it's presentation		4
Practical 6	Field visit to Heritage site – Monument		5
Practical 7	Monuments- Identification & location on map		4
Practical 8	Identification of Excavation site in world		4
Practical 9	Identification of Archaeological site in world		4
Practical 10	Identification of vessels & weapons found in excavation site		4
Practical 11	Museum visit		6
Practical 12	Visit to Archeological Exhibition		6
Practical 13	Identification of different dating methods		4
Practical 14	Field visit to Heritage site – Temple		3

Course Code	Course Title and Contents (Minor)	Lectures	Credit Points
25BUHS5T05	Entrepreneurship Management-I	30	2
Course objective: <ul style="list-style-type: none">To develop managerial skills and understand legality involved in business ownership.			
Unit I	Introduction to Entrepreneurship Management	15	
	<ul style="list-style-type: none">● Concept of management● Level of management● Types of Departments and their Duties.● General concept of entrepreneurship: Definition and Challenges● Entrepreneurial Motivation● Building business plan: Strategic management Form of ownership Franchising● Licence in Entrepreneurship		
Unit II	Marketing	15	
	<ul style="list-style-type: none">● Financial issues: Managing Cash Flows Financial Plan● Marketing the company: Marketing Plan Creativity E-commerce and New internet Entrepreneurs● Staffing and Leading		
TEXT BOOK: <ul style="list-style-type: none">● Entrepreneurship by Robert .D. Hisrich● Entrepreneurship: Successfully launching New Ventures” by Bruce Barringer.			
Course outcome After studying this paper students should be able to - <ul style="list-style-type: none">● Learn entrepreneurship management skills● Manage customer relationships● Learn professionalism			

Course Code	Course Title and Contents (VSC)	Lectures	Credit Points
25BUHS5T06	Forensic Science	30	1
Course objective: <ul style="list-style-type: none"> To study forensic science and psychology of crime scenario 			
Unit I	Forensic Sciences	15	
	<ul style="list-style-type: none"> Basic Principles & Significance Crime Scene Evidences <ul style="list-style-type: none"> Blood, Semen & other Biological fluids Viscera, Bite Marks Hair – Animal & Human, Fibres & Fabrics Diatoms Crime scene management DNA, Fingerprints Anthropology – Skeletal Remains <ul style="list-style-type: none"> Role of Police officers, Role of Forensic scientists Role of medico-legal doctors 		
<p style="text-align: center;">TEXT BOOK :</p> <ul style="list-style-type: none"> Forensic Science: An introduction to Scientific and Investigative Technique by S. James and Jon Nordby Criminalistics: An introduction to Forensic Science by Richard S. A. Safaersceil 			
Course outcome: <ul style="list-style-type: none"> Course outcome: After studying this paper students should be able to - To understand the scope and significance of forensic science. 			

Course Code 24BU5VSC07	Course Title (VSC) Practical based on Forensic science	Credits 1	No. of lectures in hours
Practical 1	Crime scene management: Primary survey, barrication, documentation (note making)		3
Practical 2	Study of handwriting characteristics & examination of signature		3
Practical 3	Microscopic examination of- Fiber Hair & Pollen		3
Practical 4	Preliminary and Confirmatory test for biological samples (Blood, Urine, Saliva)		3
Practical 5	Collection and identification of fingerprint patterns		3
Practical 6	Collection of evidences at scene of crime- Physical, chemical & biological		3
Practical 7	Searching of scene and marking of physical evidences , sketching (rough and final sketching)		3
Practical 8	Determination of age, sex & ethnicity (Skull, Dental structure, pelvic girdle and long bones)		3
Practical 9	Examination of various forged documents		3
Practical 10	Visit to DFSL/ Institute of forensic science		3

Course Code	Field project-Project work	Credits :2	No. of hrs.- 60
	Field project/ On job training		

SEMESTER VI

Semester VI

	Course Code	Course Title	No. of lectures	Credits
Major	25BUHS6T01	Clinical Psychology	30	2
	25BUHS6T02	Environmental sciences	30	2
	25BUHS6T03	Information Technology	30	2
	25BUHS6T04	Home Science	30	2
	25BUHS6P01	Practical based on Clinical psychology	60	2
	25BUHS6P02	Practical based on Environmental sciences and Information technology	60	2
	25BUHS6P03	Practical based on Home science	60	2
DSE	25BUHS6T05	Food service management & Entrepreneurship management-II	30	2
		DSE practical based on Food service management & Entrepreneurship management-II	60	2
DSE	25BUHS6T06	Introduction to Tourism	30	2
		DSE practical based on Introduction to Tourism	60	2
VSC	25BU6VSC07	Toxicology	15	1
		Practical based on Toxicology	30	1
FP	25BUHS6P04	Industrial visit, Biodiversity visit, Archeological visit / Field project	30	2
		Total		22

Semester VI

MAJOR			
Course Code	Course Title Human Science	No. of lectures	Credits
25BUHS6T01	Clinical Psychology	30	2
Unit 1	Introduction to clinical psychology	15	
Unit 2	Fundamental percepts of effective counselling	15	
25BUHS6T02	Environmental Science	30	2
Unit 1	Environment Impact Assessment	15	
Unit 2	Disaster Management	15	
25BUHS6T03	Information technology	30	2
Unit 1	Introduction to programing	15	
Unit 2	Introduction to Python programming	15	
25BUHS6T04	Home science	30	2
Unit 1	Microbiology of food	15	
Unit 2	Exercise physiology	15	
Total		120	8

DSE			
Course Code	Course Title	No. of lectures	Credits
25BUHS6T05	Food service management & Entrepreneurship Management-II		2
Unit 1	Food service Management	15	
Unit 2	Legal forms of business ownership	15	
DSE Practical based on Food service management & Entrepreneurship Management-II		60	2
Total		90	4

DSE			
Course Code	Course Title	No. of lectures	Credits
25BUHS6T06	Introduction to tourism		2
Unit 1	Medical and Eco-Tourism	15	
Unit 2	Cultural & Heritage tourism	15	
DSE Practical based on Introduction to tourism		60	2
Total		90	4

(VSC)			
Course Code	Course Title	No. of lectures	Credits
25BU6VSC07	Toxicology		
Unit 1	Toxicology	15	1
Practical based on forensic toxicology		30	1
Total		45	2

Course Code	Course Title and Contents (MAJOR)	Lectures	Credit Points
25BUHS6T01	Clinical Psychology	30	2
Course objective: <ul style="list-style-type: none">To understand clinical aspects of psychopathology, psychotherapy and health issues.			
Unit I	Clinical Psychology	15	
	<ul style="list-style-type: none">Introduction to DSM and ICD.Defining Abnormality and historical perspectives of abnormality.Panic Disorder and treatmentsPhobias-Types, Treatment.Obsessive Compulsive Disorder- Symptoms, Treatment.Mood Disorders- Unipolar and Bipolar Disorder, Treatment.Fundamental precepts of effective counsellingStages and outcome goals of counsellingCounsellor Actions that hamper communication with clients.Ethical principles of professional counselling (Termination) and violation		
Unit II	Health Psychology	15	
	<ul style="list-style-type: none">Definition and Importance of Health PsychologyHealth Compromising Behaviour and its CharacteristicsPlacebo as healerPain and it’s Management:<ul style="list-style-type: none">1- Clinical issues in pain management2- Pain and Personality3- Pain control techniques- (Pharmacological, Surgical, sensory, biofeedback)Alternative Techniques in pain management: Relaxation, Hypnosis, Acupuncture, Yoga, Distraction and guided imagery.		
<p style="text-align: center;">TEXT BOOK:</p> <ul style="list-style-type: none">Abnormal Psychology by James Butcher,HooleyUnderstanding abnormal Behaviour by David SueIntroduction to Clinical Psychology by Geoffrey Kramer.			

Course outcome: After studying this paper students should be able to -

- Understand the diagnosis & treatment plans for disorders
- Understand & apply different perspectives in psychotherapy
- Get insight about psychological factors affecting health

Course Code	Course Title and Contents (MAJOR)	Lectures	Credit Points
25BUHS6T02	Environmental science	30	2

Course objective:

To understand different facets of the environment and their management

Unit I	Environment Impact Assessment:	15
	<ul style="list-style-type: none"> ● Concept & process of EIA: Need of EIA; Scope and objectives; ● Types of environmental impacts; Steps involved in conducting the EIA Studies ● Concept of Carbon footprints& Carbon credits. <p>Concept of Life Cycle Assessment and Environmental Quality Monitoring: ISO-14000</p>	
Unit II	Disaster Management	15
	<ul style="list-style-type: none"> ● Concept of disaster ● Natural Hazards (Eg. Tsunami, Floods, Earthquakes, Cyclone, droughts, etc.): Causes, Impacts and mitigation ● Industrial hazards (fire, explosion, toxic release and dispersion): Causes, Impacts and mitigation ● Industrial Hygiene and Safety 	

TEXT BOOK:

- Environmental Sciences by Erach Bharucha.
- Fundamentals of Environmental Studies by DD Mishra.

- Principles of Environmental Science : Inquiry and Application by William and Mary Cunningham.

Course outcome:

- Identify different environmental issues
- Get insight of EIA
- Understand causes, effects & management of disasters

Course Code	Course Title and Contents (MAJOR)	Lectures	Credit Points
25BUHS6T03	Information technology	30	2
Course objective: To understand the advanced know-how in Information Technology.			
Unit I	Introduction to Programming	15	
	<ul style="list-style-type: none"> • Introduction, A program, programming languages • The Role of Programming Language, Language Description, elements of program, variable, constants, compilation, compilers, assemblers, Data types, flow chart, Condition checking, loops, functions • AI & IOT 		
Unit II	Introduction to Python Programming	15	
	<ul style="list-style-type: none"> • Python basics, Conditional Statements: if, if-else, if-elif, if-elif-else, Building loops: while, for, range(), in, iterating through sequences, controlling loop execution: break, continue • Python List • Python Tuple • Python Dictionaries 		

<p style="text-align: center;">TEXT BOOK:</p> <ul style="list-style-type: none"> ● Programing Fundamentals by Richard Halterman ● How to Design Programes by Matthias Felleisen ● Introduction to Information Technology by Pearson Publications 		
<ul style="list-style-type: none"> ● Course outcome: <p>After studying this paper students should be able to -</p> <p>Understand M- commerce</p> <p>Understand 2D & 3D Graphics & animation</p>		

Course Code 25BUHS6P01	Course Title (Major) Practical based on Clinical Psychology	Credits 2	No. of lectures in hrs.
Practical 1	Mental Health Timeline.		4
Practical 2	Ethics in Counseling.		4
Practical 3	Beck Depression Inventory (BDI)		4
Practical 4	5Ps model – Case Formation.		4
Practical 5	Treatment plan for Phobias.		4
Practical 6	Unethical Counseling Practices – Case Analysis.		4
Practical 7	Rehabilitation Center Visit.		4
Practical 8	General Health Questionnaire (GHQ)		4
Practical 9	Depression, Anxiety, Stress scale (DASS-21)		4
Practical 10	Differential Diagnosis Practical.		4
Practical 11	Report on Personality Tests.		4
Practical 12	Defense Mechanism – Identification.		4

Practical 13	Media Analysis Report on “Stigma”	4
Practical 14	Film/Book review on Learning Disabilities.	4
Practical 15	Yale Brown Obsessive Compulsive Scale (YBOCS).	4

Course Code 25BUHS6P02	Course Title (Major) Practical based on Environmental science and Information technology	Credits 2	No. of lectures in hrs.
Practical 1	Program to enter two numbers and print the arithmetic operations like +, -, *, /, // and %.		4
Practical 2	Write a Program to find factorial of the entered number.		4
Practical 3	Write a Program to enter the number of terms and to print the Fibonacci Series.		4
Practical 4	Write a Program to show the outputs based on the entered list.		4
Practical 5	To find the maximum of list of numbers		4
Practical 6	Write a program to find prime number		4
Practical 7	Write python program to draw patterns 1 2 1 2 3 1 2 3 4 * * * * * * * * * *		4
Practical 8	Write python program to demonstrate operations on List		4
Practical 9	Write python program to demonstrate operations on Dictionaries		4
Practical 10	Write python program to demonstrate operations on Tuples		4

Practical 11	Studying different types and parts of Fire extinguisher / Visit to disaster management cell	4
Practical 12	Studying of environment pictogram.	4
Practical 13	Studying different types of safety symbols, signs, and chemicals	4
Practical 14	Studying Green building.	4
Practical 15	Identification of color coding. (pipes in industries)	4
Practical 16	Calculating Carbon footprint.	4

Course Code 25BUHS6P03	Course Title (Major) Practical based on Home Science	Credits 2	No. of lectures in hrs.
Practical 1	Detection of glucose and starch as an adulterant in milk sample.	4	
Practical 2	Detection of adulterants in cheese, butter, ghee.	4	
Practical 3	Detection of adulterants in jaggery, honey and iodised salt.	4	
Practical 4	Detection of microbes from spoiled egg.	4	
Practical 5	Quality assessment and analysis of food i)Ice-cream ii)Yoghurt by MBRT.	4	
Practical 6	Phosphatase test for determination of efficiency of pasteurization.	4	
Practical 7	Isolation of bacterial probiotics from curd.	4	
Practical 8	Identification of types of exercises; (Bench press, Jumps, Push ups, Sit and Reach Test); fitness Muscle strength, endurance and flexibility exercises.	4	
Practical 9	Identification of pigments in fruits and vegetables and influence of pH on them.	4	
Practical 10	Estimation of salt content in butter	4	
Practical 11	Suitable exercise programme for special conditions Weight reduction and Weight Management	4	
Practical 12	Suitable Exercise programme for therapeutic conditions-CVD/ Diabetes /Arthritis.	4	

Practical 13	Estimation of ascorbic acid and effect of heat treatment on it.	4
Practical 14	Detection of Adulteration of spices.	4
Practical 15	Qualitative tests for hydrogenated fats, butter, and ghee.	4

Course Code	Course Title and Contents (DSE)	Lectures	Credit Points
25BUHS6T05	Food service Management and Entrepreneurship Management II	30	2
<p>Course objective:</p> <ul style="list-style-type: none"> ● To understand the intricacies of Food Science and it's management ● To understand entrepreneurship management. 			
Unit I	Food Service management	15	
	<ul style="list-style-type: none"> ● Classification of food service operations ● Recent trends in food service Systems . Types of food service systems Menu Planning ,Types of Menus Menu presentation, Writing, Design and format Menu Marketing ● Storage and Inventory Production: Recipe formulation, ● Kitchen Design and Layout. Styles of service and Service management. ● Food Handling and prevention of food borne illness 		
Unit II	Entrepreneurship Management II	15	

	<ul style="list-style-type: none"> • Taxation Legal issues • Entrepreneurs competencies: <ul style="list-style-type: none"> • Decision making and problem solving Communication • Creativity and business opportunity identification • Entrepreneurial success and failures 	
<p style="text-align: center;">TEXT BOOK:</p> <ul style="list-style-type: none"> • Food Service Management by Mohini Sethi • Quantity Food production and Indian Cuisine by Parvinder S Bali • Legal Aspects of Business by Akhileshwar Pathak. 		
<p>Course outcome:</p> <ul style="list-style-type: none"> • To understand menu designing. • To understand the taxation and legal issues in entrepreneurship management. 		

Course Code	Course Title (DSE) Practical based on Food service management and Entrepreneurship management	Credits 2	No. of lectures in hrs.
Practical 1	Techniques in measurement of food stuff – use of standard measuring cups and spoons.		4
Practical 2	Preparation of recipes from cereals, pulses.		4
Practical 3	Preparation of recipes from fruits and vegetables.		4
Practical 4	Preparation of recipes from milk and milk products.		4
Practical 5	Preparation of beverages.		4
Practical 6	Preparation of shallow and deep fried foods.		4
Practical 7	Table setting & service – flower arrangement, fruit & vegetable carving & napkin folding		4
Practical 8	Formulating a recipe :Indian Menu, Continental Menu, Oriental Menu.		4
Practical 9	Study of preparation and presentation of : soups, snacks		4
Practical 10	Preparation and Presentation of : Sandwiches, Salads, Mocktails.		4
Practical 11	Measurement of different milk sample density by lactometer		4
Practical 12	Case study on New Successful Startups Established Entrepreneurs		4
Practical 13	Case Studies on Successful Ventures		4

Practical 14	Case Studies on Failed ventures	4
Practical 15	Preparation of Blueprint on Workable Business Model	4

Course Code	Course Title and Contents (ELECTIVE)	Lectures	Credit Points
25BUHS6T06	Introduction to Tourism	30	2
Course objective: <ul style="list-style-type: none"> ● To explore different cultural aspects of Tourism. ● To understand the cultural exchange between tourist and locals. 			
Unit I	Health and Eco Tourism	15	
	<ul style="list-style-type: none"> ● Concept of health, medical and wellness tourism ● Types of medical tourism ● Status of medical tourism ● Medical tourism issues and challenges 		

Unit II	Cultural & Heritage tourism	15
	<ul style="list-style-type: none"> ● Heritage tourism: Meaning, scope and importance of tourism. ● Tourist resources with special reference to heritage monuments in Maharashtra (Gharapuri, Kanheri, Ajanta, Flora) ● Forts and monuments as tourist resources in Maharashtra ● Local cuisines related to geographical diversity ● Concept of homestay 	
<p style="text-align: center;">TEXT BOOK:</p> <ul style="list-style-type: none"> ● Tourism Principles and practices by AK Bhatia. ● Tourism Management by Sunetra Roday. ● An Introduction to Travel and Tourism by Norbert Vanhove. 		
<p>Course outcome:</p> <ul style="list-style-type: none"> ● To understand how to market and promote Tourism. ● To understand how to care for heritage sites. 		

Course Code	Course Title (DSE) Practical based on Introduction to Tourism	Credits 2	No. of lectures in hrs.
Practical 1	Study of biosphere reserves in India.		4
Practical 2	Study of wild life sanctuaries in India.		4
Practical 3	Study of national parks in India.		4
Practical 4	Ecotourism guidelines.		4
Practical 5	Understanding the role of National agency.		4
Practical 6	Understanding the role of International agency		4
Practical 7	Ecotourism in protected area.		4
Practical 8	Identification of Treatments used in medical tourism.		4
Practical 9	Documents required for medical tourism.		4

Practical 10	Understanding and reading of map	4
Practical 11	Understanding of land form and physical features.	4
Practical 12	Studying of cities and airport code	4
Practical 13	Identification Places for medical tourism in india.	4
Practical 14	Drawing of map using symbols.	4
Practical 15	Understanding importance of yoga in tourism	4

Course Code	Course Title and Contents (VSC)	Lectures	Credit Points
25BU6VSC07	Toxicology	15	1
Course objective: <ul style="list-style-type: none">● To understand the toxic effects of various substances on different organ systems.● To understand how to evaluate safety.● To understand the importance of toxicology in forensic science.			
Unit I	Toxicology	15	
	<ul style="list-style-type: none">● Plant & animal based toxins● LC 50 & LD 50● Drug of Abuse and narcotic drugs● Petroleum products● Toxicological examination of poisons and alcohol● Toxicological examination of viscera		
TEXT BOOK: <ul style="list-style-type: none">● Principles of Toxicology by Karen E Stine● A Textbook of modern toxicology by Ernest Hodgson● Textbook of forensic toxicology by B Suresh Kumar Shetty			
Course outcome <ul style="list-style-type: none">● To apply toxicology principles to real world scenarios and problems● To evaluate toxicology data and information to make informed decision.			

Course Code	Course Title (DSE)	Credits 2	No. of lectures in hrs.
25BU6VSC07	Practical based on Forensic toxicology		
Practical 1	TLC method for differentiation of inks		3
Practical 2	Study of analytical instruments in crime investigation a. GC-MS b. HPLC		3

	c. UV-visible Spectrophotometer d. TLC e. Electrophoresis (Horizontal/ Vertical)	
Practical 3	Demonstration of flame Photometer: Potassium or Sodium.	3
Practical 4	Color test for drugs.	3
Practical 5	Color test for plant poison.	3
Practical 6	TLC method for differentiation of drugs.	3
Practical 7	Case studies on forensic toxicological cases.	3
Practical 8	Analysis of dyes.	3
Practical 9	Analysis of fertilizers.	3
Practical 10	Analysis of alcohol as per BIS/ASTM specification.	3

Course Code	Industrial visit, Biodiversity visit, Archeological visit/ Field Project	Credits :2	No. of lectures in hrs.
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Evaluation Scheme

Internals

Class Test	Active Participation & Leadership qualities	Total
10 (internals)	-	20
10 (Certificate course presentation)		

Internal Examination: Based on Unit 1 / Unit 2 / Unit 3

Duration: 30 min

Total Marks: 10

Q. 1.	A. Multiple choice question	2.5
Q. 1.	B. Objectives.	2.5
Q. 2.	B. Answer in brief (Any two)	5

Theory Examination:

Duration: 1.30Hours

Total Marks: 30

- **All questions are compulsory**

Q. 1	Answer <i>any two</i> of the following		10
	A	Based on Unit I	
	B	Based on Unit I	
	C	Based on Unit I	
	D	Based on Unit I	

Q. 2	Answer <i>any two</i> of the following		10
	A	Based on Unit II	
	B	Based on Unit II	
	C	Based on Unit II	
	D	Based on Unit II	
Q. 3	Fill in the blanks (<i>any five</i>)		5
	A	Based on Unit I	
	B	Based on Unit I	
	C	Based on Unit I	
	D	Based on Unit I	
	E	Based on Unit I	
	F	Based on Unit II	
	G	Based on Unit II	
S	H	Based on Unit II	
	I	Based on Unit II	
	J	Based on Unit II	
Q. 4	Answer in one <i>sentence (any five)</i>		5
	A	Based on Unit I	
	B	Based on Unit I	
	C	Based on Unit I	
	D	Based on Unit I	
	E	Based on Unit I	
	F	Based on Unit II	
	G	Based on Unit II	
	H	Based on Unit II	
	I	Based on Unit II	
	J	Based on Unit II	
	K	Based on Unit II	

Practical Examination

Semester _____ Practical Examination “Month & Year “

Paper Code :- _____

Duration: - 02.00 hrs.

Total Marks: - 50

Q. No	Question's	Marks
Q. 1.	(Major)	
Q. 2.	(Minor)	

Q. 3.	(Identification)	
Q. 4.	(Viva)	
Q. 5.	(Journal)	

Marks Distribution and Passing Criterion for Each Semester

Theory	Practical
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<u>SEMESTER 5</u>							
Course Code	Internals	Min marks for passing	Theory Examination	Min marks for passing	Course Code	Practical Examination	Min marks for passing
25BUHS5T01	20	8	30	12	25BUHS3P1	50	20
25BUHS5T02	20	8	30	12	25BUHS3P2	50	20
25BUHS5T03	20	8	30	12	-	-	-
25BUHS5T04	20	8	30	12	-	-	-
25BUHS5T05	20	8	30	12	-	-	-
25BUHS5T06	20	8	30	12	-	-	-
25BU5VSC07	50	20	-	-	-	-	-
FP							
CC					-	-	-
<u>SEMESTER 6</u>							
24BUHS4T1	20	8	30	12	24BUHS4P1	50	20
24BUHS4T2	20	8	30	12	24BUHS4P2	50	20
24BUHS4T3	20	8	30	12	-	-	-
24BUHS4T4	20	8	30	12	-	-	-
24BUHS4T5	20	8	30	12	-	-	-
24BUHS4T6	20	8	30	12	-	-	-
24BU4VSC7	50	20	-	-	-	-	-
FP					-	-	-
CC					-	-	-

Pedagogy for student engagement is predominantly lectures. However, other pedagogies enhancing better student engagement to be recommended for each course. The list includes active learning/ course projects/ problem or project based learning/ case studies/self-study like seminar, term paper or MOOC

\$ Every course needs to include assessment for higher order thinking skills (Applying/ Analyzing/ Evaluating/ Creating). However, this column may contain alternate assessment methods that help formative assessment (i.e. assessment for learning)

Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-12)

Course Outcomes	1	2	3	4	5	6	7	8	9	10	11	12
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(COs) / Program Outcomes (POs)												
1												
2												
3												
4												
5												
6												
7												
8												

Course Articulation Matrix relates course outcomes of course with the corresponding program outcomes whose attainment is attempted in this course. Mark 'X' in the intersection cell if a course outcome addresses a particular program outcome.

References:

Text books:

Date Course Co-ordinator Subject Committee Chairperson

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