

AC 4-03-2014

Item No. – 4.33

UNIVERSITY OF MUMBAI



Program: B.A. / B. Sc.

Course: Human Sciences

(Credit Based Semester and Grading System
with effect from the academic year 2014–2015)

Preamble

The basic thoughts and understanding in the programme of B.A./ B.Sc. with Human Science is, many or around 60 % students after their graduation leave higher education and opt for jobs. These jobs are in Government offices, Municipal Corporations, private companies or, in schools as teachers. They are absorbed as science graduates. Even when the students opt for management carriers they are considered as science graduates at entry level. Thus the specialization or the major subject does not have relevance unless the students want to pursue the carrier in the field of research or higher education.

Among all higher studies Masters in management is a most preferred option because of availability of lucrative jobs. Among the specializations in management studies Human Resource Management is one among the preferred choice. When a person works in any office it is needed that the concerned understands the psychology of organization, the co workers, the officers and also the customers.

With all these requirements of job market University has decided to introduce the graduation course in Arts and science as B. A. /B. Sc. Human science. In this the topics considered are Origin of Human Science, Evolution of human being, Cultural evolution, Social evolution, Development of communication and language, Anthropology, Family culture, Organization culture, Management techniques and many more. The Bachelor's Degree B.A./B.Sc. Human Sciences is a three year (six semesters) innovative interdisciplinary programme that focuses on understanding the human being holistically from biological, psychological and social perspectives. It helps in comprehending the human being from birth to death with a whole gamut of perspectives from origin, ancient history, its evolution to modern times. It is an amalgamation of various disciplines of sciences namely psychology, sociology, anthropology, paleontology, neuroscience, genetics, home science and other allied spheres of knowledge. A learner with such a vast knowledge and understanding of Human Science will be fit to work in any industry/ Government offices/ Schools or any other place.

A learner if wish to go for higher education he can opt for Masters in Psychology, Antropology or Masters in Management.

Eligibility Criteria

B. A. /B. Sc. in "Human Science" Program is open to candidates who have passed H. SC. Examination in Arts or Science from Board of Maharashtra or its equivalent.

Course Structure & Distribution of Credits.

B. A./B. SC. in Human Science consists of 5(Five) theory courses, 2 (Two) practical lab courses in each Semester. Each theory course will be of either of 2/4 (two/four) credits, a practical lab course will be of 2 (two) credits. A learner earns 20 (twenty) credits per semester and total 120 (one hundred twenty) credits in six semesters. The course structure is as follows,

F. Y. B. Sc. (Human Sciences) Semester I

Course Code	Course Title and Contents	Lectures	Credit Points
USHSC101	Introduction to Human Science: I. History of Science and Theories of Origin of Human Science. II. Origin of Life and Human Being. III. Paleo-anthropology	45	4
USHS102	Biodiversity and Ecosystems I. Kingdom Plantae II. Kingdom Animalia. III. Ecosystems	45	4
USHS103	Human Anatomy and Physiology I. Structure of Human organs II. Appendicular and Axial Skeleton, Movements III. Basic Physiology	45	4
USHS104	Society and Language I. Origin of communication, Language of words II. Social Evolution, Social animal, Society formation. III. Institutions of Society, Marriage, Family, Religions.	45	4
USHS105	Human Diversity and Habits I. Human Diversity II. Nutrition And Lifestyle III. Analysis of Environmental Data	45	4
		Total	20

Semester I

Course Code	Course Title and Contents	Lectures	Credit Points
USHSC101	Introduction to Human Sciences	45	4
Objectives	<ul style="list-style-type: none"> ➤ To realize the relevance of human sciences in relation to ancient and modern sciences ➤ To study basic concepts of paleontology 		
Unit I	History of Science and Theories of Human origin: <ul style="list-style-type: none"> • Milestones in the development of Science, definition and relevance • Ancient Indian Applied Science • Science during the Medieval India: Maturing in Science and Alchemy • History of Modern Life Sciences 	15	4
Unit II	Origin of Life and Human Being <ul style="list-style-type: none"> • Mythological approach: Ancient and medieval beliefs (Theories of Cosmozoic, big bang, spontaneous generation, Biogenesis) • Modern hypotheses of origin of life (Biological evolution, chemical and biochemical origin of life) • Biological evolution. • Origin of Human Being Theories of Humanevolution and the geographical impact on the same. 	15	
Unit III	Paleo-anthropology/(Paleontology): <ul style="list-style-type: none"> • Fossilization: Processes, types, tracing and records • Biostratigraphy: Concept of stage and zone • Micropaleontology: Microfossils, calcareous, phosphatic, siliceous and organic microfossils • Stromatolites: Morphology, fossil records and modern occurrence • Fossils of Porifera, Arthropoda, Brachiopoda, Mollusca, Echinoderma, Lower vertebrates. • Paleoecology and Paleobotany. 	15	
Course Code	Course Title and Contents	Lectures	Credit Points
USHSC102	Biodiversity and Ecosystems	45	2
Objectives	<ul style="list-style-type: none"> ➤ To appreciate biodiversity in plants and animal kingdoms at the time of Human evolution. ➤ To understand the dynamics of ecosystems 		

	existing then.		
Unit I	Kingdom Plantae: Definition, Broader classification with examples of each group.	15	2
Unit II	Kingdom Animalia: Definition, Broader classification with examples of each group.	15	
Unit III	Ecosystems: <ul style="list-style-type: none"> • Types of Ecosystems • Abiotic factors • Biomass, Energy flow, Food Chain, Energy Pyramids 	15	
Course Code	Course Title and Contents	Lectures	Credit Points
USHSC103	Human Anatomy and Physiology	45	4
Objectives	➤ To study the human body and to understand basic physiology		
Unit I	Study of Human Organ: Cell, tissues and body fluid , Structure of Human organs <ul style="list-style-type: none"> • Heart • Lungs • Kidney • Liver • Endocrine glands • Sense organs 	15	4
Unit II	Appendicular and Axial Skeleton, Movements: <ul style="list-style-type: none"> • Axial skeleton and Appendicular skeleton. • Movement: structure of muscle, Physiology of muscle contraction 	15	
Unit III	Basic Physiology: <ul style="list-style-type: none"> • Physiology of Nutrition. • Physiology of Respiration. • Physiology of Circulation. • Physiology of Excretion. • Reproduction and Immunology 	15	
Course Code	Course Title and Contents	Lectures	Credit Points
USHSC104	Society and Language	45	4
Objectives	<ul style="list-style-type: none"> ➤ To understand the origin and types of communication and language and to provide training in effective communication ➤ To trace the origin and evolution of society ➤ To help relate in social interactions and in institutions of society 		
Unit I	Origin of Communication, language of words: <ul style="list-style-type: none"> • Understanding human communication 		

	<ul style="list-style-type: none"> • What is communication? Its Process, effectiveness and Barriers • Brief history, evolution and the development of communication. • Evolution of languages • Development of Speech- From Non-verbal to verbal, Oral communication • Non-verbal communication: Body language, five senses of communication, gestures and relation with sound. • Mass Communication. 	15	4
Unit II	Social evolution, Social animal, Society formation: <ul style="list-style-type: none"> • Early stone-age: A brief survey of Paleolithic, Mesolithic and Neolithic Chalcolithic culture • Early Iron-age culture: Megalithic culture • Brief history of world civilizations: Ancient, medieval and modern periods 	15	
Unit III	Institutions of Society, Marriage, Family, Religions: <ul style="list-style-type: none"> • Approaches: Social Cohesion and Social identification • Types of groups: Primary and Secondary. • Development, Dispersal and transformation of groups Relationship in the society <ul style="list-style-type: none"> • Friendship nature and functions. • Social Institutions: Marriage and Family (functions, types and changes) • Kinship (functions & basic terminology) Religion <ul style="list-style-type: none"> • Evolution of Religion and introduction to various religions • Development of various religious practices • Concept of Universal Religion 	15	
Course Code	Course Title and Contents	Lectures	Credit Points
USHSC105	Human Diversity	45	2
Objectives	➤ To explain the aspects of human diversity in relation to geographical differences, cultural differences and Environmental impacts.		
Unit I	Human Diversity <ul style="list-style-type: none"> • Geographical distribution, realms • Impact of Climatic and Environmental conditions then existing. 	15	
Unit II	Nutrition And Lifestyle <ul style="list-style-type: none"> • Type of food then available • Types of tools used, inventions like fire. 	15	

	<ul style="list-style-type: none"> • Development from Hunters to Food gatherers and Farmers. • Traditional costumes • Traditional arts and crafts 		2
Unit III	<p>Analysis of Environmental Data: Conceptual Foundations, Data Exploration , Screening & Adjustments</p> <ul style="list-style-type: none"> • Purpose of data exploration, screening & adjustments • Common parameters and statistics <ul style="list-style-type: none"> i. Parameters and statistic ii. The “normal” distribution iii. Measures of central tendency, spread, non-normality • Single variable plots <ul style="list-style-type: none"> i. Empirical distribution function and cumulative distribution functions ii. Histogram iii. Box-and-whisker plot iv. Extreme values (“outliers”) • Measures of association • Plots of association • Scatter plot, Co-plot. 	15	

PRACTICAL: SEMESTER-I

USHSC1P1	PRACTICAL-I	3 Periods/week	2
	<p>Paleo-anthropology</p> <p>1.Fossils :Identification of (Two from each group wherever available)</p> <ul style="list-style-type: none"> • Cnidaria, Anelida, Arthropoda, Mollusca , Echinodermata • Lower Vertebrates, Pisces. Amphibia, Aves, Mammals • Lower plant groups, Gymnosperms, Angiosperms <p>2. Evolution of Human :Identification of</p> <ul style="list-style-type: none"> • Different stages of evolution of man • Different tools used by man in pre-historic time • Gestures, use of opposable thumb <p>3. Identification of:</p> <ul style="list-style-type: none"> • Plants and Animals found during different time period (One from each epoch) <p>4. Human Anatomy:Identification of</p> <ul style="list-style-type: none"> • Heart, Lung, Kidney, Eye • Bones of man (Appendicular and Axial skeleton) • Muscles of skull and eye <p>5. Nutrition:</p> <ul style="list-style-type: none"> • Different types of root and leafy vegetable eaten by man in pre-historic time. <p><i>Identification for all practicals should be shown with available models, photographs, Google images, diagrams from books whichever is available</i></p>		
USHSC1P2	PRACTICAL-II	3 Periods/week	2
	<p>1. Data collectionby using sampling techniques and its analysis by using statistical methods Based on environmental factors, flora and fauna.</p> <p>2. Case studies based on the theory of USHSC105</p>		

F.Y.B.Sc. (Human Sciences) Semester II

Course Code	Course Title and Contents	Lectures	Credit Points
USHS201	Neuroscience: I. Evolution of Skull and Human Brain/Mind. II. Peripheral and Autonomous nervous system III. Neurotransmitters and their role, Nerve impulses and transmission.	45	4
USHS202	Fundamentals of Psychology: I. Perspectives in Psychology II. Instinct and Innate behaviour III. Cognitive Processes	45	2
USHS203	Human Behaviour: I. Behavioural Ecology II.Theoretical Perspectives on life span development III. Human Machine Interface(HMI)	45	4
USHS204	Genetics: I. Mendelian inheritance, Genetic material and Chromosomal theory. II. Sex determination, Chromosomal anomalies III. Genetic counseling	45	4
USHS205	Health and Environment: I.Health and Nutrition II.Health and Life style III. Pollution and Health	45	2
		Total	20

Semester II

Course Code	Course Title and Contents	Lectures	Credit Points
USHSC201	Neurosciences	45	4
Objectives	<ul style="list-style-type: none"> • To comprehend the structure and functions of the human brain and the nervous system 		
Unit I	Evolution of Skull and Human Brain/Mind <ul style="list-style-type: none"> • Structure of human skull General features • Structure of human brain General features • Brain Centers • Evolutionary development related to human skull and brain • Sources of information, Structural and functional imaging • Intelligence dependent on brain size • Evolution of human intelligence (Hominidae, Homininae, <i>Homo sapiens</i>) 	15	4
Unit II	Peripheral and Autonomous Nervous System: <ul style="list-style-type: none"> • T. S. of Spinal Cord • Reflex arc • Reflex action, Types of Reflex actions • Sympathetic nervous system • Parasympathetic nervous system 	15	
Unit III	Neurotransmitters and their role, Nerve impulse and transmission: <ul style="list-style-type: none"> • Structure of neuron , mechanism of nerve impulse • Nerve transmission • Synapse • Neurotransmitters: Acetylcholine, Amino acids; (Glutamate Aspartate, GABA, Glycine) Purines (ATP) • Biogenic amines: Dopamine, Norepinephrine, Epinephrine, Serotonin, Histamine 	15	
Course Code	Course Title and Contents	Lectures	Credit Points
USHSC202	Fundamentals of Psychology	45	2
Objectives	<ul style="list-style-type: none"> ➤ To study the fundamentals of psychology and its aspects of cognition, intelligence by understanding classical perspectives of psychology 		

Unit I	Perspectives in Psychology: <ul style="list-style-type: none"> • What is Psychology? Brief history of Psychology • Contemporary Psychology: The Biopsychosocial approach and Current Perspectives: <ul style="list-style-type: none"> i. Neuroscience ii. Evolutionary Behaviour Genetics iii. Psychodynamic: Behavioural, Cognitive, Social-cultural • Research Methods in Psychology <ul style="list-style-type: none"> i. Descriptive ii. Correlation iii. Experimental 	15	
Unit II	Instinct and Innate Behaviour: <ul style="list-style-type: none"> • Instinct: Concepts of Instinct: Fixed Action Pattern, examples of Fixed Action Pattern, Significance of instincts. • Innate Behaviour: Concepts of innate behavior, Types of innate behaviour exhibited by plants and animals (orientation, irritability, motivation, tropism, taxes, nest building etc), Significance of innate behaviour. • Learning and learning theories: What is Learning? • Classical Conditioning: Learning by association, Pavlov’s Experiments: the processes of acquisition, extinction, spontaneous recovery, generalization and discrimination, Applications of Classical Conditioning. • Operant conditioning: Learning from the consequences of your behavior, Skinner’s experiments: shaping behavior, types of reinforcers, reinforcement schedules, punishment. • Applications of Operant Conditioning, Contrasting Classical and Operant condition. • Biology, Cognition and Learning: Biological Constraints on Conditioning, Limits on Classical Conditioning, Operant Conditioning, Cognitive processes and classical conditioning, Cognitive processes and operant conditioning 	15	2
Unit III	Cognitive processes: <ol style="list-style-type: none"> 1. Consciousness and Attention <ul style="list-style-type: none"> • The Biology of Consciousness, cognitive neuroscience • Dual Processing: The Two-Track Mind 	15	

	<ul style="list-style-type: none"> Selective Attention: selective attention and accidents, selective inattention (inattentional blindness and change blindness) <p>2. Memory</p> <ul style="list-style-type: none"> What is memory? Memory models Building memories: Encoding and Automatic processing, Encoding and effortful processing Memory Storage: Capacity and Location of Long Term Memories in the Brain: Explicit-Memory System and Implicit-Memory System How emotions affect memory processing: the amygdala emotions and memory How changes at the synapse level affect memory processing <p>3. Retrieval: getting information out</p> <ul style="list-style-type: none"> Measures of retention Retrieval cues Forgetting: forgetting and the two-track mind, encoding failure, storage decay, retrieval failure: interference and motivated forgetting Memory construction errors: misinformation and imagination effects, source amnesia, discerning true and false memories, children's eyewitness recall, repressed or constructed memories of abuse. 		
Course Code	Course Title and Contents	Lectures	Credit Points
USHSC203	Human Behavior	45	4
Objectives	➤ To understand and appreciate the self and role assumed with participation in groups		
Unit I	Behavioural Ecology <ul style="list-style-type: none"> Primate Behavioural Ecology Analogous and Homologous Organs Vestigial Organs Adaptations 	15	4
Unit II	Theoretical Perspectives on Life span Development <p>1. Theoretical Perspectives on Life Span Development</p> <ul style="list-style-type: none"> Psychoanalytic: Sigmund Freud: Psychosexual Stages of Development, Erik Erikson: Psychosocial Stages of Development. Humanistic: Abraham Maslow and Carl Rogers. 	15	

	<ul style="list-style-type: none"> • Cognitive: Jean Piaget: Cognitive Stages in Development, Albert Bandura: Cognitive Learning. • Bioecological: Urie Bronfenbrenner. • Sociocultural: Lev Vygotsky <p>2. Attachment theory: John Bowlby, Mary Ainsworth; Attachment theory and close relationships: Cindy Hazan and Philip Shaver</p> <p>3. Moral development: Jean Piaget, Lawrence Kohlberg, Carol Gilligan.</p>		
Unit III	<p>Human, Machine interface(HMI)</p> <p>1. Human Machine Interface (HMI)</p> <ul style="list-style-type: none"> • Human Computer Interaction (HCI): What is HCI? Disciplines contributing to HCI, General principles of HCI design, Ergonomic aspects of HCI, New Areas of HCI • HMI related risks: workers health and safety • Brain-Computer Interface (BCI): Cognitive based neural prosthetics <p>2. Communication technology and its impact</p> <ul style="list-style-type: none"> • History and Evolution of the Digital Age and the Information Revolution. • Computer-Mediated Communication, Internet, One's place in Cyberspace? (Social networking), The Virtual Self. Gender, Sexuality, and Relationships on the Net. • Community, Culture, and Communication in Cyberspace. • Virtual Communities, Communication, and Culture in Virtual Communities. • Social Norms, Crime, and Punishment on the Electronic Frontier, Privacy and Surveillance in the Digital Age. • Producing, Regulating, and Protecting Information in Cyberspace, The Rest of the World and the Net. • Our future in the Technology era. 	15	
Course Code	Course Title and Contents	Lectures	Credit Points

USHSC204	Genetics	45	4
Objectives	➤ To understand the basic concepts of genetics, inheritance, sex determination and Counseling for inherent disorders, infertility.		
Unit I	Mendelian Inheritance, Genetic material and Chromosomal theory: <ul style="list-style-type: none"> • Mendelian inheritance: Monohybrid and dihybrid ratio , dominance, co- dominance, autosomal (recessive and dominant inheritance), X-linked recessive and dominant inheritance , Y linked and Z linked • Genetic material: Nucleic acids structure of DNA & RNA • Chromosomal theory of inheritance 	15	
Unit II	Sex determination, Chromosomal anomalies: <ul style="list-style-type: none"> • Types of Sex determination • Chromosomal types of sex determination: Haploid, XX, XO, XX-XY, and ZZ- ZW. • Chromosomal anomalies : Autosomal , sex chromosomal 	15	
Unit III:	Genetic counseling: <ul style="list-style-type: none"> • Common hereditary disorders in a family • Disorder from consanguineous marriage • Test for sex determination , Amniocentesis • IVF technique 	15	4
USHSC205	Health and Environment	Lectures	Credit Points
Objectives	➤ To realize the relationship between nutrition, lifestyle and environment on health and fitness.	45	2
Unit I	Health and Nutrition: <ul style="list-style-type: none"> • Basic food groups • Balanced diet and recommended dietary allowances • Under-nutrition and deficiency: Anemia, Vitamin A , Vitamin D, Iodine and other deficiency disorders • Mal-nutrition during pregnancy and lactation. • Diet related chronic diseases namely overweight and obesity, cardiovascular disease, diabetes, osteoporosis, cancer 		
Unit II	Health and Life style: <ul style="list-style-type: none"> • Importance of nutrition on health and fitness • Influence of different cultural cuisine on nutrition and lifestyle • Modern lifestyle changes with regards to foods and nutrition for example microwave cooking, ready to make/eat preparations, packaged and fast foods and other 	15	

	<p>modern methods of cooking; its impact on health</p> <ul style="list-style-type: none"> • Stress management: Conditions of stress, types of stress, effects and symptoms, stress management techniques 		2
Unit III	<p>Pollution and Health:</p> <ul style="list-style-type: none"> • Infections: Bacterial and fungal infections of Skin, Respiratory track, Intestinal track, Ear, Eye. • Allergic reactions on skin, Respiratory track, Intestinal track. • Abdominal and Intestinal diseases • Dental Disorders – dental carries and dental pain • Skeletal Muscular Systems – back pain, spondylosis • Central Nervous System – impairment of neurological development, peripheral nerve damage and headaches • Common diseases – malaria, chicken pox, septic wounds, congenital abnormalities, • Cardiovascular diseases. • Cancer types, cause, treatment. 	15	

PRACTICAL: SEMESTER-II

USHSC2P1	PRACTICAL-I	3 Periods/week	2
	<p>Identification</p> <ul style="list-style-type: none"> • Skull of man to trace the evolution of man • Brain of Man, Structure of neuron, T. S. of Spinal cord, Reflex arc, Sympathetic nervous system, Parasympathetic nervous system. • Evidences of Evolution: Homologous and analogous organs, vestigial organ • Barr body , Types of chromosomes • Study of Normal Karyotypes • Identification of Chromosomal Anamolies-Downs Syndrome, Klinefelter’s syndrome, Turner’s syndrome with karyotypes. 		
USHSC2P2	PRACTICAL-II	3 Periods/week	2
	<ul style="list-style-type: none"> • Haemoglobinometer-Operation and its use • Test for Haemoglobin • Identification of food grains, Lentils, Fibrous food, • Recipes for quick, healthy breakfast • Preparation of chart for balanced diet • Study of Body Mass Indexformula relating weight and height • Determination of nutritional status by BMI • ECG • Identification of Lung, Liver, Kidney • Joints: Hand to girdle, elbow, wrist, Leg to girdle, knee, ankle. 		
	<p><i>Identification for all practicals should be shown with available models, photographs, Google images, diagrams from books whichever is available</i></p>		

Semester I and II:

TEXTS/REFERENCES/SUGGESTED READINGS:

1. History of Medieval India by Satish Chandra
2. Science in Ancient India Subhash C. Kak Louisiana State University Baton Rouge,
3. The Ancient Mediterranean Environment between Science and History by W.V. Harris, *Columbia University*.
4. Charles Darwin And The Origin Of Species Keith A. Francis Greenwood Guides To Historic Events, 1500–1900 Linda S. Frey And Marsha L. Frey, Series Editors Greenwood Press Westport, Connecticut
5. Organic evolution by N. Arumugam.
6. Organic evolution by Veer Bala Rastogi
7. Paleobotany second edition : The Biology and evolution of fossil Plant by Thomas N. Taylor L. Taylor and Michael Krings Dec 2008 Academic Press,
8. Fossils- P.R.Yadav, Discovery Publishing House Pvt. Ltd., New Delhi.
9. Understanding Paleontology-P.R.Yadav, Discovery Publishing House Pvt. Ltd., New Delhi.
10. The Elements of Paleontology- Rhona M Black, Second edition, Cambridge University Press.
11. Environmental Micropaleontology- Ronald E Martin, Kluwer Academic/ plenum Publisher, New York.
12. Microfossils- Howard Armstrong and Martin Brasier, Second edition, Blackwell Publishing.
13. Fossil Invertebrates- Paul. D. Taylor and David N. Lewis. Harvard University Press.
14. Principles of Ecology by P.S.Verma
15. Modern textbook of Zoology Vertebrates by R.L. Kotpal
16. The Human Body: An Illustrated Guide to its Structure, Function and Disorders (Book & DVD ROM): The Ultimate Visual Guide to Anatomy, Systems and Disorders by
 - a. Robert Winston , Steve Parker
17. Fundamentals of Ecology: Odum E.; Natraj Publisher, Dehradun

18. Cell Biology Genetics Molecular Biology Evolution & Ecology: Agarwal V. K. and Varma P.S.; S. Chand & Company Pvt Ltd
19. Textbook of Environmental Studies for Undergraduate Courses 2nd Edition: Bharucha E.; Universities press (india p ltd)
20. A new course in Botany for F. Y. B. Sc. Paper I and S. Y. B. Sc. Paper I: Patel, Golatkar, Sarangdhar; Sheth Publication
21. A new course in Zoology for F. Y. B. Sc. Paper I and S. Y. B. Sc. Paper I: Yeragi, Bhattacharya; Sheth Publication
22. Biology 8th edition: Campbell, N.A. and Reece, J. B.; Pearson Benjamin Cummings,.
23. Biology 7th edition Raven, P.H; Tata McGraw Hill Publications, New Delhi
24. Animal Diversity (Volume - 1): B. N. Pandey; Tata McGraw-Hill Education
25. Human Physiology from cell to system by Lauralee Sherwood 7th edition
26. Human Anatomy & Physiology, Sixth Edition by Elaine N. Marieb, 1237 pages, Publisher: Benjamin-Cummings
27. *Principles of Human Physiology*. Germann and Stanfield. Benjamin Cummings, 2010, 4th edition.
28. Human physiology: C.C. Chaterjee. Volume I and II
29. Textbook of Anatomy and functional physiology by Tortora
30. Dorland's Medical Dictionary
31. Textbook of Biology, Standard XI and XII- Maharashtra State Board.
32. Effective Technical Communication, M.Ashraf Rizvi (Tata McGraw Hill Companies)
33. Strengthen Your English, Bhaskaran & Horsburgh (Oxford University Press)
34. Basic Communication Skills for Technology, Andrea J Rutherford (Pearson Education Asia)
35. English Skills for Technical Students, Orient Longman, WBSCTE with British Council,
36. Hand book of English for professionals. P.Elijah A (Pharma book syndicate)
37. Spoken English in 3 volumes with 6 cassettes, OUP. (CIEFL)
38. A textbook of English Phonetics for Indian Students by T.Balasubramanian (Macmillan)
39. Business communication, KK Ramchandran (Macmilan)
40. " Enrich your English – a) Communication skills b) Academic skills "S R Inthira & V Saraswathi (CIEFL & OUP)

41. Developing communication skills, Mohan Krishna & Banerji Meera. (Macmillan)
42. Social Anthropology. Evans-Prichard, E.E, New Delhi: Universal Book Stall.
43. Cultural Anthropology. Harris Marvin New York: Harper & Row Publication.
44. Cultural Anthropology. Haviland W A., London: Harcourt Brace College Publication.
45. Handbook of Social and Cultural Anthropology. Honigman J., New Delhi: Rawat Publication.
46. The Tapestry of Culture. Rosman & Rubel, New York: Random House.
47. Introduction to Western Civilizations-C.L Mariwalla, A.L.D'souza, Sanghvi
48. Civilization in the West-Second edition-Harper Collins; Khishlansky, Geary, O'Brien
49. Dictionary of Sociology. Marshall, Gordon. New Delhi : Oxford University Press
50. Sociology. (6th Edition). Schaeffer and Lamm. McGraw Hill.
51. Biostatistic by B D Mahajan
52. Research Methodology by Khan
53. Social life of Early Man by S.L Washburn
54. Food: Facts and Principle By M. Shadaksharaswamy
55. Studying the Diet of Ancient Man by Hans Helbaek
56. Cooking in Ancient civilization by Cathy K Kaufman
57. Time Energy and Stone tools by Robin Torrence
58. Anthropology 1986 by C. International
59. Celtic Culture: a historical encyclopedia Vol- 1 and Vol – 2 by John T Koch
60. Human physiology: C.C. Chatterjee. Volume I and II
61. Textbook of Anatomy and functional physiology: Tortora
62. Textbook of Biology, Standard XI and XII- Maharashtra State Board
63. Dorland's Medical Dictionary
64. Ecology and Animal Behaviour vol -4: Pandey B. N.; Tata McGraw-Hill Education.
65. Trials Of Life: A Natural History Of Animal Behaviour: Attenborough, D.; Little Brown & Co.
66. An introduction to animal behaviour-5th ed.: Manning, Dawkins; Cambridge Press.
67. Cytology, Genetics and Molecular Genetics (Volume - 2): B. N. Pandey; Tata McGraw-Hill Education
68. Cell Biology, Genetics, Molecular Biology, Evolution & Ecology: Agarwal V. K. and Varma P.S., S. Chand & Company Pvt. Ltd
69. I Genetics: A Molecular Approach: Russel P.; Benjamin/Cummings.

70. G. E. Psychology. (Indian sub-continent adaptation). Ciccarelli, S. K. & Meyer, New Delhi: Dorling Kindersley (India) Pvt. Ltd.
71. Psychology: From Science to Practice. (2nd ed.), Baron, R. A., & Kalsher, M. J. Pearson Education inc., Allyn and Bacon.
72. Psychology. Pearson Education inc. and Dorling Kindersley Publishing inc. Ciccarelli, S. K. & Meyer, G. E. New Delhi; first Indian reprint.
73. Introduction to Psychology: Gateways to Mind and Behaviour. (11th ed.) Coon, D., & Mitterer, J. O. Wadsworth/Thomson Learning Publications, New Delhi; first Indian reprint.
74. Understanding Psychology. (8th ed.). Feldman, R. S. McGraw- Hill Publications, New York
75. Social Psychology. Baron, R. A., Branscombe, N. R., & Byrne, D.
76. Social Psychology. Franzoi, S. L. New York: McGraw-Hill.
77. Exploring Social Psychology. Myers, D. G. New York: McGraw-Hill.
78. Social Psychology. Myers, D. G. New York: McGraw-Hill.
79. Social Psychology. Taylor, S. E., Peplau, A. L., & Sears, D. O. Englewood Cliffs, NJ: Prentice Hall