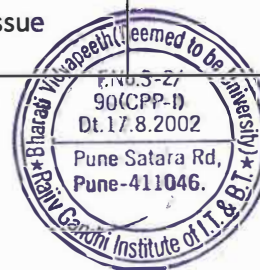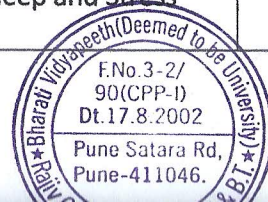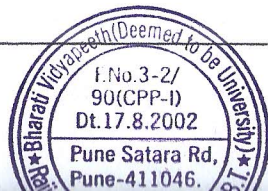## 1.1.2: Syllabus revision

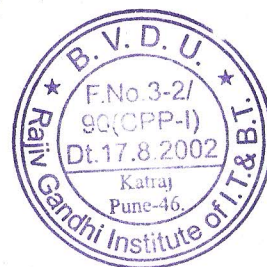| Sr. No	Name of the Programme of syllabus Revision with Programme code and Course Code	Old Syllabus topics	New Syllabus Topics	Highlighted Revised Topics	% Revision
1.	B.Sc. Biotechnology (251) Semester I Computer Fundamentals & C-Programming Lab (13211)	Computer fundamental: MS office Packages DOS Commands Number Systems Use of Internet in Biological sciences C-Programming: Data types, control statements Functions Arrays Strings, File handling Utilization of C-Programming in Biological Sciences	Introduction and First Program: C programming features Benefits of C Some Facts about C Understanding First C Program Laboratory assignments based on the following topics in 'C' programming: Data types, operators and expressions, Hierarchy of operators Control statements Functions, Arrays Strings	Introduction of programming Laboratory assignments based on the following topics in 'C' programming:	50%
2.	B.Sc. Biotechnology (251) Semester I Plant science (13205)	Plant diversity: Plant kingdom Algae, Fungi and Lichens Bryophytes and Pteridophytes Gymnosperms and Angiosperms Plant Morphology: General organization of plant body Inflorescences and Flowers Fruits Embryology Seeds Anatomy: Study of plant tissues	Plant diversity: Plant kingdom Algae, Fungi and Lichens Bryophytes and Pteridophytes Gymnosperms and Angiosperms Plant Morphology: General organization of plant body Inflorescences and Flowers Fruits Embryology Anatomy: Plant cells and tissue system	Plant Cell Plant diseases	10%

		Plant physiology	Plant physiology Plant diseases		
3.	B.Sc. Biotechnology (251) Semester I Foundations of Chemistry & Biochemistry (13206)	Introduction Carbohydrates Important monosaccharides Linkages in Sugars Physico-chemical properties of carbohydrates Significance of carbohydrates in microbial, plant and animal system Lipids, Structure, Functions Lipid conjugates Cholesterol Liposomes Physico-chemical properties of carbohydrates and lipids Temperature profiles of carbohydrates & lipids Properties of their solutions Physico-chemical measurements	Introduction to Biotechnology Carbohydrates Monosaccharides, oligosaccharides and polysaccharides Significance of carbohydrates in microbial, plant and animal system Lipids: occurrence and fatty acids Classification: based on functions Liposomes Concept of buffers Spectroscopy – colorimetry Chromatography	Spectroscopy – colorimetry Chromatography	25%
4.	B.Sc. Biotechnology (251) Semester I Elective I General English (13212)	Listening, Speaking, Essential Grammar, Writing descriptions of places Research and using the library Describing processes and developments Developing an argument Writing an essay	Classical Algebra Binomial Theorem Calculus – I Integration Calculus – II	Classical Algebra Binomial Theorem Calculus – I Integration Calculus – II	100%
5.	B.Sc. Biotechnology (251) Semester I Elective I Basic Programming	Introduction to Perl programming Numbers Control statements and Loops, Functions (push, pop, length, log etc) Scalar variables Working with Arrays	Nutrition and its physiological role Nutritional Biochemistry Balanced diet Healthy Lifestyle: Eating behaviour, Physical Activity, Sleep and Stress Management	Nutrition and its physiological role Nutritional Biochemistry Balanced diet	100%

	for Bioinformatics (13213)	Input/output in Perl Subroutine: Working with files Object-Oriented Programming in Perl Perl Modular Programming	Conserving and enhancing nutritive value of food Food selection and meal planning for health and fitness Nutraceuticals and Functional Foods	Healthy Lifestyle: Eating behaviour, Physical Activity, Sleep and Stress Management Conserving and enhancing nutritive value of food Food selection and meal planning for health and fitness Nutraceuticals and Functional Foods	
6.	B.Sc. Biotechnology (251) Semester I General Course I Yoga Meditation (13215)	Overview of history of yoga Aasana science of meditation Different kinds of yoga	Yoga meditation and physical training	Physical training	50%
7.	B.Sc. Biotechnology (251) Semester II Introduction to Microbiology (13217)	History of Microbiology Introduction to Microscopy General properties and structure of prokaryotes Taxonomy of bacteria Microbial growth Control of microorganisms Microbial metabolism Control of microorganisms Physical agents Chemical agents and their mode of action	History of Microbiology Introduction to Microscopy General properties and structure of prokaryotes Microbial nutrition Microbial growth Control of microorganisms Bacterial genetics Bacterial viruses	Bacterial genetics Bacterial viruses	30%
8.	B.Sc. Biotechnology (251) Semester II Elective II Ecology	Ecosystem Ecosystem diversity The species & Individual in the Ecosystem Ecological succession	Soil fertility Biopesticides	Soil fertility Biopesticides	100%

	(13225)	Plant communities Ecosystem functioning	Mass multiplication of Rhizobium, Azotobacter and Azospirillum inoculum Methods of application of biofertilizers	Mass multiplication of Rhizobium, Azotobacter and Azospirillum inoculum Methods of application of biofertilizers	
9.	B.Sc. Biotechnology (251) Semester II Elective II Gardening & Landscaping (13226)	Scope and objectives of gardening Style of gardens: Types of gardens: Components of garden Planning of Indoor /outdoor gardens: School and Institutional Garden, Park, Industrial garden, Housing complex, Hanging garden Nursery production and management Propagation of ornamental plants by seeds, Annuals & Biennials: Orchids:	Landscape Design: Computer application in landscape Palms and Cycas: Bamboo and conifers: Climbers and Bougainvillea: Lawns & Grasses:	Algebra Probability Differentiation Integration Applications To Mathematical Biology	100%
10.	B.Sc. Biotechnology (251) Semester II General Course II Human values (13228)	Yam Niyam	Entrepreneurship in Biotechnology Overview of Biotechnology industry and research sector Industries based on Agri, Health Opportunities in Biotechnology research	Overview of Biotechnology industry and research sector Industries based on Agri, Health Opportunities in Biotechnology research	100%

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