

**SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY,NANDED.**

**EXAMINATION PROGRAMME**

**B.Sc. I, VI & II , V Semester Winter Exam – 2015**

The Examination shall be held on days & dates mentioned below at all Centres simultaneously.

Time: I Semester : (Th+MCQ Pattern) 10:00am to 12:00pm

VI Semester : (Theory Pattern) 10:00am to 12:00 noon

II Semester : (Th+MCQ Pattern) 02:00pm to 04:00pm

V Semester : (Theory Pattern) 02:00pm to 04:00pm

Sr. No.	Subject & Paper No.	Day & Date	Sr. No.	Subject & Paper No.
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**TUESDAY 17.11.2015**

	<b>B.Sc. I Semester</b> <b>STATISTICS</b>		<b>B.Sc. II Semester</b> <b>STATISTICS</b>
01	Elementary Probability Theory – I	05	Discrete Probability Distributions – III
	<b>MICROBIOLOGY</b>		<b>MICROBIOLOGY</b>
02	Introductory Microbiology – I	06	Basic Microbiology & Bimolecules – III
	<b>B.Sc. VI Semester</b> <b>STATISTICS</b>	1001	<b>B.Sc. V Semester</b> <b>Environmental Study</b> (Compulsory) (02:00pm to 04:00pm)
03	Design of Experiments - XIV		
	<b>MICROBIOLOGY</b>		
04	Molecular Biology XIV		

**WEDNESDAY 18.11.2015**

	<b>B.Sc. I Semester</b> <b>STATISTICS</b>		<b>B.Sc. II Semester</b> <b>STATISTICS</b>
08	Descriptive Statistics – II	13	Theory of Variables and Attributes – IV
	<b>MICROBIOLOGY</b>		<b>MICROBIOLOGY</b>
09	Microbiological Techniques – II	14	Microbial Physiology – IV
	<b>B.Sc. VI Semester</b> <b>STATISTICS</b>		<b>B.Sc. V Semester</b> <b>STATISTICS</b>
10	Operation Research – XV OR	15	Survey Sampling - XII
11	Demography - XV		
	<b>MICROBIOLOGY</b>		<b>MICROBIOLOGY</b>
12	Industrial Microbiology – XV	16	Microbial Genetics - XII

**THURSDAY 19.11.2015**

<b>B.Sc. I Semester</b>	<b>B.Sc. II Semester</b>
<b>SECOND LANGUAGE</b>	27 (84) English (Compulsory)
17 (54) Hindi	<b>B.Sc. V Semester</b>
18 (55) Marathi	<b>STATISTICS</b>
19 (56) Urdu	28 Linear Programming –XIII OR
20 (57) Sanskrit	29 Statistical Quality Control - XIII
21 (58) Pali	<b>MICROBIOLOGY</b>
22 (59) Additional English	30 Microbial Metabolism - XIII
23 (60) Kannada	
24 (61) Russian	
<b>B.Sc. VI Semester</b>	
<b>BOTANY</b>	
25 Genetics & Biotechnology – XIV	
<b>MATHEMATICS</b>	
26 Numerical Analysis (MT-304) - XVI	

**FRIDAY 20.11.2015**

<b>B.Sc. I Semester</b>	<b>B.Sc. II Semester</b>
31 (84) English Compulsory	<b>SECOND LANGUAGE</b>
	34 (91) Hindi
<b>B.Sc. VI Semester</b>	35 (92) Marathi
<b>BOTANY</b>	36 (93) Urdu
32 Optional- XV	37 (94) Sanskrit
1 Plant Pathology – II	38 (95) Pali
2 Systematic Botany – II	39 (96) Additional English
3 Applied Economics Botany – II	40 (97) Kannada
4 Herbal Technology - II	41 (98) Russian
<b>MATHEMATICS</b>	
33 Partial Differential Equations (MT-305) - XVII	<b>B.Sc. V Semester</b>
	<b>BOTANY</b>
	42 Cell & Molecular Biology – XII –(Old)
	43 Plant Physiology – XII –(New)
	<b>MATHEMATICS</b>
	44 Metric Spaces (MT-301) – XIII

**SATURDAY 21.11.2015**

<b>B.Sc. I Semester</b>	<b>B.Sc. II Semester</b>
<b>BOTANY</b>	<b>BOTANY</b>
45 Diversity of Microbes – I	49 Diversity of Cryptogams – III
<b>MATHEMATICS</b>	<b>MATHEMATICS</b>
46 Differential Calculus – I	50 Integral Calculus – III

<b>B.Sc. VI Semester</b>	<b>B.Sc. V Semester</b>
<b>MATHEMATICS</b>	<b>BOTANY</b>
47 Topology – XVIII OR	51 Optional-XIII
48 Mechanics – II (Dynamics) - XVIII	<ol style="list-style-type: none"> <li>1. Plant Pathology – I</li> <li>2. Systematic Botany – I</li> <li>3. Applied Economic Botany – I</li> <li>4. Herbal Technology – I</li> </ol>
	<b>MATHEMATICS</b>
	52 Linear Algebra (MT-302) – XIV
<b>MONDAY 23.11.2015</b>	
<b>B.Sc. I Semester</b>	<b>B.Sc. II Semester</b>
<b>BOTANY</b>	<b>BOTANY</b>
53 Cell and Molecular Biology – II	56 Genetics and Plant Breeding – IV
<b>MATHEMATICS</b>	<b>MATHEMATICS</b>
54 Algebra and Trigonometry – II	57 Geometry – IV
<b>B.Sc. VI Semester</b>	<b>B.Sc. V Semester</b>
<b>CHEMISTRY</b>	<b>MATHEMATICS</b>
55 Organic Chemistry + Inorganic Chemistry - XIV	<p>58 Operation Research – XV OR</p> <p>59 Mechanics – I (Statics) - XV</p>
<b>TUESDAY 24.11.2015</b>	
<b>B.Sc. I Semester</b>	<b>B.Sc. II Semester</b>
<b>CHEMISTRY</b>	<b>CHEMISTRY</b>
60 Organic & Inorganic Chemistry – I	62 Organic & Inorganic Chemistry – III
<b>B.Sc. VI Semester</b>	<b>B.Sc. V Semester</b>
<b>CHEMISTRY</b>	<b>CHEMISTRY</b>
61 Physical Chemistry + Inorganic Chemistry – XV	63 Organic Chemistry + Inorganic Chemistry – XII
<b>WEDNESDAY 02.12.2015</b>	
<b>B.Sc. I Semester</b>	<b>B.Sc. II Semester</b>
<b>CHEMISTRY</b>	<b>CHEMISTRY</b>
64 Physical & Inorganic Chemistry – II	67 Physical & Inorganic Chemistry – IV
<b>B.Sc. VI Semester</b>	<b>B.Sc. V Semester</b>
<b>PHYSICS</b>	<b>CHEMISTRY</b>
65 Atomic Molecular & Nuclear Physics (PHY304) - XIV	68 Physical Chemistry + Inorganic Chemistry – XIII

**ZOOLOGY**

66 Ethnology, Biometry & Bioinformatics -  
XIV I

**THURSDAY 03.12.2015**

<b>B.Sc. I Semester</b> <b>BIOPHYSICS</b>	<b>B.Sc. II Semester</b> <b>BIOPHYSICS</b>
69 Molecular Biophysics – I	73 Biostatistics and Computer Fundamentals –III
<b>B.Sc. VI Semester</b> <b>PHYSICS</b>	<b>B.Sc. V Semester</b> <b>PHYSICS</b>
70 A Digital & Communication Electronics (PHY305) – XV OR	74 Quantum Mechanics (PHY-302) – XII
71 B Solar Energy (PHY306) - XV	<b>ZOOLOGY</b> 75 Ecology & Zoogeography- XII
<b>ZOOLOGY</b>	
72 A Pesiculture – XV B Applied Parasitology – II C Entomolgy – II D Environmental Biology – II	

**FRIDAY 04.12.2015**

<b>B.Sc. I Semester</b> <b>BIOPHYSICS</b>	<b>B.Sc. II Semester</b> <b>BIOPHYSICS</b>
76 Cellular Biophysics – II	90 Basic Biophysical Techniques – IV
<b>B.Sc.VI Semester</b> <b>COMPUTER APPLICATION</b>	<b>B.Sc. V Semester</b> <b>PHYSICS</b>
77 Relational Database Management System & MQL – II - XIV	91 Solid State Physics (Old) – XIII 92 Solid State Physics –(New) - XIII OR
<b>GEOLOGY</b>	93 Astrophysics (PHY-303) – XIII
78 Stratigraphy of India	<b>ZOOLOGY</b>
<b>ANALYTICAL CHEMISTRY</b>	94 Applied Zoology – XIII
79 Modern Techniques of Chemical Analysis – II (CHAC-303) – XIV	a. Aquaculture b. Parasitiology (Parasitic Protozoa & Platy helminthes) c. (Entomology - I) d. Environmental Biology
<b>AGROCHEMICAL &amp; FERTILIZER</b>	
80 Preservation of Fruits & Vegetables (CHAG-303) – XIV	
<b>ENVIRONMENTAL SCIENCE</b>	
81 Waster Water Engineering (Env-304)- XIV	

**HORTCULTURE**

- 82 Post Harvest & Handling of Horticultural Corps – XIV
- FISHERY SCIENCE**
- 83 Aquarium keeping & Fish Genetics – XIV

**DYES AND DRUGS**

- 84 Chemistry of Synthetic Dyes – II– XIV

**INDUSTRIAL CHEMISTRY**

- 85 Unit Process in Inorganic synthesis Drug Dyes & Industrial safety

**DAIRY SCIENCE**

- 86 Market Milk Processing - XIV

**AGRICULTURAL MICROBIOLOGY**

- 87 Recombinant DNA technology & Genetics Engineering - XIV

**BIOTECHNOLOGY**

- 88 Plant Tran genesis – XIV

**ELECTRONICS**

- 89 Communication Electronics – II – XIV

**SATURDAY 05.12.2015****B.Sc. I Semester****PHYSICS**

- 95 Mechanics and Properties of Matter (Phy- 111) – I

**ZOOLOGY**

- 96 Life and Diversity of Animals (I)(Non-Chordata) – I

**B.Sc.V I Semester****COMPUTER APPLICATION**

- 97 Visual Basic – II – XV OR  
98 Programming in JAVA – I – XV

**GEOLOGY**

- 99 Economic Geology & Prospecting – XV

**B.Sc. II Semester****PHYSICS**

- 113 Heat and Thermodynamic – III

**ZOOLOGY**

- 114 Life and Diversity of Animals (II) – III

**B.Sc. V Semester****COMPUTER APPLICATION**

- 115 Relational Database Management System & SQL-I - XII

**GEOLOGY**

- 116 Geomorphology & Photo geology – XII

**ANALYTICAL CHEMISTRY**

- 117 Modern Techniques of Chemical Analysis – I (CHAC-301) – XII

	<b>ANALYTICAL CHEMISTRY</b>		<b>AGROCHEMICAL &amp; FERTILIZER</b>
100	Applied Analytical Chemistry –II– XV	118	Agronomy & Seed Technology (CHAG-301) – XII
	<b>AGROCHEMICALS &amp; FERTILIZERS</b>		<b>ENVIRONMENTAL SCIENCE</b>
101	Agricultural Technology (CHAG-304) – XV	119	Water Pollution & Waste
		120	Water Analysis (Env-301) – XII
	<b>ENVIRONMENTAL SCIENCE</b>		<b>HORTICULTURE</b>
102	Environmental Instrumentation – II (Env-305) XV OR	121	Production Technology of Spices Condiments Crops – XII
103	Environmental Management (Env-306) – XV		<b>FISHERY SCIENCE</b>
		122	Indian Fisheries and Mericulture – XII
	<b>HORTICULTURE</b>		<b>DYES AND DRUGS</b>
104	Production Technology of Arid, Minor & Plantation Crops – XV	123	Chemistry of Synthetic Dyes-I – XII
	<b>FISHERY SCIENCES</b>		<b>INDUSTRIAL CHEMISTRY</b>
105	Fish Economics, Marketing, Co-operative & Extension – XV	124	Unit Process in Organic Synthesis – XII
	<b>DYES &amp; DRUGS</b>		<b>DAIRY SCIENCE</b>
106	Pharmaceutical Dosage Forms & Unit Operations - XV	125	Market Milk Industry – XII
	<b>INDUSTRIAL CHEMISTRY</b>		<b>AGRICULTURAL MICROBIOLOGY</b>
107	Spectroscopy & Chromatography plant utilities	126	Genetics and Molecular Biology – XII
	<b>DAIRY SCIENCE</b>		<b>BIOTECHNOLOGY</b>
108	Dairy Technology – II- XV	127	Plants Tissue Culture – XII
	<b>AGRICULTURAL MICROBIOLOGY</b>		<b>ELECTRONICS</b>
109	Agricultural Biotechnology - XV	128	Communication Electronics – I – XII
	<b>BIOTECHNOLOGY</b>		
110	Bioresource Technology – XV		
	<b>ELECTRONICS</b>		
111	Power Electronics – II – XV		
	OR		
112	8051 Microcontroller & Embedded Systems - XV		

**MONDAY 07.12.2015**

<b>B.Sc. I Semester</b> <b>PHYSICS</b> 129 Mathematical Methods in Physics(Phy-112)-II	<b>B.Sc. II Semester</b> <b>PHYSICS</b> 131 Electricity & Magnetism – IV
<b>ZOOLOGY</b> 130 Cell Biology – II	<b>ZOOLOGY</b> 132 Developmental Biology – IV
	<b>B.Sc. V Semester</b> <b>COMPUTER APPLICATION</b> 133 Programming in Visual Basic-I – XIII OR 134 Programming in JAVA-I – XIII
	<b>GEOLOGY</b> 135 Engineering Geology & Hydrogeology – XIII
	<b>ANALYTICAL CHEMISTRY</b> 136 Applied Analytical Chemistry-I – XIII
	<b>AGROCHEMICAL &amp; FERTILIZERS</b> 137 Horticulture (CHAG-302) – XIII
	<b>ENVIRONMENTAL SCIENCE</b> 138 Environmental Instrumentation (Env-302)-I – XIII              OR 139 Environmental Education & Biodiversity (Env-303) – XIII
	<b>HORTICULTURE</b> 140 Production Technology of Medicinal & Aromatic Plants – XIII
	<b>FISHERY SCIENCE</b> 141 Aquaculture technique & Fish Nutrition – XIII
	<b>DYES &amp; DRUGS</b> 142 Chemistry of Synthetic Drugs – XIII

	<b>INDUSTRIAL CHEMISTRY</b>
143	Process Equipment Design & Process Instrumentation – XIII
	<b>DAIRY SCIENCE</b>
144	Dairy Technology – I – XIII
	<b>AGRICULTURAL MICROBIOLOGY</b>
145	Industrial Biotechnology - XIII
	<b>BIOTECHNOLOGY</b>
146	Environmental Biotechnology – XIII
	<b>ELECTRONICS</b>
147	Power Electronics-I – XIII OR
148	Introduction to Microcontroller (8051) - XIII

### **TUESDAY 08.12.2015**

	<b>B.Sc. I Semester</b>
	<b>COMPUTER APPLICATION</b>
149	Fundamentals of Computer – I
	<b>GEOLOGY</b>
150	Earth as a Planet and Dynamic Geology – I
	<b>ANALYTICAL CHEMISTRY</b>
151	General Concepts of Analytical Chemistry (I) – I
	<b>AGROCHEMICAL AND FERTILIZERS</b>
152	Introductory Soil Science – I
	<b>ENVIRONMENTAL SCIENCE</b>
153	Fundamental of Environmental Science – I (ENV-101)
	<b>HORTICULTURE</b>
154	Fundamentals of Horticulture-I
	<b>FISHERY SCIENCE</b>
155	Taxonomy and General Topics –I
	<b>B.Sc. II Semester</b>
	<b>COMPUTER APPLICATION</b>
162	Programming With Basic – III
	<b>GEOLOGY</b>
163	Physical Geology and Paleontology – III
	<b>ANALYTICAL CHEMISTRY</b>
164	General Concepts of Analytical Chemistry (II) – III
	<b>AGROCHEMICAL AND FERTILIZERS</b>
165	Soil Chemistry (II) – III
	<b>ENVIRONMENTAL SCIENCE</b>
166	Concepts in Ecosystem – III (Env. 103)
	<b>HORTICULTURE</b>
167	Production Technology of Tropical and Sub-Tropical Fruit Crops – III
	<b>FISHERY SCIENCE</b>
168	Aquaculture – III

<b>DYES AND DRUGS</b>	<b>DYES AND DRUGS</b>
156 Introduction to Dyes-I	169 Introduction to Dye Intermediates – III
<b>INDUSTRIAL CHEMISTRY</b>	<b>INDUSTRIAL CHEMISTRY</b>
157 Unit Operations (I) – I	170 Unit Operations (II) – III
<b>DAIRY SCIENCE</b>	<b>DAIRY SCIENCE</b>
158 Dairy Farming in India – I	171 Farm Animal Management – III
<b>AGRICULTURAL MICROBIOLOGY</b>	<b>AGRICULTURAL MICROBIOLOGY</b>
159 Agricultural Introductory Microbiology – I	172 Cell Biology and Microbial Growth – III
<b>BIOTECHNOLOGY</b>	<b>BIOTECHNOLOGY</b>
160 Cell Biology –I (VBT-101)	173 Math Stat & Computers – III (VBT-103)
<b>ELECTRONICS</b>	
161 Electronics Components and Circuit Analysis –I	
	<b>INDUSTRIAL MICROBIOLOGY</b>
	174 Paper –III
	<b>ELECTRONICS</b>
	175 Semiconductor Devices and Instrumentation – III

### WEDNESDAY 09.12.2015

<b>B.Sc. I Semester</b>	<b>B.Sc. II Semester</b>
<b>COMPUTER APPLICATION</b>	<b>COMPUTER APPLICATION</b>
176 Operating System Concept – II	190 Date Structure – IV
<b>GEOLOGY</b>	<b>GEOLOGY</b>
177 Mineralogy, Crystallography – II	191 Igneous, Sedimentary and Metamorphic Petrology – IV
<b>ANALYTICAL CHEMISTRY</b>	<b>ANALYTICAL CHEMISTRY</b>
178 Basic Analytical Chemistry (II) – II	192 Basic Anbalytical Chemistry (II) – IV
<b>AGROCHEMICAL AND FERTILIZERS</b>	<b>AGROCHEMICAL AND FERTILIZERS</b>
179 Agricultural Biochemistry (I) – II	193 Food & Nutrition – IV
<b>ENVIRONMENTAL SCIENCE</b>	<b>ENVIRONMENTAL SCIENCE</b>
180 Fresh Water : Sources & Uses-II	194 Fresh Water Treatment – IV (Env.104)

	<b>HORTICULTURE</b>		
181	Propagating and nursery Management – II	195	<b>HORTICULTURE</b>
	<b>FISHERY SCIENCE</b>		Production Technology of Arid, Minor and Plantation Fruit Crops – IV
182	Type Study Wallago Attu (Fresh Water Shark )-II	196	<b>FISHERY SCIENCE</b>
	<b>DYES AND DRUGS</b>		Fish Seed Production Technology – IV
183	Introduction to Drugs –II		<b>DYES AND DRUGS</b>
	<b>INDUSTRIAL CHEMISTRY</b>	197	Dosage Forms, Purity of Drugs and Biostatistics – IV
184	Process Calculations (I) – II	198	<b>INDUSTRIAL CHEMISTRY</b>
	<b>DAIRY SCIENCE</b>		Process Calculations (II) – IV
185	Sheep, Goat, Poultry and Pig Farming-II	199	<b>DAIRY SCIENCE</b>
	<b>AGRICULTURAL MICROBIOLOGY</b>	200	Farm Animal Health Management – IV
186	Bio instrumentation and Microbial technique – II		<b>AGRICULTURAL MICROBIOLOGY</b>
	<b>BIOTECHNOLOGY</b>	201	Basic Microbiology Biochemistry – IV
187	Microbiology –II (VBT-102)		<b>BIOTECHNOLOGY</b>
	<b>ELECTRONICS</b>	202	Genetics & Biochemistry – IV (VBT-104)
188	Fundamentals of Digital Electronics – II		<b>INDUSTRIAL MICROBIOLOGY</b>
	<b>B.Sc. VI Semester</b>	202	Paper –IV
	<b>BIOPHYSICS</b>		<b>ELECTRONICS</b>
189	Radiation Biophysics - XIV	203	Combinational and Sequential Logic Circuits– IV

### THURSDAY 10.12.2015

	<b>B.Sc. I Semester</b>		<b>B.Sc. II Semester</b>
	<b>INFORMATION TECHNOLOGY</b>		<b>INFORMATION TECHNOLOGY</b>
204	Fundamentals of Information Technology –I	206	DOS and Windows Operating System – III
	<b>B.Sc. VI Semester</b>		<b>B.Sc. V Semester</b>
	<b>BIOPHYSICS</b>		<b>BIO PHYSICS</b>
205	Medical Biophysics – XV	207	Immunology – XII

**FRIDAY 11.12.2015**

<b>B.Sc. I Semester</b> <b>INFORMATION TECHNOLOGY</b> 208 Web page Design – II	<b>B.Sc. II Semester</b> <b>INFORMATION TECHNOLOGY</b> 210 Programming in C – IV
<b>B.Sc. VI Semester</b> <b>COMPUTER SCIENCE</b> 209 Programming in Visual Basic - XIV	<b>B.Sc. V Semester</b> <b>BIO PHYSICS</b> 211 Bio Informatics & Structural Biology - XIII

**SATURDAY 12.12.2015**

<b>B.Sc. I Semester</b> <b>COMPUTER SCIENCE</b> 212 Fundamentals of Computer Organization – I	<b>B.Sc. II Semester</b> <b>COMPUTER SCIENCE</b> 215 Programming in C – III
<b>B.Sc. VI Semester</b> <b>COMPUTER SCIENCE</b> 213 Computer Network – XV OR 214 Unix Shell Programming - XV	<b>B.Sc. V Semester</b> <b>INFORMATION TECHNOLOGY</b> 216 Advance Java - XII

**MONDAY 14.12.2015**

<b>B.Sc. I Semester</b> <b>COMPUTER SCIENCE</b> 217 Fundamental of Computer Programming– II	<b>B.Sc. II Semester</b> <b>COMPUTER SCIENCE</b> 219 Data Structures – IV
<b>B.Sc. VI Semester</b> <b>INFORMATION TECHNOLOGY</b> 218 Management Information System - XIV	<b>B.Sc. V Semester</b> <b>INFORMATION TECHNOLOGY</b> 220 Oracle 10g PL/SQL - XIII

**TUESDAY 15.12.2015**

<b>B.Sc. VI Semester</b> <b>INFORMATION TECHNOLOGY</b> 221 Web Development using PHP - XV	<b>B.Sc. V Semester</b> <b>COMPUTER SCIENCE</b> 222 Software Engineering - XII
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**WEDNESDAY 16.12.2015**

223	<b>B.Sc. V Semester</b> <b>COMPUTER SCIENCE</b> Relational Database Management System – XIII OR
224	E-Commerce - XIII

CONTROLLER OF EXAMINATIONS