Shree H. V. P. Mandal's

Degree College of Physical Education, Amravati.

(An Autonomous College)

FACULTY OF SCIENCE & TECHNOLOGY

(SCIENCE GROUP)

CURRICULUM SCHEME

OF

BACHELOR OF SCIENCE

(Computer Science, Electronics, Statistics)

(Credit Based Semester Pattern)

Program Code: BSC

Introduced from the Session 2015-2016

Programme Structure for BSc

1. **Programme Name in Complete**: Bachelor of Science (Computer Science)

2. **Programme Name in Short**: B.Sc. (Comp. Sci.)

3. **Nature of the Programme (Certificate / Diploma/ UG Degree / PG Diploma / PG Degree):** UG Degree

4. **Objective:** The Programme Educational Objectives of B.Sc. programme are:
   1. To impart the students, latest comprehensive and skill based knowledge with equal emphasis on theory and practice in the field of computers, electronics and statistics.
   2. To provide students with sound academic base from which an advanced career in Computer Application can be developed.
   3. To prepare students with conceptual grounding in computer usage as well as its practical business in order to craft the students as a versatile computer professional who can provide service in almost all fields of computer application in industry, government, academia, research, entrepreneurial pursuit and consulting firms.
   4. To teach the basic principles of Statistics to the students so that they are able to apply statistical methods to solve problems in a particular field of study.
   5. To provide basics as well as few advanced electronic course knowledge along with practical implementation to inculcate skills among students to develop circuit models for elementary electronic components.
   6. To prepare students to undertake higher studies in computer science, statistics and electronics.
   7. To prepare graduates who will contribute to society as broadly educated, expressive, ethical and responsible citizens with proven expertise.
   8. To prepare graduates who will achieve peer-recognition; as an individual or in a team; through demonstration of good analytical, design and implementation skills.
   9.

5. **Duration of the Programme :** Three Years; Full Time

6. **Examination Pattern (Annual/Semester):** Semester

7. **If Semester pattern then Number of Semesters:** Six Semester
8. **Marking Scheme (Percentage/Credit):** Credit

9. **Eligibility:** Student who passed 12th standard Examination with science group OR with vocational stream and one language OR students who passed 12th standard examination (M.C.V.C. Stream) with technical trades.

10. **Total working days:** Per annual session: 200 days
    Per Semester: 100 days

11. **Teaching and Examination Scheme:** As prescribed in the curriculum design by the Subject Board and approved by Academic Board time to time.

12. Admission rules/conditions for every year/semester.

Sr. No.	Programme and Level	Type of Admission	Eligibility	Remark
1	B.Sc. First Year Sem. I	Direct Admission	Student who passed 12th standard Examination with science group OR with vocational stream and one language OR students who passed 12th standard examination (M.C.V.C. Stream) with technical trades.	
2	B.Sc. First Year Sem. II	Natural Growth	----	
3	B.Sc. Second Year Sem. III	Natural Growth	Passed Minimum 50% of total passing heads of FYBSc Semester I and Semester II	
4	B.Sc. Second Year Sem. IV	Natural Growth	----	
5	B.Sc. Third Year Sem. V	Natural Growth	Clearly Passed in FYBSc and Passed Minimum 50% of total passing heads of SYBSc Semester III and Semester IV	
6	B.Sc. Third Year Sem. VI	Natural Growth	----	

13. Programme Outcomes: The following Programme Outcomes are attained after completion of this UG programme:

PO1	Students will contribute to society as broadly educated, expressive, ethical and responsible citizens with proven expertise for working as an individual or in multidisciplinary teams with positive attitude.
PO2	Create awareness and attitude of concern about environmental problems.
PO3	Students can communicate efficiently to deliver their knowledge effectively.
PO4	Able to pursue advanced education in relevant subjects.

14. Programme Specific Outcomes (PSO): BSc (Computer Science) programme has been designed to prepare graduates for attaining the following program outcomes:

PSO1	Students acquire latest comprehensive and skilled based knowledge with equal emphasis on theory & practical in the field of IT, electronics and statistics.
PSO2	Able to apply the knowledge for solving real life problems using the expertise in the field of IT, electronics and statistics.

Curriculum Scheme of F.Y.B.Sc. (Comp. Sci.) Semester I

SR. NO.	SUBJECT CODE	SUBJECT SHORT NAME	NAME OF SUBJECT	TEACHING SCHEME (Lectures/week)			CREDIT	EXAMINATION SCHEME									
								THEORY				PRACTICAL					GRAND TOTAL
				Th.	Pr.	Total/ Week		Duration of Paper (Hrs)	MAX. MARKS			Duration of Exam (Hrs.)	MAX. MARKS				
									Theory Exam	College Asses.	Total		Pract.	Viva	College Asses.	Total	
1	15BSC101	ENG-I	ENGLISH-I	3	--	3	2	3	40	10	50	--	--		--	--	
2	15BSC102	MAR-I / HIN-I/ SE-I	MARATHI-I / HINDI -I/ SUPPLIMENTARY ENGLISH-I	3	--	3	2	3	40	10	50	--	--		--	--	
4	15BSC103	FC	COMPUTER SCIENCE-I : FUNDAMENTALS OF COMPUTER	4	--	4	3	3	40	10	50	--	--		--	--	
5	15BSC104	CP	COMPUTER SCIENCE-II : C PROGRAMMING	4	--	4	3	3	40	10	50	--	--		--	--	
7	15BSC105	LCS-I	LABORATORY OF COMPUTER SCIENCE-I	--	6	6	3	--				3	20	10	20	50	
8	15BSC106	BS	STATISTICS-I: BASIC STATISTICS	4	--	4	3	3	40	10	50	--	--		--	--	
9	15BSC107	PTA	STATISTICS-II: PROBABILITY AND THEORY OF ATTRIBUTES	4	--	4	3	3	40	10	50	--	--		--	--	
10	15BSC108	LS-I	LABORATORY OF STATISTICS-I	--	6	6	3	--				3	20	10	20	50	
11	15BSC109	EDCT	ELECTRONICS-I: ELECTRONIC DEVICES AND CIRCUIT THEORY	4	--	4	3	3	40	10	50	--	--		--	--	
12	15BSC110	FDT	ELECTRONICS-II : FUNDAMENTAL OF DIGITAL TECHNIQUE	4	--	4	3	3	40	10	50	--	--		--	--	
13	15BSC111	LE-I	LABORATORY OF ELECTRONICS-I	--	6	6	3	--	--	--	--	3	20	10	20	50	
			TOTAL	**30**	**18**	**48**	**31**				**400**					**150**	**550**

Curriculum Scheme of F.Y.B.Sc. (Comp. Sci.) Semester II

SR. NO.	SUBJECT CODE	SUBJECT SHORT NAME	NAME OF SUBJECT	TEACHING SCHEME (Lectures/week)			CREDIT	EXAMINATION SCHEME									
								THEORY				PRACTICAL					GRAND TOTAL
				Th.	Pr.	Total/ Week		Duration of Paper (Hrs)	MAX. MARKS			Duration of Exam (Hrs)	MAX. MARKS				
									Theory Exam	College Asses.	Total		Pract.	Viva	College Asses.	Total	
1	15BSC112	ENG-II	ENGLISH-II	3	--	3	2	3	40	10	50	--	--		--	--	
2	15BSC113	MAR-II / HIN-II / SE-II	MARATHI-II/ HINDI-II / SUPPLIMENTARY ENGLISH-II	3	--	3	2	3	40	10	50	--	--		--	--	
4	15BSC114	WT	COMPUTER SCIENCE-III: WEB TECHNOLOGY	4	--	4	3	3	40	10	50	--	--		--	--	
5	15BSC115	CN	COMPUTER SCIENCE-IV : COMPUTER NETWORKING	4	--	4	3	3	40	10	50	--	--		--	--	
7	15BSC116	LCS-II	LABORATORY OF COMPUTER SCIENCE-II	--	6	6	3	--				3	20	10	20	50	
8	15BSC117	SDS	STATISTICS-III: STUDY OF SOME DISCRIPTIVE STATISTICS	4	--	4	3	3	40	10	50	--	--		--	--	
9	15BSC118	PD	STATISTICS-IV: PROBABILITY DISTRIBUTION	4	--	4	3	3	40	10	50	--	--		--	--	
10	15BSC119	LS-II	LABORATORY OF STATISTICS-II	--	6	6	3	--				3	20	10	20	50	
11	15BSC120	SDMI	ELECTRONICS-III: SWITCHING DEVICES AND MEASURING INSTRUMENTATION	4	--	4	3	3	40	10	50	--	--		--	--	
12	15BSC121	ADT	ELECTRONICS-IV: ADVANCED DIGITAL TECHNIQUE	4	--	4	3	3	40	10	50	--	--		--	--	
13	15BSC122	LE-II	LABORATORY OF ELECTRONICS-II	--	6	6	3	--	--	--	--	3	20	10	20	50	
			TOTAL	**30**	**18**	**48**	**30**				**400**					**150**	**550**

Curriculum Scheme of Second Year B.Sc. (Comp. Sci.) Semester III

SR. NO.	SUBJECT CODE	SUBJECT SHORT NAME	NAME OF SUBJECT	TEACHING SCHEME (Lectures/week)			CREDIT	EXAMINATION SCHEME									
								THEORY				PRACTICAL					Grand Total
								Duration of Paper (Hrs)	MAX. MARKS			Duration of Exam (Hrs)	MAX. MARKS				
				Th.	Pr.	Total/ Week			Theory Exam	College Asses.	Total		Pract.	Viva	College Asses.	Total	
1	15BSC201	DS	COMPUTER SCIENCE:DATA STRUCTURES	4	--	4	3	3	40	10	50	--	--		--	--	
2	15BSC202	VB.NET	COMPUTER SCIENCE II: VISUAL BASIC.NET	4	--	4	3	3	40	10	50	--	--		--	--	
3	15BSC203	LCS-I	LABORATORY OF COMPUTER SCIENCE-I	--	6	6	3	--	--	--	--	3	20	10	20	50	
4	15BSC204	TE	STATISTICS I: THEORY OF ESTIMATION	4	--	4	3	3	40	10	50	--	--		--	--	
5	15BSC205	VS	STATISTICS II: VITAL STATISTICS	4	--	4	3	3	40	10	50	--	--		--	--	
6	15BSC206	LS-I	LABORATORY OF STATISTICS-I	--	6	6	3	--	--	--	--	3	20	10	20	50	
7	15BSC207	SOPS	ELECTRONICS I: STUDY OF OPAMP AND POWER SUPPLY	4	--	4	3	3	40	10	50	--	--		--	--	
8	15BSC208	ET	ELECTRONICS II: ELECTRONIC INSTRUMENTATION	4	--	4	3	3	40	10	50	--	--		--	--	
9	15BSC209	LE-I	LABORATORY OF ELECTRONICS-I	--	6	6	3	--	--	--	--	3	20	10	20	50	
10	15BSC210	EVS	ENVIRONMENTAL STUDY	3	--	3	2	3	--	50	50	--	--		--	--	
			TOTAL	**27**	**18**	**45**	**29**				**350**					**150**	**500**

Curriculum Scheme of Second Year B.Sc. (Comp. Sci.) Semester IV

SR. NO.	SUBJECT CODE	SUBJECT SHORT NAME	NAME OF SUBJECT	TEACHING SCHEME (Lectures/week)			CREDIT	EXAMINATION SCHEME								GRAND TOTAL
								THEORY				PRACTICAL				
				Th.	Pr.	Total/ Week		Duration of Paper (Hrs)	MAX. MARKS			Duration of Exam (Hrs)	MAX. MARKS			
									Theory Exam	College Asses.	Total		Pract.	College Asses.	Total	
1	15BSC211	DBMS	COMPUTER SCIENCE I: DATABASE MANAGEMENT SYSTEMS	4	--	4	3	3	40	10	50	--	--	--	--	
2	15BSC212	OOP	COMPUTER SCIENCE II: OBJECT ORIENTED PROGRAMMING	4	--	4	3	3	40	10	50	--	--	--	--	
3	15BSC213	LCS-II	LABORATORY OF COMPUTER SCIENCE-II	--	6	6	3	--	--	--	--	3	30	20	50	
4	15BSC214	SI	STATISTICS I: STATISTICAL INFERENCE	4	--	4	3	3	40	10	50	--	--	--	--	
5	15BSC215	ES	STATISTICS II: ECONOMIC STATISTICS	4	--	4	3	3	40	10	50	--	--	--	--	
6	15BSC216	LS-II	LABORATORY OF STATISTICS-II	--	6	6	3	--	--	--	--	3	30	20	50	
7	15BSC217	SAO	ELECTRONICS I: STUDY OF AMPLIFIERS AND OSCILLATORS	4	--	4	3	3	40	10	50	--	--	--	--	
8	15BSC218	AC	ELECTRONICS II: ANALOG COMMUNICATION	4	--	4	3	3	40	10	50	--	--	--	--	
9	15BSC219	LE-II	LABORATORY OF ELECTRONICS-II	--	6	6	3	--	--	--	--	3	30	20	50	
10	15BSC220	DMng	DISASTER MANAGEMENT	3		3	2	--	--	50	50	3	--	--	--	
			TOTAL	**27**	**18**	**45**	**29**				**350**				**150**	**500**

Curriculum Scheme of Third Year B.Sc. (Comp. Sci.) Semester V

SR. NO.	SUBJECT CODE	SUBJECT SHORT NAME	NAME OF SUBJECT	TEACHING SCHEME (Lectures/week)			CREDIT	EXAMINATION SCHEME									GRAND TOTAL
								THEORY				PRACTICAL					
				Th.	Pr.	Total/ Week		Duration of Paper (Hrs)	MAX. MARKS			Duration of Exam (Hrs)	MAX. MARKS				
									Theory Exam	College Asses.	Total		Pract.	Viva	College Asses.	Total	
1	15BSC301	SAD	COMPUTER SCIENCE I: SYSTEM ANALYSIS DESIGN	4	--	4	3	3	40	10	50	--	--		--	--	
2	15BSC302	OS	COMPUTER SCIENCE II: OPERATING SYSTEM	4	--	4	3	3	40	10	50	--	--		--	--	
3	15BSC303	LCS-I	LABORATORY OF COMPUTER SCIENCE-I	--	6	6	3		--	--	--	3	20	10	20	50	
4	15BSC304	SQC	STATISTICS I: STATISTICAL QUALITY CONTROL	4	--	4	3	3	40	10	50	--	--		--	--	
5	15BSC305	SSA	STATISTICS II: SAMPLE SURVEY ANALYSIS	4		4	3	3	40	10	50	--	--		--	--	
6	15BSC306	LS-I	LABORATORY OF STATISTICS-I	--	6	6	3	--	--	--	--	3	20	10	20	50	
7	15BSC307	8085µP	ELECTRONICS I: THE 8085 MICROPROCESSOR	4	--	4	3	3	40	10	50	--	--		--	--	
8	15BSC308	DC	ELECTRONICS II: DIGITAL COMMUNICATION	4	--	4	3	3	40	10	50	--	--		--	--	
9	15BSC309	LE-I	LABORATORY OF ELECTRONICS-I	--	6	6	3	--	--	--	--	3	20	10	20	50	
10	15BSC310	SEM	SEMINAR	--	6	6	3	--	--	--	--	3	30		20	50	
			TOTAL	**24**	**24**	**48**	**30**				**300**					**200**	**500**

Curriculum Scheme of Third Year B.Sc. (Comp. Sci.) Semester VI

SR. NO.	SUBJECT CODE	SUBJECT SHORT NAME	NAME OF SUBJECT	TEACHING SCHEME (Lectures/week)			CREDIT	EXAMINATION SCHEME									GRAND TOTAL
								THEORY				PRACTICAL					
				Th.	Pr.	Total/ Week		Duration of Paper (Hrs)	MAX. MARKS			Duration of Exam (Hrs)	MAX. MARKS				
									Theory Exam	College Asses.	Total		Pract.	Viva	College Asses.	Total	
1	15BSC311	JAVA	COMPUTER SCIENCE I: PROGRAMMING IN JAVA	4	--	4	3	3	40	10	50	--	--		--	--	
2	15BSC312	ELECTIVE: MC NS ST	COMPUTER SCIENCE II: ELECTIVE: MOBILE COMPUTING NETWORK SECURITY SOFTWARE ENGINEERING & TESTING	4	--	4	3	3	40	10	50	--	--		--	--	
3	15BSC313	LCS-II	LABORATORY OF COMPUTER SCIENCE-II	--	6	6	3		--	--	--	3	20	10	20	50	
4	15BSC314	OR	STATISTICS I: OPERATION RESEARCH	4	--	4	3	3	40	10	50	--	--		--	--	
5	15BSC315	DE	STATISTICS II: DESIGN OF EXPERIMENT	4		4	3	3	40	10	50	--	--		--	--	
6	15BSC316	LS-II	LABORATORY OF STATISTICS-II	--	6	6	3	--	--	--	--	3	20	10	20	50	
7	15BSC317	8086µp	ELECTRONICS I: THE 8086 MICROPROCESSOR	4	--	4	3	3	40	10	50	--	--		--	--	
8	15BSC318	µc8051	ELECTRONICS II: MICROCONTROLLER 8051	4	--	4	3	3	40	10	50	--	--		--	--	
9	15BSC319	LE-II	LABORATORY OF ELECTRONICS-II	--	6	6	3	--	--	--	--	3	20		10	50	
10	15BSC320	PROJ	PROJECT	--	6	6	3	--	--	--	--	3	20	10	20	50	
			TOTAL	**24**	**24**	**48**	**30**				**300**					**200**	**500**