

# Vishwalata Arts, Commerce & Science College

(College Code : 892)

BHATGAON, Tal. Yeola - 423 401 Dist. Nashik ■ Hello : (02559) 225102, Fax : 225103

Ref. No.

Date : 25 May 2021

## Key Indicator 1.2-Academic Flexibility

### 1.2.1.1. Number of Programmes in which CBCS/ Elective course system implemented.

Sr.No.	File Description
1	Elective Course
2	CBCS Course



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# **Elective Course**

1.2.2 Percentage of programs in which Choice Based Credit System (CBCS)/elective course system has been adopted

programs adopting CBCS course system	programs adopting elective course system	Program Code	Year of imlementation of CBCS / elective course system
Name of all programs adopting elective	Name of all programs adopting elective course	Name of elective course	Year of implementation of Elective course system
B.Com	FYBcom		2013-14
	(1 or 2)	1) Buisness Mathematics and Statistics	
	(3 or 4)	2) Computer Concept Programming	
		3) Additional English	
		4) Marathi	
	SYBCom		2014-15
	(1 or 2 or 3)	1) Buisness Administration-I	
		2) Cost and work accounting-I	
		3) Marketing-I	
TYBCom		2015-16	
(1 or 2 or 3)	1) Buisness Administration-II		
	2) Cost and work accounting-II		
	3) Marketing management-II		
BSc	SYBSc		2015-16
	(1 or 2)	1)Discrete Mathematics	
		2)Laplace Transformation and Fourier Series	
	(1 or 2)	1)Electronics-I	
		2)Electronics Instrumentation	
	TYBSc(Chemistry)		2016-17
	(1 or 2)	1)Environmental and green chemistry	
		2)Nuclear chemistry	
	TYBSc(Electronics)		
	(1 or 2)	1)Fibre optic communicaion	
		2)Electronics product design and enterpreneurship	
	TYBSc(Electronics)		
	(1 or 2)	1)Industrial Automation	
2)Consumer Electronics			
TYBSc(Mathematics)			
Any 2 out of 6	1)Operation Research		
	2)Dynamic system		
	3)C Programming I		
	4)Financial Mathematics		
	5)Lattice Theory		

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		6)Number Theory	
	TYBSc(Mathematics)		
	Any 2 out of 6	1)Optimization Technique	
		2)Differential Geometry	
		3)C ProgrammingII	
		4)Graph theory	
		5)Lebesgue Integration	
		6)Computational Geometry	



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# **CBCS COURSE**

1.2.1. Number of Programmes in which CBCS/ Elective course system implemented.

Programme Code	Programme name	Year of Introduced	Status of implementation of CBCS / elective course system (Yes/No)	Year of implementation of CBCS / elective course system
UG	Bachelor Of Commerce(B.Com )	2019-20	Yes	2019-20
UG	Bachelor of Business Administration(BBA)	2019-20	Yes	2019-20
UG	Bachelor Of Computer Science B.Sc(Comp.Science)	2019-20	Yes	2019-20
UG	Bachelor Of Computer Application (B.C.A)	2019-20	Yes	2019-20
UG	Bachelor Of Business Management (BBM)(IB)	2019-20	Yes	2019-20
UG	Bachelor Of Science (B.Sc)	2019-20	Yes	2019-20
PG	Master Of Commerce(M.Com)	2019-20	Yes	2019-20
PG	M.Sc..(Computer Science)	2019-20	Yes	2019-20



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## 1.2 Academic Flexibility

### 1.2.1 Percentage of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented

## INDEX

Sr. No	Topic Name	Year of Introduced	Page.No.
1	Bachelor Of Commerce(B.Com )	2019-20	2-8
2	Bachelor of Business Administration(BBA)	2019-20	9-13
3	Bachelor Of Computer Science B.Sc(Comp.Science)	2019-20	14-18.
4	Bachelor Of Computer Application (B.C.A)	2019-20	19-24
5	Bachelor Of Business Management (BBM)(IB)	2019-20	22-27
6	Bachelor Of Science (B.Sc)	2019-20	28-44
7	Master Of Commerce(M.Com)	2019-20	45-50
8	M.Sc..(Computer Science)	2019-20	51-54



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**Savitribai Phule Pune University**  
**Faculty of Commerce & Management**  
**Structure for Three - Year**

**B.Com. Degree course (Choice Based Credit System)**  
**(2019 Pattern)**

**With effect from June 2019**

**Preamble:-**

Commerce education is that area of education, which develops the required knowledge, skills and attitudes for the handling of Trade, Commerce and Industry. Commerce education is entirely different from other disciplines. Hence, it must charter Course routes to service the aspirations of the nation. To meet the growing needs of the business society, there is greater demand for sound development of commerce education. The relevance of commerce education has become more imperative, this means a marked change in the way commerce and management education is perceived in India. The Commerce education is dedicated to developing tomorrow's leaders, managers, and professionals.

The existing education system of imparting commerce education needs to be more dynamic to incorporate all local and global changes in the field of trade and commerce. The curriculum needs to be restructured accordingly. The learning inputs are required to be more update, skill based and with appropriate applications. This will be achieved through the introduction of Choice based Credit System at undergraduate level.

The choice based credit system offers a cafeteria approach where the students have the liberty to choose courses of their own choice. The credit system allows students to opt for additional courses where he /she can score more than the required credits. The system will focus on student centric learning methods, which include use of Information and Communication Technology, innovative methods of teaching and learning and emphasis on industry interaction to enable the learners to take up professional challenges more effectively.

**1. INTRODUCTION**

The B.Com Degree Course (2019 pattern) will be introduced in the following order:-

- a. First Year B.Com. 2019-2020
- b. Second Year B.Com. 2020-2021
- c. Third Year B.Com. 2021-2022



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The B.Com. Degree Course will consist of six semesters divided into three Years.

The first year (Semester I and II) choice based credit system examination will be held at the end of the each semester.

The Second Year (Semester III and IV) and Third Year (Semester V and VI) choice based credit system examination will be held at the end of each semester.

## 2. ELIGIBILITY

- a) No Candidates shall be admitted to the First Year of the B.Com. Degree Course (2019 pattern) unless he/she has passed the Higher Secondary School Certificate Examination of the Maharashtra State Board of Higher Secondary Education Board or equivalent or University with English as a passing Course.
- b) No candidate shall be admitted to the Third Semester examination of the second year unless he/ she has cleared first two semesters satisfactorily for the course at the college affiliated to this University.
- c) No candidate shall be admitted to the Third Year B.Com. (Fifth semester) Degree Course (2019 pattern) unless he/she has cleared all the papers of first and second semester Examination of F.Y. B.Com. and has satisfactorily kept terms for the second year (Third and Fourth Semester) and also fifth semester for the third year of B.Com) satisfactorily in a college affiliated to this University.

## 3. A.T.K.T. Rules :

- If a candidate fails in all the courses (subject heads) of passing of semester I shall be allowed to proceed semester II. However, a student who fails in four theory courses and two practical courses at semester I and II taken together may be admitted to semester III & IV.
- If a candidate fails in all the courses (subject heads) of passing of semester III shall be allowed to proceed to semester IV.
- If a candidate fails in all the courses (subject heads) of passing of semester V shall be allowed to proceed to semester VI. However, a student who fails in four theory courses and two practical courses at semester III and IV taken together may be admitted to semester V & VI.
- No candidate shall be allowed to proceed to semester V unless the candidate has cleared semester I & II in all courses (Subjects).
- ATKT rules are applicable for 2<sup>nd</sup> and 4<sup>th</sup> semester.

#### 4. COURSES CARRYING PRACTICALS

- Each practical course will be of one credit.
- There will be practical and practical examination for semester I and II of the F.Y.B.Com. For the Course Financial Accounting.
- There will be practical and practical examinations for the special Courses (Discipline Specific Elective) of S.Y.B.Com. (Semester III and IV) and of T.Y.B.Com. (Semester V & VI)
- There will be Practical for the S.Y.B.Com level Compulsory Course Business Communication (Semester III and IV) & for T.Y.B.Com Auditing and Taxation (Semester V) & (Semester VI)
- A Student must offer the same Special Course at T.Y.B.Com. (Semester V & VI) which he / she has offered at S.Y.B.Com. (Semester III and IV)
- In an exceptional case, a student may change the Course chosen by him at third and fourth semester of second year during the first semester of the third year provided he keeps the additional terms of the Course at S.Y.B.Com.

#### Course having practical examination:-

Semester	Type of Course	Name of Practical Course	Course Code
I	Core Course	Financial Accounting – I	PR - 112
II	Core Course	Financial Accounting – II	PR - 122
III	Core Course	Business Communication – I	PR - 231
III	Discipline Specific Elective	<b>Special Course Paper (I)</b> a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics g) Business Entrepreneurship h) Marketing Management i) Agricultural and Industrial Economics j) Defence Budgeting, Finance and Management k) Insurance, Transport and Tourism l) Computer Programming and Application	PR- 236
IV	Core Course	Business Communication – II	PR- 241
IV	Discipline Specific Elective	<b>Special Course Paper (I)</b> a) Business Administration b) Banking and Finance c) Business Law and practices d) Cooperation and Rural Development e) Cost and Works Accounting f) Business Statistics	PR- 246

		<ul style="list-style-type: none"> <li>g) Business Entrepreneurship</li> <li>h) Marketing Management</li> <li>i) Agricultural and Industrial Economics</li> <li>j) Defence Budgeting, Finance and Management</li> <li>k) Insurance, Transport and Tourism</li> <li>l) Computer Programming and Application</li> </ul>	
V	Core Course	Auditing & Taxation – I	PR- 354
V	Discipline Specific Elective	<p style="text-align: center;"><b>Special Course Paper (II)</b></p> <ul style="list-style-type: none"> <li>a) Business Administration</li> <li>b) Banking and Finance</li> <li>c) Business Law and practices</li> <li>d) Cooperation and Rural Development</li> <li>e) Cost and Works Accounting</li> <li>f) Business Statistics</li> <li>g) Business Entrepreneurship</li> <li>h) Marketing Management</li> <li>i) Agricultural and Industrial Economics</li> <li>j) Defence Budgeting, Finance and Management</li> <li>k) Insurance, Transport and Tourism</li> <li>l) Computer Programming and Application</li> </ul>	PR- 355
V	Discipline Specific Elective	<p style="text-align: center;"><b>Special Course Paper (III)</b></p> <ul style="list-style-type: none"> <li>a) Business Administration</li> <li>b) Banking and Finance</li> <li>c) Business Law and practices</li> <li>d) Cooperation and Rural Development</li> <li>e) Cost and Works Accounting</li> <li>f) Business Statistics</li> <li>g) Business Entrepreneurship</li> <li>h) Marketing Management</li> <li>i) Agricultural and Industrial Economics</li> <li>j) Defence Budgeting, Finance and Management</li> <li>k) Insurance, Transport and Tourism</li> <li>l) Computer Programming and Application</li> </ul>	PR- 356
VI	Core Course	Auditing & Taxation – II	PR- 364
VI	Discipline Specific Elective	<p style="text-align: center;"><b>Special Course Paper (II)</b></p> <ul style="list-style-type: none"> <li>a) Business Administration</li> <li>b) Banking and Finance</li> <li>c) Business Law and practices</li> <li>d) Cooperation and Rural Development</li> </ul>	PR- 365

		<ul style="list-style-type: none"> <li>e) Cost and Works Accounting</li> <li>f) Business Statistics</li> <li>g) Business Entrepreneurship</li> <li>h) Marketing Management</li> <li>i) Agricultural and Industrial Economics</li> <li>j) Defence Budgeting, Finance and Management</li> <li>k) Insurance, Transport and Tourism</li> <li>l) Computer Programming and Application</li> </ul>	
VI	Discipline Specific Elective	<p style="text-align: center;"><b>Special Course Paper (III)</b></p> <ul style="list-style-type: none"> <li>a) Business Administration</li> <li>b) Banking and Finance</li> <li>c) Business Law and practices</li> <li>d) Cooperation and Rural Development</li> <li>e) Cost and Works Accounting</li> <li>f) Business Statistics</li> <li>g) Business Entrepreneurship</li> <li>h) Marketing Management</li> <li>i) Agricultural and Industrial Economics</li> <li>j) Defence Budgeting, Finance and Management</li> <li>k) Insurance, Transport and Tourism</li> <li>l) Computer Programming and Application</li> </ul>	PR- 366

#### 5. MEDIUM OF INSTRUCTION

The medium of instruction for B.Com. Degree course shall be either Marathi or English except languages. The Medium of instructions for Business Communication (S:Y.B.Com) shall be English only.

#### 6. UNIVERSITY TERMS

The dates for the commencement and conclusion of the first and the second terms shall be as determined by the University Authorities. Only duly admitted students can keep the terms. The present relevant ordinances pertaining to grant of terms will be applicable.

#### 7. VERIFICATION AND REVALUATION

The candidate may apply for verification and revaluation or result through Principal of the College which will be done by the University as per ordinance framed in that behalf.

## 12. RESTRUCTURING OF COURSES – EQUIVALENCE AND TRANSITORY PROVISION:

The University will conduct examination of old course (2013 Pattern) for next three academic years from the date of implementation of course.

The candidate of old course will be given three chances to clear his/her Courses as per the old course (2013 Pattern) and thereafter he/she will have to appear for the Courses as per the equivalence given to old course (2013 Pattern).

## 13. SCHEMES OF CREDITS –

Total credits for three year integrated B.Com. Course is as follows:-

Sr. No.	Semester No	No. of courses	Lecture Hours	Credit per course	Credit for practical courses	Add on course credit (*)	Lectures + Practical + add on courses = Total Credits
1	I	7	48	3	1	1	21+2=23
2	II	7	48	3	1	1	21+2=23
3	III	6	48	3	2	0	18+2=20
4	IV	6	48	3	2	2	18+2+2=22
5	V	6	48	3	3	0	18+3=21
6	VI	6	48	3	3	2	18+3+2=23
Total No. of credits							132

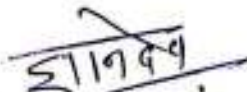
### Suggested Add On courses (\*)

Sr. No.	Add on course	Class	Semester	Credit
1.	Value added course - I	F.Y.B.Com.	I	1
2.	Value added course – II	F.Y.B.Com.	II	1
3.	Environment Awareness	S.Y.B.Com.	IV	2
4.	Specific Add - on Course related to specialized Course/ Internship	T.Y.B.Com.	VI	2
Total				6

**Revised structure of Choice Based Credit System Course  
First Year B. Com. Semester – I w.e.f. 2019- 20**

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	No of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam	Practical Exam		
111	Compulsory English- I	Ability Enhancement Compulsory Course	4	3	30	70	--	100	3 Hours
112	Financial Accounting - I	Core Course	4	4	30	50	20	100	3 Hours
113	Business Economics- I	Core Course	4	3	30	70	--	100	3 Hours
114 (A)	Business Mathematics and Statistics - I	Core Course	4	3	30	70	--	100	3 Hours
114 (B)	Computer Concepts and Application- I								
115	Optional Group. (A) (Any one of the Following) a) Organization Skill Development b) Banking and finance c) Commercial Geography d) Defence Organization and Management in India e) Cooperation f) Managerial Economics	Generic Elective Course	4	3	30	70	--	100	3 Hours

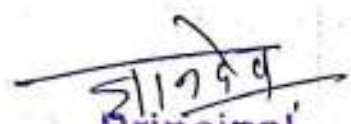


  
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**First Year B. Com. Structure of the Syllabus w.e.f. 2019- 20  
Semester – II**

Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	No. of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam	Practical Exam		
121	Compulsory English- II	Ability Enhancement Compulsory Course	4	3	30	70	--	100	3 Hours
122	Financial Accounting - II	Core Course	4	4	30	50	20	100	3 Hours
123	Business Economics- II	Core Course	4	3	30	70	--	100	3 Hours
124(A)	Business Mathematics and Statistics - II	Core Course	4	3	30	70	--	100	3 Hours
124(B)	Computer Concepts and Application- II								
125	Optional Group. – (A) (Any one of the Following) a) Organization Skill Development b) Banking and finance c) Commercial Geography d) Defence Organization and Management in India e) Cooperation f) Managerial Economics	Generic Elective Course	4	3	30	70	--	100	3 Hours



  
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BBA I YEAR CURRICULUM APPLICABLE W.E.F. AY 2019-20

BBA II YEAR CURRICULUM APPLICABLE W.E.F. AY 2020-21

BBA III YEAR CURRICULUM APPLICABLE W.E.F. AY 2021-22

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## BBA PROGRAMME CONTENT

1. PREAMBLE
2. Objectives Of The Programme
3. Introduction To The Programme
4. Eligibility
5. Duration Of The Programme
6. Highlights Of The New Curriculum
7. Choice Based Credit System (CBCS)
8. Additional Credits
9. Guidelines For Successful Implementation Of CBCS
10. Teaching Instructions
11. Equivalence, Transitory Provision, Transcript And Standard Of Passing
12. Details On Course Content
13. List Of The Courses
14. Annexure (I) Course Content
15. Annexure(II) Contents Of Skill-Based Courses
16. Acknowledement

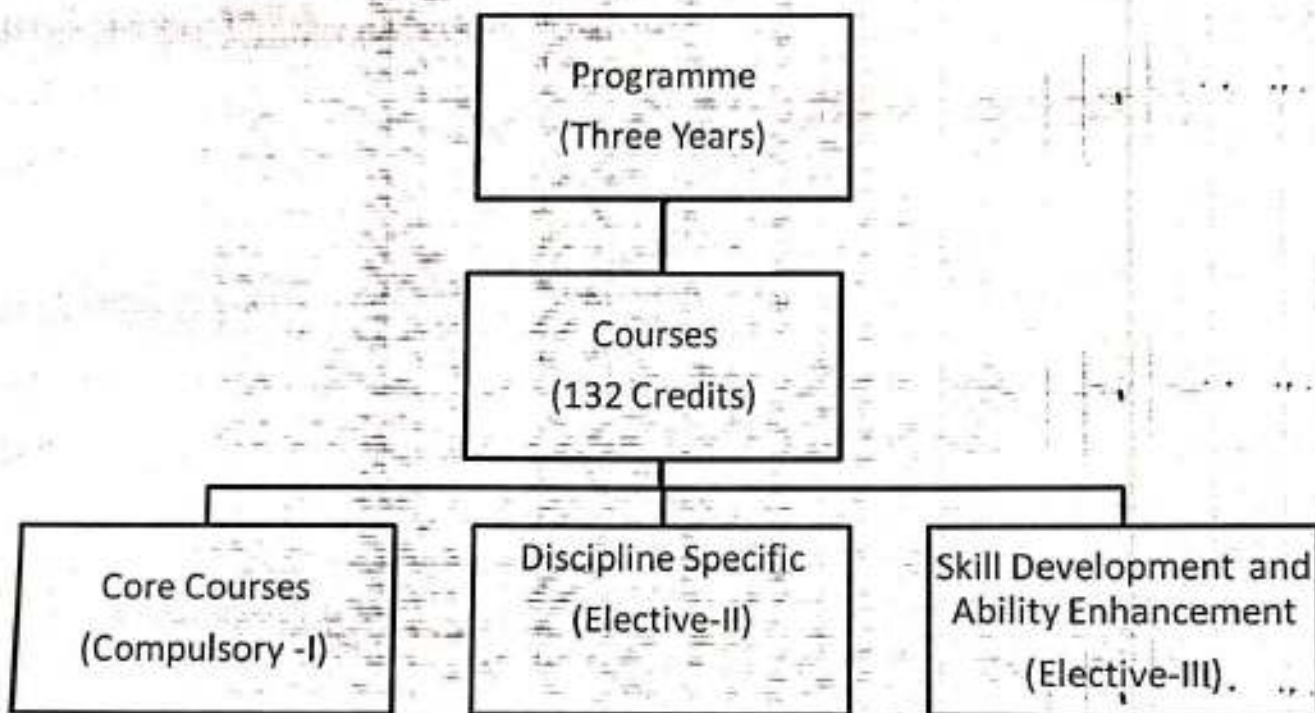


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**7.3 Outline of the CBCS: Bachelor of Business Administration- BBA Degree Programme 2019 pattern.**

**Outline of the Choice Based Credit System (2019 Pattern)**



**7.3 I. Core Course:** Core courses are the foundation courses of management education. They are compulsory for all the students. Core courses are of two types: Generic Core and Subject Core.

**1. Generic Core (GC):** This is the course which is mandatory and has to be studied by the student as a core part to fulfill the requirements of a degree in the said discipline of study. Therefore, Generic Core courses are mandatory and fundamental in nature. These courses cannot be substituted by any other courses. Such courses are also known as Hard Core Courses. Generic Core courses in Semester I and II provide foundations of Management and Administration. Generic Core courses in Semester III and IV focus on Functional Areas whereas, Generic Core courses in the Semester V and VI are integrative and provide insights about different fields of business.

**2. Subject Core (SC):** These are also known as Soft Core Courses. These may be subject-specific/specialized/advanced/supportive to the discipline subject of study, which provides an extended scope and enable exposure to some other disciplines that help in nurturing the candidate's proficiency, domain knowledge, skills, etc. Practical /Tutorial work is considered as a special course involving application of knowledge in solving / analyzing /exploring a real life situation, which will help the students to understand core subject in better manner.

#### **7.4 II. Elective Courses :**

**1. Discipline Specific Elective (DSE) Course:** Elective course is a course which can be chosen from a pool of courses. Elective Courses which may be offered by the main discipline/subject of study is referred as **Discipline Specific Elective**. DSE Courses develop generic proficiencies amongst the students.

The Institute has the flexibility to offer courses based on Targeted Industry Linkages – sectoral requirements and networking at the college level. A student can select any one specialization from the five areas which are mentioned below. The student will study eight (8) courses in second and third year. DSE courses helps to develop discipline/domain knowledge and nurture candidate's proficiency/skill.

**Bachelor of Business Administration Degree offers the following Electives :**

- A) Marketing Management (MM)
- B) Financial Management (FM)
- C) Human Resources Management (HRM)
- D) Services Management (SM)
- E) Agri Business Management (ABM)

**Dissertation/Project for DSE courses:** An elective course designed to acquire special/advanced knowledge, as a supplement study/support study to a project work, with an advisory support of a teacher/faculty member is called dissertation/project.

**7.5 III.A. Skill Enhancement Courses (SEC):** These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based instructions. Open Course contents are mentioned in Annexure II.

11 Scheme of Credits - CC- Core Course , DSE - Discipline Specific elective , CCT- Core Course Tutorials , AECC - Ability Enhancement Compulsory Courses , SEC- Skill Enhancement Courses.

Total - 132 Credits for Three years Programme

Sr. No.	Semester	CC - Credit	DSE credit	CCT- Credit	AECC- credit	SEC- Credit	Lectures + add on courses = Total Credits	Project courses =
1	I	12						
2	II	12		8		4	12+8+2=22	
3	III	12	8	8			12+8+2=22	
4	IV	12	8		2		12+8+2=22	
5	V	12	10			2	12+8+2=22	
6	VI	12	10				12+10=22	
<b>Total</b>		<b>72</b>	<b>36</b>	<b>16</b>	<b>2</b>	<b>6</b>	<b>72+36+16+2+6=132</b>	

- Discipline Specific Elective (DSE) - Specialization - 1. Marketing , 2. Finance , 3. Human Resource 4. Services

12 . Skill Enhancement Course (30 hours) Add on courses - Per year students must complete one add on course of 30 hours per



**F.Y.B.B.A.-Updated Programme Structure CBCS-Pattern 2019**

Group I	Course Details			Internal Evaluation		External Evaluatio n
	Generic Core (GC) and Subject Core (SC) (Compulsory )					
Course Code	Course Title	Credits	Core Course	Concurrent Evaluation	Tutorial /Practical	SPPU Evaluatio n
<b>First Year Semester I</b>						
101	Principles of Management	3	GC	30	-	70
102	Business Communication Skills	4	SC	30	20	50
103	Business Accounting	3	GC	30	-	70
104	Business Economics – Micro	3	GC	30	-	70
105	Business Mathematics	3	GC	30	-	70



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106	Business Demography	4	SC	30	20	50
	<b>Total Credits for the Semester I</b>	<b>20</b>				
	<b>GC (12)+SC(8)=20</b>					
	<b>First Year Semester II</b>					
201	Basics of cost accounting	3	GC	30		70
202	Origin and Development of Global Business	4	SC	30	20	50
203	Commercial Geography	3	GC	30	-	70
204	Principles of Marketing	3	GC	30	-	70
205	Business Statistics	3	GC	30	-	70
206	Fundamentals of computers	4	SC	30	20	50
	<b>Credits for the semester II</b>	<b>20</b>				
	<b>GC (12)+SC(8) =20</b>					



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# Savitribai Phule Pune University

*(Formerly University of Pune)*

**Three-Year B.Sc. Degree Program in Computer Science**

**(Faculty of Science & Technology)**

**F.Y.B.Sc. (Computer Science)**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**



## Titles of Papers, Credit Allocation and Scheme of Evaluation

## Semester I (Total credits=22)

Course type	Paper Code	Paper title	Credits		Evaluation		
			T	P	CA	UA	TOTAL
CC-I	CS-111	Problem Solving using Computer and 'C' Programming	2		15	35	50
	CS-112	Database Management Systems	2		15	35	50
	CS-113	Practical course based on CS101 and CS102		1.5	15	35	50
CC-II*		Mathematics – I, II and III					
CC-III*		Electronics – I,II and III					
CC-IV*		Statistics – I, II and III					

## Semester II (Total credits=22)

Course type	Paper Code	Paper title	Credits		Evaluation		
			T	P	CA	UA	TOTAL
CC-V	CS-121	Advanced 'C' Programming	2		15	35	50
	CS-122	Relational Database Management Systems	2		15	35	50
	CS-123	Practical course based on CS201 and CS202		1.5	15	35	50
CC-VI*		Mathematics – I,II and III					
CC-VII*		Electronics – I,II and III					
CC-VIII*		Statistics – I,II and III					

**S. Y. B. Sc. (Computer Science)  
Semester III (Total credits=22)**

Course type	Paper Code	Paper title	Credits		Evaluation		
			T	P	CA	UA	TOTAL
CC-IX	CS-231	Data Structures and Algorithms – I	2		15	35	50
	CS-232	Software Engineering	2		15	35	50
	CS-233	Practical course based on CS301		2	15	35	50
CC-X*		Mathematics – I, II and III					
CC-XI*		Electronics – I, II and III					
AECC-I*		Environment Science – I	2				
AECC-II*		Language Communication – I	2				

**Semester IV (Total credits=22)**

Course type	Paper Code	Paper title	Credits		Evaluation		
			T	P	CA	UA	TOTAL
CC-XII	CS-241	Data Structures and Algorithms – II	2		15	35	50
	CS-242	Computer Networks - I	2		15	35	50
	CS-243	Practical course based on CS401		2	15	35	50
CC-XIII*		Mathematics – I, II and III					
CC-XIV*		Electronics – I, II and III					
AECC-III*		Environment Science – I	2				
AECC-IV*		Language Communication – I	2				



**T. Y. B. Sc. (Computer Science)  
Semester V (Total credits=22)**

Course type	Paper Code	Paper title	Credits		Evaluation		
			T	P	CA	UA	TOTAL
DSEC - I	CS-351	Operating Systems - I	2		15	35	50
	CS-352	Computer Networks - II	2		15	35	50
	CS-357	Practical course based on CS501		2	15	35	50
DSEC - II	CS-353	Web Technologies - I	2				
	CS-354	Foundations of Data Science	2				
	CS-358	Practical course based on CS503		2			
DSEC - III	CS-355	Object Oriented Programming - I (Core Java)	2				
	CS-356	Theoretical Computer Science and Compiler Construction - I	2				
	CS-359	Practical Course based on CS505		2			
SECC - I	CS-3510	Python Programming / R Programming	1	1	15	35	50
SECC - II	CS-3511	Open Elective	1	1	15	35	50

**Semester VI (Total credits=22)**

Course type	Paper Code	Paper title	Credits		Evaluation		
			T	P	CA	UA	TOTAL
DSEC - IV	CS-361	Operating Systems - II	2		15	35	50
	CS-362	Software Testing	2		15	35	50
	CS-367	Practical course based on CS601		2	15	35	50
DSEC - V	CS-363	Web Technologies - II	2				
	CS-364	Data Analytics	2				
	CS-368	Practical course based on CS603 and CS604		2			
DSEC - VI	CS-365	Object Oriented Programming - II (Advanced Java)	2				
	CS-366	Theoretical Computer Science and Compiler Construction - II	2				
	CS-369	Practical Course based on CS605		2			
SECC - III	CS-3610	Mobile Application Development OR Software Testing Tools	1	1	15	35	50
SECC - IV	CS-3611	Project OR Open Elective	1	1	15	35	50

Choice Based Credit System Syllabus

To be implemented from Academic Year 2019-2020

**F.Y.B.Sc. (Computer Science)**

Sem I

Course type	Paper Code	Paper title	Credits		Evaluation		
			T	P	CA	UA	TOTAL
CC-I	CS-111	Problem Solving using Computer and 'C' Programming	2		15	35	50
	CS-112	Database Management Systems	2		15	35	50
	CS-113	Practical course based on CS101 and CS102		1.5	15	35	50
CC-II*		Mathematics – I, II and III					
CC-III*		Electronics – I, II and III					
CC-IV*		Statistics – I, II and III					

Sem II

Course type	Paper Code	Paper title	Credits		Evaluation		
			T	P	CA	UA	TOTAL
CC-V	CS-121	Advanced 'C' Programming	2		15	35	50
	CS-122	Relational Database Management Systems	2		15	35	50
	CS-123	Practical course based on CS201 and CS202		1.5	15	35	50
CC-VI*		Mathematics – I, II and III					
CC-VII*		Electronics – I, II and III					
CC-VIII*		Statistics – I, II and III					



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**Savitribai Phule Pune University, Pune**

**Bachelor of Business Administration (Computer Application)**

**BBA(CA)**

**(Under faculty of Commerce & Management)**

**(To be implemented from Academic year 2019-20)**

**1. Name of Programme:** Bachelor of Business Administration (Computer Application)

**2. Introduction:**

The degree shall be titled as Bachelor of Business Administration (B.B.A.) (Computer Application) under the Faculty of Commerce and Management. First Year B.B.A.(CA) choice based credit system is implemented w.e.f. the academic year 2019-2020, Second Year B.B.A.(CA) II will be implemented w.e.f. 2020-2021 and Third Year B.B.A.(CA) III w.e.f. 2021-2022.

**3. Programme Objectives:**

- To produce skill oriented human resource.
- To impart practical skills among students.
- To make industry ready resource.
- To bring the spirit of entrepreneurship.

**4. Programme Structure:**

- The Programme is of a Three Year (Six semesters) Full Time Degree Programme.
- The programme shall be based on credit system comprising 132 credits.



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#### 10. Restructuring of courses –Equivalence and Transitory Provision

The University will conduct examination of old course for next three academic years from the date of implementation of new course.

The candidate of old course will be given three chances to clear his subjects as per the old course and thereafter he will have to appear for the subjects under new course as per the equivalence given to old course.

#### 11. Completion of Degree Programme:

A student who earns 132 credits, shall be considered to have completed the requirements of the B.B.A.(CA) degree program and CGPA will be calculated for such student.

#### 12. Credit Allocation

CC-Core Course, EC-Elective Course, PR-Practical, PJ-Project,

AECC-Ability Enhancement Compulsory Courses, SEC-Skill Enhancement Courses.

Total - 132 Credits for Three years Programme

Sr. No.	Semester	CC – Credit	EC Credit	PR Credit	PJ Credit	AEC C-credit	SEC – Credit	Lectures + Project +add on courses= Total Credits
1	I	15		4			2	15+4+2 =21
2	II	15		4			2	15 +4 +2=21
3	III	9	6	6		2		9+6+6+2=23
4	IV	9	3	4	4		2	9+3+4+4+2=22
5	V	9	3	4	4		2	9+3+4+4+2=22
6	VI	10	3	4	4		2	10+3+4+4+2=23
Total		67	15	26	12	2	10	67+15+26+12+2+10=132

**Titles of Papers and scheme of study for B.B.A. (C.A) Programme.**  
**(To be implemented from Academic year 2019-20)**

**Sem I**

Subject Code	Subject Name	Course	Credits	
			Th	Pr
CA-101	Business Communication	CC	3	
CA-102	Principles of Management	CC	3	
CA-103	C Language	CC	3	
CA-104	Database Management System	CC	3	
CA-105	Statistics	CC	3	
CA-106	Computer Laboratory Based on 103 &104 (2 credits each)	PR		4
107	Add-On (PPA) (30 Hours)	SEC	2	



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Sem II

Subject Code	Subject Name	Course	Credits	
			Th	Pr
CA-201	Organization Behavior & Human Resource Management	CC	3	
CA-202	Financial Accounting	CC	3	
CA-203	Business Mathematics	CC	3	
CA-204	Relational database	CC	3	
CA-205	Web Technology HTML-JS-CSS	CC	3	
CA-206	Computer Laboratory Based on 204 & 205(2 credits each)	PR		4
207	Add-On (Advance C) (30 Hours)	SEC	2	



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**REVISED BBA IB PROGRAMME STRUCTURE CBCS 2019 PATTERN**

**BACHELOR OF BUSINESS ADMINISTRATION- INTERNATIONAL BUSINESS (BBA- IB)**

**THREE YEAR FULL TIME COURSE**

**BBA IB I YEAR CURRICULUM APPLICABLE W.E.F. AY 2019-20**

**BBA IB II YEAR CURRICULUM APPLICABLE W.E.F. AY 2020-21**

**BBA IB III YEAR CURRICULUM APPLICABLE W.E.F. AY 2021-22**

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**BBA IB PROGRAMME CONTENT**

1. PREAMBLE
2. Objectives of the Programme
3. Introduction to the Programme
4. Eligibility
5. Duration of the Programme
6. Highlights of the New Curriculum
7. Choice Based Credit System (CBCS)
8. Additional Credits
9. Guidelines for Successful Implementation of CBCS
10. Teaching Instructions
11. Equivalence, Transitory Provision, Transcript and Standard of Passing
12. Details on Course Content
13. List of the Courses
14. Annexure (I) Course Content
15. Annexure (II) Contents of Skill-Based Courses
16. Acknowledgement



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Services Management and Human Resource Management. The students will select Part (I) and Advanced Part (II) of the same course. They will have to complete the exposure and project work as applicable to the course.

3. Skill Courses (SEC & AECC)–The list of 16 Skill Enhancement Courses is provided. The college can select courses as mentioned in the structure to suit the requirements of the students. Each course will carry 2 credits having duration of 30 hours. The courses mentioned in the list will be updated as per the requirements of the business environment. The Board of Studies will make the necessary changes in the list as per the changing requirements of the Economy, Environment and society. These courses can also be replaced by approved online courses. It is mandatory for every Institute to conduct the Compulsory Ability Enhancement Course in Semester III. The Institute can select basic or advanced courses.

## 12. List of Courses Offered

### BBA IB -Bachelor of Business Administration –International Business

#### Updated Programme Structure CBCS - Pattern 2019

#### FYBBA IB

Group I	Course Details			Internal Evaluation		External Evaluation
	Generic Core (GC) and Subject Core (SC) (Compulsory)			Concurrent Evaluation	Tutorial /Practical	
Course Code	Course Title	Credits	Core Course			SPPU Evaluation
<b>First Year Semester I</b>						
101	Principles of Management	3	GC	30	-	70
102	Business Communication Skills	4	SC	30	20	50
103	Business Accounting	3	GC	30	-	70
104	Business Economics – Micro	3	GC	30	-	70
105	Business Mathematics	3	GC	30	-	70



106	Business Demography	4	SC	30	20	50
	<b>Total Credits for the Semester I</b>	20				
	GC (12)+SC(8)=20					
	<b>First Year Semester II</b>					
201	Basics of cost accounting	3	GC	30		70
202	Origin and Development of Global Business	4	SC	30	20	50
203	Commercial Geography	3	GC	30	-	70
204	Principles of Marketing	3	GC	30	-	70
205	Business Statistics	3	GC	30	-	70
206	Fundamentals of computers	4	SC	30	20	50
	<b>Credits for the semester II</b>	20				
	GC (12)+SC(8) =20					
<b>SYBB A -IB</b>	<b>Second Year Semester III</b>					
Course Code	Course Title	Credits	Core Course	Concurrent Evaluation	Tutorial /Practical	SPP U Evaluation
301	Elements of Human Resource Management	3	GC	30	-	70
302	Global Competencies and Personality Development	3	GC	30	-	70
303	International Economics	3	GC	30	-	70
304	Production and Operations Management	3	GC	30	-	70
	<b>Credits For Semester III- CC 12</b>	12				
	<b>Second Year Semester IV</b>					
401	Import Export Procedure	3	GC	30	-	70
402	Research Methodology	3	GC	30	-	70

403	Business Ethics	3	GC	30	-	70
404	Management Information System	3	GC	30	-	70
	<b>Total credits CC12</b>	<b>12</b>				
<b>TYBB A-IB</b>	<b>Third Year Semester V</b>					
501	International Relations	3	GC	30	-	70
502	International Business Law	3	GC	30	-	70
503	Business Reporting and Analysis	3	GC	30	-	70
504	Foreign Exchange Management	3	GC	30	-	70
	<b>Total credits CC - 12</b>	<b>12</b>				
	<b>Third Year Semester VI</b>					
601	New Venture creation and start ups/-	3	GC	30	-	70
602	International Project management	3	GC	30	-	70
603	Decision Making and Risk management-	3	GC	30	-	70
604	Management of Agribusiness and Agri Exports	3	GC	30	-	70
	<b>Total credits CC - 12</b>	<b>12</b>				
	<b>Total Credits From GC and SC</b>					
	<b>(Sem) I 20 + (Sem) II 20 (Sem) III12 +(Sem) IV12 (Sem) V12 and (Sem) IV12 = 88</b>					
<b>Group II (SE)</b>	<b><u>List of Specific Elective (SE) Courses</u></b>					
<b>SYBB A-IB</b>	<b>Course Titles</b>	<b>Credits</b>	<b>Semester</b>	<b>Concurrent Evaluation.</b>	<b>Tutorial /Project</b>	<b>SPP U. Evaluation</b>

REVISED BBA IB PROGRAMME STRUCTURE CBCS 2019 PATTERN BACHELOR OF BUSINESS ADMINISTRATION- INTERNATIONAL BUSINESS (BBA- IB)

Group I	Course Details			Internal Evaluation		External Evaluation
	Generic Core (GC) and Subject Core (SC) (Compulsory)					
Course Code	Course Title	Credits	Core Course	Concurrent Evaluation	Tutorial /Practical	SPPU Evaluation
<b>First Year Semester I</b>						
101	Principles of Management	3	GC	30	-	70
102	Business Communication Skills	4	SC	30	20	50
103	Business Accounting	3	GC	30	-	70
104	Business Economics – Micro	3	GC	30	-	70
105	Business Mathematics	3	GC	30	-	70



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106	Business Demography	4	SC	30	20	50
<b>Total Credits for the Semester I</b>		20				
<b>GC (12)+SC(8)=20</b>						
<b>First Year Semester II</b>						
201	Basics of cost accounting	3	GC	30		70
202	Origin and Development of Global Business	4	SC	30	20	50
203	Commercial Geography	3	GC	30	-	70
204	Principles of Marketing	3	GC	30	-	70
205	Business Statistics	3	GC	30	-	70
206	Fundamentals of computers	4	SC	30	20	50
<b>Credits for the semester II</b>		20				
<b>GC (12)+SC(8) =20</b>						
<b>SYBB A-IB</b>	<b>Second Year Semester III</b>					
Course Code	Course Title	Credits	Core Course	Concurrent Evaluation	Tutorial /Practical	SPP U Evaluation
301	Elements of Human Resource Management	3	GC	30	-	70
302	Global Competencies and Personality Development	3	GC	30	-	70
303	International Economics	3	GC	30	-	70



  
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213	Business Ethics & Professional Value	04	04	03	40	60	100
214	Elements of Knowledge Management	04	04	03	40	60	100
<b>Group G (Advanced Banking &amp; Finance)</b>							
215	Banking Law & Practices	04	04	03	40	60	100
216	Monetary Policy	04	04	03	40	60	100
<b>Group H (Advanced Marketing)</b>							
217	Customer Relationship Management & Retailing	04	04	03	40	60	100
218	Services Marketing	04	04	03	40	60	100



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304	Production and Operations Management	3	GC	30	-	70
	Credits For Semester III- CC 12	12				
	Second Year Semester IV					
401	Import Export Procedure	3	GC	30	-	70
402	Research Methodology	3	GC	30	-	70



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Savitribai Phule Pune University [SPPU]

**B.Sc. (Chemistry)**

(Three Years Integrated Degree Program)

**Choice Based Credit System [CBCS]**

From Academic Year

2019-2020

**First Year (F.Y. B. Sc.)**

**Board of Studies (Chemistry)**

Savitribai Phule Pune University [SPPU]

Pune-41107



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Tal. Yeola Dist-Nashik

**Structure of F. Y. B. Sc. Chemistry**

Semester	Course	Discipline Specific Core Course (DSCC)*
I	Theory	CH-101 : Physical Chemistry ( 2 credit , 36 L)
	Theory	CH-102 : Organic Chemistry (2 credit, 36 L)
	Practical	CH-103 : Chemistry Practical –I (1.5 Credit, 46.8 L)
II	Theory	CH-201 : Inorganic Chemistry ( 2 credit , 36 L)
	Theory	CH-202 : Analytical Chemistry (2 credit, 36 L)
	Practical	CH-203 : Chemistry Practical –II (1.5 Credit, 46.8 L)

**\*N.B.:**

- i. Each lecture (L) will be of 50 minutes.
- ii. Each practical of 3h 15 min and 12 practicals per semester
- iii. 12 weeks for teaching 03 weeks for Contentious assessments
- iv. For details refer UG rules and regulations (CBCS for Science program under science & Technology) given in Appendix



## Chemistry

CBCS: 2019-2020

F. Y. B. Sc.

Choice Based Credit System [CBCS] Syllabus  
To be implemented from Academic Year 2019-2020

Semester	Course	Discipline Specific Core Course (DSCC)*
I	Theory	CH-101 : Physical Chemistry ( 2 credit , 36 L)
	Theory	CH-102 : Organic Chemistry (2 credit, 36 L)
	Practical	CH-103 : Chemistry Practical -I (1.5 Credit, 46.8 L)
II	Theory	CH-201 :Inorganic Chemistry ( 2 credit , 36 L)
	Theory	CH-202 : Organic Chemistry (2 credit, 36 L)
	Practical	CH-203 : Chemistry Practical -II (1.5 Credit, 46.8 L)



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F.Y.B.Sc  
(Physics)

CBCS: 2019-2020

F. Y. B. Sc

Physics

SubjectName	Year	Semester	Course Type	Course Code	Course Name	Credit
Physics	I	I	Compulsory Course	PHY-111	Mechanics and Properties of Matter	2
				PHY-112	Physics Principles and Applications	2
				PHY-113	Physics Laboratory-IA	1.5
		II	Compulsory Course	PHY-121	Heat and Thermodynamics	2
				PHY-122	Electricity and Magnetism	2
				PHY-123	Physics Laboratory-IB	1.5



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# Savitribai Phule Pune University

(Formerly University of Pune)

Three Year B.Sc. Degree Program in Mathematics

(Faculty of Science & Technology)

**F.Y.B.Sc. (Mathematics)**

**Choice Based Credit System Syllabus**

To be implemented from Academic Year 2019-2020



Course Outcome:

Upon successful completion of this course, the student will be able to:

- i) The mathematical maturity of students in their current and future courses shall develop.
- ii) The student develops theoretical, applied and computational skills.
- iii) The student gains confidence in proving theorems and solving problems.

Structure of the course:

	Semester - I		Semester -II		Credit
Paper I	MT-111	Algebra	MT-121	Analytical Geometry	2
Paper II	MT-112	Calculus - I	MT-122	Calculus - II	2
Paper III	MT-113	Mathematics Practical	MT-123	Mathematics Practical	1.5

Proposed Structure of S. Y. B. Sc. Mathematics Courses:

	Semester - III		Semester -IV		
Paper I	MT-231	Calculus of Several Variables	MT-241	Linear Algebra-I	2
Paper II	MT-232 (A)	Laplace Transform and Fourier Series	MT-242(A)	Vector Calculus	2
	MT-232 (B)	Computational Geometry	MT-242(B)	Numerical Analysis	2
Paper III	MT-233	Mathematics Practical	MT-243	Mathematics Practical	2

Proposed Structure of T. Y. B. Sc. Mathematics Courses:

Semester- V		Semester- VI		Credit
MT 351	Metric Spaces	MT 361	Complex Analysis	2
MT 352	Real Analysis-I	MT 362	Real Analysis-II	2
MT 353	Problem Course on MT 351 and MT 352	MT 363	Problem Course on MT 361 and MT 362	2
MT 354	Group Theory-I	MT 364	Ring Theory-I	2
MT 355	Ordinary Differential Equations-I	MT 365	Partial Differential Equations-I	2
MT 356	Problem Course on MT 354 and MT 355	MT 366	Problem Course on MT 364 and MT 365	2

## Select Any Two out of six courses

Select Any Two out of six courses				
MT357:A	Operations Research	MT367: A	Optimization Techniques	2
MT357:B	Number Theory	MT367: B	Graph theory	2
MT357:C	C- Programming	MT367: C	Lebesgue Integration	2
MT357:D	Lattice Theory	MT367: D	Financial Mathematics	2
MT357:E	Python Course -I	MT367: E	Python Course-II	2
MT357:F	Machine Learning Course- I	MT367: F	Machine Learning Course- II	2
MT 338	Practical based on papers selected from 357 A to 357 F	MT 348	Practical based on papers selected from 367 A to 367 F	2
MT-3510	Skill Enhancement course in maths	MT- 3511	Skill Enhancement course in maths	2
MT-3610	Skill Enhancement course in maths	MT- 3611	Skill Enhancement course in maths	2

All three above courses are compulsory.

### 1. Equivalence of Previous syllabus along with new syllabus:

	Old course	New Course
Paper I	MT-101 : Algebra and Geometry	MT-111: Algebra and MT-121 : Analytical Geometry
Paper II	MT-102 : Calculus and Differential Equations	MT-112 : Calculus - I and MT-122 : Calculus – II
Paper III	MT-103 : Mathematics Practical	MT – 113 : Mathematics Practical and MT – 113 : Mathematics Practical

## F.Y.B.Sc. (Mathematics)

### Choice Based Credit System Syllabus

To be implemented from Academic Year 2019-2020

	Semester - I		Semester -II		Credit
Paper I	MT-111	Algebra	MT-121	Analytical Geometry	2
Paper II	MT-112	Calculus - I	MT-122	Calculus - II	2
Paper III	MT-113	Mathematics Practical	MT-123	Mathematics Practical	1.5



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Course No.	Course / Title of Paper	Course	No. of lectures (Per Week)	No. of Credits	Internal Assessment	University Assessment		Total Marks	Duration of Theory Examination
						Univ. Exam.	Practical Exam.		
126	Optional Group. (B) (Any one of the Following) a) Essentials of E- Commerce b) Insurance & Transport c) Marketing & Salesmanship d) Consumer Protection and Business Ethics e) Business Environment & Entrepreneurship f) Foundation Course in Commerce	Generic Elective Course	4	3	30	70	--	100	3 Hours
127	Any one of the following Language- II Additional English/ Marathi/ Hindi/ Gujarati/ Sindhi/ Persian/ Urdu/ French/ German / Sanskrit / Arabic	Ability Enhancement Course	4	3	30	70	--	100	3 Hours



  
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# Savitribai Phule Pune University

*(Formerly University of Pune)*

Three Year B.Sc. Degree Program in Physics

(Faculty of Science & Technology)

**F.Y.B.Sc. (Physics)**

**Choice Based Credit System Syllabus**

To be implemented from Academic Year 2019-2020



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## Structure of the Course

Subject Name	Year	Semester	Course Type	Course Code	Course Name	Credit
Physics	1	I	Compulsory Course	PHY-111	Mechanics and Properties of Matter	2
				PHY-112	Physics Principles and Applications	2
				PHY-113	Physics Laboratory-IA	1.5
		II	Compulsory Course	PHY-121	Heat and Thermodynamics	2
				PHY-122	Electricity and Magnetism	2
				PHY-123	Physics Laboratory-IB	1.5
	2	III	Compulsory Course	PHY-231	Mathematical Methods in Physics I	2
				PHY-232	Electronics I /Instrumentation	2
				PHY-233	Physics Laboratory-2A	2
			Ability Enhancement Compulsory Course	PHY-2310	Environment -I	2
				PHY-2311	Language-I	2
		IV	Compulsory Course	PHY-241	Oscillations, Waves and Sound	2
				PHY-242	Optics	2
				PHY-243	Physics Laboratory-2B	2
			Ability Enhancement Compulsory Course	PHY-2410	Environment -II	2
				PHY-2411	Language-II	2
	3	V	Discipline Specific Elective Course	PHY- 351	Mathematical Methods in Physics II	2
				PHY- 352	Electrodynamics	2
				PHY- 353	Classical Mechanics	2
				PHY- 354	Atomic and Molecular Physics	2
				PHY- 355	Computational Physics	2
				PHY- 356	Elective I (Select any One)	2
				PHY- 357	Physics Laboratory-3A	2
PHY- 358				Physics Laboratory-3B	2	
PHY- 359				Physics Laboratory-3C	2	
Skill Enhancement Course			PHY-3510	Maintenance and Repairing of Laboratory equipment - I	2	
			PHY- 3511	Household Electrification, Maintenance and repairing - I	2	

CBCS: 2019-2020

F. Y: B: Sc

Physics

VI	Discipline Specific Elective Course	PHY- 361	Solid State Physics	2
		PHY- 362	Quantum Mechanics	2
		PHY- 363	Thermodynamics and Statistical Physics	2
		PHY- 364	Nuclear Physics	2
		PHY- 365	Electronics II /Advanced Electronics	2
		PHY- 366	Elective II (Select any One)	2
		PHY- 367	Physics Laboratory-4A	2
		PHY- 368	Physics Laboratory-4B	2
		PHY- 369	Project	2
		Skill Enhancement Course	PHY-3610	Maintenance and Repairing of Laboratory Equipment – II
	PHY- 3611		Household Electrification, Maintenance and Repairing- II	2



# Savitribai Phule Pune University

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Electronic Science**

**(Faculty of Science & Technology)**

**F.Y.B.Sc. (Electronic Science)**

**Choice Based Credit System (CBCS) Syllabus**

**To be implemented from Academic Year 2019-2020**



**Title of the Course: B.Sc (Electronic Science)****Preamble:**

Electronics technology has revolutionized various fields including communication, consumer appliances, medical, defense and so on. The advances in technology are making systems smaller, smarter and powerful. Electronics is an important branch of Science devoted to design implementation and analysis of circuits and systems. Knowledge of Electronics is based on fundamental laws of Physics and though new chips/SOC's are fabricated every day, basic principles remain the same.

The goal of the three-year course is to instill in students a confidence that they can get a grip of the subject and apply it for designing, testing and analyzing systems. The course will also make use of problem-solving approach wherein the students will be trained to apply the acquired knowledge to design and analyze circuits for specific applications. The students will be familiarized with programming languages, various development tools, modeling and simulation tools through lab sessions.

The syllabus has been designed such that basic fundamental concepts, knowledge and specific practical skills of the students are developed. The students will be first introduced to various components, devices and their applications, Network theorems and applications of electronics in day to day life. Digital Electronics fundamentals, Operational amplifier circuits, and its applications will be covered in the second semester. In the Second year the students will be taught the basic principles of communication, Analog and digital circuit design and Microcontrollers. In the third year the students will be given an insight to concepts of Embedded System Design, VLSI Technology, Communication systems and various discipline specific courses with a Project in the final semester.

**Titles of Papers and Scheme of Study Evaluation****F. Y. B. Sc. Electronic Science**

Sem	Paper Code	Paper	Paper title	Credits	Lectures/Week			Evaluation		
					Th	Tut	Pr.	CA	UE	Total
I	EL- 111	I	Basics of Applied Electronics	2	3			15	35	50
	EL- 112	II	Electronic Devices and Circuits	2	3			15	35	50
	EL-113	III	Electronics Lab IA	1.5			3.15	15	35	50
II	EL-121	I	Fundamentals of Digital Electronics	2	3			15	35	50
	EL-122	II	Analog and Digital device Applications	2	3			15	35	50
	EL-123	III	Electronics Lab IB	1.5			3.15	15	35	50

## S. Y. B. Sc. Electronic Science

Sem	Paper Code	Paper	Paper title	Credits	Lectures/Week			Evaluation		
					Th	Tut	Pr.	CA	UE	Total
III	EL-231	I	Analog Communication	2	4			15	35	50
	EL-232	II	Digital System Design	2	4			15	35	50
	EL-233	III	Electronics Lab IIA	2			4	15	35	50
IV	EL-241	I	Analog Circuit Design	2	4			15	35	50
	EL-242	II	Microcontroller	2	4			15	35	50
	EL-243	III	Electronics Lab IIB	2			4	15	35	50

## T.Y. B. Sc. Electronic Science

Sem		Paper Code	Paper	Paper title	Credits
V	Discipline Specific Elective Course	EL-351	I	Theory Paper 1	2
		EL-352	II	Theory Paper 2	2
		EL-353	III	Theory Paper 3	2
		EL-354	IV	Theory Paper 4	2
		EL-355	V	Theory Paper 5	2
		EL-356	VI	Theory Paper 6	2
		EL-357	VII	Electronics Lab IIIA	2
		EL-358	VIII	Electronics Lab IIIB	2
		EL-359	IX	Electronics Lab IIIC	2
	Skill Enhancement Course	EL-3510	X	Theory Paper 7	2
		EL-3511	XI	Theory Paper 8	2
VI	Discipline Specific Elective Course	EL-361	I	Theory Paper 1	2
		EL-362	II	Theory Paper 2	2
		EL-363	III	Theory Paper 3	2
		EL-364	IV	Theory Paper 4	2
		EL-365	V	Theory Paper 5	2
		EL-366	VI	Theory Paper 6	2
		EL-367	VII	Lab IVA: Project	2
		EL-368	VIII	Lab IVB: Project	2
		EL-369	IX	Lab IVC: Project	2
	Skill Enhancement Course	EL-3610	X	Theory Paper 7	2
		EL-3611	XI	Theory Paper 8	2

## F.Y.B.Sc. (Electronic Science)

Choice Based Credit System (CBCS) Syllabus To be implemented  
from Academic Year 2019-2020

F. Y. B. Sc. Electronic Science

CBCS: 2019-2020

Electronic Science

Sem	Paper Code	Paper	Paper title	Credits	Lectures/Week			Evaluation		
					Th	Tut	Pr.	CA	UE	Total
I	EL-111	I	Basics of Applied Electronics	2	3			15	35	50
	EL-112	II	Electronic Devices and Circuits	2	3			15	35	50
	EL-113	III	Electronics Lab IA	1.5			3.15	15	35	50
II	EL-121	I	Fundamentals of Digital Electronics	2	3			15	35	50
	EL-122	II	Analog and Digital device Applications	2	3			15	35	50
	EL-123	III	Electronics Lab IB	1.5			3.15	15	35	50



  
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## (Geography)

Choice Based System Syllabus

To be implemented from Academic Year 2019-2020

CBCS: 2019- F.Y.B.Sc. Geography  
Structure of the course

Course code for choice based credit system

Year	Semester	Course Type	Course code	Course Name	Credit
1	1	Compulsory Course	GG 111	Introduction to Physical Geography-I (Geomorphology)	2
			GG 112	Introduction to Physical Geography -II (Geography of Atmosphere and Hydrosphere)	2
			GG 113	Practicals in Physical Geography	1.5
	2	Compulsory Course	GG 121	Introduction to Human Geography	2
			GG 122	Population and Settlement Geography	2
			GG 123	Practicals in Human Geography	1.5



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# Savitribai Phule Pune University

*(Formerly University of Pune)*

**Three Year B.Sc. Degree Program in Geography**

**(Faculty of Science & Technology)**

**F.Y.B.Sc. (Geography)**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**



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& Science College Bhatgaon,  
Tal. Yeola Dist-Nashik

## Structure of the course

## Course code for choice based credit system

Year	Semester	Course Type	Course code	Course Name	Credit
1	1	Compulsory Course	GG 111	Introduction to Physical Geography-I (Geomorphology)	2
			GG 112	Introduction to Physical Geography -II (Geography of Atmosphere and Hydrosphere)	2
			GG 113	Practicals in Physical Geography	1.5
	2	Compulsory Course	GG 121	Introduction to Human Geography	2
			GG 122	Population and Settlement Geography	2
			GG 123	Practicals in Human Geography	1.5
2	3	Compulsory Course	GG 231	Environmental Geography -I	2
			GG-232	Geography of Maharashtra (Physical)- I	2
			GG 233	Surveying- I	2
	4	Compulsory Course	GG 241	Environmental Geography -II	2
			GG 242	Geography of Maharashtra (Human) -II	2
			GG 243	Surveying - II	2
3	5	Discipline Specific Elective	GG 351	Regional Geography of India (Physical)- I	2
			GG 352	Geography of Economic Activities-I	2
			GG 353	Fundamentals of Tourism - I	2
			GG 354	Pedology	2
			GG 355	Management of Natural Disasters	2
			GG 356	Geoinformatics-I	2
			GG 357	Techniques in Quantitative Analysis	2
			GG 358	Field Techniques in Mapping	2
			GG 359	Techniques in Geomorphology	2
			Skill Enhancement Course	GG 3510	Skill Enhancement Course in Geography - I
	GG 3511	Skill Enhancement Course in Geography -II		2	
	6	Discipline Specific Elective	GG 361	Regional Geography of India (Human) -II	2
			GG 362	Geography of Economic Activities-II	2
			GG 363	Tourism Activities and Management -II	2
			GG 364	Weathering	2
			GG 365	Management of Manmade Disasters	2
			GG 366	Geoinformatics-II	2
			GG 367	GIS Based Project Report	2
			GG 368	Maps and Mapping Techniques	2
			GG 368	Soil and Sediment Analysis	2
Skill Enhancement Course		GG 3610	Skill Enhancement Course in Geography - III	2	
	3611GG	Skill Enhancement Course in Geography - IV	2		

Class- F.Y.B.Sc. GEOGRAPHY		
Paper- CC	Semester - I	Semester - II
I	GG 111 -Introduction to Physical Geography - I (Geomorphology)	GG 121-Introduction to Human Geography
II	GG 112- Introduction to Physical Geography - II (Ggeography of Atmosphere and Hydrosphere)	GG 122- Population and Settlement Geography
III- Practical	GG 113- Practicals in Physical Geography	GG 123- Practical in Human Geography
Class- S.Y.B.Sc.- CC		
IV	GG 231- Environmental Geography -I	GG 241- Environmental Geography -II
V	GG 232- Geography of Maharashtra (Physical) - I	GG 242- Geography of Maharashtra (Human) – II
VI- Practical	GG 233- Surveying - I	GG- 243- Surveying –II
Class- T.Y.B.Sc.- DSEC		
VII	GG 351- Regional Geography of India (Physical) I	GG 361- Regional Geography of India (Human) – II
VIII	GG 352- Geography of Economic activities - I	GG 362- Geography of Economic Activities–II
IX	GG 353- Fundamentals of Tourism - I	GG 363- Tourism Activities and Management– II
X	GG 354-Pedology	GG 364- Weathering
XI	GG 355- Management of Natural Disasters	GG 365- Management of Manmade Disasters
XII	GG 356-Geoinformatics-I	GG 366-Geoinformatics–II
XIII- Practical	GG 357- Techniques in Quantitative Analysis	GG 367- GIS Based Project Report
XIV- Practical	GG 358- Field Techniques in Mapping	GG 368- Maps and Mapping Techniques
XV- Practical	GG 359-Techniques in Geomorphology	GG 369- Soil and Sediment Analysis
	SEC	
X	GG 3610- Skill Enhancement Course in Geography - I	GG 3610- Skill Enhancement Course in Geography - III
XI	GG 3611- Skill Enhancement Course in Geography -II	GG 3611- Skill Enhancement Course in Geography - IV



# SAVITRIBAI PHULE PUNE UNIVERSITY

Revised Syllabus of

## Master of Commerce (M.Com.) Semester Pattern with Credit System with effect from June 2019

The M. Com. Syllabus for regular students is being revised from the academic year 2019-20.  
The course structure is as below:-

### 1. Objectives :

- To equip and train Post Graduate students to accept the challenges of business world by providing opportunities for study and analysis of advanced commercial and business methods and processes.
- To develop independent logical thinking and facilitate personality development.
- To equip the students to seek suitable careers in management and entrepreneurship.
- To acquaint students with significance of research in business.
- To impart skills regarding methods of data collection and their interpretations.
- To develop communication and analytical skills among students.

### 2. Duration :

The M.Com. Course will be of Two Years duration consisting of two part. I.e. Part I and Part II. Each part is having Two Semesters.

Thus, the M.Com. Course is of Four Semesters. For each Semester, there will be Four Papers of 100 marks each. M.Com. Degree will be of 1600 marks in aggregate.

### 3. Duration and Structure of Programme:

The M.Com (Semester pattern with Credit System) degree Programme shall be of 2 years' duration divided into two parts, Part I and Part II, and 4 semesters.

### 4. Eligibility :

The student who has passed any Bachelors degree of this University or any other recognized University shall be held eligible to be admitted to M.Com. Course.

### 5. Course Structure:

The M.Com. degree course will be of two year duration consisting of four semesters and of minimum 64 credits as below:

Sr. No.	Semester	Total Credits
1	Semester I	16
2	Semester II	16
3	Semester III	16
4	Semester IV	16
	<b>Grand Total</b>	<b>64</b>



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Four extra credits for project work at 4<sup>th</sup> Semester (This will include credits for fieldwork, data presentation and report writing)

In each Semester, there will be four papers of 100 marks each out of which 40 marks will be for Internal Assessment (attendance, home assignments, class tests, long term papers, classroom presentation) and 60 marks for University Examination. Thus M.Com. degree examination, four Semesters shall be of 1600 marks.

In addition to the above, students are required to secure following ten credits. These credits are compulsory in nature.

Semester	Human Rights	Introduction to cyber security / information security	Skill development	Total Credits
I	1 credit	1 credit	--	2 credits
II	1 credit	1 credit	--	2 credits
III	--	1 credit	2 credits	3 credits
IV	--	1 credit	2 credits	3 credits
<b>Total Credits</b>	<b>2 credits</b>	<b>4 credits</b>	<b>4 credits</b>	<b>10 credits</b>

- Syllabus and other details regarding 'Human Rights' has been displayed on the home page of the university website.
- Syllabus and other details regarding 'Introduction to cyber security / information security' has been displayed on the 'syllabi' page of the university website.

6. The Scheme of Papers: The following will be the Scheme of papers:

**The List of Courses**

**Semester I**

Semester	Subject Types	Course Code	Title of the Paper	Hrs/Week	Credit	Exam. Hours	Maximum Marks			
							Internal	Univ.	Total	
Semester I	Core Compulsory	101	Management Accounting	04	04	03	40	60	100	
		102	Strategic Management	04	04	03	40	60	100	
	Core Elective/ Optional Subjects/ Special Subjects	<i>To choose any one Group of the following</i>								
		<b>Group A (Advanced Accounting &amp; Taxation)</b>								
		103	Advanced Accounting	04	04	03	40	60	100	
		104	Income Tax	04	04	03	40	60	100	
		<b>Group B (Commercial Laws &amp; Practices)</b>								
		105	Information system and E-Commerce Practices	04	04	03	40	60	100	
		106	Intellectual Property Laws	04	04	03	40	60	100	
		<b>Group C (Advanced Cost Accounting &amp; Cost system)</b>								
		107	Advanced Cost Accounting	04	04	03	40	60	100	
		108	Costing Technique Examinations and Responsibility Accounting	04	04	03	40	60	100	
		<b>Group D (Co-operation &amp; Rural Development)</b>								
		109	Co-operative Movement in India	04	04	03	40	60	100	
		110	Rural Development	04	04	03	40	60	100	
		<b>Group E (Business Practices &amp; Environment)</b>								
		111	Organized Traders and Markets	04	04	03	40	60	100	
		112	Business Environment and Policy	04	04	03	40	60	100	
<b>Group F (Business Administration)</b>										
113	Production and Operation Management	04	04	03	40	60	100			
114	Financial Management	04	04	03	40	60	100			
<b>Group G (Advanced Banking &amp; Finance)</b>										
115	Legal Framework of Banking	04	04	03	40	60	100			
116	Central Banking	04	04	03	40	60	100			
<b>Group H (Advanced Marketing)</b>										
117	Marketing Techniques	04	04	03	40	60	100			
118	Consumer Behaviour	04	04	03	40	60	100			

**Semester II**

Semester	Subject Types	Course Code	Title of the Paper	Hrs/Week	Credit	Exam. Hours	Maximum Marks			
							Internal	Univ.	Total	
Semester II	Core Compulsory	201	Financial Analysis and Control/ Principals of Financial Accounting.	04	04	03	40	60	100	
		202	A. Industrial Economics B. Business Statistics	04	04	03	40	60	100	
	<i>To choose any one Group of the following</i>									
	<b>Group A (Advanced Accounting &amp; Taxation)</b>									
		Core Elective/Optional Subjects/Special Subjects	203	Specialized Areas in Accounting.	04	04	03	40	60	100
			204	Business Tax Assessment & Planning	04	04	03	40	60	100
	<b>Group B (Commercial Laws &amp; Practices)</b>									
			205	E- Security & Cyber Laws	04	04	03	40	60	100
			206	Laws Regulating to Copyrights & Design	04	04	03	40	60	100
	<b>Group C (Advanced Cost Accounting &amp; Cost system)</b>									
			207	Application Cost Accounting	04	04	03	40	60	100
			208	Cost Control & Cost System	04	04	03	40	60	100
	<b>Group D (Co-operation &amp; Rural Development)</b>									
			209	International Co-operative Movement	04	04	03	40	60	100
			210	Management of Co-operative Business	04	04	03	40	60	100
	<b>Group E (Business Practices &amp; Environment)</b>									
			211	Modern Business Practices	04	04	03	40	60	100
			212	Business Environment Analysis	04	04	03	40	60	100
	<b>Group F (Business Administration)</b>									
			213	Business Ethics & Professional Value	04	04	03	40	60	100
		214	Elements of Knowledge Management	04	04	03	40	60	100	
<b>Group G (Advanced Banking &amp; Finance)</b>										
		215	Banking Law & Practices	04	04	03	40	60	100	
		216	Monetary Policy	04	04	03	40	60	100	
<b>Group H (Advanced Marketing)</b>										
		217	Customer Relationship Management & Retailing	04	04	03	40	60	100	
		218	Services Marketing	04	04	03	40	60	100	

F..Y.B.Sc. Botany Choice Based Credit System Syllabus To be Implemented from Academic Year 2019-2020

**Title of the Course: B. Sc Botany**

**1. Structure of Course:**

2.

Structure B.Sc. Botany syllabus					
Year	Semester	Course Type	Course code	Course Name	Credits
1	1	Compulsory Course	BO 111	Plant life and utilization I	2
			BO 112	Plant morphology and Anatomy	2
			BO 113	Practical based on BO 111 & BO 112	1.5
	2	Compulsory Course	BO 121	Plant life and utilization II	2
			BO 122	Principles of plant science	2
			BO 123	Practical based on BO 121 & BO 122	1.5



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**Master of Commerce (M.Com.) Semester Pattern with  
Credit System with effect from June 2019**

**Sem I**

Semester	Subject Types	Course Code	Title of the Paper	Hrs/ Week	Credit	Exam. Hours	Maximum Marks			
							Internal	Univ.	Total	
Semester I	Core Compulsory	101	Management Accounting	04	04	03	40	60	100	
		102	Strategic Management	04	04	03	40	60	100	
	Core Elective/ Optional Subjects/ Special Subjects	<i>To choose any one Group of the following</i>								
		<b>Group A (Advanced Accounting &amp; Taxation)</b>								
		103	Advanced Accounting	04	04	03	40	60	100	
		104	Income Tax	04	04	03	40	60	100	
		<b>Group B (Commercial Laws &amp; Practices)</b>								
		105	Information system and E-Commerce Practices	04	04	03	40	60	100	
		106	Intellectual Property Laws	04	04	03	40	60	100	
		<b>Group C (Advanced Cost Accounting &amp; Cost system)</b>								
		107	Advanced Cost Accounting	04	04	03	40	60	100	
		108	Costing Technique Examinations and Responsibility Accounting	04	04	03	40	60	100	
		<b>Group D (Co-operation &amp; Rural Development)</b>								
		109	Co-operative Movement in India	04	04	03	40	60	100	
		110	Rural Development	04	04	03	40	60	100	
		<b>Group E (Business Practices &amp; Environment)</b>								
		111	Organized Traders and Markets	04	04	03	40	60	100	
		112	Business Environment and Policy	04	04	03	40	60	100	
		<b>Group F (Business Administration)</b>								



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**Sem II**

Semester	Subject Types	Course Code	Title of the Paper	Hrs/Week	Credit	Exam. Hours	Maximum Marks			
							Internal	Univ.	Total	
Semester II	Core Compulsory	201	Financial Analysis and Control/ Principals of Financial Accounting	04	04	03	40	60	100	
		202	A. Industrial Economics B. Business Statistics	04	04	03	40	60	100	
	Core Elective/ Optional Subjects/ Special Subjects	<i>To choose any one Group of the following</i>								
		<b>Group A (Advanced Accounting &amp; Taxation)</b>								
		203	Specialized Areas in Accounting	04	04	03	40	60	100	
		204	Business Tax Assessment & Planning	04	04	03	40	60	100	
		<b>Group B (Commercial Laws &amp; Practices)</b>								
		205	E- Security & Cyber Laws	04	04	03	40	60	100	
		206	Laws Regulating to Copyrights & Design	04	04	03	40	60	100	
		<b>Group C (Advanced Cost Accounting &amp; Cost system)</b>								
		207	Application Cost Accounting	04	04	03	40	60	100	
		208	Cost Control & Cost System	04	04	03	40	60	100	
		<b>Group D (Co-operation &amp; Rural Development)</b>								
		209	International Co-operative Movement	04	04	03	40	60	100	
210	Management of Co-operative Business	04	04	03	40	60	100			
<b>Group E (Business Practices &amp; Environment)</b>										
211	Modern Business Practices	04	04	03	40	60	100			
212	Business Environment Analysis	04	04	03	40	60	100			
<b>Group F (Business Administration)</b>										



  
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# Savitribai Phule Pune University

*(Formerly University of Pune)*

**Two Year Degree Program in Computer Science**  
**(Faculty of Science & Technology)**

Revised Syllabi for

**M.Sc. (Computer Science) Part-I**

**(For Colleges Affiliated to Savitribai Phule Pune University)**

**Choice Based Credit System Syllabus**

**To be implemented from Academic Year 2019-2020**



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Tal. Yeola Dist. Nashik

### Course Structure:

Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment		
					IA	UE	Total
I Year Sem-I	Core Compulsory Theory Paper	CSUT111	Paradigm of Programming Language	4	30	70	100
		CSUT112	Design and Analysis of Algorithms	4	30	70	100
		CSUT113	Database Technologies	4	30	70	100
	Choice Based Optional Paper	CSDT114A	Cloud computing	2	15	35	50
		CSDP114A	Cloud Computing Practical	2	15	35	50
		OR					
		CSDT114B	Artificial Intelligence	2	15	35	50
		CSDP114B	Artificial Intelligence Practical	2	15	35	50
		OR					
		CSDT114C	Web Services	2	15	35	50
		CSDP114C	Web Services Practical	2	15	35	50
Core Compulsory Practical Paper	CSUP115	PPL and Database Technologies Practical	4	30	70	100	

Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment		
					IA	UE	Total
I Year Sem-II	Core Compulsory Theory Paper	CSUT121	Advanced Operating System	4	30	70	100
		CSUT122	Mobile Technologies	4	30	70	100
		CSUT123	Software Project Management	4	30	70	100
	Choice Based Optional Paper	CSDT124A	Project	2	15	35	50
		CSDP124A	Project related Assignments	2	15	35	50
		OR					
		CSDT124B	Human Computer Interaction	2	15	35	50
		CSDP124B	Human Computer Interaction Practical	2	15	35	50
		OR					
		CSDT124C	Soft Computing	2	15	35	50
		CSDP124C	Soft Computing Practical	2	15	35	50
Core Compulsory Practical Paper	CSUP125	Practical on Advanced OS & Mobile Technologies	4	30	70	100	

Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment		
					IA	UE	Total
II Year Sem-III	Core Compulsory Theory Paper	CSUT231	Software Architecture and Design Pattern	4	30	70	100
		CSUT232	Machine Learning	4	30	70	100
		CSUT233	Evolutionary Algorithms	4	30	70	100
	Choice Based Optional Paper	CSDT234A	Big Data	2	15	35	50
		CSDP234A	Big Data Practical	2	15	35	50
		OR					
		CSDT234B	Web Analytics	2	15	35	50
		CSDP234B	Web Analytics Practical	2	15	35	50
		OR					
		CSDT234C	Project	2	15	35	50
		CSDP234C	Project related Assignments	2	15	35	50
Core Compulsory Practical Paper	CSUP235	Practical on Software Architecture and Design Pattern and Machine Learning	4	30	70	100	


Year/ Sem	Subject	Paper	Title of Paper	Credit	% of Assessment		
					IA	UE	Total
II Year Sem-IV	Core	CSUIT241	Industrial Training /Institutional project	20			

IA :- Internal Assessment, UE :- University Examination

**Choice Based Credit System Syllabus  
To be implemented from Academic Year 2019-2020**

Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment		
					IA	UE	Total
1 Year Sem-I	Core Compulsory Theory Paper	CSUT111	Paradigm of Programming Language	4	30	70	100
		CSUT112	Design and Analysis of Algorithms	4	30	70	100
		CSUT113	Database Technologies	4	30	70	100
	Choice Based Optional Paper	CSDT114A	Cloud computing	2	15	35	50
		CSDP114A	Cloud Computing Practical	2	15	35	50
		OR					
		CSDT114B	Artificial Intelligence	2	15	35	50
		CSDP114B	Artificial Intelligence Practical	2	15	35	50
		OR					
		CSDT114C	Web Services	2	15	35	50
		CSDP114C	Web Services Practical	2	15	35	50
Core Compulsory Practical Paper	CSUP115	PPL and Database Technologies Practical	4	30	70	100	



  
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Year/ Sem	Course Type	Course Code	Course Name	Credit	% of Assessment		
					IA	UE	Total
I Year Sem-II	Core Compulsory Theory Paper	CSUT121	Advanced Operating System	4	30	70	100
		CSUT122	Mobile Technologies	4	30	70	100
		CSUT123	Software Project Management	4	30	70	100
	Choice Based Optional Paper	CSDT124A	Project	2	15	35	50
		CSDP124A	Project related Assignments	2	15	35	50
		OR					
		CSDT124B	Human Computer Interaction	2	15	35	50
		CSDP124B	Human Computer Interaction Practical	2	15	35	50
		OR					
		CSDT124C	Soft Computing	2	15	35	50
	CSDP124C	Soft Computing Practical	2	15	35	50	
Core Compulsory Practical Paper	CSUP125	Practical on Advanced OS & Mobile Technologies	4	30	70	100	



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