



SHIVAJI UNIVERISTY, KOLHAPUR-416 004. MAHARASHTRA  
PHONE : EPABX-2609000 website- [www.unishivaji.ac.in](http://www.unishivaji.ac.in)  
FAX 0091-0231-2691533 & 0091-0231-2692333 – BOS - 2609094  
शिवाजी विद्यापीठ, कोल्हापूर – 416004.  
दुरध्वनी (ईपीएबीएक्स) २६०९००० (अभ्यास मंडळे विभाग— २६०९०९४)  
फॅक्स : ००९१-०२३१-२६९१५३३ व २६९२३३३.e-mail:bos@unishivaji.ac.in

जा.क्र./एसयु/बीओएस/  
प्रति,

№ ०००४२

दिनांक : ०२/०७/२०२१  
०३ JUL २०२१

मा.प्राचार्य/संचालक,  
सर्व संलग्नित महाविद्यालये/मान्यताप्राप्त  
संस्था,  
शिवाजी विद्यापीठ, कोल्हापूर

मा.अधिविभाग प्रमुख,  
सर्व पदव्युत्तर अधिविभाग,  
शिवाजी विद्यापीठ, कोल्हापूर

विषय:— पदवी व पदव्युत्तर प्रथम वर्ष अभ्यासक्रमांना शैक्षणिक वर्ष, २०२१-२२  
साठी मुदतवाढ देणेबाबत.

महोदय/महोदया,

कोरोना विषाणू (कोव्हीड-१९) च्या उद्रेकामुळे विद्यापीठ अधिकार मंडळाच्या निर्णयानुसार आपणास कळविण्यात येते की, सर्व विद्याशाखेअंतर्गत येणा-या प्रथम वर्ष बी.ए., बी.कॉम., बी एस्सी., एम. ए., एम. कॉम व एम. एस्सी. च्या सर्व पदवी व पदव्युत्तर सुरु असणा-या अभ्यासक्रमांना शैक्षणिक वर्ष २०२१-२०२२ साठी एक वर्ष मुदतवाढ देण्यात आली आहे.

सदरची बाब सर्व विद्यार्थी, शिक्षक, शिक्षकेतर सेवक यांच्या निदर्शनास आणून द्यावी. सदरचे परिपत्रक विद्यापीठाच्या [www.unishivaji.ac.in](http://www.unishivaji.ac.in) या संकेतस्थळावर उपलब्ध आहे. कळावे,

आपला विश्वासू

उपकुलसचिव



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**Ref./SU/BOS/ HUM/ 4750**

**Date:- 01/06/2018**

The Principal  
All Affiliated Arts (B.A.) Colleges,  
Shivaji University,  
Kolhapur.

**Subject:** Regarding Guidelines, Rules, Regulation, Structure and Standard of Passing of B.A. Part –I ,II,III (Sem I & VI) Choice Based Credit System (CBCS) under the Faculty of Humanities.

**Sir/Madam,**

With reference to the subject mentioned above, I am directed to inform you that University authorities have accepted and granted approval to Guidelines, Rules, Regulation, Structure and Standard of Passing of B.A. Part- I,II, III (Sem. I & VI ) Choice Based Credit System (CBCS) under the Faculty of Humanities.

This Guidelines, Rules, Regulation, Structure and Standard of Passing shall be implemented from academic year 2018-2019 (i.e. from June 2018 onwards). A soft copy containing Guidelines, Rules, Regulation, Structure and Standard of Passing is attached herewith and it is also available on university website [www.unishivaji.ac.in](http://www.unishivaji.ac.in). (Online Syllabus )

You are therefore, requested to bring this to the notice of all Students and Teachers concerned.

Thanking you,

Yours faithfully,

Dy. Registrar

Encl: As above

Copy to;

- 1 Dean, Faculty of Humanities
- 2 Chairman, BOS & Ad-hoc Bords under Faculty of Humanities
- 3 Appointment Section
- 4 P.G. Admission Section
- 5 B.A. Section
- 6 Affiliation Section (U.G.)
- 7 Computer Centre
- 8 Eligibility Section
- 9 Distan Education

for information and necessary action.



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Ref./SU/BOS/Comm/4751

Date:01/06/2018

The Principal  
All Affiliated Commerce (B.Com.) Colleges,  
Shivaji University,  
Kolhapur.

Subject: Regarding Guidelines, Rules, Regulation, Structure and Standard of Passing of B.Com. Part –I, II, III (Sem I & VI) Choice Based Credit System (CBCS) under the Faculty of Commerce & Management.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that University authorities have accepted and granted approval to Guidelines, Rules, Regulation, Structure and Standard of Passing of B.Com. Part- I ,II,III (Sem. I & VI ) Choice Based Credit System (CBCS) under the Faculty of Commerce & Management.

This Guidelines, Rules, Regulation, Structure and Standard of Passing shall be implemented from academic year 2018-2019 (i.e. from June 2018 onwards). A soft copy containing Guidelines, Rules, Regulation, Structure and Standard of Passing is attached herewith and it is also available on university website [www.unishivaji.ac.in](http://www.unishivaji.ac.in). (Online Syllabus )

You are therefore, requested to bring this to the notice of all Students and Teachers concerned.

Thanking you,

Yours faithfully,

Dy. Registrar

Encl: As above

Copy to;

- 1 Dean, Faculty of Commerce & Management
  - 2 Chairman, BOS & Ad-hoc Bords under Faculty of Commerce & Management
  - 3 Appointment Section
  - 4 P.G. Admission Section
  - 5 B.Com. Section
  - 6 Affiliation Section (U.G.)
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  - 8 Eligibility Section
  - 9 Distan Education
- } for information and necessary action.





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Ref./SU/BOS/Science/4749

Date:- 01/06/2018

The Principal  
 All Affiliated Science (B.Sc.) Colleges,  
 Shivaji University,  
 Kolhapur.

Subject: Regarding Guidelines, Rules, Regulation, Structure and Standard of Passing of B.Sc. Part –I, II, III (Sem I & VI) Choice Based Credit System (CBCS) under the Faculty of Science and Technology.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that University authorities have accepted and granted approval to Guidelines, Rules, Regulation, Structure and Standard of Passing of B.Sc. Part- I , II, III (Sem. I & VI ) Choice Based Credit System (CBCS) under the Faculty of Science and Technology.

This Guidelines, Rules, Regulation, Structure and Standard of Passing shall be implemented from academic year 2018-2019 (i.e. from June 2018 onwards). A soft copy containing Guidelines, Rules, Regulation, Structure and Standard of Passing is attached herewith and it is also available on university website [www.unishivaji.ac.in](http://www.unishivaji.ac.in). (Online Syllabus )

You are therefore, requested to bring this to the notice of all Students and Teachers concerned.

Thanking you,

Yours faithfully,

Dy. Registrar

Encl: As above

Copy to;

- 1 Dean, Faculty of Science and Technology
  - 2 Chairman, BOS & Ad-hoc Bords under Faculty of Science and Technology
  - 3 Appointment Section
  - 4 P.G. Admission Section
  - 5 B.Sc. Section
  - 6 Affiliation Section (U.G.)
  - 7 Computer Centre
  - 8 Eligibility Section
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Ref../SU/BOS/Com & Mgmt./ *by mail*

Date : 03/09/2020

To,

The Principal  
All Affiliated (Commerce & Management) Colleges/Institutions,  
Shivaji University, Kolhapur

**Subject : Regarding Syllabi of BCA Part-I (Sem-I/II) Choice Based Credit System (CBCS) degree programme under the Faculty of Commerce & Management.**

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi of BCA Part-I (Sem-I/II) Choice Based Credit System (CBCS) under the Faculty of Commerce & Management.

This syllabi shall be implemented from the academic year 2020-2021 onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website [www.unishivaji.ac.in](http://www.unishivaji.ac.in) (Student - Online Syllabus).

The question papers on the pre-revised syllabi of above mentioned course will be set for two examination. These chances are available for repeater students, if any.

You are therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully,

Dy. Registrar

Encl : As above

Copy to,

1. I/c Dean, Faculty of Commerce & Management
  2. Chairman, Board of Studies
  3. Director, BOEE
  4. Appointment Section
  5. P. G. Admission Section
  6. B.Com and O. E. 1 Section
  7. Affiliation Section (U.G./P.G.)
  8. Computer Center/I.T.
  9. Eligibility Section
  10. Distance Education
  11. P.G. Seminar Section
- } for information
- } for information and necessary action.

# **SHIVAJI UNIVERSITY, KOLHAPUR.**



Estd. 1962

NAAC 'A' Grade

**Faculty of Commerce and Management**

**Syllabus For**

**BCA Part – I (Sem I & II) (CBCS)**

**(To be implemented from June 2020 onwards)**

(Subject to the modifications that will be made from time to time)

**Shivaji University, Kolhapur**  
**Bachelor of Computer Applications (BCA)**  
**Draft CBCS Course Structure to be implemented from June 2020**  
**Syllabus**

**1. Introduction:**

**Bachelor of Computer Application** (3years) program / degree is a specialized program in Computer Applications. It builds the student on studies in applied use of computers and to become competent in the current race and development of new computational era.

The duration of the study is of six semesters, which is completed in three years. The program is based on Choice-based credit system comprising 144 credit points and intake for one batch is not more than 80 students.

**2. Objective:**

BCA offers the prequalification for professionals heading for smart career in the IT field, which measures up to international standards. On completing this course one can do higher studies such as MCA, MBA etc., in any UGC recognized universities or in any other reputed institution in India or abroad.

**3. Eligibility:** Candidate should have passed standard XII (10+2) in any stream or government approved equivalent diploma in Engineering/ Technology from any recognized Board or Vocational stream.

A candidate who has completed qualifying qualification from any Foreign Board /University must obtain an equivalence certificate from Association of Indian Universities (AIU) or competent body in India.

**4. PEO, PO and CO Mappings:**

**Program Educational Outcomes:** After completion of this program, the graduates / students would:

PEO I	Technical Expertise	Implement fundamental domain knowledge of core courses for developing effective computing solutions by incorporating creativity and logical reasoning.
PEO II	Successful Career	Deliver professional services with updated technologies in Computer application based career.
PEO III	Interdisciplinary and Life Long Learning	Develop leadership skills and incorporate ethics, team work with effective communication & time management in the profession. Undergo higher studies, certifications and technology research as per market needs.

**Program Outcomes (PO's):-** After completion of program Students / graduates will be able to:

- PO1:** Apply knowledge of ICT in solving business problems.
- PO2:** Learn various programming languages and custom software.
- PO3:** Design component, or processes to meet the needs within realistic constraints.
- PO4:** Identify, formulate, and solve problems using computational temperaments.
- PO5:** Comprehend professional and ethical responsibility in computing profession.
- PO6:** Express effective communication skills.
- PO7:** Recognize the need for interdisciplinary, and an ability to engage in life-long learning.
- PO8:** Knowledge of contemporary issues and emerging developments in computing profession.
- PO9:** Utilize the techniques, skills and modern tools, for actual development process.

**Course Outcome(s):** Every individual course under this program has course outcomes (CO). The course outcomes rationally match with program educational objectives. The mapping of PEO, PO and CO is as illustrated below:

Program Educational Objectives	Thrust Area	Program Outcome	Course Outcome
PEO I	Technical Expertise	PO1,PO2,PO3,PO9	All Core and Lab courses
PEO II	Successful Career	PO4,PO5,PO6	All AEC courses
PEO III	Interdisciplinary and Life Long Learning	PO7,PO8	All Electives

**5. Workload (Period/Lectures for each Course):** For every semester 60 periods (60 minutes per period) are allotted to complete the syllabus of each Course (Subject).

**6. Standard of Passing:**

- I. A candidate must obtain minimum 40% of the marks in each University, internal examination paper, lab course as well as mini and major project.
- II. There shall be a separate head of passing in Theory, Internal, Lab Course and Project examination. However, ATKIT rules shall be made applicable in respect of theory and lab courses (University Examination) only.
- III. A candidate who fails in any number of subjects during semester – I & II shall admitted to B.C.A.-II (appear for semester –III & Semester IV examination).
- IV. However the candidate shall not be admitted to B.C.A- III (Semester-V) unless he/she passed in all the subjects at B.C.A.-I (Semester-I & Semester-II).
- V. A candidate who fails in any number of subjects during Semester-III & IV shall be admitted for B.C.A.-III & allowed to appear for Semester –V & VI examinations.
- VI. For environmental studies the candidate shall have to score 28 marks out of 70 marks theory paper and 12 marks out of 30 for project work.
- VII. CCC 108 is noncredit course as per notification of university i.e. Democracy, Elections and Good Governance (Non Credit).



### Graduation Chart:

Marks obtained	Numerical Grade (Grade Point)	CGPA	Letter Grade
Absent	0(Zero)		
<40	0 to 4	0.0 to 3.99	Fail
40-50	5	4.00 to 4.99	C
51-60	6	5.00 to 5.99	B
61-70	7	6.00 to 6.99	B+
71-80	8	7.00 to 7.99	A
81-90	9	8.00 to 8.99	A+
91-100	10	9.00 to 10.00	O(outstanding)

Note: i) Marks obtained  $\geq 0.5$  shall be rounded off to next higher digit.

ii) The SGPA & CGPA shall be rounded off to 2 decimal points.

### Calculation of SGPA & CGPA

1. Semester Grade Point Average (SGPA)  $SGPA = \frac{\text{Course credits} \times \text{Grade Points obtained of a semester}}{\text{Course credits of respective semester}}$

2. Cumulative Grade Point Average (CGPA)  $CGPA = \frac{\text{Total credits of a semester} \times \text{SGPA of respective semester of all semesters}}{\text{Total course credits of all semesters}}$

**7. Nature of Theory Question paper:** Nature of question paper is as follows for University end semester examination

#### QUESTION PAPER PATTERN FOR ALL SEMESTERS

Duration: 3 Hours

Total Marks – 70

- Instructions: 1) Que.1 and Que. 6 are compulsory and attempt any three Questions from Que. No.2 to Que. No. 5.  
2) Figures to the right indicate marks.

Qu.1)	
A. Multiple Choice Questions (10 questions for 1 mark each)	10
B. Give Reasons or Short answer question (Any two out of three)	10
Qu.2) Broad answer question	10
Qu.3) Broad answer question	10
Qu.4) Broad answer question	10
Qu.5) Broad answer question	10
Qu.6) Write notes on (Any Four out of Six)	20

### 8. Nature of Practical Question Paper:

There will be three questions of 15 Marks each, out of which student have to attempt any two Questions and 10 marks for journal and 10 marks for oral for 2 credit lab course and time duration is two hours.

For four credit lab course there will be four questions of 25 Marks each, out of which student have to attempt three questions and 10 marks for journal and 15 marks for oral and time duration is three hours.

Practical Examination conducted by the University appointed examiner panel of two members. The panel members have more than five years' experience as full time teacher.

**9. Medium of Instruction:** The medium of instructions shall be in English.

**10. Teachers Qualification:** As per rules and regulations of Shivaji University, Kolhapur and Govt. of Maharashtra.

**11. Internal Marks Distribution:**

- 1 Five Marks for Mid Tests.
- 2 Ten Marks for presentation or activity based learning or Group exercise( Number of students in Group are not more than six).
- 3 Five Marks for Assignments.
- 4 Five Marks for library activity/ designing apps or software or working model/ Field Work/online learning activity etc.
- 5 Five Marks for Attendance.(75% to 80%- 02 marks, 81% to 85 %- 03 marks, 86% to 90 %- 04 ,marks 91% to 100% - 5 mark)

**12. Mini- Project**

The Objective of mini project is, to make aware student with current technology to be used in IT industry. The language/platform of the mini-project to be selected from the subject studied in previous and present semester. The Group size of maximum four students can undertake mini project. Project Viva-Voce Examination will be conducted by the University appointed examiner panel of two members. The panel members have more than five years' experience as full time teacher.

**13. Major Software Development Project:**

The Objective of major project is to design and develop the live application with current technology to be used in various industries. The Group size of maximum three students can undertake major project. Project Viva-Voce Examination will be conducted by the University appointed examiner panel of two members. The panel members have more than five years' experience as full time teacher. The chairman for viva voce committee will be doctorate or faculty having more than ten years experience as full time faculty.

**14. Fee Structure:** As per University norms.

**15. Requirements:**

- i) Core Faculty:  
For First Year Sem I & Sem II - 1 Full Time Faculty and 1 Lab Assistant.  
For Second Year Sem III & Sem IV - 1 Full Time Faculty.  
For Third Year Sem V & Sem VI - 1 Full Time Faculty and 1 Lab Assistant.  
Total – 3 Full Time Faculties and  
Two Lab Assistants having qualification BCA/BCS/Diploma in  
Computer Engineering/PG DCA.

In addition there shall be visiting/CHB faculty drawn from academicians /professionals from different fields for AEC/DSE/GE Courses and AEC/DSE based lab courses.

- ii) Non-Teaching Staff: One Clerk and 2 Peons.
- iii) Computer Lab: Well-equipped networked Lab with backup facility, Application and system software's as per syllabi and internet facility.
- iv) Library: The entire library fees collected from the students shall be invested on library.
- v) Class Room: At least 3 classrooms of seating capacity 80 students with LCD in which at least one Digital Classroom.

**16. Structure of Syllabus:****BCA-I (Sem-I)**

Course Code	Title of Paper	Credit	Internal	External	Total
CC 101	Fundamentals of Computer	4	30	70	100
CC 102	Introduction to Programming Using C	4	30	70	100
AEC 103	Principles of Management	4	30	70	100
AEC 104	Business Communication	4	30	70	100
AEC 105	Office Automation	4	30	70	100
CCL 106	Lab Course-I Based on CC 102	2	-	50	50
CCL 107	Lab course-II Based on AEC 105	2	-	50	50
CCC 108	Compulsory Civic Course (CCC)	-	-	-	-
		24	150	450	600

**BCA-I (Sem-II)**

Course Code	Title of Paper	Credit	Internal	External	Total
CC 201	DBMS	4	30	70	100
CC 202	Operating System	4	30	70	100
CC 203	Object Oriented Programming Using C++	4	30	70	100
AEC 204	Financial Accounting with Tally	4	30	70	100
AEC 205	Mathematical Foundations for Computer Applications	4	30	70	100
CCL206	Lab Course-III Based on CC201 and AEC 204	2	-	50	50
CCL207	Lab course-IV Based on CC 203	2	-	50	50
		24	150	450	600

**BCA-II (Sem-III)**

Course Code	Title of Paper	Credit	Internal	External	Total
CC 301	Web Technology	4	30	70	100
CC 302	Computer Network and Internet	4	30	70	100
CC 303	Data Structure using C	4	30	70	100
AEC 304	Elements of Statistics	4	30	70	100
AEC305	Human Resource Management and Materials Management	4	30	70	100
CCL 306	Lab Course-V Based on CC301	2	-	50	50
CCL 307	Lab Course VI based on CC303 & AEC 304	4	-	50	50
AECC-EVS	Environmental Studies	--	--	--	--
		24	150	450	600

**BCA-II (Sem-IV)**

Course Code	Title of Paper	Credit	Internal	External	Total
CC 401	RDBMS	4	30	70	100
CC 402	Software Engineering	4	30	70	100

CC 403	DOT NET Technology	4	30	70	100
AEC 404	Entrepreneurship Development	4	30	70	100
CCL 405	PHP	2	50	-	50
CCL 406	Lab Course-VII Based on CC401	2	-	50	50
CCL 407	Lab Course-VIII Based on CC403	2	-	50	50
CCL 408	Mini Project	2	-	50	50
		24	170	430	600

### BCA-III (Sem-V)

Course Code	Title of Paper	Credit	Internal	External	Total
CC 501	Java Programming	4	30	70	100
CC 502	Data Warehousing and Data Mining	4	30	70	100
CC 503	IT Security	4	30	70	100
DSE 504	Elective-I 1. Python Programming 2. Emerging Trends in Data Base and Web Technology. 3. Ethical Hacking	4	30	70	100
GE 505	Elective-II 1. Digital Marketing 2. Management Information System 3. Knowledge Management	4	30	70	100
CCL 506	Lab Course-IX Based on CC501	2	-	50	50
CCL 507	Lab Course-X Based on DSE504	2	-	50	50
		24	150	450	600

### BCA-III (Sem-VI)

Course Code	Title of Paper	Credit	Internal	External	Total
CC 601	Cloud Computing	4	30	70	100
DSE 602	Elective-I 1. Internet of Things (IoT) 2. Android Programming 3. R Programming	4	30	70	100
GE603	Elective-II 1. IT Management 2. ERP 3. M - Commerce	4	30	70	100
AEC 604	Soft Skills & Personality Development	2	50	-	50
AEC 605	Industrial Visit	1	25	-	25
CCL 606	Lab Course XI Based on DSE 602	4	-	100	100
CCL 607	Major Project	5	25	100	125
		24	190	410	600

**Note: Students has to select any one course from the respective electives. CC- Compulsory Courses DSE- Domain Specific Electives  
GE- General Electives AEC- Ability Enhancement Compulsory  
Courses CCL – Compulsory Courses Lab.**

#### Credit Distribution Chart for BCA Program

Sr.	Particulars	Number of Courses	Total Credits	Percentage of Credits
1	CC- Compulsory Courses	29	93	65
2	GE- General Electives	02	08	5



Estd. 1962  
NAAC 'A' Grade

SHIVAJI UNIVERISTY, KOLHAPUR-416 004. MAHARASHTRA

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FAX 0091-0231-2691533 & 0091-0231-2692333 – BOS - 2609094

शिवाजी विद्यापीठ, कोल्हापूर – 416004.

दुरध्वनी (ईपीएबीएक्स) २६०९००० (अभ्यास मंडळे विभाग— २६०९०९४)

फॅक्स : ००९१-०२३१-२६९१५३३ व २६९२३३३.e-mail:bos@unishivaji.ac.in

SU/BOS/Humanities/ 6777

Date: 05/07/2018

To,

The Principal, All Affiliated (M. A.) Colleges/Institutions, Shivaji University, Kolhapur	The Head , All Concerned Department, Shivaji University, Kolhapur
--	---

**Subject:** Regarding syllabi of M. A. Part I (CBCS) programme under the Faculty of Humanities.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi, Nature of question paper and equivalence of M. A. Part-I Choice Based Credit System (CBCS) under the Faculty of Humanities.

M.A.-I (Sem. I & II) (CBCS)			
1)	Marathi	2)	Hindi
3)	Economics	4)	Political Science

This syllabi and equivalence shall be implemented from the academic year 2018-2019 (i.e. from June 2018) onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website [www.unishivaji.ac.in](http://www.unishivaji.ac.in). (Online Syllabus)

The question papers on the pre-revised syllabi of above mentioned course will be set for the examinations to be held in October /November 2018 & March/April 2019. These chances are available for repeater students, if any.

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully,

  
Dy Registrar

Copy to:

1	The Dean, Faculty of Humanities	7	Appointment Section
2	The Chairman, Respective Board of Studies	8	Centre for Distance Education
3	B.A. Exam	9	Computer Centre
4	Eligibility Section	10	Affiliation Section (U.G.)
5	O.E. I, II, III, IV Section	11	Affiliation Section (P.G.)
6	P.G.Seminar Section	12	P.G.Admission Section





Estd. 1962  
NAAC 'A' Grade

SHIVAJI UNIVERISTY, KOLHAPUR-416 004. MAHARASHTRA

PHONE : EPABX-2609000 website- [www.unishivaji.ac.in](http://www.unishivaji.ac.in)

FAX 0091-0231-2691533 & 0091-0231-2692333 – BOS - 2609094

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दुरध्वनी (ईपीएबीएक्स) २६०९०००० (अभ्यास मंडळे विभाग- २६०९०९४)

फॅक्स : ००९१-०२३१-२६९१५३३ व २६९२३३३. e-mail: bos@unishivaji.ac.in

SU/BOS/Humanities/6778

Date: 05/07/2018

To,

The Principal, All Affiliated (M. A.) Colleges/Institutions, Shivaji University, Kolhapur	The Head, All Concerned Department, Shivaji University, Kolhapur
--	--

**Subject:** Regarding syllabi of M. A. Part II (CBCS) programme under the Faculty of Humanities.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi, Nature of question paper and equivalence of M. A. Part-II Choice Based Credit System (CBCS) under the Faculty of Humanities.

M.A.-II (Sem. III & IV) (CBCS)			
1)	Marathi	2)	Hindi
3)	English	4)	Political Science
5)	Economics	6)	Sociology
7)	History		

This syllabi and equivalence shall be implemented from the academic year 2018-2019 (i.e. from June 2018) onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website [www.unishivaji.ac.in](http://www.unishivaji.ac.in). (Online Syllabus)

The question papers on the pre-revised syllabi of above mentioned course will be set for the examinations to be held in October /November 2018 & March/April 2019. These chances are available for repeater students, if any.

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully,

Dy Registrar

Copy to:

1	The Dean, Faculty of Humanities	7	Appointment Section
2	The Chairman, Respective Board of Studies	8	Centre for Distance Education
3	B.A. Exam	9	Computer Centre
4	Eligibility Section	10	Affiliation Section (U.G.)
5	O.E. I, II, III, IV Section	11	Affiliation Section (P.G.)
6	P.G.Seminar Section	12	P.G.Admission Section



Estd. 1962  
NAAC 'A' Grade

SHIVAJI UNIVERSITY, KOLHAPUR-416 004. MAHARASHTRA

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दुरध्वनी (ईपीएबीएक्स) २६०९०००० (अभ्यास मंडळे विभाग- २६०९०९४)

फॅक्स : ००९१-०२३१-२६९१५३३ व २६९२३३३. e-mail: bos@unishivaji.ac.in

SU/BOS/Science/6143

Date: 18/06/2019

To,

The Principal, All Concerned Affiliated Colleges/Institutions Shivaji University, Kolhapur	The Head/Co-ordinator/Director All Concerned Department (Science) Shivaji University, Kolhapur.
--	---

**Subject:** Regarding syllabi of M. Sc. Part-I (Sem. I & II (CBCS) Structure, and equivalence degree programme under the Faculty of Science and Technology.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi, nature of question paper and equivalence of M. Sc. Part-I (Sem. I & II) (CBCS) Structure, and equivalence degree programme under the Faculty of Science and Technology.

M.Sc.-I (Sem. I & II) (CBCS)			
1.	Physics	9.	Environmental Science
2.	Mathematics	10.	Botany
3.	Geography	11.	Zoology
4.	Chemistry	12.	General Microbiology
5.	Applied Statistics and Informatics	13.	Industrial Microbiology
6.	Geology	14.	Electronics
7.	Statistics	15.	Food Science and Technology
8.	Computer Science		

This syllabi and equivalence shall be implemented from the academic year 2019-2020 (i.e. from June 2019) onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website [www.unishivaji.ac.in](http://www.unishivaji.ac.in)

The question papers on the pre-revised syllabi of above mentioned course will be set for the examinations to be held in October /November 2019 & March/April 2020. These chances are available for repeater students, if any.

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully,

Dy Registrar

Copy to:

1	The Dean, Faculty of Arts & Fine Arts	8	P.G.Seminar Section
2	Director, Board of Examinations and Evaluation	9	Computer Centre
3	The Chairman, Respective Board of Studies	10	Affiliation Section (U.G.)
4	B.Sc. Exam	11	Affiliation Section (P.G.)
5	Eligibility Section	12	P.G.Admission Section
6	O.E. I Section	13	Centre for Distance Education
7	Appointment Section		

SU/BOS/Science/6138

Date: 18-06-2019





Estd. 1962  
NAAC 'A' Grade

SHIVAJI UNIVERSITY, KOLHAPUR-416 004. MAHARASHTRA  
PHONE : EPABX-2609000 website- [www.unishivaji.ac.in](http://www.unishivaji.ac.in)  
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दुरध्वनी (ईपीएबीएक्स) २६०९००० (अभ्यास मंडळे विभाग— २६०९०९४)  
फॅक्स : ००९१-०२३१-२६९१५३३ व २६९२३३३. e-mail: bos@unishivaji.ac.in

SU/BOS/Science/ No 1406

Date: 29 JUN 2020

To,

The Principal, All Concerned Affiliated Colleges/Institutions Shivaji University, Kolhapur	The Head/Co-ordinator/Director All Concerned Department (Science) Shivaji University, Kolhapur.
--	---

**Subject:** Regarding syllabi of M. Sc. Part-II (Sem. III & IV (CBCS) degree programme under the Faculty of Science and Technology.

**Sir/Madam,**

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi, nature of question paper and equivalence of M.Sc. Part-II (Sem. III & IV) (CBCS) degree programme under the Faculty of Science and Technology.

M.Sc.-II (Sem. III & IV) (CBCS)			
1.	Physics	11.	Environmental Science
2.	Mathematics	12.	Zoology
3.	Geography	13.	Electronics
4.	Chemistry, Industrial Chemistry, Applied Chemistry	14.	Food Science and Technology
5.	Applied Statistics and Informatics	15.	General Microbiology
6.	Geology	16.	Pharmaceutical Microbiology
7.	Statistics	17.	Biochemistry
8.	Computer Science	18.	Biotechnology
9.	Botany	19.	Environmental Biotechnology
10.	Agro Chemical and Pest Management (AGPM)		

This syllabi, nature of question and equivalence shall be implemented from the academic year 2020-2021 onwards. A soft copy containing the syllabus is attached herewith and it is also available on university website ([www.unishivaji.ac.in](http://www.unishivaji.ac.in))

The question papers on the pre-revised syllabi of above mentioned course will be set for the examinations to be held in October /November 2020 & March/April 2021. These chances are available for repeater students, if any.

You are, therefore, requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully,

Dy Registrar

Copy to:

1	The Dean, Faculty of Arts & Fine Arts	8	P.G.Seminar Section
2	Director, Board of Examinations and Evaluation	9	Computer Centre
3	The Chairman, Respective Board of Studies	10	Affiliation Section (U.G.)
4	B.Sc. Exam	11	Affiliation Section (P.G.)
5	Eligibility Section	12	P.G.Admission Section
6	O.E. I Section	13	Centre for Distance Education
7	Appointment Section		

**M.Sc. Programme structure (CBCS PATTERN) (2019-20)**

**M.Sc. Part – I**

<b>SEMESTER-I (Duration- Six Month)</b>											
	Sr. No.	Course Code	Teaching Scheme			Examination Scheme					
			Theory and Practical			University Assessment (UA)			Internal Assessment (IA)		
			Lectures (Per week)	Hours (Per week)	Credit	Maximum Marks	Minimum Marks	Exam. Hours	Maximum Marks	Minimum Marks	Exam. Hours
<b>CGPA</b>	1	CC-101	4	4	4	80	32	3	20	8	1
	2	CC-102	4	4	4	80	32	3	20	8	1
	3	CC-103	4	4	4	80	32	3	20	8	1
	4	CC-104	4	4	4	80	32	3	20	8	1
	5	CCPR-105	16	16	8	200	80	--	--	--	*
<b>Total (A)</b>			--	--	<b>24</b>	<b>520</b>	--	--	<b>80</b>	--	--
<b>Non-CGPA</b>	1	AEC-106	2	2	2	--	--	--	50	20	2
<b>SEMESTER-II (Duration- Six Month)</b>											
<b>CGPA</b>	1	CC-201	4	4	4	80	32	3	20	8	1
	2	CC-202	4	4	4	80	32	3	20	8	1
	3	CC-203	4	4	4	80	32	3	20	8	1
	4	CC-204	4	4	4	80	32	3	20	8	1
	5	CCPR-205	16	16	8	200	80	--	--	--	*
<b>Total (B)</b>			--	--	<b>24</b>	<b>520</b>	--	--	<b>80</b>	--	--
<b>Non-CGPA</b>	1	SEC-206	2	2	2	--	--	--	50	20	2
<b>Total (A+B)</b>					<b>48</b>	<b>1040</b>	--	--	<b>160</b>	--	--

<ul style="list-style-type: none"> <li>• Student contact hours per week : <b>32</b> Hours (Min.)</li> </ul>	<ul style="list-style-type: none"> <li>• Total Marks for M.Sc.-I : <b>1200</b></li> </ul>
<ul style="list-style-type: none"> <li>• Theory and Practical Lectures : <b>60</b> Minutes Each</li> </ul>	<ul style="list-style-type: none"> <li>• Total Credits for M.Sc.-I (Semester I &amp; II) : <b>48</b></li> </ul>
<ul style="list-style-type: none"> <li>• CC-Core Course</li> <li>• CCPR-Core Course Practical</li> <li>• AEC-Mandatory Non-CGPA compulsory Ability Enhancement Course</li> <li>• SEC- Mandatory Non-CGPA compulsory Skill Enhancement Course</li> </ul>	<ul style="list-style-type: none"> <li>• Practical Examination is annual.</li> <li>• Examination for CCPR-105 shall be based on Semester I Practicals.</li> <li>• Examination for CCPR-205 shall be based on Semester II Practicals.</li> <li>• *Duration of Practical Examination as per respective BOS guidelines</li> <li>• <b><i>Separate passing is mandatory for Theory, Internal and Practical Examination</i></b></li> </ul>



**M.Sc. Programme structure (CBCS PATTERN) (2020-21)**

**M.Sc. Part – II**

<b>SEMESTER-III (Duration- Six Month)</b>											
	Sr. No.	Course Code	Teaching Scheme			Examination Scheme					
			Theory and Practical			University Assessment (UA)			Internal Assessment (IA)		
			Lectures (Per week)	Hours (Per week)	Credit	Maximum Marks	Minimum Marks	Exam. Hours	Maximum Marks	Minimum Marks	Exam. Hours
<b>CGPA</b>	1	CC-301	4	4	4	80	32	3	20	8	1
	2	CCS -302	4	4	4	80	32	3	20	8	1
	3	CCS-303	4	4	4	80	32	3	20	8	1
	4	DSE -304	4	4	4	80	32	3	20	8	1
	5	CCPR-305	16	16	8	200	80	--	--	--	*
<b>Total (C)</b>			--	--	<b>24</b>	<b>520</b>	--	--	<b>80</b>	--	--
<b>Non-CGPA</b>	1	AEC-306	2	2	2	--	--	--	50	20	2
	2	EC (SWM -MOOC) /OE-307	Number of lectures and credit shall be as specified on SWAYAM- MOOC or as specified on OE								
<b>SEMESTER-IV (Duration- Six Month)</b>											
<b>CGPA</b>	1	CC-401	4	4	4	80	32	3	20	8	1
	2	CCS -402	4	4	4	80	32	3	20	8	1
	3	CCS-403	4	4	4	80	32	3	20	8	1
	4	DSE -404	4	4	4	80	32	3	20	8	1
	5	CCPR-405	16	16	8	200	80	--	--	--	*
<b>Total (D)</b>			--	--	<b>24</b>	<b>520</b>	--	--	<b>80</b>	--	--
<b>Non-CGPA</b>	1	SEC-406	2	2	2	--	--	--	50	20	2
	2	GE-407	2	2	2	--	--	--	50	20	2
<b>Total (C+D)</b>					<b>48</b>	<b>1040</b>	--	--	<b>160</b>	--	--

<ul style="list-style-type: none"> <li>• Student contact hours per week : <b>32 Hours (Min.)</b></li> </ul>	<ul style="list-style-type: none"> <li>• Total Marks for M.Sc.-II : <b>1200</b></li> </ul>
<ul style="list-style-type: none"> <li>• Theory and Practical Lectures : <b>60 Minutes Each</b></li> </ul>	<ul style="list-style-type: none"> <li>• Total Credits for M.Sc.-II (Semester III &amp; IV) : <b>48</b></li> </ul>
<ul style="list-style-type: none"> <li>• CC-Core Course</li> <li>• CCS- Core Course Specialization</li> <li>• CCPR-Core Course Practical</li> <li>• DSE-Discipline Specific Elective</li> <li>• AEC-Mandatory Non-CGPA compulsory Ability Enhancement Course</li> <li>• SEC- Mandatory Non-CGPA compulsory Skill Enhancement Course</li> <li>• EC (SWM MOOC) - Non-CGPA Elective Course</li> <li>• GE-Generic Elective</li> <li>• <b>OE-Open Elective</b></li> </ul>	<ul style="list-style-type: none"> <li>• Practical Examination is annual.</li> <li>• Examination for CCPR-305 shall be based on Semester III Practicals.</li> <li>• Examination for CCPR-405 shall be based on Semester IV Practicals.</li> <li>• *Duration of Practical Examination as per respective BOS guidelines</li> <li>• <b><i>Separate passing is mandatory for Theory, Internal and Practical Examination</i></b></li> </ul>

	<b>M.Sc.-I</b>	<b>M.Sc.-II</b>	<b>Total</b>
<b>Marks</b>	<b>1200</b>	<b>1200</b>	<b>2400</b>
<b>Credits</b>	<b>48</b>	<b>48</b>	<b>96</b>

### **I. CGPA course:**

1. There shall be 14 Core Courses (CC) per programme.
2. There shall be 04 Core Course Specialization (CCS) of 16 credits per programme.
3. There shall be 02 Discipline Specific Elective (DSE) courses of 08 credits per programme
4. Total credits for CGPA courses shall be of 96 credits per programme

### **II. Mandatory Non-CGPA Courses:**

1. There shall be 02 Mandatory Non-CGPA compulsory Ability Enhancement Courses (AEC) of 02 credits each per programme.
2. There shall be 01 Mandatory Non-CGPA compulsory Skill Enhancement Course (SEC) of 02 credits per programme.
3. There shall be one Elective Course (EC) (SWAYAM -MOOC). The credits of this course shall be as specified on SWAYAM MOOC.  
**If for a particular program there is no compatible SWAYAM MOOC then for that program OE shall be offered.**
4. There shall be one Generic Elective (GE) course of 02 credits per programme. Each student has to take generic elective from the department other than parent department.
5. **For Non-CGPA courses the total credits shall be 08 + the credits of EC or OE as per availability.**
6. The credits assigned to the course and the programme are to be earned by the students and shall not have any relevance with the work load of the teacher.



**Shivaji University, Kolhapur**  
Maharashtra State, India

Information Booklet of  
Choice Based Credit System and  
Open Elective Courses  
For  
Post Graduate Courses

## CONTENTS

Sr. No.	Content	Page No.
<b>A.</b>	Concept of Choice Based Credit System (CBCS)	<b>4</b>
<b>B.</b>	Definitions of Key Words	<b>5</b>
<b>C.</b>	Advantages of CBCS	<b>8</b>
<b>D.</b>	List of Post Graduate Department and Programs under CBCS	<b>9</b>
<b>E.</b>	Open Electives offered by various Departments under CBCS	<b>11 to 21</b>
1.	➤ Department of Physics	
2.	➤ Department of Chemistry	
3.	➤ Department of Bio-Chemistry	
4.	➤ Department of Computer Science	
5.	➤ Department of Mathematics	
6.	➤ Department of Botany	
7.	➤ Department of Zoology	
8.	➤ Department of Microbiology	
9.	➤ Department of Biotechnology	
10.	➤ Department of Food Science and Technology	
11.	➤ Department of Statistics	
12.	➤ Department of Electronics	
13.	➤ Department of Environmental Science	
14.	➤ Department of Geography	
15.	➤ Department of Marathi	
16.	➤ Department of English	
17.	➤ Department of Hindi	
18.	➤ Department of Foreign Languages	
19.	➤ Department of History	
20.	➤ Department of Economics	
21.	➤ Department of Sociology	

22.	➤ Department of Political Science	
23.	➤ Department of Library and Information Science	
24.	➤ Department of Commerce and Management	
25.	➤ Department of MBA	
26.	➤ Department of Education	
27.	➤ Department of Women Studies	
<b>F.</b>	Procedure for choosing Open Elective Course	<b>23</b>
<b>G.</b>	Appendix I – Application form for Registration to Open Courses under CBCS	<b>24</b>



## **A. The Concept of Choice Base Credit System (CBCS)**

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency and excellence in the Higher Education System of country. The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in curriculum, teaching-learning process, examination and evaluation systems, besides governance and other matters.

The UGC has formulated various regulations and guidelines from time to time to improve the higher education system and maintain minimum standards and quality across the Higher Educational Institutions (HEIs) in India. The academic reforms recommended by the UGC in the recent past have led to overall improvement in the higher education system. However, due to lot of diversity in the system of higher education, there are multiple approaches followed by universities towards examination, evaluation and grading system. While the HEIs must have the flexibility and freedom in designing the examination and evaluation methods that best fits the curriculum, syllabi and teaching-learning methods, there is a need to devise a sensible system for awarding the grades based on the performance of students. Presently the performance of the students is reported using the conventional system of marks secured in the examinations or grades or both. The conversion from marks to letter grades is used vary widely across the HEIs in the country. This creates difficulty for the academia and the employers to understand and infer the performance of the students graduating from different universities and colleges based on grades.

The grading system is considered to be better than the conventional marks system and hence it has been followed in the top institutions in India and abroad. So it is desirable to introduce uniform grading system. This will facilitate student mobility across institutions within and across countries and also enable potential employers to assess the performance of students. To bring in the desired uniformity, in grading system and method for computing the cumulative grade point average (CGPA) based on the performance of students in the examinations, the UGC has formulated these guidelines.

University Grants Commission has come up with the Choice Based Credit System (CBCS) programme in which the students have a choice to choose from the prescribed courses, which are referred as core, elective or minor or soft skill courses and they can learn at their own pace and the

entire assessment is graded-based on a credit system. The basic idea is to look into the needs of the students so as to keep up-to-date with development of higher education in India and abroad. CBCS aims to redefine the curriculum keeping pace with the liberalization and globalization in education.

### **Features of CBCS**

- Availability of three types of credit courses: Core, Elective and Foundation or Open Elective Courses.
- Availability of non-credit courses which are assessed as ‘Satisfactory’ or ‘Unsatisfactory’ and free from SGPA/CGPA.
- Evaluation and assessment of the three main CBCS courses for the accomplishment of the global standards in higher education and local needs of the society.

### **B. Definition of Key words**

**It has the following basic elements:**

- **Semesters:** The assessment is done semester wise. A student progresses on the basis of the courses taken rather than time for two years of their Post-graduation. Each semester will have 15–18 weeks of academic work which is equal to 90 teaching days. There is flexibility in creating the curriculum and assigning credits based on the course content and hours of teaching.
- **Credit system:** Each course is assigned a certain credit. When the student passes that course, he earns the credits which are based on that course. If a student passes a single course in a semester, student does not have to repeat that course later. The students can earn credits according to his pace.
- **Credit transfer:** If for some reasons, student cannot cope with the study load or if he falls sick, student has the freedom to study fewer courses and earn fewer credits and he can compensate this in the next semester.
- **Comprehensive continuous assessment:** There is a continuous evaluation of the student not only by the teachers but also by the student himself.

### Grade Points Table

Chart- A Applied to all subjects except Mathematics		Chart- B for Mathematics	
Range of Marks obtained out of 100 or any fractions	Grade Points	Range of Marks obtained out of 120 or any fractions	Grade Points
00 to 5	0	00 to 6	0
6 to 10	1	07 to 12	1
11 to 15	1.5	13 to 18	1.5
16 to 20	2	19 to 24	2
21 to 25	2.5	25 to 30	2.5
26 to 30	3	31 to 36	3
31 to 35	3.5	37 to 42	3.5
36 to 40	4	43 to 48	4
41 to 45	4.5	49 to 54	4.5
46 to 50	5	55 to 60	5
51 to 55	5.5	61 to 66	5.5
56 to 60	6	67 to 72	6
61 to 65	6.5	73 to 78	6.5
66 to 70	7	79 to 84	7
71 to 75	7.5	85 to 90	7.5
76 to 80	8	91 to 96	8
81 to 85	8.5	97 to 102	8.5
86 to 90	9	103 to 108	9
91 to 95	9.5	109 to 114	9.5
96 to 100	10	115 to 120	10

- **Grading:** Shivaji University has introduced a Seven-point grading system as follows:

GRADES	CGPA CREDIT POINTS
0	8.60 To 10
A+	7.00 To 8.59
A	6.00 To 6.99
B+	5.50 To 5.99
B	4.50 To 5.49
C	4.00 To 4.49
D	0.00 To 3.99

Overall Final Grades	Class		Grade
8.60 To 10	Higher Distinction Level	Extraordinary	O
7.00 To 8.59	Distinction Level	Excellent	A+
6.00 To 6.99	First Class	Very Good	A
5.50 To 5.99	Higher Second Class	Good	B
4.50 To 5.49	Second Class	Satisfactory	B+
4.00 To 4.49	Pass	Fair	C
0.00 To 3.99	Fail	Unsatisfactory	10

One credit per semester is equal to one hour of teaching, which includes both lecture (L) or tutorial (T) or two hours of practical work/field work (P) per week. A study course can have only L component or only T or P component or combination of any two or all the three components. The total credits earned by a student for each semester is L+T+P.

### **C. Advantages of Choice Based Credit System**

- The CBCS offers a 'cafeteria' approach in which the students can choose courses of their own choice.
- The credit system allows a student to study what he prefers in his own sequence as per his interests.
- They can learn at their own pace.
- They can opt for additional courses and can achieve more than the required credits.
- They can also opt for an interdisciplinary approach to learning.
- Inter college/university migration within the country and outside becomes easy with the transfer of Credits. This means that it will be easier for foreign universities to come and offer courses in India.
- Can opt for one part of the course in one institute and the other part in another institute. This will help in making a clear choice between good and bad colleges/ institutes.
- The students have more scope to enhance their skills and more scope of taking up projects and assignments, vocational training, including entrepreneurship.
- The system improves the job opportunities of students.
- The system will help in enabling potential employers assess the performance of students on a scientific scale.



**D. LIST OF POST-GRADUATE DEPARTMENTS & PROGRAMS UNDER CBCS**

<b>Sr. No.</b>	<b>Faculty</b>	<b>Name of department/school</b>	<b>Title of program</b>	<b>Intake</b>	<b>Duration (year)</b>	<b>Total credits</b>
1.	Science And Technology	Physics	M.Sc.	70	2	96
2.	Science And Technology	Chemistry	M.Sc.	60	2	96
3.	Science And Technology	Bio-Chemistry	M.Sc.	25	2	96
4.	Science And Technology	Computer science	M.Sc.	60	2	96
5.	Science And Technology	Computer science	M.C.A.	60	3	150
6.	Science And Technology	Mathematics	M.Sc.	60	2	96
7.	Science And Technology	Botany	M.Sc.	55	2	96
8.	Science And Technology	Zoology	M.Sc.	66	2	96
9.	Science And Technology	Microbiology	M.Sc.	35	2	96
10.	Science And Technology	Biotechnology	M.Sc.	30	2	96
11.	Science And Technology	Food science and technology	M.Sc.	40	2	96
12.	Science And Technology	Statistics	M.Sc.	30	2	96
13.	Science And Technology	Electronics	M. Sc.	36	2	96
14.	Science And Technology	Environmental Science	M.Sc.	50	2	96
15.	Science And Technology	Geography	M. A. M.Sc.	50	2	96
16.	Humanities	Marathi	M. A.	77	2	64
17.	Humanities	English	M. A.	60	2	64
18.	Humanities	Hindi	M. A.	60	2	64
19.	Humanities	Foreign Languages	M. A.	15	2	64
20.	Humanities	History	M. A.	55	2	64
21.	Humanities	Economics	M.A.	60	2	64
22.	Humanities	Sociology	M. A.	60	2	64
23.	Humanities	Political Science	M. A.	60	2	64
24.	Humanities	Library and	M. Lib	20	2	

		Information Science				
25.	Commerce and Management	Commerce and Management	M. Com	50	2	64
26.	Commerce and Management	Commerce and Management	MBA	60	2	128
27.	IDS	Education	M. Ed.	50	2	
28.	IDS	Women Studies	M.A.	25	2	64

**Note:**

Curriculum including Course Structure, Syllabi, Scheme of marking and other details are available on University website [www.unishivaji.ac.in](http://www.unishivaji.ac.in)

## Details of Open Elective Papers offered under CBCS at PG Level

Sr. No.	Open Elective Title of the paper	Credits assigned to the paper	Semester for which course is offered	Eligibility
<b>Department of Physics</b>				
1.	CBP-I Data Analysis and Statistical Software	2	Semester III	M.C.A., M.Sc. (Electronics, Mathematics, Statistics & Physics), *M.Tech. (All trades), *M.A. (Economics)
	CBP-II Numerical Computing Using MATLAB	2		M.C.A., M.Sc. (Electronics, Mathematics, Statistics & Physics), *M.Tech. (All trades)
	CBP-III Computational Programming using Mathematica	2		M.C.A., M.Sc. (Electronics, Mathematics, Statistics & Physics), *M.Tech. (All trades)
	P-IV Computational methods and Programming	4	Semester IV	M.C.A., M.Sc. (Electronics, Mathematics, Statistics & Physics), *M.Tech. (All trades)
	CBP-V MATLAB Programming and applications	2		M.C.A., M.Sc. (Electronics, Mathematics, Statistics & Physics), *M.Tech. (All trades)
	CBP-VI Electronic Devices-	4-credits		M.C.A., M.Sc. (Electronics, Mathematics, Statistics & Physics, Chemistry), *M.Tech. (All trades)
<b>Note :</b> (*) Papers are made available to all the Science and Technology students.				
<b>Department of Chemistry</b>				
2.	Basic Concepts in Chemical analysis	1	Semester I	B. Sc.-III
	Fundamentals of Spectroscopic techniques for Chemical analysis	1	Semester II	B. Sc.-III
	Chemistry of Nonomaterials	1	Semester III	M.Sc.-I
	Fundamentals of Chromatographic techniques	1	Semester IV	M.Sc.-I
<b>Department of Bio-Chemistry</b>				
3.	Cell Biology, Microbiology and Virology (59777)	4	Semester I	Prerequisite: B. Sc. Life Science/Chemistry

	Cell Biochemistry (64041)	4		Prerequisite: B. Sc. Life Science/Chemistry
	Immunochemistry (64162)	4	Semester III	Prerequisite: BC141
	Fermentation Technology – I (64161)	4		Prerequisite: LS141, TB241, GE341
	Bioinformatics (65088)	4	Semester I	Prerequisite: BSI 141
<b>Department of Computer Science</b>				
4.	CS 2131 Web Designing	4	Semester I	Any Graduate
	CS 2231 Android Fundamentals Development	4	Semester II	Any student pursuing M.Sc/MCA/M.Tech with knowledge of Java Programming
	CS 2313 Data Mining	4	Semester III	Knowledge of Database
	CS 2313 Open Source Softwares	4		B.Sc Computer, BCS
<b>Department of Mathematics</b>				
5.	Introduction to Latex	1	Semester III	Any Graduate with basic knowledge of Computer & Mathematics.
	Introduction to Latex	1	Semester IV	Any Graduate with basic knowledge of Computer & Mathematics.
<b>Department of Botany</b>				
6.	Plant Science, Human progress and prosperity	4	Semester III	All PG Students
	Plants – A Biological Capital	4	Semester IV	All PG Students
<b>Department of Zoology</b>				
7.	Applied Zoology	4	Semester III	M.Sc./M.A./M.Com admitted students
	Reproductive Biology	4	Semester IV	M.Sc./M.A./M.Com admitted students
<b>Department of Zoology</b>				

<b>Department of Microbiology</b>				
8.	Cell Biology, Microbiology and Virology (59789)	4	Semester I	Prerequisite: B. Sc. Life Science/Chemistry
	Immunology (63246)	4	Semester III	Prerequisite: BC141, BC 241
	Microbial Fermentation Technology (63250)	4	Semester IV	Prerequisite: FT 341
<b>Department of Biotechnology</b>				
9.	65080-Advance in Genomics & Proteomics	4	Semester IV	Candidate should be pass the Molicular Biology & Genetic Engineering of Sem II & Sem IV
<b>Department of Food Science and Technology</b>				
10.	Principle of food processing and preservation	4	Semester I	Any M. Sc. Graduate
	Fermentation Technology	4	Semester I	Any M. Sc. Graduate
<b>Department of Statistics</b>				
11.	An introduction to MINITAB	1	Semester III	All Science and Technology
	An introduction to SPSS	1		All Faculty
	An introduction to MATLAB	1		Mathematics, Electronics, Physics, Engineering
	An introduction to R software	1		Mathematics, MCA, Computer Science (Excluding Statistics)
	Design of Experiments for Applied Research	1		All Faculty
	Design and Analysis of Laboratory Experiments	1	Semester IV	All Faculty (Excluding Statistics)
	MATLAB Programming	1		Mathematics, Electronics, Physics, Engineering
	An introduction to SAS	1		Mathematics
	Advanced course in MSEXCEL	1		All faculty

<b>Department of Electronics</b>				
12.	EA11 – Microcontroller Programming in Embedded C	2	Semester I	Science graduate with Electronics at B.Sc. II
	EA12 – Principles of Digital Design	2		Science graduate with Electronics at B.Sc. II
	EA13 – Audio and Video Editing	2		Any Science graduate
	EA21 – Introduction to LINUX	2	Semester II	BCS, BCA or Science graduate with Electronics/ Computer Science at B.Sc. II
	EA22 – Project Design using MCS51 Family	2		Science graduate with Electronics at B.Sc. II
	EA23 – Audio and Video Editing	2		Any Science graduate
	EA31 – Soft Computing Techniques	2	Semester III	Science graduate with Electronics at B.Sc. II
	EA41 – Internet and Applications	2	Semester IV	Science graduate with Electronics at B.Sc. II
<b>Department of Environmental Science</b>				
13.	Paper IV: Information Technology in Environmental Sciences	4	Semester I	All science faculty
	Paper VI: Environmental Pollution	4	Semester II	All science faculty
	Vermi-composting	1	Semester III	All faculty
	Paper XIV Environmental Hazards and Disaster Management	4	Semester IV	All science faculty
<b>Department of Geography</b>				
14.	Economic geography GCT-103	4	Semester I	PG students of Economics
	Social & Cultural geography GCT-208	4	Semester II	PG students of Sociology
	Fundamental & Applications of Remote Sensing GCT-310	4	Semester III	PG students of Physics ,Botany, Environment
	Geography of Tourism GCT-302	4		PG students of Management (MBA)
	Settlement Geography GCT-406	4	Semester IV	PG students of Sociology

<b>Department of Marathi</b>				
15.	आंतरभारतीय साहित्याचा अभ्यास	4	Semester I	Any Graduate
	सर्जनशीललेखन	4		Any Graduate
	भाषांतरमीमांसा	4		Any Graduate
	आंतरभारतीय साहित्याचा अभ्यास	4	Semester II	Any Graduate
	सर्जनशीललेखन	4		Any Graduate
	भाषांतरमीमांसा	4		Any Graduate
	तौलनिकसाहित्य	4	Semester III	Any Graduate
	ग्रंथइतिहास	4		Any Graduate
	ग्रंथप्रकाशनआणिसंपादन	4		Any Graduate
	तौलनिकसाहित्य	4	Semester IV	Any Graduate
	ग्रंथइतिहास	4		Any Graduate
	ग्रंथप्रकाशनआणिसंपादन	4		Any Graduate
<b>Department of English</b>				
16.	'Introduction to Modern Linguistics'	4	Semester I	All faculty PG students
<b>Department of Hindi</b>				
17.	<b>P IV Elective Papers</b>			
	अ. भाषा प्रौद्योगिकी ।	1	Semester I	Open to all
	ब. अनुवाद प्रौद्योगिकी।	1		
	क. हिंदी कथा साहित्य ।	1		
	ड. हिंदी व्याकरण, मानकलेखन तथा मुद्रित शोधन ।	1		
इ. हिंदीसम्प्रेषणकौशल	1			

	<b>P VIII Elective Papers</b> अ. भाषा प्रौद्योगिकीII ब. अनुवाद प्रौद्योगिकीII क. हिंदी कथा साहित्य II ड. हिंदी व्याकरण, मानकलेखन तथा मुद्रित शोधन II इ. पटकथा लेखन तथा लघुपटनिर्माण	1 1 1 1 1	Semester II	Open to all
	<b>XII Elective Papers</b> भाषा प्रौद्योगिकीIII	1	Semester III	Open to all
	<b>XVI Elective Papers</b> भाषा प्रौद्योगिकीIV	1	Semester IV	Open to all
<b>Department of Foreign Language</b>				
18.	Introduction to Russian Culture	1	Semester II/ IV	-
<b>Department of History</b>				
19.	HS- 111 : 19th Century Maharashtra	4	Semester I	Graduate of any stream
	HS-208 : India's Struggle for Independence	4	Semester II	
	HS-306 : Theory and Concept of Museology	4	Semester III	
	HS- 411: History of Arab-Israel Conflict in 20th Century	4	Semester IV	
<b>Department of Economics</b>				
20.	Economics of Environment EO-2	4	Semester I	Any student admitted to PG Course
	Economics of Insurance EO-3	4		
	Economic Thoughts of Dr. B.R. Ambedkar EO-16	4	Semester II	
	Financial Markets and Institutions EO-13	4		
	Mathematical Economics EO-21	4	Semester III	



	Demography EO-22	4		
	Econometrics EO- 31	4	Semester IV	
	Economic Thoughts of Chh. Shahu EO-32	4		
<b>Department of Sociology</b>				
21.	SOE-09 Society and Culture in Maharashtra	4	Semester I	Any student admitted to PG Course
	SOE – 20 Criminology	4	Semester II	
	SOE – 28 Sociology of Health	4	Semester III	
	SOE - 37 Media & Society.	4	Semester IV	
<b>Department of Political Science</b>				
22.	E01: State in Ancient India	4	Semester I	Any Student doing Post Graduation (Sem-I)
	E02: Foreign Policy of India	4		
	E03: Modern Political Ideologies	4		
	E04: Political Thought of Dr. B R. Ambedkar	4		
	E05: Social Movements in India	4		
	E06: Human Rights in India	4	Semester II	Any Student doing Post Graduation (Sem-II)
	E07: Political Sociology	4		
	Parliamentary Institution	4		
	E09: Political Process in North East	4		
	E10: State Politics in India	4		
	E11: Women and Politics	4		
	E12: UN&Regional Organizations	4		

	Communal Harmony & Social Peace	4	Semester III	Any Student doing Post Graduation (Sem-III)
	Election Studies	4	Semester IV	Any Student doing Post Graduation (Sem-IV)
<b>Library and Information Science</b>				
23.	Research Methods and Statistical Techniques sub code: 47764	4	Semester I	Any Bachallors Degree
	Research Methods and Statistical Techniques sub code: 47764	4	Semester II	
<b>Department of Commerce</b>				
24.	Management concepts and Organization Behavior (Paper I)	4	Semester I	Any Graduate
	Management concepts and Organization Behavior (Paper II)	4	Semester II	
	Research Methodology (Paper V)	4	Semester III	
	Research Methodology (Paper VI)	4	Semester IV	
<b>M. B. A.</b>				
25.	Indian Financial System Paper I	4	Semester III	Any Graduate other than M. Com
	Employee Relations & Labour Laws	4	Semester IV	Any Graduate other than M. Com
<b>Department of Education</b>				
26.	Educational Management op-IV(B)	4	Semester I	This Elective will be open under CBCS scheme to all the Disciplines M.A/M.Sc /M.com
	Educational Measurement & Evaluation op-VIII(D)	4	Semester II	This Elective will be open under CBCS scheme to all the Disciplines M.A/M.Sc /M.com
<b>Department of Women Studies</b>				
27.	Introduction to Western Feminist Thought	4	Semester I	i.Enrollment for M.A. programme under the Faculty of Social Sciences

				ii. English language competence, as most of the material is available primarily in English
	UGC Recommended Course in Gender Sensitisation	2		Enrollment for M.A. programme under the Faculty of Social Sciences
	Prevention of Sexual Harassment at Workplace	4	Semester II	i. Enrollment for M.A. programme under the Faculty of Social Sciences ii. English language competence, as most of the material is available primarily in English
	UGC Recommended Course in Gender Sensitisation	2		Enrollment for M.A. programme under the Faculty of Social Sciences
	Prevention of Sexual Harassment at Workplace	4	Semester III	i. Enrollment for M.A. programme under the Faculty of Social Sciences ii. English language competence, as most of the material is available primarily in English
	UGC Recommended Course in Gender Sensitization	2		Enrollment for M.A. programme under the Faculty of Social Sciences
	Gender and Environment	4	Semester IV	i. Enrollment for M.A. programme under the Faculty of Social Sciences ii. English language competence, as most of the material is available primarily in English
	Gender and International Development	4		i. Enrollment for M.A. programme under the Faculty of Social Sciences ii. English language competence, as most of the material is available primarily in English
	UGC Recommended Course in Gender Sensitisation	2		Enrollment for M.A. programme under the Faculty of Social Sciences

**Note:**

The detailed syllabi of the Course and that of Open Electives are available on University Website [www.unishivaji.ac.in](http://www.unishivaji.ac.in)

### **E. Procedure for choosing Open Elective Course:**

1. At the beginning of the term an eligible student will apply for the Open Elective he/she wants to choose to the department concerned.
2. An application in the prescribed format (Appendix - I) duly filled. It should be submitted to the concerned Department by the Department, where he/she is studying within stipulated time.
3. The Department after receiving such applications scrutinized application for eligibility and display the names of students selected for the open elective course on the Notice board. Such names should also be sent to the Departments of the selected students.
4. Time table for open electives should be prepared so as to make it convenient to the students opting for the Open electives. As far as possible time of such course be in afternoon. Dean of the concerned faculty shall guide for fixing the common time table.
5. Examination of Open Electives having credit more than 2 will be conducted by the University Examination Section while for other having credit less than equal to 2 will be conducted by the concerned Department. In such case Department shall communicated marks of open electives to the Examination Section within week of the examination.
6. Any difficulty in conduct of open elective come shall be resolved in consultation with Dean of the concerned faculty.
7. List of open elective shall be updated at least once in three years. Department should take or review & response to the open elective offered and take appropriate measures so as to extend maximum be needful of the courses is the students community.

# SHIVAJI UNIVERSITY, KOLHAPUR

## Appendix I

### Application form for Registration to Open Courses under CBCS

(To be submitted in triplicate for each Open Course applied for .....)

- 1. Name of Student .....
- 2. Name of Department /Centre: .....
- 3. PRN: .....

4. Name / Number of Open Course applied for:

- i).....
- ii).....
- iii).....

5. Department offering Open Course

- i).....
- ii).....
- iii).....

Signature of Student.....

Signature of Head of the Department with seal.....

Accepted/ Not Accepted

Signature of Head of Department / Centre servicing the Open Course\_\_\_\_\_

- Copy to : Head, Parent Department
- : Department where student is applying for Open Course
- : The Director, Examinations and Evaluati



एस.यु./अ.मं./जनरल/3137

दि. 15/07/2017

प्रति,

अधिविभागप्रमुख / समन्वयक / संचालक  
सर्व अधिविभाग,  
शिवजी विद्यापीठ, कोल्हापूर

विषय:- PG कोर्सेसच्या CBCS Manual बाबत.

महोदय / महोदया,

आपणांस आदेशान्वये कळविण्यात येते की, शिवजी विद्यापीठ अधिविभागामध्ये सुरु असलेल्या पदव्युत्तर अभ्यासक्रमांना लागू असलेल्या Choice Based Credit System संदर्भात विद्यार्थ्यांना माहिती होण्यासाठी पदव्युत्तर कोर्सेसमध्ये उपलब्ध असलेल्या Open Electives बाबत CBCS Manual तयार करण्यात आले असून सोबत आपल्या माहितीसाठी Manual ची प्रत जोडली आहे.

तसेच सदर Manual विद्यापीठाच्या [www.unishivaji.ac.in](http://www.unishivaji.ac.in) (Online Syllabus) या संकेतस्थळावरही उपलब्ध करण्यात आले आहे.

कळावे,

आपला विश्वासु,



उपकुलसचिव

सोबत : वरीलप्रमाणे

प्रत:

1. स्वीय सहाय्यक, मा.कुलगुरु, मा.प्रभारी प्र.कुलगुरु,  
मा.कुलसचिव व मा.परीक्षा नियंत्रक
  2. प्रभारी अधिष्ठाता सर्व विद्याशाखा व अध्यक्ष, विषय समन्वय समिती
  3. बी.ए., बी.कॉम, बी.एससी,
  4. इतर परीक्षा 1, 2, 3, 4 विभाग
  4. परीक्षक नियुक्ती विभाग
  5. संलग्नता विभाग
  6. दूरशिक्षण केंद्र
  7. पात्रता विभाग
  8. आय.टी.सेल
  9. सभा विभाग
  10. पी.जी.बी.यु.टी.आर. विभाग
  11. पी.जी.प्रवेश विभाग
  12. पी.जी.सेमिनार
- यांना माहितीसाठी व पुढील योग्य त्या कार्यवाहीसाठी