



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.
A.	Concept of Choice Based Credit System (CBCS)	4
B.	Definitions of Key Words	5
C.	Advantages of CBCS	8
D.	List of Post Graduate Department and Programs under CBCS	9
E.	Open Electives offered by various Departments under CBCS	11 to 21
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	
F.	Procedure for choosing Open Elective Course	23
G.	Appendix I – Application form for Registration to Open Courses under CBCS	24

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

Sr. No.	Faculty	Name of department/school	Title of program	Intake	Duration (year)	Total credits
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

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
Department of Physics				
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)
Note : (*) Papers are made available to all the Science and Technology students.				
Department of Chemistry				
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
Department of Bio-Chemistry				
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
Department of Computer Science				
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
Department of Mathematics				
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.
Department of Botany				
6.	Plant Science, Human progress and prosperity	4	Semester III	All PG Students
	Plants – A Biological Capital	4	Semester IV	All PG Students
Department of Zoology				
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
Department of Zoology				

Department of Microbiology				
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
Department of Biotechnology				
9.	65080-Advance in Genomics & Proteomics	4	Semester IV	Candidate should be pass the Molicular Biology & Genetic Engineering of Sem II & Sem IV
Department of Food Science and Technology				
10.	Principle of food processing and preservation	4	Semester I	Any M. Sc. Graduate
	Fermentation Technology	4	Semester I	Any M. Sc. Graduate
Department of Statistics				
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

Department of Electronics				
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
Department of Environmental Science				
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
Department of Geography				
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

Department of Marathi				
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
Department of English				
16.	'Introduction to Modern Linguistics'	4	Semester I	All faculty PG students
Department of Hindi				
17.	P IV Elective Papers			
	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			

	P VIII Elective Papers 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
	XII Elective Papers भाषा प्रौद्योगिकीIII	1	Semester III	Open to all
	XVI Elective Papers भाषा प्रौद्योगिकीIV	1	Semester IV	Open to all
Department of Foreign Language				
18.	Introduction to Russian Culture	1	Semester II/ IV	-
Department of History				
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	
Department of Economics				
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		
Department of Sociology				
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	
Department of Political Science				
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)
Library and Information Science				
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	
Department of Commerce				
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	
M. B. A.				
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
Department of Education				
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
Department of Women Studies				
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

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

