SHIVAJI UNIVERSITY, KOLHAPUR

NAAC "A++" Grade with CGPA 3.52

CHOICE BASED CREDIT SYSTEM (CBCS)

Syllabus for

Bachelor of Computer Application
(Under Faculty of Science and Technology)

PART I

(Syllabus to be implemented from June, 2022 onwards)

Shivaji University, Kolhapur

Bachelor of Computer Application (BCA)

(Under Faculty of Science and Technology)

Program Outcomes

Upon successful completion of the BCA, the student should have met the following Outcomes:

1. Appreciate and apply mathematical organization, computing, and domain information for the conceptualization of computing models from clear harms.

2. Facility to apply and give expert principles and cyber systems in a universal monetary situation

3. Ability to function as an effective communicator and team member through essential skills in multidisciplinary projects.

4. Understand, analyze and develop computer programs in the areas related to algorithms, web design, and networking for efficient design of the computer-based system.

5. Classify opportunities, private enterprise dreams, and use of original thoughts to build worth and means for the betterment of the human being and the world

6. Work in the IT sector as a system engineer, software tester, junior programmer, web developer, system administrator, software developer, etc.

7. To develop an interdisciplinary approach among the students

Program Specific Outcome (PSO)

1. An ability to enhance the application of knowledge of theory subjects in diverse fields.

2. Encouraging students to convert their start-up idea to reality by implementing

3. Focuses on preparing the student for roles in computer applications and the IT industry

4. Develop programming skills, networking skills, learn applications, packages, programming languages, and modern techniques of IT

5. Information about various computer applications and the latest development in IT and communication systems is also provided

6. Ability to identify, formulates, analyze and solve problems of programming using different languages.

7. Take up self-employment in the Indian & global software market.

8. To pursue a career in the corporate sector can opt for M.Sc, MCA.

9. The student will be able to know various issues, and the latest trends in technology development and thereby innovate new ideas and solutions to existing problems

1. Introduction

a) The name of the program shall be Bachelor of Computer Application (BCA).

b) After completion students will be able to apply standard software engineering practices and strategies in software project development using an open-source programming environment to deliver a quality product for business success.

c) Job Opportunities: The program addresses the job requirements in many domains such as web development, mobile development, Testing and one involving an assortment of hardware and software.

d) Many graduates begin their careers as junior programmers and, after some experience, are promoted as system analysts. Others seek an entrepreneurial role in the Information Technology world as independent business owners, software authors, consultants, or suppliers of systems and equipment.

e) Career opportunities exist in such areas as management software and hardware sales, technical writing, training others on a computer, consulting, software development, and technical support. Application areas in the Information Technology world as independent business owners, software authors, consultants, or suppliers of systems and equipment.

f) Career opportunities exist in such areas as management software and hardware sales, technical writing, training others on the computer, consulting, software development and technical support. Application areas include transaction processing, accounting functions, sales analysis, games, forecasting and simulation, database management, decision support and data communications.

g) The present curricula focus on the learning aspect from three dimensions viz. Conceptual Learning, Skills Learning and Practical / Hands-on.

2. Duration of the Program:

The BCA program will be a full-time THREE years i.e. 6 semesters. The pattern of examination will be Semester System.

3. Medium of Instruction:

The medium of instruction will be English only

4. Admission Procedure

To be eligible for admission to the Bachelor of Computer Application a candidate must have passed

a) HSC (10+2) from any stream

b) Three Year Diploma Course (after SSC i.e. 10th Standard), of Board of Technical Education conducted by Government of Maharashtra or its equivalent

5. Course Structure:

Lectures and Practical should be conducted as per the scheme of lectures and practicals indicated in the course structure.

6. Teaching and Practical Scheme

a) Each contact session for teaching or practical should be of 60 minutes each.

b) One Practical Batch should be of 30 students.

c) Practical evaluation should be conducted before the commencement of University examination

7. Project Work:

a) Project work may be done individually or in groups in case of bigger projects. However if project is done in groups, each student must be given a responsibility for a distinct module and care should be taken to see the progress of individual modules is independent of others.

b) Students should take guidance from assigned guide and prepare a Project Report on "Project Work" in two copies to be submitted to the Head of the Department.

c) The project report should contain an Introduction to Project, which should clearly explain the project scope in detail. Also DFDs, ERDs, UML diagrams, database designs and a list of output reports should be included.

d) The project Work should be of such a nature that it could prove useful or should be relevant from the commercial/Societal angle.

e) The project report will be duly accessed by the assigned guide and internal marks will be communicated by the Director of the Institute/Head of the Department.

f) The project report should be prepared in a format prescribed by the University, which also specifies the contents and methods of presentation. IEEE Computer Society templates are recommended in this regard.

g) The external viva shall be conducted by a panel of minimum two examiners out of which one will be external and other will be internal examiner.

OR

The student shall be allowed to formulate a proposal for startup and the same shall be rated equivalent to project. A detailed problem statement showing innovation along with

marketability, business plan and cash flow shall be part of the evaluation criteria.

8. Assessment

1. The final total assessment of the candidate is made in terms of an internal assessment and an external assessment for each course.

   a) For each theory paper, 20% marks will be based on internal assessment and 80% marks for semester examination (external assessment), unless otherwise stated.
   b) The division of the 20 marks allotted to internal assessment of theory papers is as follows;
      i)   Two tests should be conducted of MCQ type questions.
      ii) Each test will be of 10 marks

2. The project will be evaluated by the university appointed examiners both internal as well as external.

3. The final practical examination will be conducted by the university appointed examiners both internal as well as external at the end of semester for each lab course and marks will be submitted to the university by the panel. The pattern of final Practical Examination will be as follows;

1	Coding and Execution of Program	60 Marks
2	Viva-voce	20 Marks
3	Journal	20 Marks
4	Total	100 Marks

The practical examination will be conducted semester wise in order to maintain the relevance of the respective theory course with laboratory course.

4. The internal marks will be communicated to the University at the end of each semester, but before the semester end examinations. These marks will be considered for the declaration of the results.

5. The final Examinations shall be conducted at the end of the semester.

6. Nature of question paper:

   Nature of question paper is as follows for University end semester examination

   ❖ **Theory Examination:**
   1. There will be seven (7) questions of 16 Marks and out of which four (4) to be attempted from question no 2 to 6.
   2. Question No.1 is compulsory and is of multiple choice questions. There will be 8 multiple choice question each carries 2 marks
   3. Question No.2 to Question No. 6 should consist 2 sub question each carries 8

marks

4. Question No. 7 should be a short note, where 4 questions will be given, out of which two questions should be attempted

❖ **Practical Examination:**

1. Duration of Practical Examination: 3 Hrs

2. Nature of Question paper: There will be three questions out of which any two questions to be attempted and each question carries 30 Marks.

9. Standard of Passing:

Internal as well as external examination will be held at the end of semester. The candidate must score 40% marks in each head of internal as well as external Examination

10. Backlog

For admission to 3rd year, students must have completed 1st year.

11. Board of Paper Setters /Examiners:

For each Semester end examination there will be a board of Paper setters and examiners for every course. While appointing paper setter /examiners, care should be taken to see that there is at least one person specialized in each unit of the course.

12. Credit system implementation:

As per the University norms

13. Clarification of Syllabus:

The syllabus committee should meet at least once in a year to study and clarify any difficulties from the Institutes. The Workshop on syllabi should be organized at the beginning of every semester

14. Eligibility of Faculty:

MCA (from any faculty) or M.Sc (Computer Science) or M.Tech. (CS) with at least B+ or equivalent

15. Revision of Syllabus:

As the computer technology experience rapid rate of obsolescence of knowledge, revision of the syllabus should be considered every two/three years.

16. Fees Structure: 18000/- (Tuition Fees) + other fees as approved by the Shivaji University fee fixation committee

17. Intake Capacity: 60

18.Award of Class:

There will be numerical marking on each question. At the time of declaration of the result the marks obtained by the candidate is converted into grade point as shown below;

Grade Point Table

Range of Marks obtained out of 100 or any fractions	Grade Points
0	0 To 5
1	6 To 10
1.5	11 To 15
2	16 To 20
2.5	21 To 25
3	26 To 30
3.5	31 To 35
4	36 To 40
4.5	41 To 45
5	46 To 50
5.5	51 To 55
6	56 To 60
6.5	61 To 65
7	66 To 70
7.5	71 To 75
8	76 To 80
8.5	81 To 85
9	86 To 90
9.5	91 To 95
10	96 To 100

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

Grades	CGPA Credit Points
O	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	D

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