



Estd. 1962  
NAAC 'A' Grade

SHIVAJI UNIVERISTY, KOLHAPUR-416 004. MAHARASHTRA

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

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

SU/BOS/Science/

Date: 25 NOV 2019

To,

No 0830 -

1) The Principal, All Concerned Affiliated Colleges/Institutions Shivaji University, Kolhapur	2) The Head, All Concerned Department Shivaji University, Kolhapur.
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**Subject:** Regarding Syllabi of Bridge Course for students admitted directly to MCA (Science) Part II through Lateral Entry 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 syllabi of **Bridge Course for students admitted directly to MCA (Science) Part II through Lateral Entry** under the Faculty of Science and Technology.

This syllabi 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)

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 Science & Technology	7	Appointment Section
2	Director, Board of Examinations and Evaluation	8	Computer Centre/IT Cell
3	The Chairman BOS	9	Affiliation Section (U.G.)
4	B.Sc/M.Sc Section	10	Affiliation Section (P.G.)
5	Eligibility Section	11	P.G.Admission Section
6	P.G.Seminar Section		

**Shivaji University**  
(Faculty of Science)  
Implemented from Academic year 2018-2019  
**Bridge Course for students admitted directly to MCA (Science) Part II**  
**through Lateral Entry**

**Bridge Course:-**

The bridge course for the students admitted to MCA (Science) Part II by lateral entry.

1. The student shall have to appear for one theory paper (multiple choice questions) of 100 Marks. There will be no negative marking for wrong answer.
2. The number of multiple choice questions will be 50. 2 marks for each question (50x2=100 Marks). Each question will have four options. All questions will be compulsory.
3. This bridge course shall be completed by the student as prescribed by university authorities. MCA degree shall not be awarded unless the students successfully complete the Bridge Course.
4. Examination will be conducted by University.
5. The student has to secure 40% marks in Examination in order to pass the bridge course.
6. Examination fee shall be made applicable as per University rules. The respective University department / affiliated college shall arrange for the contact sessions (10 contact sessions) for completing the Bridge Course. However the College/Department shall not charge any fee for the conduct of Bridge Course.

# Department of Computer Science, Shivaji University, Kolhapur

Master of Computer Application  
Bridge Course Paper Syllabus

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## Unit I

### Computer Architecture

Introduction to Digital Computer, Number Systems- Binary, Octal and Hexadecimal. Inter-conversion between number systems, Boolean Algebra: Logic Gates, Boolean Algebra, Karnaugh Maps, Boolean Circuits

**Principles of Management-** functions of Management, steps in Planning Process, Organization structure, Elements of directing, Leadership styles, types of motivation

## Unit II

### Fundamentals of Mathematics and Statistics

Elementary set theory: universal set, subset, representation of sets, operations, distributive and De Morgans laws, product sets, Relations and digraphs: Relation, matrix representation, digraph, paths in relation, Properties, equivalence relation, operations on relation, related algorithm, closures, Computer representation of sets, Measures of Central Tendency- Mean, Mode, Median

## Unit III

**Object Oriented Programming-**Class, Object, constructor, Destructor, Inheritance, Polymorphism

Data Structure-Arrays, sparse matrix, Stack, Queue, Singly Linked List, Sorting and Searching

## UNIT IV-

### Database Management System-

Introduction to RDBMS: E-R Model, Basic Queries (DDL, DML, DCL, DQL), Concept of Primary Key and Foreign Key, PL/SQL Programming, Cursor, Trigger.

## Reference Books -

- [1] Programming in ANSI C, E Balagurusamy, Tata McGraw-Hill Publishing
- [2] Programming in C++ by Yashwant Kanetkar (PBP Publications)
- [3] Koontz and Weirich : Essentials of Management
- [4] SQL, PL/SQL the programming language of Oracle Ivan Bayross BPB 4th
- [5] Computer System Architecture Morris Mano Pearson 3<sup>rd</sup> Edition
- [6] Data Structures using C and C++ - Tanenbaum
- [7] Gupta C. B.: Introduction to Statistics
- [8] Discrete mathematics - Semyour Lipschutz, Marc Lipson (MGH), Schaum's outlines.