

UNIVERSITY OF MUMBAI

CENTRE FOR DISTANCE AND ONLINE EDUCATION (CDOE)

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CONTENT

Sr. No.	TITLE	Page No.
SECTION ONE		
1	INTRODUCTION 1.1 The University of Mumbai 1.2 The Institute 1.3 Aims and Objectives 1.4 Special Features 1.5 Instructional System	3 - 5
2	ADMISSION 2.1 Admission Schedule 2.2 Online Admission Procedure 2.3 Courses Offered Under Science Faculty and Eligibility Criteria at a Glance. 2.4 Course Wise Fees	6 - 10
SECTION TWO		
3	DETAILS OF PROGRAMMES IN FACULTY OF SCIENCE 3.1 B.Sc. Computer Science Programme F.Y.B.Sc. Computer Science S.Y.B.Sc. Computer Science T.Y.B.Sc. Computer Science 3.2 B.Sc. Information Technology Programme F.Y.B.Sc. Information Technology S.Y.B.Sc. Information Technology T.Y.B.Sc. Information Technology 3.3 M.A. / M.Sc. Mathematics Programme M.A. / M.Sc. Mathematics PART- I & II 3.4 M.Sc. Computer Science Programme M.Sc. Computer Science Part-I M.Sc. Computer Science Part-II 3.5 M.Sc. Information Technology Programme M.Sc. PART- I & II Information Technology 3.6 Details of Programmes in Faculty of Technology Master of Computer Application Programme (MCA) M.C.A. First Year M.C.A. Second Year	11 - 34
SECTION THREE		
4	RULES, REGULATIONS, SERVICES AND FACILITIES 4.1 Instructions to Scholarship Students 4.2 Important Circulars & Ordinances 4.3 Support Services 4.4 Rules and Regulations of the Institute. 4.5 Self-Study Technique	35 - 45

SECTION-ONE

1.1 THE UNIVERSITY OF MUMBAI:

The University of Mumbai (earlier known as University of Bombay) is one of the oldest and premier Universities in India. Established on 18th July, 1857, it is one amongst the first three universities in India, other being Calcutta and Madras universities. It is a University with Potential for Excellence Award accorded by the UGC.

The University has been recredited with 'A' grade by the NAAC.

University of Mumbai has five campuses (i.e. Fort campus (Main), Kalina, Ratnagiri, Thane and Kalyan). 742 affiliated colleges and 55 departments with an enrolment of more than 7 lakh Students are engaged in the teaching-learning process. It has established its name in industrial collaboration and runs various professional programmes. The university is leading at national level in sports, cultural and other activities.

1.2 THE INSTITUTE:

The university started its correspondence education on 24th March 1971. It was known as "Directorate of Correspondence Programmes." In 1985 it was upgraded as "Directorate of Distance Education" which was further in 1993, upgraded as "Institute of Distance Education" (IDE). In the academic year 2008-09 the "The Institute of Distance Education" is now named as "CENTRE FOR DISTANCE AND ONLINE EDUCATION" (CDOE). Since its inception CDOE has been giving high priority to human resource development by introducing various traditional Degree Programmes as well as Technical and Professional Programmes through distance mode.

University of Mumbai is the 7th University in the country which has started a Distance Education Program in a conventional set up. Initially it started with the registration of 845 students which has grown up to a staggering figure of 76,495 (2016-2017) in the last academic year. Students are also doing well by topping the merit list of the university examination and have bagged Gold Medal in M.A. Sanskrit, M.A. Marathi and Chancellor's Medal in M.A. Hindi. There are a good number of students securing First Class B.A./B.Com. and M.A. / M.Com. Many students of CDOE have gone abroad seeking higher education in the USA, UK, Australia, Canada, New Zealand etc. Many well known film personalities have also been enrolled in CDOE.

All Programmes offered by the Institute are approved by the Distance Education Bureau, UGC, New Delhi.

1. Ratnagiri Subcentre

University of Mumbai at Plot No. P-61, MIDC, Mirjole, Ratnagiri. Students counselling / guidance is available at this center.

2. CDOE learning centre at Thane Sub Campus

University of Mumbai at Balkum, Runwal Garden, Thane-Bhiwandi Road, Balkum Octroi Naka, Thane – 400 608. Students counselling / guidance is available at this center.

3. Kalyan Subcentre –

University of Mumbai at Gandhar Road Vasant Valley, Khadak Pada Kalyan (West) Thane-421103 Students counselling / guidance is available at this center.

1.3 AIMS AND OBJECTIVES:

The main objectives of the Institute are:

1. To provide facilities of higher education to the working population, women and adults, who wish to upgrade their education or acquire knowledge in various disciplines.
2. To provide education for poor and such other people who cannot attend regular face to face classroom teaching.
3. To help the students upgrade educational qualification for academic achievements in the process of lifelong education.
4. To develop education as a lifelong activity so that the individual can refresh his/her knowledge or can acquire knowledge in new areas.

Vision:

To position CDOE as a premier ODL institute responsive to emerging needs of learners by providing education for all.

To produce high quality graduates and contribute towards sustainable development of the university by supporting creation of excellence in teaching, learning and research.

Mission:

The institute shall strive to promote innovative strategies for creation and dissemination of knowledge using available media and technologies so that university graduates acquire relevant capabilities to contribute with diligence to national development and global knowledge pool through their caliber, professionalism, value system and sense of service.

This will be achieved by providing high quality self-learning materials with extensive learner support services and to take education to the unreached and promote community participation for local development.

1.4 SPECIAL FEATURES:

- * The institute is presently located in its own building of about 77,000 square feet area with connectivity.
- * Curricular contents, mode of examination and the degrees to be awarded are the same as applicable to the students of the colleges affiliated to the University of Mumbai.
- * The learning process of the Institute is mainly through the medium of printed study materials.
- * The audio-visual and electronic aids are being added in some subjects as a reference resource.
- * The institute is also developing the Virtual Learning Class-rooms (VLC) facility for the students as an additional facility.
- * The institute has an independent library and two reading rooms for the students.
Fifty thousand books are available with a good number of journals of national and international repute.
- * Guidance lectures (Personal Contact Programmes) are conducted every year at about 76 centers in Mumbai and around.
- * Counseling to the students during office hours at Headquarters is given by the core faculty.

1.5 INSTRUCTIONAL SYSTEM:

The methodology of instructions at Centre for Distance and Online Education of the University of Mumbai is different from that of the conventional university/college. Our system is more learner oriented in which the learner is an active participant in the teaching learning process.

CDOE follows the multimedia approach in instructions. It comprises:

1. Printed study materials are basically in English and wherever possible in Marathi also. The question-papers in the subject other than languages are printed in English with Marathi version. The students can write their answers in English, Marathi, Hindi or Gujarati if they indicate their choice for medium of

answering in their Examination Form, **if a student writes his /her answers in any language other than Marathi, Hindi, English their answers will not be assessed and ZERO marks will be awarded.** Students will have to collect their study materials from Room No.005 (Backside), ground floor, CDOE Building on Monday to Friday (11.00am to 5:00pm). However, for the students who are unable to make it, the study materials will be sent through post if he/ she makes a written request to the office along with the Xerox copy of Admission Form and complete postal address.

2. Face to face interaction with teachers and Counseling at CDOE by the core faculty is available between the times 3.00 p.m. to. 5 p.m. from Monday to Saturday (excluding 2nd & 4th Saturday of every month and public holidays) in Room No. 106 A, CDOE.

2. ADMISSION

2.1. ADMISSION SCHEDULE

Kindly check the admission schedule on the website <https://mu.ac.in/distance-open-learning>

2.2 ONLINE ADMISSION PROCEDURE:

The admission will be done online. For details the students have to visit our website:

<https://mu.ac.in/distance-open-learning>

Under Graduate Programmes & Part-II of Post Graduate Programmes

<https://idolooa.digitaluniversity.ac/Login>

For Part-I of Post Graduate Programmes kindly visit

<https://mucdoeadm.samarth.edu.in/>

PAYMENT OF FEES

The fees can be paid through any one of the following modes of payment:

1. Online payment option through Debit/ Credit Cards/ Internet Banking/UPI.

Attestation of Documents

The self-attested copies of documents/papers will be accepted.

It is made clear that if any false attestation / falsified record is detected, the student will be debarred from the University / institute and in addition a criminal case under relevant section of IPC (viz., 471, 474 IPC etc.) will be instituted against him/her.

2.3. COURSES OFFERED UNDER SCIENCE FACULTY AND ELIGIBILITY CRITERIA AT A GLANCE

{{CBCS pattern scheme implemented from the academic year 2020-21 for the programs of B.Sc.IT & MCA}

(Semester Pattern & CBCS pattern is available for M.Sc. Maths & I.T programs)}

Sr. No.	Course & Eligibility	
1.	B. Sc. [Information Technology] (Three Years)	
	F.Y. B. Sc. (IT)	Bachelor of Science (Information Technology) B.Sc. (I.T.): Ordinance No.O.5051 Circular No No.UG./283 of 2007, Dated 16th June, 2007. :

	(a) A candidate for being eligible for admission to the degree course of Bachelor of Science-Information Technology, shall have passed XII standard examination of the Maharashtra Board of Higher Secondary Education or it's equivalent with Mathematic and Statistics as one of the subject and should have secured not less than 45% marks in aggregate for open category and 40% marks in aggregate in case of Reserved category candidates. (b) Candidate who have passed Diploma (Three years after S.S.C. – Xth Std.) in Information Technology/ Computer Technology/ Computer Engineering/Computer Science/ Electrical, Electronics and Video Engineering and Allied Branches/Mechanical and Allied Branches/ Civil and Allied branches are eligible for direct admission to the Second Year of the B.Sc. (I.T.) degree course. However, the Diploma should be recognized by the Board of Technical Education or any other recognized Government Body. Minimum marks required 45% aggregate for open category candidates and 40% aggregate for reserved category candidates. OR Candidates with post HSC-Diploma in Information Technology/Computer Technology/ Computer Engineering/ Computer Science/ and Allied branches will be eligible for direct admission to the Second Year of B.Sc. (I.T.). However, the Diploma should be recognized by the Board of Technical Education or any other recognized Government Body Minimum Marks required 45% aggregate for open category candidates and 40% aggregate for reserved category candidates.
S.Y. B. Sc. (IT)	Passed in F.Y.B. Sc. IT or ATKT in OR passed three years' diploma from any recognized state and central board students should have passed in all subjects of F.Y.B.Sc. (IT) and failed not more than 200 marks from University of Mumbai No. UG/235 of 2005. Sem – III The student is eligible for admission to Semester III if either the student passes Semester I & II OR The students fail in a combination of Theory and / or practical taken in Semester I or Semester II or together. Where the total marks do not exceed 200. Sem – IV A student is eligible to be admitted to Semester IV irrespective of no. heads of failure in the Third Semester. However, the student has to clear Semester I and II in order to appear for Semester IV examination.
T.Y. B. Sc. (IT)	Passed in all subjects of F. Y. & S.Y. B. Sc. (IT) or equivalent examination of other universities. Students should have passed in all subjects of FY B. Sc. (IT) and failed not more than 200 marks in SY B.Sc. (IT) from University of Mumbai. No. UG/235 of 2005. A student is eligible for admission to Semester V if either the student passes Semester III & IV. OR

		The student fails in a combination of Theory and / or practical taken in Semester III or Semester IV or together, where the total marks does not exceed 200. OR A student is eligible to be admitted to Semester VI irrespective of no. of heads of failure in the fifth Semester. The results of Semester VI should be kept in abeyance until the students clears Semesters III, IV and V in full.
2.	B. Sc. [Computer Science] (Three Years)	
	F.Y. B. Sc. (CS)	Ordinance No.O.5719 Circular No.No.UG./284 of 2007, Dated 16th June,2007 : A candidate for being eligible for admission to the three years integrated course leading to the degree of Bachelor of Science (B.Sc.) must have passed Higher Secondary School Certificate Examination (Std. XII) in Science stream conducted by the Maharashtra State Board of Secondary and Higher Secondary Education with Mathematics and Statistics as one of the subject or its equivalent. Admission will be on merit, based on order of preference as follows: 1. Aggregate Marks at H.S.C. or equivalent. 2. Aggregate Marks in Science Group (Physics, Chemistry and Mathematics) 3. Marks in Mathematics and Statistics and Physics. 4. Marks in Mathematics and Statistics.
	S.Y. B. Sc. (CS)	Passed in F.Y.B. Sc. CS or ATKT in OR passed three years' diploma from any recognized state and central board students should have passed in all subjects of F.Y.B.Sc. (CS) and failed not more than 200 marks from University of Mumbai No. UG/235 of 2005. Sem – III The student is eligible for admission to Semester III if either the student passes Semester I & II OR The students fail in a combination of Theory and / or practical taken in Semester I or Semester II or together. Where the total marks do not exceed 200. Sem – IV A student is eligible to be admitted to Semester IV irrespective of no. heads of failure in the Third Semester. However, the student has to clear Semester I and II in order to appear for Semester IV examination.
	T.Y. B. Sc. (CS)	Passed in all subjects of F. Y. & S.Y. B. Sc. (CS) or equivalent examination of other universities. Students should have passed in all subjects of FY B. Sc. (CS) and failed not more than 200 marks in SY B.Sc. (CS) from University of Mumbai. No. UG/235 of 2005. A student is eligible for admission to Semester V if either the student passes Semester III & IV. OR The student fails in a combination of Theory and / or practical taken in Semester III or Semester IV or together, where the total marks does not exceed 200.

		OR A student is eligible to be admitted to Semester VI irrespective of no. of heads of failure in the fifth Semester. The results of Semester VI should be kept in abeyance until the students clears Semesters III, IV and V in full.
3.	M. Sc. [Mathematics] (Two Year/4 Semesters from 2020-21)	
	Part – I	Must have Passed T.Y. B.A./ B.Sc. with Mathematics as a Major Subject of this University OR Any Other Statutory University. (As per the ordinance O.2447)
	Part – II	M.A./M.Sc.(Maths.) Part-I Students can take admission to M.A./M.Sc.(Maths.) Part-II Course irrespective of Pass or Fail in M.A./M.Sc.(Maths.) Part-I examination. However, they will not be allowed to write Part-II examinations held in the month of Oct/Nov. and submission of M.A./M.Sc.(Maths.) Part-I mark sheet within 10 days from the date of declaration of results. O.2443: No candidate will be permitted to appear for the M.A./M.Sc.(Maths.) Part - II examination unless he/she has taken the Bachelor's Degree earlier, in person or in absentia at convocation. O.2451: Students will not be allowed to appear for the M.A./M.Sc.(Maths.) Part-II examination unless he/she has passed the M.A./M.Sc.(Maths.) Part- I examination, previously.
4.	M. Sc. [Information Technology] (Two Year)	
	Part – I	Must have PASSED B. Sc. with IT/ Comp. Sc./ Maths/ Physics/ Statistics/ Electronics or BCS or BE (in any branch),BCA (As per the Circular No. UG/67 of 2016/17) and (Ordinance No. 6302 & 6303)
	Part II	M.Sc.IT Part I students can take admission to the Part II course respectively. He/She Passed/Failed in Part I
5.	M.C.A. (Two Year)	
	First Year	O.2646 :- Passed B.Sc. I.T, BCA, B. Sc. Comp. Sc. or Bachelor degree in computer science engineering or equivalent Degree and obtained at least 50% Marks in aggregate 3/4 years (at least 45% in case of candidates of Backward Class Categories, Economically Weaker Section (EWS) and Persons with Disability belonging to Maharashtra State only) OR Passed B.Sc./B. Com/B.A. with Mathematics 10+2 level or at Graduate level (with additional bridge courses as per the norms of the University/AICTE) and obtained at least 50% marks aggregate (at least 45% in case of candidates of Backward Class Categories, Economically Weaker Section (EWS) and Persons with Disability belonging to Maharashtra State only) These students has to appear for the Bridge course examination during the first year. (As per the No. UG/87of 2021)
6	M. Sc. [Computer Science] (Two Year)	

Part-I	The Bachelor's degree in the Faculty of Science/ Technology of this University or equivalent degree of recognized Universities with Major and Ancillary Subjects at undergraduate level as detailed below:	
	MAJOR	ANCILLARY
	Mathematics	-
	Physics	Mathematics (4 Units)
	Statistics	Mathematics (4 Units)
	Life Sciences	Biochemistry or Chemistry with Mathematics or Statistics in first and second year OR Computer Sciences OR Information Technology up to second year of Bachelor's Degree
	Medicine	Chemistry/ Microbiology
	Bachelor's Degree in Technology (B.Tech./B.E.) in Engineering/ Computer Sciences/ Information Technology	-
	Bachelor's Degree in Computer Sciences B.C.A/B.C.S/ Information Technology	-

2.4 COURSE WISE FEES

Sr. No.	Course	Fees **	
			Fees for General Category
1.	B.Sc. (I. T.) (Three Years)	F.Y.B.Sc. (I. T.)	Rs.18,922/-
		S.Y.B.Sc. (I. T.)	Rs.19,202/-
		T.Y.B.Sc. (I. T.)	Rs. 20,452/-
2.	B.Sc. (Computer Science) (Three Years)	F.Y.B.Sc. (Computer Science)	Rs. 16,822/-
		S.Y.B.Sc. (Computer Science)	Rs. 19,202/-
		T.Y.B.Sc. (Computer Science)	Rs. 21,852/-
3.	M.Sc. (Mathematics)	Part-I	Rs.8,854/-
		Part - II	Rs.8,229/-
4	M.Sc. (Computer Science) (Two Years)	Part-I	Rs.15,504/-
		Part - II	Rs. 14,729/-
5.	M.Sc. (Information Technology)	Part-I	Rs.15,504/-
		Part - II	Rs. 14,729/-
6.	M.C.A.(Master of Computer Application)	First Year	Rs.19,964/-
		Second Year	Rs.19,914/-

Fees for reserve category Students

SR.NO	Course		SC	ST	OBC	SBC	VJNT
1	B.Sc. (I.T.) (Three Years)	F.Y.B.Sc. (I. T.)	Rs 4362 /-	Rs 4362 /-	Rs 4962 /-	Rs 4962 /-	Rs 4962 /-
		S.Y.B.Sc. (I. T.)	Rs 4842 /-	Rs 4842 /-	Rs 5442 /-	Rs 5442 /-	Rs 5442 /-
		T.Y.B.Sc. (I. T.)	Rs 6092 /-	Rs 6092 /-	Rs 6692 /-	Rs 6692 /-	Rs 6692 /-
2	B.Sc. (Computer Science) (Three Years)	F.Y.B.Sc. (Computer Science)	Rs 4362 /-	Rs 4362 /-	Rs 4962 /-	Rs 4962 /-	Rs 4962 /-
		S.Y.B.Sc. (Computer Science)	Rs 4342 /-	Rs 4342 /-	Rs 4942 /-	Rs 4942 /-	Rs 4942 /-
		T.Y.B.Sc. (Computer Science)	Rs 4592 /-	Rs 4592 /-	Rs 5192 /-	Rs 5192 /-	Rs 5192 /-
3	M.Sc. (Mathematics)	Part-I	Rs 4619/-	Rs 4619/-	Rs 5219/-	Rs 5219/-	Rs 5219/-
		Part - II	Rs 4869 /-	Rs 4869 /-	Rs 5469 /-	Rs 5469 /-	Rs 5469 /-
4	M.Sc. (Computer Science)	Part-I	Rs 5119/-	Rs 5119/-	Rs 5719/-	Rs 5719/-	Rs 5719/-
		Part - II	Rs 5369 /-	Rs 5369 /-	Rs 5969 /-	Rs 5969 /-	Rs 5969 /-

5	M.Sc. (Information Technology)	Part-I	Rs 5119/-	Rs 5119/-	Rs 5719/-	Rs 5719/-	Rs 5719/-
		Part - II	Rs 5369 /-	Rs 5369 /-	Rs 5969 /-	Rs 5969 /-	Rs 5969 /-
6	M.C.A.(Master of Computer Application)	First Year	Rs 5204 /-	Rs 5204 /-	Rs 5504 /-	Rs 5504 /-	Rs 5504 /-
		Second Year	Rs 5454 /-	Rs 5454 /-	Rs 5754 /-	Rs 5754 /-	Rs 5754 /-

Note : - Eligibility Case :- Students from other than University of Mumbai/ CBSE/ICSE/NIOS/ other State Boards / D.Ed./ IB & CIE / Diploma from MSBTE/ Other State Tech. Boards after the admission they should submit the original Migration Certificate within 45 days from the date of admission.

**** Scholarship Scheme Case:** - GOI Scholarship is only applicable for the domicile students of Maharashtra they should have the Caste Certificate issued by Maharashtra State

***Students applying for Scholarship Scheme are requested to fill the form only after the schedule to fill the forms are declared on the website - <https://mahadbtmahait.gov.in/>. Note: - Scholarship facility is subject to schemes of GOI

*** Students of University of Mumbai affiliated colleges / other Universities students prior to 2018 under 60:40 or 75:25 scheme are eligible to take admission in CDOE for S.Y.B.A./B.Com, / B. Sc. I.T./ B.Sc. C.S. & T.Y.B.A. / B.Com / B.Sc. I.T. / B.Sc. C.S. programmes for 2023-24 **subject to approval**.

****All the programmes of CDOE are under CBCS semester pattern & PG Part I programme under the NEP 2022.

*****Study material available in English & Marathi language except Science & MMS Course.

Details of Admission under eligibility scheme is given in the link given below

<https://mu.ac.in/wp-content/uploads/2024/06/Eligibility-Case-Information-Instructions.docx.pdf>

SECTION-TWO

3. DETAILS OF PROGRAMMES IN FACULTY OF SCIENCE

3.1 B.Sc. COMPUTER SCIENCE

F.Y.B.Sc. COMPUTER SCIENCE (CBCS - Semester Pattern with 75:25 Scheme of examination circular no. UG/176) **(Study Material Available)**

SUBJECT: -

Semester – I				
Course Code	Course Type	Course Title	Credits	Lectures/Week
USCS101	Core Subject	Computer Organization and Design	2	3
USCS102	Core Subject	Programming with Python- I	2	3
USCS103	Core Subject	Free and Open Source Software	2	3
USCS104	Core Subject	Database Systems	2	3
USCS105	Core Subject	Discrete Mathematics	2	3
USCS106	Core Subject	Descriptive Statistics and Introduction to Probability	2	3
USCS107	Ability Enhancement Course 1	Soft Skills Development	2	3
USCSP01	Core Subject Practical	Practical of USCS101 + USCS102 + USCS103+USCS104+USCS105+USCS106	6	18

Semester – II				
Course Code	Course Type	Course Title	Credits	Lectures/Week
USCS201	Core Subject	Programming with C	2	3
USCS202	Core Subject	Programming with Python– II	2	3
USCS203	Core Subject	Linux	2	3
USCS204	Core Subject	Data Structures	2	3
USCS205	Core Subject	Calculus	2	3
USCS206	Core Subject	Statistical Methods and Testing of Hypothesis	2	3
USCS207	Ability Enhancement Course 2	Green Technologies	2	3
USCSP02	Core Subject Practical	Practical of USCS201 + USCS202 + USCS203+USCS204+USCS205+USCS206	6	18

Note:

1. The 75% 25% pattern has been introduced for BSc.IT from the academic year 2020-2021(**circular no. UG/176**)
2. For theory per paper is 100 marks: 75 marks out of 100 marks will be external and 25 marks out of 100 marks would be internals
3. For practical, per paper is 50 marks: 40 marks out of 50 marks will be practicals and 10 marks out of 50 will be viva and journal report.
4. Theory internal assessment is of objective type/test based on the subject knowledge
5. Practical internal assessment if based on problem solving ability and practical skill assess

during lecture sessions

Standard of Passing:

1. In the 75:25 scheme of examination every paper is considered as a separate head of passing.
2. Minimum passing marks required in every head is 40% (Theory + Practical)
3. To pass the theory examination student must secure minimum 30 marks out of 75 marks
4. To pass the internal examination student must secure minimum 10 marks out of 25 marks
5. To pass the practical examination student must secure minimum 20 marks out of 50 marks

S.Y.B.Sc. COMPUTER SCIENCE (CBCS - Semester Pattern with 75:25 Scheme of examination, circular no. UG/107 of 2017) (**Study Material Available**)

SEMESTER III			
Course	TOPICS	Credits	L / Week
USCS301	Theory of Computation	2	3
USCS302	Core JAVA	2	3
USCS303	Operating System	2	3
USCS304	Database Management Systems	2	3
USCS305	Combinatorics and Graph Theory	2	3
USCS306	Physical Computing and IoT Programming	2	3
USCS307	Skill Enhancement: Web Programming	2	3
USCSP301	USCS302+USCS303+USCS304	3	9
USCSP302	USCS305+USCS306+USCS307	3	9

SEMESTER IV			
Course	TOPICS	Credits	L / Week
USCS401	Fundamentals of Algorithms	2	3
USCS402	Advanced JAVA	2	3
USCS403	Computer Networks	2	3
USCS404	Software Engineering	2	3
USCS405	Linear Algebra using Python	2	3
USCS406	.NET Technologies	2	3
USCS407	Skill Enhancement: Android Developer Fundamentals	2	3
USCSP401	USCS401+ USCS402+ USCS403	3	9
USCSP402	USCS405+ USCS406+ USCS407	3	9

T.Y.B.Sc. COMPUTER SCIENCE (CBCS - Semester Pattern with 75:25 Scheme of

examination, circular no. UG/107 of 2017) (**Study Material Available**)

SEMESTER V			
Course	TOPICS	Credits	L / Week
	Elective-I (Select Any Two)		
USCS501	Artificial Intelligence	3	3
USCS502	Linux Server Administration	3	3
USCS503	Software Testing and Quality Assurance	3	3
	Elective-II (Select Any Two)		
USCS504	Information and Network Security	3	3
USCS505	Architecting of IoT	3	3
USCS506	Web Services	3	3
	Skill Enhancement		
USCS507	Game Programming	2	3
	Practical		
USCSP501	Practical of Elective-I	2	6
USCSP502	Practical of Elective-II	2	6
USCSP503	Project Implementation	1	3
USCSP504	Practical of Skill Enhancement : USCS507	1	3

SEMESTER VI			
Course	TOPICS	Credits	L / Week
	Elective-I (Select Any Two)		
USCS601	Wireless Sensor Networks and Mobile Communication	3	3
USCS602	Cloud Computing	3	3
USCS603	Cyber Forensics	3	3
	Elective-II (Select Any Two)		
USCS604	Information Retrieval	3	3
USCS605	Digital Image Processing	3	3
USCS606	Data Science	3	3
	Skill Enhancement		
USCS607	Ethical Hacking	2	3
	Practical		
USCSP601	Practical of Elective-I	2	6
USCSP602	Practical of Elective-II	2	6
USCSP603	Project Implementation	1	3
USCSP604	Practical of Skill Enhancement : USCS607	1	3

Documents required:

Photo & Signature has to be scan & upload during the Registration process

First Year: - B.Sc. (Comp. Sci.)

Documents required for admission to the old students of CDOE

- 1 Original mark sheet of First year & Second Year (In case of more than one attempt student should scan & upload first and last mark sheet of the respective class)
- 2 Previous years Identity Card.
- 3 Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student

Documents required for the students from affiliated colleges of University of Mumbai

- 1 Original mark sheet of First year & Second Year (In case of more than one attempt student should scan & upload first and last mark sheet of the respective class)
- 2 No Objection Certificate from the last attended college
- 3 Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student

3.2 B.Sc. INFORMATION TECHNOLOGY

F.Y.B.Sc (Information Technology) : - (CBCS - Semester Pattern (w.e.f. Academic Year 2020-2021) with 75:25 Scheme of examination circular no. UG/176). Revised syllabus from 2020-21.

Semester – 1			
Course Code	Course Type	Course Title	Credits
USIT101	Core Subject	Imperative Programming	2
USIT102	Core Subject	Digital Electronics	2
USIT103	Core Subject	Operating Systems	2
USIT104	Core Subject	Discrete Mathematics	2
USIT105	Ability Enhancement Skill Course	Communication Skills	2
USIT1P1	Core Subject Practical	Imperative Programming Practical	2
USIT1P2	Core Subject Practical	Digital Electronics Practical	2
USIT1P3	Core Subject Practical	Operating Systems Practical	2
USIT1P4	Core Subject Practical	Discrete Mathematics Practical	2
USIT1P5	Ability Enhancement Skill Course Practical	Communication Skills Practical	2
Total Credits			20

Semester – 2			
Course Code	Course Type	Course Title	Credits
USIT201	Core Subject	Object oriented Programming	2
USIT202	Core Subject	Microprocessor Architecture	2
USIT203	Core Subject	Web Programming	2
USIT204	Core Subject	Numerical and Statistical Methods	2
USIT205	Ability Enhancement Skill Course	Green Computing	2
USIT2P1	Core Subject Practical	Object Oriented Programming Practical	2
USIT2P2	Core Subject Practical	Microprocessor Architecture Practical	2
USIT2P3	Core Subject Practical	Web Programming Practical	2
USIT2P4	Core Subject Practical	Numerical and Statistical Methods Practical	2
USIT2P5	Ability Enhancement Skill Course Practical	Green Computing Practical	2
Total Credits			20

Photo & Signature has to be scan & upload during the Registration process

F.Y.B.Sc (Information and Technology)

• **Documents required for admission to the old students of CDOE**

Date of Birth Proof-two copies

1. Proof of residence
2. Affix three passport size photographs on each of the following: admission form, examination form, and identity card.
3. Statement of marks (all attempts of all lower exams) is required to be submitted.
4. XII std. Original mark sheet and Original passing certificate. If the students belong to another board, students need to submit their Migration Certificate after the completion of the admission process.
5. Original leaving certificate +three Xerox copies.
6. Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student

• **Documents required for the students from affiliated colleges of University of Mumbai**

1. Original mark sheet of first year and in case of more than one attempt student
Should scan & upload the first and last mark sheet of the respective class.
2. No Objection Certificate from the last attended college
3. Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student.

Note:

1. The 75% 25% pattern has been introduced for BSc.IT from the academic year 2020-2021(**circular no. UG/176**)
2. For theory per paper is 100 marks: 75 marks out of 100 marks will be external and 25 marks out of 100 marks would be internals
3. For practical, per paper is 50 marks: 40 marks out of 50 marks will be practicals and 10 marks out of 50 will be viva and journal report.
4. Theory internal assessment is of objective type/test based on the subject knowledge
5. Practical internal assessment if based on problem solving ability and practical skill assess during lecture sessions

Standard of Passing:

1. In the 75:25 scheme of examination every paper is considered as a separate head of passing.
2. Minimum passing marks required in every head is 40% (Theory + Practical)
3. To pass the theory examination student must secure minimum 30 marks out of 75 marks
4. To pass the internal examination student must secure minimum 10 marks out of 25 marks
5. To pass the practical examination student must secure minimum 20 marks out of 50 marks

S.Y.B.Sc (Information Technology): - (CBCS - Semester Pattern (w.e.f. Academic Year 2021-2022) with 75:25 Scheme of examination circular no. UG/176). Revised syllabus from 2021-22.

Semester – 3			
Course Code	Course Type	Course Title	Credits
USIT301	Skill Enhancement Course	Python Programming	2
USIT302	Core Subject	Data Structures	2
USIT303	Core Subject	Computer Networks	2
USIT304	Core Subject	Database Management Systems	2
USIT305	Core Subject	Applied Mathematics	2
USIT3P1	Skill Enhancement Course Practical	Python Programming Practical	2
USIT3P2	Core Subject Practical	Data Structures Practical	2
USIT3P3	Core Subject Practical	Computer Networks Practical	2
USIT3P4	Core Subject Practical	Database Management Systems Practical	2
USIT3P5	Core Subject Practical	Mobile Programming Practical	2
Total Credits			20

Semester – 4			
Course Code	Course Type	Course Title	Credits
USIT401	Skill Enhancement Course	Core Java	2
USIT402	Core Subject	Introduction to Embedded Systems	2
USIT403	Core Subject	Computer Oriented Statistical Techniques	2
USIT404	Core Subject	Software Engineering	2
USIT405	Core Subject	Computer Graphics and Animation	2
USIT4P1	Skill Enhancement Course Practical	Core Java Practical	2
USIT4P2	Core Subject Practical	Introduction to Embedded Systems Practical	2
USIT4P3	Core Subject Practical	Computer Oriented Statistical Techniques Practical	2
USIT4P4	Core Subject Practical	Software Engineering Practical	2
USIT4P5	Core Subject Practical	Computer Graphics and Animation Practical	2
Total Credits			20

● **Documents required:**

Photo & Signature has to be scan & upload during the Registration process

S.Y. B. Sc. (Information Technology)

Documents required for admission to the old students of CDOE

1. Original mark sheet of First year and in case of more than one attempt student should scan & upload first and last mark sheet of the respective class.
2. Previous year Identity Card.
3. Marriage Certificate/ Gazette Notification (For female married students)

● **Documents required for the students from affiliated colleges of University of Mumbai**

1. Original mark sheet of first year and in case of more than one attempt student Should scan & upload the first and last mark sheet of the respective class.
2. No Objection Certificate from the last attended college.
3. Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student.

Note:

1. The 75% 25% pattern has been introduced for BSc.IT from the academic year 2020-2021(**circular no. UG/176**)
2. For theory per paper is 100 marks: 75 marks out of 100 marks will be external and 25 marks out of 100 marks would be internals
3. For practical, per paper is 50 marks: 40 marks out of 50 marks will be practicals and 10 marks out of 50 will be viva and journal report.
4. Theory internal assessment is of objective type/test based on the subject knowledge
5. Practical internal assessment is based on problem solving ability and practical skill assess during lecture sessions

Standard of Passing:

1. In the 75:25 scheme of examination every paper is considered as a separate head of passing.
2. Minimum passing marks required in every head is 40% (Theory + Practical)
3. To pass the theory examination student must secure minimum 30 marks out of 75 marks
4. To pass the internal examination student must secure minimum 10 marks out of 25 marks
5. To pass the practical examination student must secure minimum 20 marks out of 50 marks

T.Y.B.Sc (Information Technology): - (CBCS - Semester Pattern (w.e.f. Academic Year 2021-2022) with 75:25 Scheme of examination circular no. UG/176). Revised syllabus from 2021-22.

SEMESTER 5		
Course code	Course Title	Credits
USIT501	Software Project Management	2
USIT502	Internet of Things	2
USIT503	Advanced Web Programming	2
USIT504	Artificial Intelligence	2
USIT506	Enterprise Java	2
USIT5P1	Project Dissertation	2
USIT5P2	Internet of Things Practical	2
USIT5P3	Advanced Web Programming Practical	2
USIT5P4	Artificial Intelligence Practical	2
USIT5P6	Enterprise Java Practical	2
Total Credits		20

(All the practical mentioned in the syllabi are compulsory as per the courses)

SEMESTER 6		
Course code	Course Title	Credits
USIT601	Software Quality Assurance	2
USIT602	Security in Computing	2
USIT603	Business Intelligence	2
USIT604	Principles of Geographic Information Systems	2
USIT606	IT Service Management	2
USIT6P1	Project Implementation	2
USIT5P2	Security in Computing Practical	2
USIT5P3	Business Intelligence Practical	2
USIT5P4	Principles of Geographic Information Systems Practical	2
USIT5P6	Advanced Mobile Programming	2
Total Credits		20

- **Documents required:**

Photo & Signature has to be scan & upload during the Registration process

TY B. Sc. (Information Technology)

Documents required for admission to the old students of CDOE

1. Original mark sheet of First year & Second Year (In case of more than one attempt student should scan & upload first and last mark sheet of the respective class)
2. Previous years Identity Card.
3. Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student

- **Documents required for the students from affiliated colleges of University of Mumbai**

1. Original mark sheet of First year & Second Year (In case of more than one attempt student should scan & upload first and last mark sheet of the respective class)
2. No Objection Certificate from the last attended college
3. Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student

Note:

1. The 75% 25% pattern has been introduced for BSc.IT from the academic year 2020-2021(**circular no. UG/176**)
2. For theory per paper is 100 marks: 75 marks out of 100 marks will be external and 25 marks out of 100 marks would be internals
3. For practical, per paper is 50 marks: 40 marks out of 50 marks will be practicals and 10 marks out of 50 will be viva and journal report.
4. Theory internal assessment is of objective type/test based on the subject knowledge
5. Practical internal assessment if based on problem solving ability and practical skill assess during lecture sessions

Note for Project:

Semester 5 - Project Dissertation

Semester 6 - Project Implementation

*** NOTE ABOUT PROJECT VIVA VOCE:**

Student may be asked to write code for problem during VIVA to demonstrate his coding capabilities and he/she may be asked to write any segment of coding used in the in the project. The project can be done in group of at most four students. However, the length and depth of the project should be justified for the projects done in group. A big project can be modularised and different modules can be assigned as separate project to different students.

Marks Distribution:

Semester V: 50 Marks

Documentation: 50 marks

Semester VI: 150 Marks

Documentation: 50 Marks:

Implementation and Viva Voce: 100 Marks

The plagiarism should be maintained as per the UGC guidelines.

Standard of Passing:

1. In the 75:25 scheme of examination every paper is considered as a separate head of passing.
2. Minimum passing marks required in every head is 40% (Theory + Practical)
3. To pass the theory examination student must secure minimum 30 marks out of 75 marks
4. To pass the internal examination student must secure minimum 10 marks out of 25 marks
5. To pass the practical examination student must secure minimum 20 marks out of 50 marks

EVALUATION SCHEME

Internal Examination: (25 mark): Conducted online MCQ Based

External Examination: (75 marks)

	All questions are compulsory	
Q1	(Based on Unit 1) Attempt <u>any three</u> of the following:	15
a.		
b.		
c.		
d.		
e.		
f.		
Q2	(Based on Unit 2) Attempt <u>any three</u> of the following:	15
Q3	(Based on Unit 3) Attempt <u>any three</u> of the following:	15
Q4	(Based on Unit 4) Attempt <u>any three</u> of the following:	15
Q5	(Based on Unit 5) Attempt <u>any three</u> of the following:	15

Practical Exam: 50 marks

A Certified copy journal is essential to appear for the practical examination.

1.	Practical Question 1	20
2.	Practical Question 2	20
3.	Journal	5
4.	Viva Voce	5

INSTRUCTIONS FOR ELIGIBILITY CASE STUDENTS FOR ALL THE PROGRAMMES: -

The students from CBSE, ICSE, DIPLOMA from MSBTE/other state, NIOS, HSC Boards other than Maharashtra State, IB, CIE, D. ED and Degree from other than University of Mumbai will have to obtain the Eligibility Certificate which will be issued online after approval from Eligibility Unit, Room No. 108 (A), Centre for Distance and Online Education, Dr. Shankar Dayal Sharma Bhavan, Vidyanagari, Santacruz (E), Mumbai-400 098.

Migration certificate in original shall be submitted within 2 months from date of admission in respective Department of CDOE.

Equivalence certificate shall be submitted by the students wherever required.

Note: - The students who have passed 3/4yr Bachelor's Degree from other University and completed another degree course viz. B. ED, L.L.B., MMS etc. Form College affiliated to University of Mumbai and wish to pursue M.A./M.COM/M.Sc./MCA from the University of Mumbai are required to obtain Eligibility Certificate from University of Mumbai, CDOE. Such students should submit their Eligibility 9 Confirmation letter from the earlier College / Institute affiliated to Mumbai University from where he / she has passed B.Ed. /LLB/ MMS / etc.

REQUIRED DOCUMENTS FOR OBTAINING ELIGIBILITY CERTIFICATE:

1. S.S.C. and onwards all examinations (F.Y., S.Y. & T.Y.)
2. Equivalent Certificate from MSBTE/Tech Board of the concern state (in case of diploma students)
3. Passing/ Convocation/ Degree Certificate
4. Marriage Certificate/ Gazette Notification (For female married students)
5. Migration / Transfer Certificate (shall be submitted within 2 months)

FEES FOR ELIGIBILITY CASE:

Document Verification fees of Rs. 400/- will be charged from UG/PG programme students who have passed their Board/ University Examinations from other than Maharashtra State Higher Secondary Board / other than University of Mumbai (Only for Eligibility Case).

Eligibility fees of Rs. 220/- for the students who have passed their examination from Maharashtra State Universities and Diploma from MSBTE and Rs. 320/- for out of Maharashtra State Universities /Boards other than Maharashtra /Technical Boards of other States.

The Details of the admission under eligibility cases are in the link given below

<https://mu.ac.in/wp-content/uploads/2024/06/Scholarship-Information-Instructions-2024-25.docx.pdf>

POST GRADUATE PROGRAMMES

3.3 M.A./M.Sc. (Mathematics)

Eligibility for Admission to MSc (Mathematics)-I

As per University of Mumbai circular **No. PG/ Univ./VCD/ ICC / 2012-13/ 8**, A learner for being eligible to apply for admission to the M.A./M.Sc. degree course by papers must have passed :- **The B.A./B.Sc. degree examination** of this university or degree of any other university recognized as equivalent thereto with **minimum 46 credits** or its equivalent (i.e, the minimum credits required for majoring in a subject and excluding the credits for optional courses) of the subject which he wants to offer for the M.A./M.Sc. degree course by papers.

Part – I (As per NEP-2020)

Course Code	Course	Mandatory/Elective	Credit
Semester-I Level (6.0)			
5130161501	Algebra I	Mandatory	4
5130161502	Real Analysis	Mandatory	4
5130161503	Ordinary Differential Equations	Mandatory	4
5130161504	Discrete Mathematics and Number Theory	Mandatory	2
5130161505	Research Methodology	Mandatory	4
Students have to choose any one from the following elective courses			
513016150612	Graph Theory	Elective	4

513016150614	Linear & Non Linear Programming	Elective	4
		Total Credits:	22

Course Code	Course	Mandatory/Elective	Credit
Semester-II Level (6.0)			
5130162511	Algebra II	Mandatory	4
5130162512	Topology	Mandatory	4
5130162513	Complex Analysis	Mandatory	4
5130162514	Partial Differential Equations	Mandatory	2
5130162515	OJT (On Job Training)/ FP(Field Project)	Mandatory	4
Students have to choose any one from the following elective courses			
513016251611	Algebraic Number Theory	Elective	4
513016251612	Advanced Counting Techniques in Discrete Mathematics	Elective	4
513016251614	Numerical Analysis	Elective	4

		Total Credits:	22
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Scheme of Examination (75:25):- There will be separate heads of passing for the internal and the external examination.

The internal examination will be conducted online on the LMS or on any other platform provided by CODE.

The semester end examination will be conducted as per the University norm.

Open Elective courses as per UGC ODL & Online Regulations 2018.

SEM I- Algebra I and Linear & non-Linear Programming course.

SEM II- Algebraic Number Theory and Advanced Counting Techniques in Discrete Mathematics course.

1. The video lectures and learning material will be from Open Educational Resources (OER) and SWAYAM MOOCS on the Learning Management System (LMS) of CODE.
2. Internal assessment will be conducted on the LMS.
3. Learners have to do self-study from the learning materials on the LMS. No print material and counseling sessions will be conducted.
4. Semester End examination will be as per University norms.

Part – II (Revised 2021-22)

(There will be 5 Papers for Part – II, 500 Mark with 20 Marks Internal assessments per Paper)

SEMESTER III		SEMESTER IV	
Paper No.	Name of the Papers	Paper No.	Name of the Papers
PSMT301	Algebra - III	PSMT401	Algebra IV
PSMT302	Functional Analysis	PSMT402	Fourier Analysis
PSMT303	Differential Geometry	PSMT403	Calculus on Manifolds

Two Electives		One skill-based courses as Paper IV	
PSMT310	Numerical Analysis	PSMT404	Business Statistics
PSMT311	Graph Theory	PSMT405	Project

* In Semester IV, the Paper V will be Project work.

As per the BoS of Mathematics resolution the following are details about the Project work:

Evaluation of Project work

The evaluation of the Project submitted by a student shall be made by a Committee appointed by the Head of the Department of Mathematics of the respective college.

The presentation of the project is to be made by the student in front of the committee appointed by the Head of the Department of Mathematics of the respective college. This committee shall have two members, possibly with one external referee.

Each project output shall be displayed on the website of the University.

The Marks for the project are detailed below:

1. Contents of the project: 50 Marks
2. Attendance: 10 Marks
3. Presentation of the project: 20 Marks
4. Viva of the project: 20 Marks
5. Total Marks= 100 Marks per project per student

Scheme of Examination (80:20):- There will be no separate heads of passing for the internal examination but for the external examination the passing percentage is 40 and overall passing percentage is 40.

The internal examination will be conducted online on the LMS or on any other platform provided by CDOE.

The semester end examination will be conducted as per the University norm.

1. As per the M. Sc. (Maths) Class Improvement ordinance 0.2462 student has to appear for class Improvement within 5 years from the passing years. (Please see link http://archive.mu.ac.in/myweb_test/M.A.%20MSc.%20%28Maths%29%20Class%20Improvement%20Ordinance.pdf)

Documents required: Students should scan & upload all the required documents in Original.

Photo & Signature has to be scan during the Registration process

Part- I: - M. A. / M.Sc. (Mathematics)

Documents required for admission to the old students of CDOE

1. Original mark sheet of First year and in case of more than one attempt student should upload the first and last mark sheet of the respective class.
2. Previous year Identity Card.
3. Marriage Certificate/ Gazette Notification (for female married students) in case of name change of the student

Documents required for the students from affiliated colleges of University of Mumbai

1. Original mark sheet of first year and in case of more than one attempt student should upload first and last mark sheet of the respective class
2. Marriage Certificate/ Gazette Notification (For female married students) in Case of name change of the student

Documents required:

Photo & Signature has to be scan & upload during the Registration process

Part- II: - M.A/M.Sc. (Mathematics)

Documents required for admission to the old students of CDOE

1. Original mark sheet of First year and in case of more than one attempt. Students should scan & upload the first and last mark sheet of the respective class.
2. Previous year Identity Card.
3. Convocation certificate
4. Marriage Certificate/ Gazette Notification (for female married students) in case of name change of the student

Documents required for the students from affiliated colleges of University of Mumbai

1. Original mark sheet of first year and in case of more than one attempt. Students should scan & upload the first and last mark sheet of the respective class.
2. Current Year No Objection Certificate from the last attended college
3. Convocation certificate
4. Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student

3.4 M.Sc. (Computer Science) (Two Year) - As Per NEP 2020

SUBJECTS

Year	Level	Sem	Major				RM	OJT/FP	RP	Cum. Cr.	Degree	
			Mandatory			Electives						
1	6.0	Sem I	2*4+2*2+2			4	4	Research Methodology (510)	-	-	22	PG Diploma (after 3Years Degree)
			Applied Signal &Image Processing (501)	TH	4	NoSQL Technologies (506a) 2 TH+2 PR (OR) Robotic (506b) 2 TH +2PR (OR) UI/UX Design (506c) 2 TH +2 PR						
			Applied Signal & Image Processing Practical (502)	PR	2							
			Software Defined Networking(503)	TH	4							
			Software Defined Networking Practical (504)	PR	2							
			Principles of Compiler Design(505)	TH	2							
		Sem II	2*4+2*2+2			4	-	OJT (517) 4	-	22		
			Machine Learning (511)	TH	4	Bioinformatics (516a) 2 TH + 2PR (OR) Embedded and IoT Technology (516b) 2 TH +2PR (OR) Web Data Analytics (516c) 2 TH +2PR						
			Machine Learning Practical(512)	PR	2							
			Natural Language Processing(513)	TH	4							
			Natural Language Processing Practical (514)	PR	2							
			Simulation and Modelling (515)	TH	2							
Cum.Cr. For PG Diploma			28			8	4	4		44		
Exit Option : PG Diploma (44 credits) after Three Year UG Degree												

(Credit Based Semester and Grading System Semester III and IV)

Semester III – Theory courses

Course Code	Course Nomenclature	Credits
PSCS 301	Ubiquitous Computing	4
PSCS 302	Social Network Analysis	4
PSCS 3032	Elective I - Track B: Cyber and Information Security- II (Cyber Forensics)	4
PSCS 3033	Elective II - Track C: Business Intelligence and Big Data Analytics –II (Mining Massive Data sets)	4
Total Credits for Theory courses in Semester III		16

Semester-III: Practical Laboratory Courses

Course code	Course Title	Credits
PSCSP5	Ubiquitous Computing and Social Network Analysis	04

PSCSP6	Elective I and Elective II	04
Total Credits for Practical Laboratory courses in Semester–III		08

Semester-IV: Theory courses

Course Code	Course Nomenclature	Lecture In Hours	Credits
PSCS 401	Simulation and Modeling	60	4
PSCS 4022	Specialization - Track B: Cyber and Information Security- II (Cryptography and Crypt Analysis)	60	4
PSCS 4023	Specialization - Track C: Business Intelligence and Big Data Analytics –III (Intelligent Data Analysis)		
Total Credits for Theory courses in Semester-IV			08

Semester-IV: Practical course

Course code	Course Title	Credits
PSCSP7	Simulation & Modeling and Specialization	04

Semester-IV: Internship

Course code	Course Title	Credits
PSCSP8	Internship with industry	06

Semester–IV: Project Implementation

Course code	Course Title	Credits
PSCSP9	Project Implementation	06

Scheme of Examination for Theory Courses

There will be an internal and external examination for the theory courses. The weightage of internal/external and scheme of examination will be as per common guidelines provided by the University for the PG courses in the faculty of Science.

Scheme of Examination for Practical Courses

There will not be any internal examination for practical courses.

Documents required: Students should scan & upload all the required documents in Original.

Photo & Signature has to be scan during the Registration process

Part- I: - M.Sc. (I. T.) / Computer Science

Documents required for admission to the old students of CDOE

- 1. Original mark sheet of First year and in case of more than one attempt student should upload first and last mark sheet of the respective class.**
- 2. Previous year Identity Card.**
- 3. Marriage Certificate/ Gazette Notification (for female married students) in case of name change of the student**

Documents required for the students from affiliated colleges of University of Mumbai

- 1. Original mark sheet of first year and in case of more than one attempt student should upload first and last mark sheet of the respective class**
- 2. Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student.**

Documents required:

Photo & Signature has to be scan & upload during the Registration process

Part- II: - M.Sc. (I. T.) / Computer Science

Documents required for admission to the old students of CDOE

- 1. Original mark sheet of First year and in case of more than one attempt student should scan & upload first and last mark sheet of the respective class.**
- 2. Previous year Identity Card.**
- 3. Convocation certificate**
- 4. Marriage Certificate/ Gazette Notification (for female married students) in case of name change of the student**

Documents required for the students from affiliated colleges of University of Mumbai

- 1. Original mark sheet of first year and in case of more than one attempt student
Should scan & upload first and last mark sheet of the respective class.**
- 2. No Objection Certificate from the last attended college**
- 3. Convocation certificate**
- 4. Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student**

Documents required:

Documents required for admission for all students of other universities (Applicable only for Part-I of M.Sc. (I. T.)/ Computer Science)

3.5 M. Sc. (Information Technology)-(Based on NEP 2020)

Title of the program : B- M.Sc. (Information Technology) (Two Year)

Syllabus for Semester – Sem I & II Ref: GR dated 16th May, 2023 for Credit Structure of PG.

Year	Level		Major		Electives	RM	OJT/FP	RP	Cum. CR	Degree			
I	6	Mandatory			4	4				PG Diploma			
		2*4+2*2+2											
		Data Science(501)	TH	4	Security breaches and countermeasures(506a)PR	Research Methodology(510)	-	-	22				
		Data Science Practical(502)	PR	2	OR								
		Soft Computing Techniques(503)	TH	4									
		Soft Computing Techniques practical(504)	PR	2									
		Cloud Computing(505)	TH	2							Image Processing(506c)		
		2*4+2*2+2											
		Big Data analytics(511)	TH	4	Malware Analysis(PR)(516a)	Research Methodology(510)	-	(517)4	22				
		Big Data analytics(512)	PR	2	OR								
		Modern Networkings(513)	TH	4									
		Modern Networkings(514)	PR	2									
		Microservices architecture(515)	TH	2							Computer Vision(PR)(516c)		
		Cum Cr For PG Diploma		28	8	4	4						

Syllabus Link: [6.29-N-M.Sc.-Information-Technology-Sem.-I-II.pdf \(mu.ac.in\)](#)

Theory courses of 4 credits: Total marks 100. Out of the total, 50 % each for internal and external evaluation.

A. Internal Evaluation (30m + 10m + 10m = 50 Marks)

The internal assessment marks shall be awarded as follows:

1. 30 marks (Any one of the following):

a. Written Test of 30 Marks

b. SWAYAM (Advanced Course) of minimum 20 hours and certification exam completed or c. NPTEL (Advanced Course) of minimum 20 hours and certification exam completed or

d. Valid International Certifications (Prometric, Pearson, Certiport, Coursera, Udemy and the like)

e. Certification marks of one completed exam shall be awarded to one course only. For four courses, the students will have to complete four certifications.

(Note: Only those certification/courses suggested by the department shall be deemed valid, Student cannot do any certification on their own)

2. 10 marks 10 marks from every course (Two 4 credits mandatory courses, one 2 credits mandatory course, one 4 credits elective course) coming to a total of 40 marks, shall be awarded on publishing of research paper in UGC approved / Other Journal with plagiarism less than 15%. The marks can be awarded as per the impact factor of the journal, quality of the paper, importance of the contents published, social value.

3. 10 marks Open Book examination based on problem solving related to the respective subject.

i. Suggested format of Question paper of 30 marks for the written test.

Q1.	Attempt <u>any two</u> of the following:	16 marks
a.		
b.		
c.		
d.		
Q2.	Attempt <u>any two</u> of the following:	14 marks
a.		
b.		
c.		
d.		

B. External Examination: (50 marks) Duration : 2 hrs

	All questions are compulsory	
Q1	(Based on all units) Attempt <u>any two</u> of the following:	10 marks
a.	Unit 1	
b.	Unit 2	
c.	Unit 3	
d.	Unit 4	
Q2	(Based on Unit 1) Attempt <u>any two</u> of the following:	10 marks
Q3	(Based on Unit 2) Attempt <u>any two</u> of the following:	10 marks
Q4	(Based on Unit 3) Attempt <u>any two</u> of the following:	10 marks
Q5	(Based on Unit 4) Attempt <u>any two</u> of the following:	10 marks

Theory courses of 2 credits: Total marks 50.

Out of the total, 50 % each for internal and external evaluation.

A. Internal Evaluation (25 Marks):

The internal assessment marks shall be awarded as follows:

1. 10 marks from every course (Two 4 credits mandatory courses, One 2 credits mandatory course, One 4 credits elective course) coming to a total of 40 marks, shall be awarded on publishing of research paper in UGC approved / Other Journal with plagiarism less than **15%**. The marks can be awarded as per the impact factor of the journal, quality of the paper, importance of the contents published, social value.
2. 10 marks - Open Book examination based on problem solving related to the respective subject.
3. 5 marks - Assignment/Group discussion.

B. External Examination: (25 marks) Duration : 1 hr

	All questions are compulsory	
Q1	(Based on Unit 1) Attempt <i>any two</i> of the following:	13 marks
Q2	(Based on Unit 2) Attempt <i>any two</i> of the following:	12 marks

Practical courses of 2 credits: Total marks 50. Out of the total, 50 % each for internal and external evaluation.

A. Practical Evaluation Internal (25 marks)

1.	Performance during all practical sessions	10
2.	Problem solving with the acquired programming skills	10
3.	Viva Voce	5

B. Practical Evaluation External (25 marks)

A Certified copy of hard-bound journal is essential to appear for the practical examination.

1.	Practical Question	15
2.	Journal	5
3.	Viva Voce	5

Letter Grades and Grade Points

Semester GPA/Program CGPA Semester/Program	Percentage of Marks	Alpha-Sign/Letter Grade Result
9.00 – 10.00	90.00-100.00	O (Outstanding)
8.00 -<9.00	80.00-<90.00	A+ (Excellent)
7.00-<8.00	70.00-<80.00	A (Very Good)
6.00-<7.00	60.00-<70.00	B+ (Good)
5.50-<6.00	55.00-<60.00	B (Above Average)
5.00-<5.50	50.00-<55.00	C (Average)
4.00-<5.00	40.00-<50.00	P (Pass)
Below 4.00	Below 40.00	F (Fail)
Ab(Absent)	-	Absent

For the M.Sc.I.T.-Part-2, academic Year 2024-25 CDOE is providing selected subjects from selected track:(Study Material Available)

Artificial Intelligence Track
Cloud Computing Track
Security Track

Semester III					
Course code	Theory	Credit	Course code	Practical	Credit
PSIT301	Technical Writing and Entrepreneurship Development	4	PSIT3P1	Project Documentation and Viva	2
PSIT303a	Machine Learning	4	PSIT3P3a	Machine Learning Practical	2
PSIT302c	Cloud Application Development	4	PSIT3P2c	Cloud Application Development Practical	PSIT302c
PSIT304d	Offensive Security	4	PSIT3P4d	Offensive Security Practical	2
	Total Theory Credits	16		Total Practical Credits	8
Total Credits for Semester III: 24					

Semester IV					
Course Code		Theory Credits	Course Code		Practical Credit
PSIT401	Blockchain	4	PSIT4P1	Blockchain Practical	2
PSIT403a	Deep Learning	4	PSIT4P2a	Deep Learning Practical	2
PSIT402d	Cyber Forensics	4	PSIT4P2d	Cyber Forensics Practical	2
PSIT404c	Storage as a Service	4	PSIT4P4	Project Implementation and Viva	2
	Total Theory Credits	16		Total Practical Credits	8
Total Credits for Semester IV: 24					

Syllabus: https://mu.ac.in/wp-content/uploads/2020/12/4.100.-M.Sc.I.T.-Part-2-Syllabus-2020-2021_Annexure-I.pdf

Note:

Evaluation Scheme Internal Evaluation (25 Marks)

The internal assessment marks shall be awarded as follows:

1. 5 marks (Any one of the following):

a. Written Test or

b. SWAYAM (Advanced Course) of minimum 20 hours and certification exam completed or

c. NPTEL (Advanced Course) of minimum 20 hours and certification exam completed or

d. Valid International Certifications (Prometric, Pearson, Certiport, Coursera, Udemy and the like)

e. One certification mark shall be awarded one course only.

For four courses, the students will have to complete four certifications.

2. 10 marks The marks given out of 25 (15 in Semester 4)

for publishing the research paper should be divided into four courses and should be awarded out of 10 in each of the four courses.

ii. 10 marks from every course coming to a total of 40 marks, shall be awarded on publishing of research paper in UGC approved / Other Journal with plagiarism. Less than 10%. The marks can be awarded as per the impact factor of the journal, quality of the paper, importance of the contents published, social value.

External Examination: 75 Marks

	All questions are Compulsory	
Q1	(Based on Unit 1) Attempt any three of the following a. _____ b. _____ c. _____ d. _____ e. _____	15 marks
Q2	(Based on Unit 2) Attempt any three of the following	15 marks
Q3	(Based on Unit 3) Attempt any three of the following	15 marks
Q4	(Based on Unit 4) Attempt any three of the following	15 marks
Q5	(Based on Unit 5) Attempt any three of the following	15 marks

Practical Evaluation (50 marks)

A Certified copy of hard-bound journal is essential to appear for the practical examination.

1.	Practical Question 1	20
2.	Practical Question 2	20
3.	Journal	5
4.	Viva Voce	5

OR

1.	Practical Question	40
2.	Journal	5
3.	Viva Voce	5

Project Documentation and Viva Voce Evaluation

The documentation should be checked for plagiarism and as per UGC guidelines, should be less than 10%.

1.	Documentation Report (Chapter 1 to 4)	20
2.	Innovation in the topic	10
3.	Documentation/Topic presentation and viva voce	20

1.	Documentation Report (Chapter 5 to last)	20
2.	Implementation	10
3.	Relevance of the topic	10
4.	Viva Voce	10

Appendix – 1 Project Documentation and Viva-voce (Semester III) and Project Implementation and Viva-Voce (Semester IV)

Goals of the course Project Documentation and Viva-Voce

The student should:

- be able to apply relevant knowledge and abilities, within the main field of study, to a given problem
- within given constraints, even with limited information, independently analyze and discuss complex inquiries/problems and handle larger problems on the advanced level within the main field of study
- reflect on, evaluate and critically review one's own and others' scientific results
- be able to document and present one's own work with strict requirements on structure, format, and language usage.
- be able to identify one's need for further knowledge and continuously develop one's own knowledge.

To start the project:

Start thinking early in the programme about suitable projects.

Read the instructions for the project.

- Attend and listen to other students' final oral presentations.
- Look at the finished reports.
- Talk to senior master students.
- Attend possible information events (workshops / seminars / conferences etc.) about the related topics.

Application and approval:

- Read all the detailed information about the project.
- Finalise finding a place and supervisor.
- Check with the coordinator about the subject/project, place and supervisor.
- Write the project proposal and plan along with the supervisor.
- Fill out the application together with the supervisor.
- Hand over the complete application, proposal and plan to the coordinator.
- Get an acknowledgement and approval from the coordinator to start the project.

Get an acknowledgement and approval from the coordinator to start the project.

During the project:

- Search, gather and read information and literature about the theory.
- Document well the practical work and your results.
- Take part in seminars and the running follow-ups/supervision.
- Think early on about disposition and writing of the final report.
- Discuss your thoughts with the supervisor and others.
- Read the SOP and the rest you need again.
- Plan for and do the mid-term reporting to the coordinator/examiner.
- Do a mid-term report also at the work-place (can be a requirement in some work-places).
- Write the first draft of the final report and rewrite it based on feedback from the supervisor and possibly others.
- Plan for the final presentation of the report..

Finishing the project:

- Finish the report and obtain an OK from the supervisor.
- Ask the supervisor to send the certificate and feedback form to the coordinator.
- Attend the pre-final oral presentation arranged by the Coordinator.
- Rewrite the final report again based on feedback from the opponents and possibly others.
- Prepare a title page and a popular science summary for your report.
- Send the completed final report to the coordinator (via plagiarism software).

- Rewrite the report based on possible feedback from the coordinator.
- Appear for the final exam.

Project Proposal/research plan

- The student should spend the first 1-2 weeks writing a 1-2 pages project plan containing:
 - - Short background of the project - Aims of the project
 - - Short description of methods that will be used
 - - Estimated time schedule for the project
- The research plan should be handed in to the supervisor and the coordinator.
- Writing the project plan will help you plan your project work and get you started in finding information and understanding of methods needed to perform the project.

Project Documentation

The documentation should contain:

- The student should spend the first 1-2 weeks writing a 1-2 pages project plan containing:
 - Short background of the project
 - Aims of the project - Short description of methods that will be used
 - Estimated time schedule for the project the research plan should be handed in to the supervisor and the coordinator.
- Writing the project plan will help you plan your project work and get you started in finding information and understanding of methods needed to perform the project.

For the master's documentation, the chapters cannot be dictated, they may vary according to the type of project.

However, in Semester III Project Documentation and Viva Voce must contain at least 4 chapters (Introduction, Review of Literature, Methodology / Approach, Proposed Design / UI design, etc. depending on the type of project.)

The Semester III report should be spiral bound.

In Semester IV, the remaining Chapters should be included (which should include Experiments performed, Results and discussion, Conclusions and proposals for future work, Appendices) and Bibliography - references and links.

Semester IV report should include all the chapters and should be hardbound.

STANDARD OF PASSING: - (M.Sc. Computer Science)

1. In 80:20 Scheme of examination, every paper and practical is considered as separate head of passing.
2. Minimum passing marks require in every head is 40% (theory as well as in practical).
3. To pass the examination the student must secure minimum 30 marks out of 75 marks in each theory paper separately
4. For practical component, student needs to score minimum 20 marks out of 50 marks in each practical.
5. Project has 100 marks and student need to score minimum 40% marks for passing.

Documents required: Students should scan & upload all the required documents in Original.**Photo & Signature has to be scan during the Registration process****Part- I: - M.Sc. (I. T.) / Computer Science.****Documents required for admission to the old students of CDOE**

1. Original mark sheet of First year and in case of more than one attempt student should upload first and last mark sheet of the respective class.
2. Previous year Identity Card.
3. Marriage Certificate/ Gazette Notification (for female married students) in case of name change of the student

Documents required for the students from affiliated colleges of University of Mumbai

1. Original mark sheet of first year and in case of more than one attempt student should upload first and last mark sheet of the respective class
2. Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student.

Documents required:**Photo & Signature has to be scan & upload during the Registration process****Part- II: - M.Sc. (I. T.) / Computer Science.****Documents required for admission to the old students of CDOE**

1. Original mark sheet of First year and in case of more than one attempt student should scan & upload first and last mark sheet of the respective class.
2. Previous year Identity Card.
3. Convocation certificate
4. Marriage Certificate/ Gazette Notification (for female married students) in case of name change of the student

Documents required for the students from affiliated colleges of University of Mumbai

1. Original mark sheet of first year and in case of more than one attempt student should scan & upload first and last mark sheet of the respective class.
2. No Objection Certificate from the last attended college.
3. Convocation certificate
4. Marriage Certificate/ Gazette Notification (For female married students) in case of name change of the student

Documents required:

Documents required for admission for all students of other universities (Applicable only for Part- I of M.Sc. (I. T.)/ Computer Science)

INSTRUCTIONS FOR ELIGIBILITY CASE STUDENTS FOR ALL THE PROGRAMMES: -

The students from CBSE, ICSE, DIPLOMA from MSBTE/other state, NIOS, HSC Boards other than Maharashtra State, IB, CIE, D. ED and Degree from other than University of Mumbai will have to obtain the Eligibility Certificate which will be issued online after approval from Eligibility Unit, Room No. 108 (A), Centre for Distance and Online Education, Dr. Shankar Dayal Sharma Bhavan, Vidyanagari, Santacruz (E), Mumbai-400 098.

Migration certificate in original shall be submitted within 2 months from date of admission in respective Department of CDOE.

Equivalence certificate shall be submitted by the students wherever required.

Note: - The students who have passed 3/4yr Bachelor's Degree from other University and completed another degree course viz. B. ED, L.L.B., MMS etc. Form College affiliated to University of Mumbai and wish to pursue M.A./M.COM/M.Sc./MCA from the University of Mumbai are required to obtain Eligibility Certificate from University of Mumbai, CDOE. Such students should submit their Eligibility Confirmation letter from the earlier College / Institute affiliated to Mumbai University from where he / she has passed B.Ed. /LLB/ MMS / etc.

REQUIRED DOCUMENTS FOR OBTAINING ELIGIBILITY CERTIFICATE:

1. S.S.C. and onwards all examinations (F.Y., S.Y. & T.Y.)
2. Equivalent Certificate from MSBTE/Tech Board of the concern state (in case of diploma students)
3. Passing/ Convocation/ Degree Certificate
4. Marriage Certificate/ Gazette Notification (For female married students)
5. Migration / Transfer Certificate (shall be submitted within 2 months)

FEES FOR ELIGIBILITY CASE:

Document Verification fees of Rs. 400/- will be charged from UG/PG programme students who have passed their Board/ University Examinations from other than Maharashtra State Higher Secondary Board / other than University of Mumbai (Only for Eligibility Case).

Eligibility fees of Rs. 220/- for the students who have passed their examination from Maharashtra State Universities and Diploma from MSBTE and Rs. 320/- for out of Maharashtra State Universities /Boards other than Maharashtra /Technical Boards of other States.

The Details of the admission under eligibility cases are in the link given below

<https://mu.ac.in/wp-content/uploads/2024/06/Scholarship-Information-Instructions-2024-25.docx.pdf>

DETAILS OF PROGRAMMES IN FACULTY OF TECHNOLOGY

3.6 Master of Computer Application Course (MCA)

Two year (Four semesters) Post Graduate Programme

MCA – SEM I & SEM II (Revised 2020-21)

Semester I

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract & oral	Total
		Internal Assessment			End Sem. Exam	Exam. Duration (in Hrs)			
		CA	Test	Avg					
MCA11	Mathematical Foundation for Computer Science I	20	20	20	80	3	25	--	125
MCA12	Advanced Java	20	20	20	80	3	--	--	100
MCA13	Advanced Database Management System	20	20	20	80	3	--	--	100
MCA14	Software Project Management	20	20	20	80	3	25	--	125
MCAL11	Data Structures Lab with C and / C++	--	--	--	--	--	50	50	100
MCAL12	Advanced Java LAB	--	--	--	--	--	25	50	75
MCAL13	Advanced Database Management System LAB	--	--	--	--	--	25	50	75
MCAL14	Web Technologies	--	--	--	--	--	50	50	100
MCAP11	Mini Project – 1 A	--	--	--	--	--	50	--	50
Total		--	--	80	320	--	250	200	850

Semester II

Course Code	Course Name	Examination Scheme							
		Theory					Term Work	Pract & oral	Total
		Internal Assessment			End Sem. Exam.	Exam. Duration (in Hrs)			
		CA	Test	Avg.					
MCA21	Mathematical Foundation for Computer Science 2	20	20	20	80	3	25	--	125
MCA22	Artificial Intelligence and Machine Learning	20	20	20	80	3	--	--	100
MCA23	Information Security	20	20	20	80	3	--	--	100
MCAE24	Elective - 1	20	20	20	80	3	--	--	100
MCAE25	Elective – 2	20	20	20	80	3	25	--	125
MCAL21	Artificial Intelligence and Machine Learning Lab	--	--	--	--	--	25	50	75
MCAL22	Soft Skill Development Lab	--	--	--	--	--	50	--	50
MCALE23	Elective 1 Lab	--	--	--	--	--	25	50	75
MCAL24	Skill based Lab Course AWT Lab	--	--	--	--	--	50	50	100
MCAL25	Skill based Lab Course User Interface Lab	--	--	--	--	--	25	50	75
MCAL26	Skill based Lab Course Networking with Linux Lab	--	--	--	--	--	25	50	75
MCAP21	Mini Project 1-B	--	--	--	--	--	50	--	50
Total		--	--	100	400	--	300	250	1050

Elective 1

Sr. No	Course Code	Course Name	Lab Course Code
1	MCAE241	Image Processing	MCALE231

Elective 2

Sr. No	Course Code	Course Name
1	MCAE251	Natural Language Processing

SECOND YEAR M.C.A. SEMESTER III & IV**Semester III****Elective 3**

Sr. No.	Course Code	Course Name	Lab Course Code
1	MCAE334	Ethical Hacking	MCALE334

Elective 4

Sr. No.	Course Code	Course Name
1	MCAE343	Management Information System

N.B.: - ASSIGNMENT SUBMISSION

1. Students are required to submit their respective term works/assignments at their respective Learner Support centers.
2. Internal assessment of Tutorials to be done separately and term work marks to be given out of 25 for those courses where tutorial is mentioned.

Semester IV

Course Code	Course Name	Teaching Scheme (Contact Hours)		Credits Assigned		
		Theory	Pract.	Theory	Pract.	Total
MCAI41	Internship	--	40	--	15	15
MCAR42	Research Paper	1	--	1	--	1
MCAM43	Online Course- (MOOC)	4#	--	4	--	4!
MCAS44	Institute Social Responsibility*	--	--	--	--	2*
Total		5	40	5	15	20+2*
Course Code	Course Name	Examination Scheme				
		Internal Assessment		University Assessment	Total	
		Mid term Presentat ion I	Mid term Presentation II	Final Presentation		
MCAI41	Internship	25	25	200	250	
MCAR42	Research Paper	25	25	--	50	
Total		50	50	200	300	

Work load only for students

! Credits transferred from MOOC courses

* Credits allotted in semester IV based on the (ISR) work done in semesters I II III

Note:

● The Online Course- 1 (MOOC) has to be completed before the completion of the MCA course

(It can be done in the Semester 1 to 4 but to be accounted for in semester 4).

Program Structure for Bridge Course (With Effect from 2020-2021)

For the graduates, not having graduation in Computer Science/Information Technology/Computer Application, need to complete the bridge course in first year of MCA along with the semester I and II of MCA

Course Code	Course Name	Group	Teaching Scheme			Credits Assigned			
			(Contact Hours)						
			Theory	Pract.	Tut.	Theory	Pract.	Tut	Total
MCABR1	Programming with C++	ICT	3	--	--	--	--	--	--
MCABR2	Data Structures	ICT	3	--	--	--	--	--	--
MCABR3	Operating Systems	ICT	3	--	--	--	--	--	--
MCABR4	Computer Networks	ICT	3	--	--	--	--	--	--
MCABR5	Discrete Mathematics	M	3	--	--	--	--	--	--
	Total		15		--	--	--	--	--

Course Code	Course Name	Group	Examination Scheme							
			Theory					Pract		Total
			Internal Assessment			End Sem.	Exam. Duration	Pract	Oral	
			CA	Test	Avg.		In Hrs			
MCABR1	Programming with C++	ICT	20	20	20	80	3	--	--	100
MCABR2	Data Structures	ICT	20	20	20	80	3	--	--	100
MCABR3	Operating Systems	ICT	20	20	20	80	3	--	--	100
MCABR4	Computer Networks	ICT	20	20	20	80	3	--	--	100
MCABR5	Discrete Mathematics	M	20	20	20	80	3	--	--	100
	Total									500

3.9 Allowed to Keep Terms (ATKT): for two years MCA program

Bridge Course for two years MCA program:

- The graduates, not having graduation in Computer Science/Information Technology/ Computer Application, **need to complete the bridge course in the first year of MCA** along with the Semester I and II of MCA without which s/he will not be promoted to Semester III.
- The syllabus of the Bridge Course is mentioned in the Syllabus (wef 2020-21 – MCA 2 years Programme)

Allowed to Keep Terms (ATKT)for two years MCA program:

1. A learner shall be allowed to keep term for Semester II irrespective of grades obtained in each course of Semester I.

2 a) **For CS/ IT/ CA graduates** :A learner shall be allowed to keep term for Semester III if s/he passes each of Semester I , Semester II

2 b) **For Non CS/ IT/ CA graduates:** A learner shall be allowed to keep term for Semester III if s/he passes each of Semester I , Semester II along with all courses of Bridge courses

OR

S/he fails in not more than five heads of passing of Semester I and Semester II taken together.(Excluding Bridge Course)

3. A learner shall be allowed to keep term for Semester IV irrespective of grades obtained in each course of Semester III.

Note: Grade AB should be considered as failed and treated as one head for deciding

ATKT Note: Even though Term Work is not a separate head of passing, a learner should satisfactorily complete Term Work in all courses for a particular semester as per syllabus/curriculum manual to be eligible to appear for any form of examination.

Standard of passing M.C.A

To pass in the individual subject of each semester examination, a student must obtain a minimum 45 percent of the full marks in (a) theory paper and (b) term work, test and internal assessment separately of that subject.

Those of the students who obtained 45 percent of total marks obtainable in each theory paper, term work, test, class work and internal assessment, as the case may be, taken separately shall be declared to have passed the semester examination. A student who fails in an examination but has passed in any of the

subjects of that examination may at his option be exempted from reappearing for the same at a subsequent attempt and will be declared to have passed the relevant semester examination when he has passed in the remaining subjects.

Award of the classes

Those students who obtain (i) 60 percent of marks on the aggregate of the First Year, Second Year examination taken together will be placed in the First Class, (ii) 70 per cent marks on the aggregate will be declared to have passed the examination with first class with Distinction and (iii) 50 per cent marks on the aggregate will be declared to have passed the examination in the Second Class.

Documents required: Students should scan & upload all the required documents in Original.

Photo & Signature has to be scanned during the Registration process

First Year: - M.C.A

Documents required for admission to the old students of CDOE

4. Original mark sheets of First, Second & Third year of Degree examination and in case of more than one attempts student should upload first and last mark sheet of the respective class.
5. Mark sheet of HSC or Equivalent
6. Marriage Certificate/ Gazette Notification (for female married students) in case of name change of the student
7. Birth Proof (LC/AADHAR CARD)

Documents required:

Photo & Signature has to be scanned & uploaded during the Registration process

Second Year: - M.C.A

Documents required for admission to the old students of CDOE

5. Original mark sheets of First year and in case of more than one attempts student should scan & upload first and last mark sheet of the respective class.
6. Previous year Identity Card.
7. Convocation Certificate
8. Marriage Certificate/ Gazette Notification (for female married students) in case of name change of the student.

Documents required:

Documents required for admission for the students of other universities (Applicable only for MCA First Year)

SECTION-THREE

4. RULES, REGULATIONS, SERVICES AND FACILITIES

4.1 INSTRUCTIONS TO SCHOLARSHIP STUDENTS

1. The students who are applying for Post Matric Scholarship should first apply for admission through this website: <http://mu.ac.in/portal/distance-open-learning/>
2. Those student who will be opting for GOI Scholarship Schemes are required to visit at Room No. 108-A, CDOE, Dr. Shankar Dayal sharma Bhavan, Kalina Campus, Vidhyanagari, Santacruz (E), Mumbai- 400 098. between 11 am to 3.30 p.m. along with mandatory documents as mentioned below:
 - Students should carry all Original Documents for Verification purpose. (Compulsory) at Room No- 108 A, CDOE.
 - One set of self-attested Xerox copies of Admission form along with all necessary documents required for scholarship. (*Please see Annexure – A, List of Documents for SC/DT/NT/OBC/SBC*)
 - Thereafter they should apply for Scholarship (for SC/DT/NT/OBC/SBC) through the website of Department of Social Justice & Special Assistance <http://mahadbt.gov.in>
 - And in case of ST Category students they should apply for Scholarship/*freeship to E- Tribal Department on their website: <http://etribal.maharashtra.gov.in> (*Please see Annexure – B, List of Documents*)
 - Freeships subject to clearance from E-Tribal Department.

The details of the scholarship facilities are given in the link given below.

chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://mu.ac.in/wp-content/uploads/2024/06/Scholarship-Information-Instructions-2024-25.docx.pdf

4.2 IMPORTANT CIRCULARS & ORDINANCES

Check the links given below for various circulars & Ordinances

1. M.A./M.Sc. (Maths) class improvement ordinance
http://archive.mu.ac.in/myweb_test/M.A.%20MSc.%20%28Maths%29%20Class%20Improvement%20Ordinance.pdf
2. Master Examination individual subject passing be implemented from academic year 2016-17
<http://mu.ac.in/portal/wp-content/uploads/2014/06/Item-no-7.6-change-the-scheme-Master-of-ExaminationPG-courses.pdf>

4.3 SUPPORT SERVICES

4.3.1 PERSONAL CONTACT PROGRAMMES:

The Institute organizes guidance and Counseling sessions (lectures) under Personal Contact Programme in certain subjects in Mumbai for the benefit of Students, in the evening from 6.00 p.m. to 8.00 p.m. or on Sundays/Holidays for traditional courses and Attendance **about 75% lectures and Practical are compulsory for B.Sc / M.Sc. IT / Comp. Sc. And MCA courses only**. PCP it is an attempt to provide guidance and counseling to the Students in solving their academic difficulties.

PCP Center List:

Please note that the final list of PCP centre's of IT / Traditional Courses and detailed time table will be made available on university website: <http://mu.ac.in/portal/distance-open-learning/> and on Notice Board of CDOE after completing the admission process.

INSTRUCTIONS TO THE STUDENTS:

1. Students are requested to visit nearest centre from their residence. Detailed time table will be available with the Co-ordinator of the centre or on Notice Board of the College. No separate correspondence in this regard will be made.
2. PCP Programmes for undergraduate courses and post graduate courses are
3. likely to commence from November every year.
4. Students must always carry with them their valid identity cards every time when they attend their lectures or visit the Centre for Distance and Online Education.
5. Students are requested to meet the center Co-ordinators for academic problem.
6. Students are requested to remain in contact with the center co-ordinator for any change in the Time Table.
7. **Attendance and Practical's is compulsory for B.Sc./M.Sc. IT/Comp.Sc/ and MCA Programmes**

Personal Contact Programme (PCP Lectures) will be conducted in PCP Centers.

4.3.2 Study Material

Study material is a soul of Distance Learner of the Student. In that point of view, the institute is providing maximum study material in Marathi and English. Our study materials are of the best quality materials which are prepared in SLM format that is prescribed by DEC. Every year, about 75-90 thousand Students

are taking benefits of our study materials.

4.3.2.1 Virtual Learning Class Room (V.L.C. Studio)

The Students can avail the facility of virtual learning classroom through EDUSAT in the studio located at CDOE building, second floor, and room no. 204, or they can visit mu.ac.in/portal/distance-open-learning/ for virtual class room lectures in the subjects of Commerce & Economics.

4.3.2.2 Audio – Video Center (A.V.)

While the print material is, by and large, complete in itself, to facilitate better comprehension and understanding, some concepts and their application have been explained through the audio and video programmes as well. The A.V. center has more than 100 video cassettes in the subjects of Commerce and Economics. The audio video cassettes will not be supplied to the Student individually, but will be made available for listening and viewing at the A.V. center of the institute. A catalogue of the cassettes is available in the center located at room no. 205, in the CDOE building.

4.3.2.3 Library Facilities

The Institute has an independent library having 415 thousand books including texts and references and 22 research journals and periodicals. The CDOE provides Air Conditioned reading hall and the book – lending facility for the Students at its building in room No. 203 and 215. It remains open during office hours i.e. from 10:20 am to 06:00p.m. Only on working days except 2nd and 4th Saturdays. During the Examination seasons the reading hall of the institute is open from 08:00 am. to 08:00 pm. on working days (Monday to Saturday).

Only the reading hall facility is also provided at Vidyapeeth Vidyarthi Bhavan, ‘B’ Road, Churchgate, Mumbai 400 020.

Book lending facility for home-study for 7 days is provided on payment of a deposit of Rs.200/- in cash at CDOE at Vidyanagari. The deposit can be claimed by the Student at the end of the academic year or latest before 31st December of the next calendar year, provided there are no dues or books outstanding in his/her name.

4.3.2.4 Xerox Facilities

From the academic year 2009-10 institute has given Xerox facilities to the Students/staff in our premises at a very low cost. Numbers of Students are taking benefits of this scheme.

4.3.2.5 Syllabus and Old Question Papers

For the reference, the institute provides old question papers and syllabus Copies to the Students. This facility is available in the study material unit in the CDOE library and on our website mu.ac.in/portal/distance-open-learning/

4.3.2.6 Guidance and counseling

CDOE conducts PCP lectures at various centers located in Mumbai and suburban areas and also in Konkan region. The institute has also appointed its own teaching faculties for various subjects. At the headquarters our teaching faculty regularly counsel to the Students during the office hours (Except 2nd and 4th Sat).

4.3.2.7. Separate computer lab available for students (for practical’s and hand’s on training for online learning (Only for online courses).

4.4 RULES AND REGULATIONS

RULES AND REGULATIONS OF CANCELLATION

6.3.1 Cancellation of Admission / Refund of Fees

If any Student wishes to cancel his/her admission, he/she should apply in the prescribed

form within thirty days from the date of admission and his/her fees will be refunded as per following ordinances :

0.2859(C) : All the fees paid by a Student at the time of admission shall be refunded to him/her after deducting Rs.30/- (Rupees Thirty only) as administrative charges, if the Student informs the Professor-cum-Director, Institute of Distance and Open Learning, in writing within 30 days from the date of his/her admission.

0.2859(D) : All the fees paid by a Student at the time of admission shall be refundable to him/her after deduction of Rs.250/- (Rupees Two Hundred Fifty only) as administrative charges, provided that,

i) At the time of applying for admission, he/she intimates in writing that he/she has also applied or intends to apply for admission to one or more of the professional courses conducted by the institutions or departments (including the Institute of Distance and Open Learning) of the University or affiliated Colleges to the University.

ii) He/she withdraws his/her application within seven days from the date of his admission to a professional course as mentioned in (i) above, but not later than 30th September, if he/she is a Post-graduate/management Student of the same year. In such cases, it shall be binding on the Student to produce documentary proof of his/her being admitted to the professional course. Students admitted after above mentioned dates, if any, will not be entitled for the refund of the fees.

No. of Days	Amount Deducted
Up to 10 days of admission	Rs. 500/-
11 to 60 days of admission	20% of the total fees
61 to 90 days of admission	30% of the total fees
91 to 120 days of admission	50% of the total fees
After 120 days	No refund

N.B.: (Ordinance 0.2859 for UG programmes) and (Ordinance No(O.3574for PG Programmes)are amended. Fees will be refunded as per revised ordinance. (Please visit our website for these revised ordinances)

Important Notice

Ragging is strictly prohibited in higher educational institutions, as per the directions of Hon'ble Supreme Court and University Grants Commission Has Made provision of 6.1 (0) of the UGC Regulation, 2009.

1. Incomplete forms without any of the required documents/ information will be rejected.
2. The N.O.C., Statement of Marks / Provisional Statement of Eligibility etc. submitted by the Students will be sent for verification to their previous colleges / institutions and provisional admission will be granted only after the documents get authenticated. Otherwise, the provisional admission given to the Student will automatically get cancelled without any intimation/ notice to the Student. No refund of fees will be given. The matter will also be reported to the police.
3. The Circulars / Notifications giving details of the Personal Contact programme Lectures, dates of filling in the examination forms, declaration of results, submission of remaining documents, if any,

change of subject granted etc. will be displayed on the Notice Boards of the Institute. Details of these will not be sent individually to any Student. It is responsibility of the Students to obtain information about such matters from time to time. Non-receipt of any such information cannot be accepted as an excuse for lapse on the part of the Student.

4.4.2 Changes in Name/ Address /Subject

1. For intimating changes in name and address, Student should apply to the Professor- cum-director, CDOE, in the prescribed forms. Change in the name should be supported with documentary evidence such as a Gazette Notification, Marriage Certificate etc.;
2. For changing the subject once offered, the Students must apply for before 31st October of the same Academic Year. Learners are requested to fill up form for change in subject/ name at Room No 007 on or before 31st Oct., 2018.

4.4.3 Issue of Duplicate Identity Card / Mark sheet / Bonafide Certificate / Transcript Certificate etc..

a) Duplicate Identity Card (Rs.50/-)

The prescribed fee for applying for Duplicate Identity Card is Rs.50/- to be paid in cash on any working day from Monday to Friday & odd Saturday (i.e..1st& 3rd) during cash transaction hours (11 a.m. to 2.30 p.m. with lunch break from 1.00 p.m. to 1.30 p.m.).

The Prescribed forms of the above certificates are available in Room No. 007. Only Old Students who were admitted before the academic year 2012-13.

(b) Duplicate Statement of Marks. (Rs.100/-)

The prescribed fee for applying for Duplicate Mark sheet is Rs.100/- to be paid in cash during cash transaction days and hours. Please attach Affidavit on 100 Rupees Non Judicial stamp paper and also attach FIR copy of Police Station.

The prescribed application form which gives the details of documents required to be submitted with it, is available in the institute, in the case of F.Y./S.Y. examinations. In the case of T.Y. and other examinations, the prescribed application form is available with the examination section of the university at the Mahatma Jyotirao Phule Bhavan (Exam House) in Vidyanaagari Campus.

(c) Bonafide Certificate (Rs.20/-) and Transcript Certificate (Rs.750/- for U.G. and Rs.1000/-for P. G. Course.)

The prescribed fee for applying for the Bonafide Certificate is Rs.20/- and the **Transcript Certificate Under Graduate Programme is Rs.750/- and Post Graduate Programme is Rs.1000/- (per copy)** to be paid in cash during cash transaction days and office hours.

The prescribed application forms for this purpose are available in the Dispatch Section of CDOE. The details of documents required to be submitted are given in these forms.

4.4.4 Examinations

(CBCGS pattern scheme implemented from the academic year 2020-21 for the programs of B.Sc.IT & MCA examination will be conducted semester wise)

1. Fresh/New Students are eligible to appear for the university examination only after satisfactory completion of one academic year.
2. Students are permitted to write their answers in English, Hindi, Marathi, and Gujarati if they indicate their choice in the examination form. However, the question papers will be printed in English with only Marathi Version.
3. In case Students do not appear or appear and fail or **ALLOWED TO KEEP TERMS** for the examination of higher class (awarded ATKT), can appear as an Ex-Student/Repeater in the Second Half (October-November) examination. For this they are required to make enquiries in the month of July for filling in the Examination Form.

4. As an Ex-Student/Repeater if he/she wish to appear for the Feb/ March/ April examination of the next subsequent calendar year he/she is required to make enquiries in the month of December for submission of the examination forms.
5. The CDOE does not send any information to its Ex-Students/Repeaters.
6. The time-table of the examination will be put-up on CDOE Notice Board about 10 days before the date of commencement of the respective examination. The information regarding the examination, seat numbers and the hall ticket and the centre of the examination will be available about 4 days before the commencement of the examination, provided the same are received in time from the Controller of Examinations.
7. Documents required for filling in examination forms.
 - i) Identity Card of CDOE
 - ii) Statement of Marks of previous attempt with Xerox Copies.

4.4.5 Refund of Examination Fees

The Rules presently in force relating to refund of examination fees are as follows

1. Where a student expires in the period of the examination, the entire fee shall be refunded.
2. Where a student falls ill subsequent to the submission of his /her application for admission to the examination and is prevented on medical grounds from appearing at the examination, 50% of the fees shall be refunded to him /her provided an application of such refund, supported by a medical certificate, is submitted to the Professor-cum-Director of the Institute before three days from the date of commencement of the examination.

(Note : By the expression “date of commencement of the examination” is meant the date on which the first paper at the examination is set and not the date on which the student has to appear for his/her first paper. It is necessary that the application for refund should invariably be submitted through the Professor-cum-Director of the Institute. The amount, where refund is granted will be disbursed to the Student concerned through the Finance & Accounts section CDOE.

4.4.6 Transfer Certificate and Migration Certificate:

Whenever a Student who desires to leave the Institute either before completing the course for which he/she has been admitted or after completing the course, will be required to take the following certificate from the Institute/University:

1. For seeking admission in another institution/college affiliated to this University, a Transference Certificate from the CDOE by paying the prescribed fees of Rs.100/- and applying on the prescribed application form with the necessary documents. (UG/108g1999 Date:- 15/03/1999)
2. For seeking admission in other Universities within the country or abroad, the Student is required to obtain Migration Certificate by submitting an application in a prescribed form, from the Migration Certificate Section of the CDOE, University of Mumbai, which is situated in CDOE, Vidyanagari, Kalina, Santacruz (East), Mumbai 400 098.

The Migration Certificate Form, along with a Demand Draft for Rs.220/- drawn in favour of the Finance and Accounts Officer, University of Mumbai should be submitted in the office of the Asstt. Registrar (Administration), Centre for Distance and Online Education. Before submitting the application for Migration Certificate, he/she should obtain a Transference Certificate from the Institute of Distance & Open Learning by filling the required form, along with the fees of Rs.100/- in cash from Monday to Friday from 11.00 a.m. to 2.30 p.m. excluding lunch break from 1.00 p.m. to 1.30 p.m.

The prescribed form/s for obtaining above mentioned certificates will be available in the office

of the CDOE.

4.4.7 Admission on Fake Certificates:

IF ANY DOCUMENT SUBMITTED BY THE STUDENT AT THE TIME OF ANY COURSE AT ANY ADMISSION CENTRE AND FOUND FALSE AND FAKE THEN THE ADMISSION WILL BE CANCELLED INSTANTLY AND THE MATTER WILL BE REPORTED TO POLICE FOR FURTHER NECESSARY ACTION.

4.4.8 Admission Validity:

The admission is valid for a period of 5 years only for the approved students from the date of admission after which she/he has to take a fresh admission to any course of the institute. Student must insure that he/she should get admission approval within the current academic year. If any student's does not receive any confirmation SMS/Email from CDOE office, he/she should immediately contact to the concern section of CDOE.

4.4.9 Convocation and Other certificates:

The Students who have completed the course (i.e. who have passed their degree exam from the University, they will get their degree certificate after the Convocation. Enquiries in this regard may be made with The Deputy/Asstt. Registrar, Examination Section, University of Mumbai, Mahatma Jyotirao Phule Bhavan, Examination House, Vidyanagari, Santacruz (East),

Mumbai 400 098 on Degree Examination of working days during office hours. Similarly, for duplicate copies of Statement of Marks, Passing Certificate or Degree Certificate, of Graduate examinations, the students have to apply in the prescribed form (during the money transaction hours) at the M. J. Phule Bhavan, Examination House, Accounts Section, Vidyanagari, Santacruz (East), Mumbai 400 098.

4.4.10 Standard of Passing (B. Sc. IT): Circular No. UG/235 of 2005

R. 4411:- Passing Standards:

1. A student is said to have passed if he/she secures 40% of marks allotted in each head of passing.
Theory of 100 marks and TW/Practical/Tutorial of 50 marks are treated as separate heads of passing.
2. A student is said have passed Semester I if the student passes in all heads of passing of the Semester.
3. A student is eligible to be admitted to Semester II irrespective of no. of heads of failure in the First Semester.
4. A student is eligible for admission to Semester III if either the student passes Semester I & II

OR

The student Fails in a combination of Theory and/or Practical taken in Semester I or Semester II or together. Where the total marks do not exceed 200.

5. A student is eligible to be admitted to Semester IV irrespective of no. heads of failure in the Third Semester. However, the student has to clear Semester I and II in order to appear for Semester IV examination.
6. A student is eligible for admission to Semester V if either the student passes Semesters III & IV.

OR

The student fails in a combination of Theory and/or Practical taken in Semester III or Semester IV or together, where the total marks does not exceed 200.

7. A student is eligible to be admitted to Semester VI irrespective of no. of heads of failure in the

fifth Semester. The results of Semester VI should be kept in abeyance until the student clears Semesters III, IV and V in full.

8. The class is awarded Semesters-wise for Semesters I, II, III and IV. However, Semester V and VI will be taken together for award of class i.e. in the Final Year.
 - Award of class is based on passing in all theory papers at one sitting.
 - Passing in parts will be awarded Pass Class irrespective of the Cumulative percentage of marks.
 - Distinction is awarded for 75% and above.
 - First Class is awarded for 60% and above but below 75%.
 - Second Class is awarded for 50% and above but below 60%.
 - Pass Class is awarded for all below 50%
9. There will be one repeat examination (for Semester I, II, III and IV) for those who have failed or remained absent. The absent students will be allowed to appear for the examination by the head of the institution after following the necessary procedure. This examination will be held 30 days after the declaration of results but not later than 60 days.
10. The candidates who are repeaters the B. Sc. (I.T.) examination shall be granted exemption from Reappearing in term work, project and viva-voce they have secured minimum marks required for passing in these heads at their previous examinations. Further that the amended R.4411 relation to the B.Sc.(IT) examination has been brought into force with effect from the examination held in the first half of 2005.

4.4.11 Standard of Passing for M.A./M.Sc. (Maths) examinations (Part – I and II) R.1967: -

Students shall be required to obtain 40 percent marks in each paper/practical of the part Examinations and 40 percent of the aggregate at each of the Part Examinations of the branches.

Those of the successful student who pass Part I and Part II examinations and obtain minimum of 60 percent of the total marks, will be placed in the First Class and those obtain minimum of 50 percent in Second Class.

Improvement of Class (M.A./M.Sc. (Maths))

O. 2260 : Students who have passed the M.A./M.Sc.(Maths) degree examination of this University either by papers or by dissertation with the class mentioned below in Column 1 and who desire to improve their class or percentage as shown in Column 2 will be permitted to appear again for the same subject/s in both the parts simultaneously without being required to keep any terms within a period of five years, following the April or October examination at which they pass under provision of O.2260.

Column 1	Column 2
Pass Class	(a) Second Class or at least 55 per cent marks or First Class
Second Class	(b) At least 55 per cent marks or First Class

If students who reappear for the two year M.A./M.Sc.(Maths) Degree examination under the provisions of this ordinance fail to improve their class, their performance at such reappearance will be ignored.

4.5 SELF STUDY TECHNIQUES

Since this programme is offered through Distance Education mode, it is quite likely that some of you may be wondering how to complete the programme successfully

It should not be difficult for you to complete the course if you plan your work schedule carefully. If you practice somewhat systematic way of studying the print materials, much of your job will become easy. We shall give you a few suggestions to make you studies easy and interesting.

We understand that you have many domestic and social commitments to attend to. Most of you are working in some schools, colleges or other institutes or work places. You may not have ample of time for studying. But it is possible to have some time regularly for your studies. Convince your colleagues and family members that you need some privacy to study and stick to a regular time table. As soon as you receive the study materials start-working on it and don't postpone studying the materials or writing your assignments/responses.

We suggest, you should know the techniques of self study. Your study materials contain a lengthy reading list for reference purpose and for deeper understanding of the content. One strategy that gained wide acceptance is the SQ3R technique;

SQ3R stands for the initial letters of the five steps in studying text. The five steps are: (i) Survey (ii) Question (iii) Read (iv) Recall (v) Review

Survey

Survey refers to the quick glance through the title page, preface, chapter headings, etc. of a text book. Surveying a text helps the Students grasps the main ideas. A glance at the title page may give you.

(i) the general subject area (ii) the level of approach (iii) the author's name and (iv) the date and place of publication

Preface helps you decide whether or not the book deserves your attention. Contents tell you what topics the author is dealing with and how he has organized the themes. An index survey will tell you instantly whether or not the text contains what you need. It also helps you save time and efforts by directing you straight to the relevant pages.

Question

Your survey of the text will raise in you some questions. For example, glancing at the title page, preface and contents, you might ask yourself:

How far can I depend on this book?

Will the book be helpful to me as its preface suggests?

Why should the author devote a whole chapter for such and such topic?

Having made your survey and started to question, you are now ready for reading the text.

Read

Reading a text material demands a critical mind. When we read a text, we apply our mind with all its critical skills. Unless we read actively the questions which have been formulated cannot be answered satisfactorily.

It is not advisable to make notes at this stage.

This is not the stage to underline words or phrases either.

Keeping these two points in view, what perhaps, we can do at the first reading is just to look for the main ideas and the supporting details.

Recall

Reading a text is not the final step in learning. It is, instead, the first step in learning. What is read needs to be recalled for intention. Regular attempts to recall will help improve our learning in three ways (i) better

concentration (ii) chance to remedy misinterpretation and (iii) reactive reading. How often to recall chiefly depends on
'how good' a reader you are.

Review

The purpose of reviewing is to check the validity of our recall. The best way to do this is to do a quick repeat of the other four steps i.e. Survey, Question, Read and Recall.

Although the steps of SQ3R are in the logical and natural order there may be overlapping and repetitions between them. Since Distance Learning Students have to work on their own most of the time during their academic career, in this situation, study skills become very important.