ADMISSION & EXAMINATION BYE-LAWS

FOR

MASTER OF COMPUTER APPLICATIONS (MCA)

&

MASTER OF COMPUTER APPLICATIONS (MCA LATERAL ENTRY)

CHOICE BASED CREDIT SYSTEM (CBCS)
With effect from (2019-20)

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
School of Engineering Sciences & Technology
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ADMISSION & EXAMINATION RULES
for
Master of Computer Applications (MCA)
&
MASTER OF COMPUTER APPLICATIONS
(MCA LATERAL ENTRY)

1.   OBJECTIVE

To prepare highly skilled professionals, with a strong conceptual, theoretical and Practical background in the fields of information technologies, especially in the emerging areas of software technologies.

2 (A) The Regular MCA PROGRAM

Highlights of the course are described in the following table:

a.	*Name of the Program*	Master of Computer Applications (MCA)
b.	*Nature*	Regular and Full Time
c.	*Duration*	Three Years (6 Semesters)
d.	*Total number of credits*	140
e.	*Medium of Instruction and English Examinations*	English
f.	*Eligibility Criteria*	i. Passed BCA/ B.Sc./ B.Com./ B.A. with Mathematics at 10+2 level or at Graduation Level. ii. Obtained at least 50% marks in the qualifying Examination.
g.	*Selection procedure*	Merit of the qualifying examination.
h.	*Total Seats*	60 (50 General + 10 Sponsored, including NRI); in addition to these seats, 06 seats are available for Foreign Nationals.
i.	*Period of Completion*	Not more than 05 years (10 Semesters)
j.	*Commencement of the Program*	July of the every academic session

2 (B) The Lateral Entry MCA PROGRAMME

Highlights of the course are described in the following table:

a.	*Name of the Programme*	Master of Computer Applications MCA (LATERAL ENTRY)
b.	*Nature*	Regular and Full Time
c.	*Duration*	Two Years (4 Semesters)
d.	*Total number of credits*	140
e.	*Medium of Instruction and English Examinations*	English
f.	*Eligibility Criteria*	Passed in B. Tech/BCA/B.Sc. (IT/ Computer Science/Physics) with Mathematics as a Course at 10+2 level or at the Graduation Level. Obtained at least 50% marks in the qualifying Examination
g.	*Selection procedure*	The admission will be on the basis of merit of the qualifying examination (up to 4th semester of 3 year programme).
h.	*Total Seats*	Lateral Entry to Second Year Degree Course(s) in MCA Programme shall be permissible up to a maximum of 10% of the "Approved Intake", plus the unfilled vacancies of the First year.
i.	*Period of Completion*	Not more than 04 years (8 Semesters)
j.	*Commencement of the Programme*	July of the every academic session

3. PROGRAMME STRUCTURE

Semester-wise course structure, guidelines for teaching, practical and associated assessment of **MCA programme** is described in the following tables:

Course Type	Abbreviation	Credits
Program Core Course	PCC	60
Program Elective	PE	08
Open Elective	OE	04
Foundation Course	FC	08
Ability Enhancement Course	AEC	04
Skill Enhancement Elective	SEE	08
Massive open online course	MOOC	12
Laboratory	LAB	18
Dissertation	DISS	18
Total Credits		**140**

L-T-P stands for number of contact hours as Lecture-Tutorial-Practical in a week.

NOTE FOR IATERAL ENTRY: _T_o compensate for first year credits, the students have to appear for examinations during end semester as per the schedule given below.

Semester – I

Course Code	Course Title	Course Type	Marks			L-T-P	Credits
			Internal Assessment	Semester Exam	Total		
MCA 101	Problem solving and Programming	PCC	25	75	100	3-1-0	4
MCA 102	Computer Organization and Architecture	PCC	25	75	100	3-1-0	4
MCA 103	Database Management Systems	PCC	25	75	100	3-1-0	4
MCA 104	Software Engineering	PCC	25	75	100	3-1-0	4
MCA 105	Data Communication and Computer Networks	PCC	25	75	100	3-1-0	4
MCA 106	Communication Skills	AEC	25	75	100	2-0-0	2
MCA 107	'Problem solving and Programming Lab	LAB	25	75	100	0-0-4	2

MCA 108	Database Management Systems Lab	LAB	25	75	100	0-0-4	2
					Total	17-5-8	26

Semester – II

Course Code	Course Title	Course Type	Marks			L-T-P	Credits
			Internal Assessment	Semester Exam	Total		
MCA 201	Mathematical Foundations for Computer Applications	FC	25	75	100	3-1-0	4
MCA 202	Data Structures	PCC	25	75	100	3-1-0	4
MCA 203	Object-Oriented Programming Using C++	PCC	25	75	100	3-1-0	4
MCA 204	Operating Systems	PCC	25	75	100	3-1-0	4
MCA 205	Formal Languages and Automata Theory	PCC	25	75	100	3-1-0	4
MCA 206	Data Structures Lab	LAB	25	75	100	0-0-4	2
MCA 207	Object-Oriented Programming Using C++ Lab	LAB	25	75	100	0-0-4	2
					Total	15-5-8	24

Semester – III

Course Code	Course Title	Course Type	Marks			L-T-P	Credits
			Internal Assessment	Semester Exam	Total		
MCA 301	Design and Analysis of Algorithms	PCC	25	75	100	3-1-0	4
MCA 302	Java Programming	PCC	25	75	100	3-1-0	4
MCA 303	Compiler Design	PCC	25	75	100	3-1-0	4
	SEE – I	SEE	25	75	100	3-1-0	4
	OE – I	OE	25	75	100	3-1-0	4
MCA 304	Java Programming Lab	LAB	25	75	100	0-0-4	2
MCA 305	Lab based on SEE – 1	LAB	25	75	100	0-0-4	2
					Total	15-5-8	24

Semester – III Lateral Entry

Course Code	Course Title	Course Type	Marks			L-T-P	Credits
			Internal Assessment	Semester Exam	Total		
MCA 301	Design and Analysis of Algorithms	PCC	25	75	100	3-1-0	4
MCA 302	Java Programming	PCC	25	75	100	3-1-0	4
MCA 303	Compiler Design	PCC	25	75	100	3-1-0	4
	SEE – I	SEE	25	75	100	3-1-0	4
	OE – I	OE	25	75	100	3-1-0	4
MCA 304	Java Programming Lab	LAB	25	75	100	0-0-4	2
MCA 305	Lab based on SEE – 1	LAB	25	75	100	0-0-4	2
MCA 101	Problem solving and Programming	PCC	25	75	100	3-1-0	4
MCA 103	Database Management Systems	PCC	25	75	100	3-1-0	4
MCA 107	'Problem solving and Programming Lab	LAB	25	75	100	0-0-4	2

Course Code	Course Title	Course Type	Marks			L-T-P	Credits
MCA 108	Database Management Systems Lab	LAB	25	75	100	0-0-4	2
					Total	21-7-16	36

Semester – IV

Course Code	Course Title	Course Type	Marks			L-T-P	Credits
			Internal Assessment	Semester Exam	Total		
MCA 401	Artificial Intelligence	PCC	25	75	100	3-1-0	4
MCA 402	Data Warehousing and Data Mining	PCC	25	75	100	3-1-0	4
MCA 403	Probability and Statistics	FC	25	75	100	3-1-0	4
	PE – 1	PE	25	75	100	3-1-0	4
	PE – 2	PE	25	75	100	3-1-0	4
MCA 404	Artificial Intelligence Lab	LAB	25	75	100	0-0-4	2
MCA 405	Data Warehousing and Data Mining Lab	LAB	25	75	100	0-0-4	2
					Total	15-5-8	24

Semester – IV Lateral Entry

Course Code	Course Title	Course Type	Marks			L-T-P	Credits
			Internal Assessment	Semester Exam	Total		
MCA 401	Artificial Intelligence	PCC	25	75	100	3-1-0	4
MCA 402	Data Warehousing and Data Mining	PCC	25	75	100	3-1-0	4
MCA 403	Probability and Statistics	FC	25	75	100	3-1-0	4
	PE – 1	PE	25	75	100	3-1-0	4
	PE – 2	PE	25	75	100	3-1-0	4
MCA 404	Artificial Intelligence Lab	LAB	25	75	100	0-0-4	2
MCA 405	Data Warehousing and Data Mining Lab	LAB	25	75	100	0-0-4	2
MCA 201	Mathematical Foundations for Computer Applications	FC	25	75	100	3-1-0	4
MCA 202	Data Structures	PCC	25	75	100	3-1-0	4
MCA 205	Formal Languages and Automata Theory	PCC	25	75	100	3-1-0	4
MCA 206	Data Structures Lab	LAB	25	75	100	0-0-4	2
					Total	24-8-12	38

Semester – V

Course Code	Course Title	Course Type	Marks			L-T-P	Credits
			Internal Assessment	Semester Exam	Total		
MCA 501	Cloud Computing and Virtualization	PCC	25	75	100	3-1-0	4
MCA MOOC 1*	MOOC1	MOOC					4
MCA MOOC 2*	MOOC2	MOOC					4
MCA MOOC 3*	MOOC3	MOOC					4
	SEE – 2	SEE	25	75	100	3-1-0	4
MCA 502	Technical Seminar and Report Writing	AEC	25	75	100	1-0-2	2
MCA 503	Lab based on SEE – 2	LAB	25	75	100	0-0-4	2
					Total	7-2-6	24

*The list of online courses to be cleared through MOOC's shall be floated in the respective semester after approval from the Board of Studies.

Semester – V LATERAL ENTRY

Course Code	Course Title	Course Type	Marks			L-T-P	Credits
			Internal Assessment	Semester Exam	Total		
MCA 501	Cloud Computing and Virtualization	PCC	25	75	100	3-1-0	4
MCA MOOC 1	MOOC1	MOOC					4
MCA MOOC 2	MOOC2	MOOC					4
MCA MOOC 3	MOOC3	MOOC					4
	SEE-2	SEE	25	75	100	3-1-0	4
MCA 502	Technical Seminar and Report Writing	AEC	25	75	100	1-0-2	2
MCA 503	Lab based on SEE – 2	LAB	25	75	100	0-0-4	2
MCA 102	Computer Organization and Architecture	PCC	25	75	100	3-1-0	4
MCA 104	Software Engineering	PCC	25	75	100	3-1-0	4
MCA 105	Data Communication and Computer Networks	PCC	25	75	100	3-1-0	4
MCA 106	Communication Skills	AEC	25	75	100	2-0-0	2
					Total	18-5-6	38

*The list of online courses to be cleared through MOOC's shall be floated in the respective semester after approval from the Board of Studies.

Semester – VI

cOurse Code	Course Title	Course Type	Marks			L-T-P	Credits
			Internal Assessment	Viva Voce	Total		
MCA 601	Dissertation/Industrial Project	DISS	300	200	500	0-0-36	18

Semester – VI Lateral Entry

Course Code	Course Title	Course Type	Internal Assessment	Viva Voce	Total	L-T-P	Credits
			Marks				
MCA 601	Dissertation/Industrial Project	DISS	300	200	500	0-0-36	18
MCA 203	Object-Oriented Programming Using C++	PCC	25	75	100	3-1-0	4
MCA 204	Operating Systems	PCC	25	75	100	3-1-0	4
MCA 207	Object-Oriented Programming Using C++ Lab	LAB	25	75	100	0-0-4	2
Total						**6-2-36**	**28**

Grand Total of Credits MCA Regular =140

Grand Total of Credits Lateral Entry = 140

PROGRAM ELECTIVES (PE)

PE – 1	
MCA PE411	Software Quality Engineering
MCA PE412	Software Project Management
MCA PE413	Software Testing
PE – 2	
MCA PE421	Cryptography and Network Security
MCA PE422	E-commerce and Social Networking Applications
MCA PE423	Distributed Systems

Skill Enhancement Electives (SEE)

SEE – 1	
MCA SEE311	Internet and Web Programming
MCA SEE312	Linux and Unix Programming
MCA SEE313	PHP Programming
	SEE – 2
MCA SEE521	Advanced Java Programming
MCA SEE522	ASP .Net Programming
MCA SEE523	Android programming

OPEN ELECTIVES (OE)

OE – 1	
MCA OE311	Accounting and Financial Management
MCA OE312	Organizational Structure and Personal Management
MCA OE313	Human Resource Management

4. MODE OF CURRICULUM DELIVERY

Mode of curriculum delivery includes classroom teaching, assignments, test, lab work, presentations, participation in relevant events and regularity.

5. ATTENDANCE

a. All students are supposed to attend every lecture and practical classes. However, the attendance requirement for appearing in the examination shall be a minimum of 75% of the classes held.

b. Each one-period teaching shall account for one attendance unit.

c. The concerned teacher will take a roll call in every scheduled class, maintains and consolidate the attendance record, which would be submitted to the Head of the Department at the conclusion of the semester.

d. Attendance on account of participation (with prior permission from the Head of the Department) in the co-curricular/extra-curricular activities can be granted by the Dean on receipt of certificates or recommendations of the respective activity issued by the Head of the Department.

e. Attendance records displayed on the Notice Board from time to time, in respect of short attendance, shall be deemed to be a proper notification and no individual notice shall be sent to the students/local guardian.

f. In case a student is found to be continuously absent from the classes without information for a period of 30 days, the concerned teacher shall report it to the Head of the Department.

g. Head of the Department may recommend for striking off the name of a student from rolls, after ensuring '**one month continuous absence**', from all the concerned teachers.

h. A student, whose name has been struck off on account of long absence may apply to the Dean for readmission within 15 days of the notice of striking off the name. The readmission shall be effected on payments of prescribed readmission fees.

i. A student with less than 75% attendance in a subject shall not be allowed to appear in that subject in the semester examination. The Head of the Department shall recommend all such cases to the Dean of the School.

j. The Dean, on the recommendation of the Head of the Department, may consider the relaxation of attendance up to 10% on account of sickness and /or any other valid reason. No application for relaxation of attendance (duly certified by a Registered Medical Practitioner/Public hospital or a competent authority) will be entertained after 15 days from the recovery from illness etc.

6. INTERNAL ASSESSMENT

a. Internal assessment, to be made by concerned teachers, will be based on unit tests, quizzes, presentation, programming test, demonstrations and assignments.

b. There will be three (3) Internal Assessment (Unit Tests) with a total of 20 marks, and the best two (2) performances out of the three Unit tests of Internal Assessment will be counted. Other modes of assessment shall account for remaining 5.

c. Dates for unit test will be announced at the beginning of the semester, by the examination coordinator.

d. The teacher concerned shall maintain a regular record of the marks obtained by students in unit tests and display the same in due course.

e. The concerned teachers shall submit the compiled internal assessment marks to the Head of the Department, on the conclusion of teaching of the current semester.

f. The Head shall display a copy of the compiled sheet, of internal assessment marks of all the papers, before forwarding it to the Controller of Examination, i.e. at the conclusion of the semester.

g. A promoted candidate, who has to reappear in the examination of a paper, will retain internal assessment marks.

h. In the case of re-admission, the candidates shall have to go through the internal assessment process afresh and shall retain nothing of the previous year.

7.   SEMESTER EXAMINATIONS

Prescriptions for conducting semester examinations of theory and lab papers, those shall be conducted after the conclusion of each of the semesters, are presented in the following table:

S.N.	Classification	Theory	Lab
1.	Mode	Written Only	Written, Demo, Programming and viva-voce etc.
2.	Duration	03 Hours	04 Hours
3.	Total Marks	75 (Seventy Five Only)	75 (Seventy Five Only)

8.   DISSERTATION/INDUSTRIAL PROJECT

a. Each student of the final semester will have to go for a Dissertation/Industrial Project work either in the industry or in the Department under the guidance of one or two faculty members.

b. Period of completion of Dissertation/Industrial Project work shall be full one semester.

c. There shall normally be two supervisors-one internal and one *external (in the case of industry project form the place where the student is pursuing project-work)*.

d. All the students, who are pursuing the Dissertation/Industrial project work, shall be continuously in touch with the internal supervisor.

e. ***There shall be a mid-term evaluation of the progress*** and the internal supervisors will conduct it. However, an internal supervisor may ask the student to submit a confidential progress-report from the external supervisor *(in the case of industry project)*.

f. All the candidates shall submit **Three (03**) hard copies of the project reports that are duly approved and signed by internal as well as external *(if applicable)* supervisors.

g. An external examiner, appointed for the purpose, shall evaluate the project report.

h.   The Head of the Department shall fix a date and time for viva-voce examinations, on receipt of the evaluation-report of the project reports from the external examiner.

i.   Head of the Department shall forward the compiled total marks (awarded in internal assessment, project Report and Viva-voce Examination), in the project-semester of each of the candidate, to the Controller of Examination.

9.   EXAMINATION

a.   The performance of a student in a semester shall be evaluated through continuous class assessment and end semester examination. The continuous assessment shall be based on class tests, assignments/ tutorials, quizzes/ viva voce and attendance. The end semester examination shall be comprised of written papers, practical and viva voce, inspection of certified course work in classes and laboratories, project work, design reports or by means of any combination of these methods.

b.   The marks obtained in a subject shall consist of marks allotted in end semester theory paper, practical examination and sessional work.

c.   The minimum pass marks in each subject including sessional marks (Theory, Practical or Project etc.) shall be 40%.

10. PROMOTION SCHEME

a.   A student will be required to clear minimum **40% of his/her papers** (including Labs; excluding non-credit papers) in a semester/annual examination to be eligible **for promotion to the next semester/year**. A student may appear in the supplementary examination after each semester/annual examination and can have a choice to appear in the backlog papers in the supplementary examination or in the subsequent regular semester/annual examination with a prescribed fee. A students detained due to shortage of attendance will repeat his/her paper in the subsequent semester concerned (even/odd).

b.   A **detained** Student is not allowed to re-appear in the internal assessment (Unit test). His/her old internal assessment marks will remain same

A student who cleared all the papers of a semester/annual examination of a programme/course will be eligible for improvement examination as per university rule.

After having passed all the SIX (FOUR in case of lateral entry students) semesters, the students shall be eligible for the award of Master of Computer Applications (MCA) degree of JAMIA HAMDARD.

11. THE GRADING SYSTEM

As per University Rule

12. CALCULATION OF SGPA AND CGPA OF A STUDENT IN A SEMESTER

As per University Rule

After having passed all the SIX semesters, the students shall be eligible for the award of **Master of Computer Applications (MCA)** degree of JAMIA HAMDARD.

13. CLASSIFICATION OF SUCCESSFUL CANDIDATES

The result of successful candidates, who fulfill the criteria for the award of **Master of Computer Applications (MCA)**, shall be classified at the end of last semester, on the basis of his/her final CGPA (to be calculated as per university rule).