

**UNIVERSITY OF MUMBAI**  
**INSTITUTE OF DISTANCE AND OPEN LEARNING**

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**NOTIFICATION**

**MASTER OF COMPUTER APPLICATIONS (M.C.A)  
ENTRANCE TEST – 2014**

Online applications are invited for admission to MCA course through Distance and Open Learning mode. Course duration is Three Years (Six Semesters).

<b>Schedule of activities for M.C.A. Entrance Test – 2014</b>		
<b>ACTIVITIES</b>	<b>FIRST DATE</b>	<b>LAST DATE</b>
Online submission of the M.C.A. Entrance Test – 2014 through web site <a href="http://idol.mahaonline.gov.in">idol.mahaonline.gov.in</a>	<u>22<sup>nd</sup> May, 2014</u>	<u>12<sup>th</sup> June, 2014.</u>
<b>Date of the Entrance Test</b>	<b>Sunday, 22<sup>nd</sup> June, 2014.</b>	
Hall Tickets of Entrance Test will be displayed on website <a href="http://idol.mahaonline.gov.in/">http://idol.mahaonline.gov.in/</a> after the payment is done		

**Eligibility:-** Graduate in any faculty of a recognized University with minimum 45% marks (minimum 40% for reserved category) and Mathematics as a subject at XII or higher level. *Those Students who have appeared for final year and whose results are awaited are eligible for appearing at the Entrance Test.*

Admissions to MCA will be on the basis of Entrance Test to be held on Sunday, 22<sup>nd</sup> June, 2014 between 11.00 a.m. and 1.00 p.m.

**Students can submit their form online here <http://idol.mahaonline.gov.in/>**

Entrance examination fees of Rs. 500/- should be paid through Credit/Debit Card by Payment Gateway OR challan of Bank of Maharashtra.

Challan will be accepted for payment within 3 days from the date of submission of online form (excluding the day of submission) in their respective branches. This fee is non-refundable and non-transferable under any circumstances.

**UNIVERSITY OF MUMBAI**  
**INSTITUTE OF DISTANCE AND OPEN LEARNING**  
**MASTER OF COMPUTER APPLICATIONS ( MCA) ENTRANCE TEST – 2014**

Online applications are invited for admission to MCA (Three Years - Six Semesters) programme through Distance Education mode.

Eligibility:- Graduate in any faculty of a recognized University with minimum 45% marks (minimum 40% for reserved category) and Mathematics as a subject at XII or higher level. *Those Students who have appeared for final year and whose results are awaited are eligible to apply but their admission will be subject to the production of original documents.*

Admissions to MCA will be on the basis of Entrance Test to be held on Sunday, 22<sup>nd</sup> June, 2014 between 11.00 a.m. and 1.00 p.m.

The percentage of seats reserved for candidates of backward class categories belonging to Maharashtra State are as per the details shown in table below.

The following is the reservation:- (social reservation only for the students of Maharashtra)

- |       |                           |   |  |
|-------|---------------------------|---|--|
| i)    | 13% seats                 | : | SC   |
| ii)   | 7% Seats                  | : | S.T.   |
| iii)  | 3% Seats                  | : | D.T.(A   |
| iv)   | 2.5% Seats                | : | N.T.(B)  |
| v)    | 3.5%                      | : | N.T.(C)  |
| vi)   | 2% Seats                  | : | N.T.(D)  |
| vii)  | 19% seats                 | : | OBC  |
| viii) | a) 30% Seats              | : | Womens (Horizontal) Resevation as per State Govt.  |
|       | b) S.B.C.                 | : | As per Circular No. BCC/29/34 of 1997 dated 25-9-1997                                    |
|       | c) Physically Handicapped | : | As per Circular No. Special Cell/2/2008 Handicapped dated 25-1-2008                      |
| ix)   | 3% Seats                  | : | प्रिपत्रक ांक मान्यताकसंलग्नताकनिर्देशक२११ दिनांक ६.६.१९९८नूसार खालीलप्रमाणे आवश्यक असेल |

१. वदलून आलेले केंद्रीयकराज्य शासकीय कर्मचारीकअधिकारीांचे पाल्य
२. संरक्षण दलातील आजी माजी सैनिकांचे पाल्य
३. राष्ट्रीयकराज्यपातळीवर कीडा सांस्कृतिक कार्यांत विशेष नैपुण्य मिळविलेले विद्यार्थी
४. विधवा परित्यक्त्या विद्यार्थीनी
5. स्वातंत्र्य सैनिकांचे पाल्यक्रनातवंडे

Backward class candidates shall claim the category to which they belong at the time of submission of application form for Admission.

Application forms will be available on our website [www.mu.ac.in/idol](http://www.mu.ac.in/idol) from 22<sup>nd</sup> May to 12<sup>th</sup> June, 2014 which can be submitted online. Entrance examination fees of Rs. 500/- be paid online through challan of Bank of Maharashtra OR through Credit/ Debit Card by Payment Gateway. Challan of Maharashtra will be accepted for payment within 3 days from the date of submission of online form (excluding the day of submission ) in their respective branches.

Verification of all eligibility criteria documents including caste certificates , caste validity certificates of only those candidates who qualify for the Entrance test will be done at the time of admission.

All the candidates claiming reservation under reserved category shall submit “Caste certificate” issued by the Competent Authority from the State of Maharashtra at the time of online submission of application form for Admission to MCA course.

The candidates belonging to SC,ST, VJ/DT(A), NT(B), NT(C), NT(D), OBC,SBC categories shall produce “Caste Validity Certificate” issued by the competent Authority at *the time of online submission of application form. The policy of Social Justice & Special Assistance Department and Tribal welfare Development Department Government of Maharashtra will be made applicable in case of Caste/Tribe Validity Certificate.*

The candidate belonging to VJ/DT (A), NT(B), NT(C), NT(D), OBC,SBC categories shall produce “Non Creamy layer Certificate” issued by the competent Authority in addition to the caste certificate at the time of online submission of application form for the Admission. If these candidates are not able to produce Non Creamy Layer Certificate at the time of online submission of application form, such candidates will be treated as GENERAL category, and such candidates will not be able to claim on reserved seats in the admission process.

30% (Horizontal)Reservation for women as per State Govt.

Application of candidates who submits wrong / incorrect information / documents / certificates will be summarily rejected after verification at any point of time.

Syllabus for Entrance Test is available on our website [www.mu.ac.in/idol](http://www.mu.ac.in/idol)

website: <a href="http://www.mu.ac.in/idol">www.mu.ac.in/idol</a> OR <a href="http://www.mahaonline.gov.in">www.mahaonline.gov.in</a> & <a href="https://www.facebook.com/muidol">www.facebook.com/muidol</a> Email: <a href="mailto:info@idol.mu.ac.in">info@idol.mu.ac.in</a> , Must Radio : 107.8
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PRO/IDOL/1/2014  
Date: 20<sup>th</sup> May, 2014.

Dr. D. Harichandan  
Professor-cum-Director

### **MCA (MASTER OF COMPUTER APPLICATIONS)**

MCA (Master of Computer Applications) is a (Three Years ) six semester. Masters degree program which was started by the University of Mumbai from the academic year 1992 & the same has been started through the Institute of Distance and Open Learning (IDOL) from 2005-2006. The course is designed to provide comprehensive knowledge of computer science, with emphasis on applications. It has courses from computer science, mathematical science and management. The 6<sup>th</sup> semester is dedicated to project work, to be done with industry. Since the courses are pertaining to modern technology, the response from students is overwhelming.

**Admissions are open to citizens of India residing in India only. NRI & Foreign students whether residing in India or abroad are not eligible.**

#### **Duration**

The duration of the M.C.A course extends over six semesters (Three Years), spreading up equally over three academic years. Each semester is of 12-16 weeks durations, besides the time spent for examinations.

#### **Syllabus details & sample question paper of MCA Entrance examinations Scheme of entrance examination.**

The MCA ENTRANCE 2014 examination comprises of one paper (Objective type) of 120 minutes duration without negative marking.

For syllabus :- Please check below link.

[www.mu.ac.in/myweb\\_test/mcaentrance.pdf](http://www.mu.ac.in/myweb_test/mcaentrance.pdf)

## **Syllabus**

The questions in this paper will cover: logical reasoning, quantitative reasoning, high school mathematics, vocabulary, English comprehension and verbal ability.

### **General Aptitude:**

The main objective of this section is to assess the general aptitude of the candidate to pursue a computer applications and software profession.

### **Algebra :**

Fundamental operations in Algebra, Expansion, factorization, Quadratic equations, indices, logarithms, arithmetic, geometric and harmonic progressions, binomial theorem, permutations and combinations.

### **Probability and Statistics:**

Basic concepts of probability theory, Averages, frequency distributions, and measures of dispersions and skewness Binomial, Poisson, normal distributions, curve fitting, and principle of least squares, correlation and regression.

### **Arithmetic:**

Ratios and proportions, problems on time-work, distance-speed, percentage.

### **Basic Set Theory and Functions:**

Set, relations and mappings.

### **Mensuration:**

Areas, triangles and quadrilaterals, area and circumference of circles, volumes and surface areas of simple solids such as cubes, spheres, cylinders and cones.

### **Computer Basics:**

Organization of a computer, Central Processing Unit (CPU), Structure of Instructions in CPU, input / output devices, computer memory, memory Organization, back-up devices.

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**Data Representation:**

Representation of characters, integers, and fractions, binary and hexadecimal representations, Binary Arithmetic: Addition, subtraction, division, multiplication.

**Computer Architecture:**

Block structure of computers, communication between processor and I / O devices, interrupts.

**Computer Language:**

Assembly language and high level language, Multiprogramming and time sharing operating systems, Computer Programming in C.

**Operating System basics:**

Multiprogramming and timesharing operating systems.

**Programming in C :**

Data types, Control Structures, Arrays, functions, pointers.

**Database Management Systems:**

Data Models, Structured Query Language, E-R Diagrams, Normalization, primary key foreign key, RDBMS

## Sample Questions

1. Remote computing services involve the use of timesharing and \_\_\_\_\_
  - a) Multiprocessing
  - b) Interactive processing
  - c) Batch processing
  - d) Real time processing
  
2. Which of the following is not a part of the operating system
  - a) Supervisor
  - b) Job-control program
  - c) Performance monitor
  - d) Input/ output program
  
3. Which of the following will determine your choice of systems software for your computer?
  - a) Is the applications software you want to use compatible with it?
  - b) Is it expensive?
  - c) Is it compatible with your hardware?
  - d) (a) and (c)
  
4. A six faced die is so biased that it is twice as likely to show an even number as an odd number when thrown. It is thrown twice. what is the probability that the sum of the two numbers thrown is even
  - a)  $\frac{5}{9}$
  - b)  $\frac{9}{5}$
  - c)  $\frac{14}{9}$
  - d)  $\frac{4}{9}$
  
5. A bag contains 6 white and 4 black balls one of the bag is chosen as random and a draw of 2 balls is made from it. find the probability that one is white and the other is black
  - a)  $\frac{84}{165}$
  - b)  $\frac{165}{84}$
  - c)  $\frac{42}{75}$
  - d) none of the above

6. In order to use DBMS, It is important to understand
- The physical schema
  - All sub schema that system supports
  - one subschema
  - Both (a) and (b)
7. In SQL which command(s) is (are) used to enable/ disable a database trigger?
- MODIFY USER
  - CHANGE USER
  - ALTER USER
  - NONE OF ABOVE
  - ALL OF ABOVE
8. Who developed the E-R Model?
- Codd
  - Date
  - Chen
  - Bachman
9. What are the components of an E-R Model?
- Entities.
  - Attributes
  - Relationships
  - All of the above
10. Let the sets A, B, C and U be as  $U =$  all students at a university,  $A =$  day students,  $B =$  mathematics major,  $C =$  graduate students. Let  $\#U = 16,000$  ;  $\#A = 9,000$  ;  $\#B = 300$  and  $\#C = 1,000$ . Also assume that the number of day students who are majors is 250, 50 out of which are graduate students, and that total number of day graduate students is 700. Determine the number of students who are :
- evening students
  - non-mathematical majors
  - undergraduates(day or evening)
  - day graduate non-mathematics majors.
  - Evening graduate students
  - Evening graduate mathematics majors
  - Evening undergraduate non-mathematics majors.

11. Which of the following is false?

- a) Data stored in an array can be accessed faster than data stored in a disk file.
- b) Data stored in an array needs to be entered only once, typically at the beginning of the program.
- c) Array allows the programmer to store information in the computer's internal memory.
- d) When using arrays, you will have fewer variable names to remember.
- e) None of the preceding statements are false.

12. Elements in an array are identified by a unique \_\_\_\_

- a) Data type
- b) Order
- c) Subscript
- d) Symbol

13. Which of the following alphabetical input sequences will minimize the data stored by the program?

- 1) Class Within Department Within Division
- 2) Division Within Department Within Class
- 3) Employee Within Department Within Division
- 4) Employee Within Class Within Division

14. Richard is a terrible driver. He has had at least five traffic violations in the past year. Which of the following can be said about the above claim?
- (A) This is an example of an argument that is directed against the source of the claim rather than the claim itself.
  - (B) The statement is fallacious because it contains an illegitimate appeal to authority.
  - (C) The above argument obtains its strength from a similarity of two Compared situations.
  - (D) The argument is built upon an assumption that is not stated but rather is concealed.
  - (E) In the above statement; there is a shifting in the meaning of terms; Casing a fallacy of ambiguity.

Analysis of the sentences indicates the presence of an assumption that anyone who has had at least five traffic violations in a year is a terrible driver. This assumption is understood but is not stated. Rather, it is a hidden assumption, making (D) the appropriate answer. Alternative(A)is incorrect because there is on attack on the source of the claim.(B)is wrong because there is no appeal to authority \_illegitimate or not.(C)is not the correct answer because there is no comparison of two similar situations in the statement.(E)is incorrect because there is no term with a confusing or double meaning.

15. Which is the largest fraction?

(a)  $\frac{3}{4}$  (b)  $\frac{7}{8}$  (c)  $\frac{4}{5}$  (d)  $\frac{7}{9}$

