



MCA PROGRAM AND LATERAL ENTRY OPPORTUNITIES IN INDIA: A STUDY OF PRIVATE UNIVERSITIES

P. K. Paul¹, P. S. Aithal², K. S. Shivraj³

¹Raiganj University (RGU), West Bengal, India prantoshkpaul@gmail.com

²Vice Chancellor, Srinivas University, Karnataka, India

³Learning Resource Centre, KL University, Telengana, India

¹Corresponding Author: pkpaul.infotech@gmail.com

Abstract

Computer Application is one of the emerging domains in the field of computing and information technology. It is a domain of professional practice in India and mainly applicable in the working areas of software development and management. In Computer Application field the most significant job areas are software design and development, software engineering and management etc. Computer Application is available with two nomenclature and degrees viz. MCA and BCA. After completion of Computer Application degree, one can further progress and reach up to Doctoral Degree leading to Ph.D. In Computer Application, the flagship program is Masters one called Masters of Computer Application (MCA). A large number of universities and engineering colleges in India offers MCA program. It is normally available with 3 years duration. Unlike other computing and information technology degrees, it has opened a new vista for other background students to enter into the field of computing and IT profession. Computer Applications degree holders are widely working in Indian IT industry and doing well. Initially when the program was started in the nineteen-eighties rest part of the world were moved towards a new domain and fields called 'Information Technology' with much broader aim and agenda. Gradually MCA programs became popular and several institutions have been started the program with the widely running 3 years degree. Though in recent past many other universities mainly private universities have opened up a new world of MCA program with different duration based on entry level qualifications. In this paper, we have discussed and analyzed the unique features of MCA program offered by Indian Private Universities with special emphasis on Lateral entry to second and third years.

Keywords

Computer Application, Degree, MCA, Higher Education, India, Education and Training, Research and Development

Introduction

Indian education sector has shifted its focus from traditional to modern system in last few decades hence, as a result, the norms and eligibility criteria have been changed in many contexts. Masters of Computer Application degree program initially started as 3 (three) years program. Gradually it has controlled and governed by the AICTE (All India Council for Technical Education) throughout the country [1], [4]. Moreover, it has mainly started in the engineering colleges as a separate wing called Centre/Department of MCA, however, some of the universities also started with the nomenclature

directly on the subject called 'Computer Application' more specifically Centre/Department of Computer Application [2], [3].

Interestingly when Computer Science discipline and program is started for science background candidates, the branch Computer Application opened up a new vista for other background and degree holders. It has mainly started to develop working professionals in the IT and Computing industry. Hence the graduates from Arts, Science and Commerce are eligible for the MCA program. Although to deal the program nicely a condition of at least a related paper has been adopted by the AICTE and here related paper is 'Mathematics'. Computer Science eligibility where ask as Physics, Mathematics, Chemistry and or Computer Science it has created new opportunities in education sectors in India [5], [8].

Objective and Agenda of the Work

The main aim and agenda of this paper is to include but not limited to the following—

- To know basics about Computer Application and its allied and related branch in India and world.
- To seek the knowledge in the field of Computer Application in respect of career opportunities and job prospects.
- To get knowledge about the Computer Application degrees available in India and abroad.
- To learn about the MCA and BCA degree in detail with emphasize on MCA degree in a contemporary context.
- To know about the changing eligibility criteria of MCA program with reference to Private Universities in India.
- To study about the Private Universities in India and their strategies in respect of MCA degree program.
- To learn about the most significant two years (2) and one year (1) MCA program started in Indian Universities.

Methodology Adopted

This research work is contextual and conceptual in nature. For the preparation of this paper, various methodologies have been adopted but most significant is the common educational methodology called SWOT Analysis in respect of Computer Application program. The paper also uses the review of literature method to learn about the basics and characteristics of Computer Application. The paper is focused on private universities in India and thus web review played a greater role in doing the work. Most importantly for this the main URL has been selected <https://www.ugc.ac.in/privatuniversity.aspx> to learn, analysis, and report on private universities in India. However, apart from this the website of UGC and AICTE also been analyzed to prepare the paper most up-to-date and significant.

Computer and Information Sciences: The Academic World

Information Science is becomes field of fields and it is about the business on information. The affairs related to the information viz. collection, selection, organization, processing, management, and dissemination. Information Science is a broad field than **Information Technology** (which is a combination of several technologies (*viz. Networking Technology, Database Technology, Web Technology, Multimedia Technology, Software Technology etc*). Additionally, Information Science (apart from IT) also integrates Management Sciences and Social Sciences to remove the gap between interactions of information-technology-people.

Computer Application is another domain in the field of computing and information mechanism and is purely deals with software technologies. Programming technologies are the key concern of this branch with a partial focus on remaining IT components (*i.e. Networking Technology, Database Technology, Web Technology, Multimedia Technology*). **Computer Science** is a most traditional area of computing mainly concentrated on Computer Technology (*i.e. software & hardware*) with the partial focus on components of IT. However, the broader nomenclature of this field *i.e. Information Science* is also in

today's context treated as '*Computer and Information Science*' keeping the nomenclature 'Information Science'. In some context, it is also known as '*Information Science and Computing*' / '*Information Science and Technology*'.

Computer Applications: BCA & MCA

Computer Application in India started in the nineteen eighties with the degree of masters' level called 'Masters of Computer Applications' or MCA. Later on, in late of nineteen nineties Bachelors program in the field was started with the nomenclature Bachelor of Computer Applications or BCA. Specifically the success of diverse background students' interest (like MCA level) resulted in the origin of BCA program. Initially (like MCA) as a related and relevant paper 'Mathematics' considered as relevant one. However gradually many Indian school boards started Computer Science or related subjects/ paper at 10+2 level. Hence many universities have adopted the criteria of related paper at 10+2 i.e. Computer Science / Computer Applications/ Information Technology/ Informatics apart from relevant paper criteria i.e. Mathematics [6], [7].

Whereas in MCA program the eligibility criteria are still Bachelor Degree in any stream with at least a relevant paper (*i.e. Mathematics or allied subjects i.e. Statistics/ Business Mathematics*), but as per the AICTE (All India Council for Technical Education) there is no scope of allied subjects of Computing viz. Computer Science / Computer Applications/ Information Technology/ Informatics as a paper holder at Bachelors Degree holders in any stream. Though in recent past some of the private universities have changed the norms towards eligibility and allow Computing related papers as well.

Private Universities: The Case

In India, Universities have rapidly gained in last 20 years. India is the largest education sector in the world with over 40000 Higher Educational Institutes (HEIs). Category wise India has three types of universities—

- *Central Universities*
- *State Universities*
- *Private Universities*

All these have established under the legislative assembly, whereas apart from these three universities there is another type called as deemed universities. A Complete list of state-wise number of private universities has been shown in Table: 1 and the MCA program is offered in all these types of universities. But Engineering colleges have played a great role in the context of generating a large number of MCA program [4], [5].

Table: 1-Private Universities established in India

Serial No.	States	No. of Universities
1	Arunachal Pradesh	7
2	Assam	5
3	Bihar	2
4	Chhattisgarh	9
5	Gujarat	30
6	Haryana	20
7	Himachal Pradesh	17
8	Jharkhand	7
9	Karnataka	14
10	Meghalaya	8
11	Mizoram	1
12	Madhya Pradesh	24
13	Maharashtra	9
14	Manipur	1
15	Nagaland	3
16	Odisha	4
17	Punjab	15
18	Rajasthan	46

19	Sikkim	5
20	Tripura	1
21	Uttar Pradesh	29
22	Uttrakhand	13
23	West Bengal	9
Grand Total		279

MCA Program in India

Computer Applications fields at masters level available as a science flavor and also as a professional degree and without any discipline concentration (*i.e. Arts/ Science/ Commerce/ Engineering/ Management etc*) and known as MCA Program. The science flavor is called as MSc-Computer Application. Master of Computer Applications (MCA) degree is available as a three years of study and open to any graduate. In common educational systems of India, Masters Program is 2 (two) years based and most of the masters program seeks the Concentration/ Major/ Hons. in the concerned subject whereas the MCA program is flexible and open to all. Hence AICTE governing it as a three years program instead of common two years masters. As per the present study; which is focused on private universities of India out of 279 universities 129 are having MCA Program. A Detail report is depicted herewith in table: 2.

Table: 2-MCA Program at Private Universities in India

Serial No.	States	No. of Universities	No. universities offering MCA program
1	Arunachal Pradesh	7	5
2	Assam	5	3
3	Bihar	2	1
4	Chhattisgarh	9	5
5	Gujarat	30	11
6	Haryana	20	9
7	Himachal Pradesh	17	9
8	Jharkhand	7	4
9	Karnataka	14	5
10	Meghalaya	8	4
11	Mizoram	1	0
12	Madhya Pradesh	24	14
13	Maharashtra	9	3
14	Manipur	1	1
15	Nagaland	3	1
16	Odisha	4	0
17	Punjab	15	12
18	Rajasthan	46	23
19	Sikkim	5	3
20	Tripura	1	1
21	Uttar Pradesh	29	2
22	Uttrakhand	13	7
23	West Bengal	9	6
Grand Total		279	129

According to the present study, it is noticed that Rajasthan state holds the first position in terms of establishment of private universities total 46 (forty six) whereas in terms of establishment of MCA program also the state holds first position with 23 (twenty three) private universities offering MCA

program. Madhya Pradesh grabbed second position with total 24 private universities and out of them 14 are offering MCA program. However, the third position belongs to the State of Punjab and there 15 universities offer the MCA program. As per AICTE, MCA Program annual intake in India is about 1 Lakh and the number increased to this level during the last decade only [9], [10].

Lateral Entry in MCA

Lateral Entry is a concept of the academic and professional degree program. In this system advanced level study opportunities being offered to the qualified candidates. More clearly candidates holding higher qualification/ credit/ year or level of study may consider for the advance position and it has benefit of the following

- *Reduction in course duration*
- *Less credit to be earned*
- *Less fess and coursework etc.*

In different countries of the western region, the concept is also called as Credit Transfer. Whereas in India it is popular as Lateral Entry in which direct 2nd year or 3rd year admission may be offered to the qualified. In case of MCA program, the normal duration is three years but the program may be avail as two years program with the higher qualification of credit earned candidates. For example, candidates already hold Bachelor Degree in Computer Application/ Information Technology/ Computer Science and other allied branches may be offered direct study and entrance opportunity to the 2nd year or 3rd semester or specific higher level.

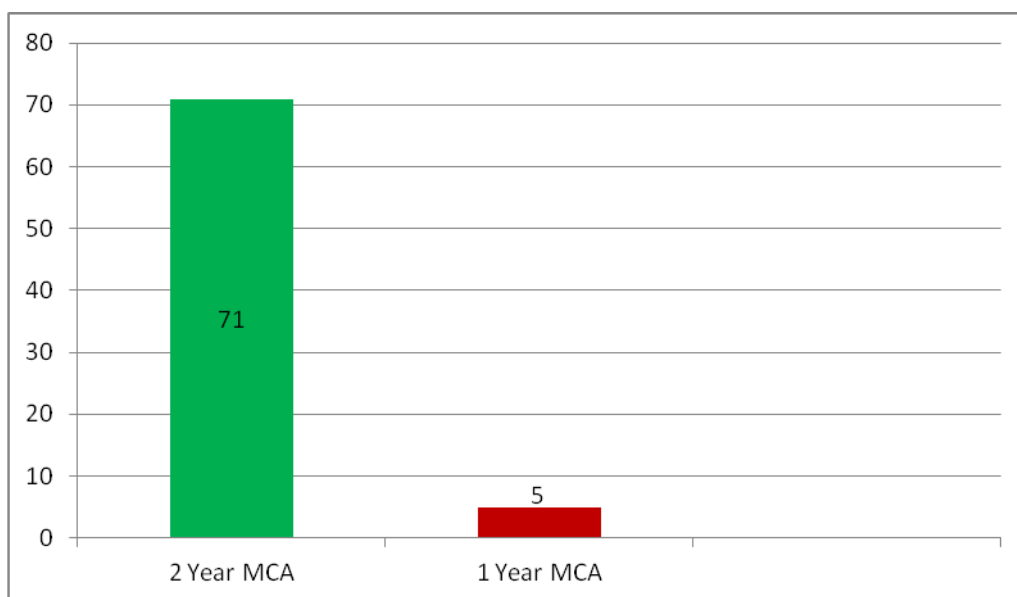


Fig: 1-Availability of 2 Year and 1 Year Masters MCA Programs in Indian Private Universities

However, it is important to note that this advance entry option is not offered to the Major or relevant fields or subjects (such as Mathematics etc) and offered only related and allied branches.

This Lateral Entry scheme is not offered for the non-Computing branches and for them the MCA program comes with 3 years duration. It has already learned that India has 279 private universities and out of them, 129 offered MCA program with lateral entry facility. Regarding 2 years MCA program first position goes to Uttar Pradesh (with 13 programs) whereas the second position goes to Rajasthan (with 12 programs). As far as West Bengal is concerned among the 7 private universities only 1 university offered MCA program with 2 years duration. Table: 3 & Fig. 1 is depicted in detailed regarding this.

Table: 3-MCA Program (2 Years & 1 Year) at Private Universities in India

Universities with MCA programs of different duration			
	States	2 Years MCA Programs	1 Year MCA Programs
1	Arunachal Pradesh	2	2
2	Assam	1	Nil
3	Bihar	Nil	Nil
4	Chhattisgarh	2	1
5	Gujarat	8	Nil
6	Haryana	4	Nil
7	Himachal Pradesh	4	Nil
8	Jharkhand	3	Nil
9	Karnataka	2	Nil
10	Meghalaya	2	1
11	Mizoram	Nil	Nil
12	Madhya Pradesh	5	Nil
13	Maharashtra	Nil	Nil
14	Manipur	Nil	Nil
15	Nagaland	Nil	Nil
16	Odisha	Nil	Nil
17	Punjab	7	Nil
18	Rajasthan	12	1
19	Sikkim	1	Nil
20	Tripura	Nil	Nil
21	Uttar Pradesh	13	Nil
22	Uttrakhand	4	Nil
23	West Bengal	1	Nil
Total		71	5

It is worthy to note that many universities have started 1 Year MCA program as a scheme of Lateral Entry. In case of two years MCA program eligibility criterion is Bachelors in Computing field whereas one year MCA program is open for Masters Degree holders in Computing in different fields viz.

- *Computer Science (MSc)*
- *Information Technology (MSc)*
- *Information Systems (MSc)*
- *Computer Applications (MSc)* and other allied branches in the field of Computing/IT.

As far as Level of Study is concerned normal MCA may be treated as minimum 6 years of post 10+2 level study. In case of 2 years MCA it is 3+2 Program i.e. 5 years of post 10+2 study. Whereas 1 year MCA program is also beyond 5 years higher education and that is beyond 10+2. More clearly here

Bachelors of 3 years and Masters in Computing is 2 years based, regarding total duration of the program it is 6 years of post 10+2 study. Table: 4 showing the details of 1 year MCA Program offered in Indian Private Universities available as a regular course of study.

Table: 4-MCA Programs (1 year) at Private Universities in India

1 year MCA	
Sl. No.	Universities
Arunachal Pradesh	
1	Himalayan University
2	Arunachal University of Studies
Chhattishgarh	
3	Kalinga University, Raipur
Meghalaya	
4	Martin Luther Christian University
Rajasthan	
5	OPJS University, Churu

Regarding the Universities offered the one year MCA program, it is analyzed from the present study that except South Indian Universities all parts of India have offered the program. From Eastern India *Himalayan University, Arunachal University of Studies* offered the program whereas from North India Chhattisgarh State offered the program under the ambit of Kalinga University, Raipur. Apart from these the State of Rajasthan and Meghalaya also offers the 1 year MCA Program. The program mainly catered by the Martin Luther Christian University at Meghalaya and from Central India Rajasthan based OPJS University, Churu.

Suggestions

- MCA Program still offered mainly without concentration of any specialization or major. But it is possible to offer with specialization in emerging areas viz. Cloud Computing, Big Data Technologies, Human Computer Interaction not only in Private Universities but also in State Universities.
- MCA program with 1 year duration is more or less equivalent to MSc in the concerned and allied field of study but still may be offered in other universities as an additional Masters program.
- Still, AICTE has not recommended Bachelors Degree in any discipline with a subject/paper of Computing/IT for the 3 years MCA Program hence it is a need of the hour to implement this.
- At present Private universities don't come under the purview of AICTE so that they run any kind of MCA program but normally the engineering colleges work under the AICTE regulations. Engineering colleges already have started 2 years Lateral Entry but 1 year MCA program is still absent hence it is the time to offer such program at Engineering Colleges too.

Conclusion

India is moving towards a developed nation and many universities in India doing well in terms of education, training, and research. Initially, Indian universities were not interested in semester based systems and gradually universities were moved into modern systems of education and evaluation and apart from semester systems more advance Choice Based Credit System (CBCS), Competency Based Credit System (CBCS), Lateral Entry, Integrated programs etc being started. Hence as far as Computer Application program is concerned it is a time to move multiple duration based MCA degree based on eligibility. Moreover, private universities need to collaborate with other organizations and industries. In the third year, Lateral Entry scheme of MCA program may be switched to Trimester

Scheme so that a large number of papers/courses/modules may be offered. And last trimester may be completely on the dissertation for those who are interested in academia and project for those who are interested in the industry. However, a parallel internship may be also offered along with the project on the case to case basis. All such schemes may be offered in a large number of engineering colleges run by private universities.

Reference

- [1] Dayal, I. (2002). Developing management education in India. *Journal of management Research*, 2(2), 98.
- [2] Kapur, D., & Mehta, P. B. (2004). Indian higher education reform: From half-baked socialism to half-baked capitalism. *Center for international development working paper*, 103.
- [3] Nambissan, G. B., & Rao, S. (Eds.). (2013). *Sociology of education in India: Changing contours and emerging concerns*. New Delhi: Oxford University Press.
- [4] Paul, P. K. and Bhumali, A. and Aithal, P. S., (2017). Indian Higher Education: With Slant to Information Technology— a Fundamental Overview. *International Journal on Recent Researches In Science, Engineering & Technology*, 5(11), 31-50.
- [5] Paul, P. K., Aithal, P. S. and Bhumali, A., (2017). Computing & Allied Engineering Domain in India with Reference to Private Universities: A Case Study of Bachelors Programs, *International Journal on Recent Researches In Science, Engineering & Technology*, 5(11), 51-63.
- [6] Paul, P. K., Aithal, P. S. and Bhumali, A., (2017). MCA (Information Science and Management): The next Generation Interdisciplinary Specialization for Better Social Informatics and Digital Humanities Practice. *International Journal of Scientific Research in Mathematical and Statistical Sciences*, 4(5), 27-32.
- [7] Sood, R., & Adkoli, B. V. (2000). Medical education in India—problems and prospects. *J Indian Acad Clin Med*, 1(3), 210-212.
- [8] Sohani, N., & Sohani, N. (2012). Developing interpretive structural model for quality framework in higher education: Indian context. *Journal of Engineering, Science & Management Education*, 5(2), 495-501.
- [9] Supe, A., & Burdick, W. P. (2006). Challenges and issues in medical education in India. *Academic Medicine*, 81(12), 1076-1080.
- [10] Tilak, J. B. (2008). Transition from higher education as a public good to higher education as a private good: The saga of Indian experience. *Journal of Asian Public Policy*, 1(2), 220-234.
