

# PGDCA and Other Allied Post Graduate Diploma Programs Importance in Masters Entry in India: A New Horizon for the Bachelor Holders from Diverse Fields

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**Abstract** - Computing and Information Technology is the stakeholder for the development of mankind in the society. The modern age completely depends on information processing systems and technologies. There are many kinds of academic programs available in universities and other educational institutes. Computing and Information Technology is available in different types of nomenclature and subjects viz. Computer Science, Information Technology, Information Science, Information Systems etc. These subjects are available in different platform viz. Bachelors, Masters, and Doctoral level in university systems. However, some of the universities also offer Post-Doctoral Degrees leading to D.Sc. (Doctor of Science) in India. Post Graduate Diploma program is offered after Bachelor's degree in many Indian Universities. Post Graduate Diploma program is available in different subjects viz. Computer Application, Computer Science, Information Technology etc. Among the popular abbreviation in this level most popular is PGDCA. Initially, the program became started in the 1980s with the aim of producing educated for the IT industry and also in other organizations and institutions for the IT jobs and dealing. This is also the best program for entering other higher academic degrees in Indian universities through the scheme called Lateral Entry. In recent past, universities many have moved into the offering Post Graduate Diploma program in the field of IT and Computing due to ample opportunities in the job market. This paper talks in detail regarding PGDCA program and similar programs available in Indian private universities. The paper highlights the sub fields of Information Technology and Computing in Post Graduate Diploma level offered in Indian Private Universities.

**Keywords:** PGDCA, Post Graduate Diploma, India, Private Universities, Higher Education, Research, Development, Lateral Entry, IT Industry, Credit Transfer

## I. INTRODUCTION

Computer Application is a branch of study and professional involvement in the areas of IT industry mainly in Software and Development related jobs and position. Computer Application programs are available in different level viz. Certificate, Diploma, Advanced Diploma, Post Graduate Diploma etc. in both Universities and Training Centers. In recent past, many private universities have been established and most of these with Computing and IT Department. Many of these universities have established School and Faculty instead of Department. PGDCA program is a

program of computing for the Bachelor's degree holders in the diverse field [1], [5], [7]. It is a great deal for the other background students to get an advance Diploma from a University. Post Graduate Diploma program in recent past also considered as a 16<sup>th</sup> year program of study and gained recognition as an equivalent of Bachelor's Degree in the related field [2], [6], [8]. A large number of universities now switched to offer PGDCA and allied degree from its unit and out of which Private Universities are important. Apart from traditional Computer Application programs some specialized programs are also important to start for several benefits.

## II. OBJECTIVES AND AGENDA

The present paper is fully dedicated to the following aim and objectives fulfillment (but not limited to the)

1. To know about the field of Computing and Information Technology in brief with special reference to its nature and characteristics.
2. To learn about the Computing and Information Technology areas and different nomenclature in brief.
3. To dig out the role and importance of Post Graduate Diploma in the field of Computing and Information Technology.
4. To learn about the higher educational opportunities with the Post Graduate Diploma program in the field emphasizing PGDCA.
5. To know about the private universities in India with reference to Post Graduate Diploma program in Computing and Information Technology domains.

## III. METHODOLOGY

This is a conceptual paper and mainly deals with the exploration of knowledge in the field of Computing and Information Technology with emphasis on Post Graduate Diploma. Hence for the present research work, several modes of research have been adopted and among these review of literature played an important role. With the sufficient review, the present paper has been prepared and several matters have been illustrated viz. basics of Computing and Information Technology, Post Graduate Diploma, need of program and its role among the student's community and so on. Paper has been prepared in the

context of private universities of India and for assessing private universities official URL of UGC has been adopted to study individual private universities (<https://www.ugc.ac.in/privatuniversity.aspx>). Though, apart from this, official URL of other websites of AICTE and MHRD also been adopted.

#### IV. COMPUTING AND IT DOMAIN

Computing and Information Technology is a vast academic domain containing different kind of branches and sub areas viz. Computer Science, Computer Application, Information Technology, Information Science, Information Systems, Information Management etc.

1. Computer Science is a domain of theoretical in nature. It is mainly concentration on the inner portion of hardware and architecture. It is purely mathematical in nature and partially focused on Software Technologies (programming etc.) [3], [4], [8].
2. Computer Application is the domain of applied nature and mainly concentrated on the application of software and programming technologies. Computer Application may also be treated as design and development of software and programs for various applications.
3. Information Technology is a broader domain than that of Computer Applications. It is an applied science field and apart from Software Technologies (that deals by the Computer Application field) it also additionally deals with the Networking Technologies, Database Technologies, Multimedia Technology, Web Technology etc.
4. Information Science is an applied Science domain with interdisciplinary features. It is more than Information Technology components and thus additionally deals with various issues of Management Sciences and Social Science.
5. Information Systems is similar to Information Science and thus it is concentrated on Information Technologies. It is applicable for the industry, organizations, institutions, and other bodies. It is a field of study and practice with techno-managerial in nature.
6. Information Management is an interdisciplinary field of practice and study, which concentrates on application of Information Technologies for the information management. Hence it is managerial in nature rather core of computing or technology centric.

Apart from these, in the field of Computing and Information Technology there are other subjects which have been created by merging of related domains viz. Computer Science and Technology, Computer Science and Engineering, Information Science and Technology, Information Systems and Technology etc.

##### A. PG Diploma

Post Graduate Diploma program is an advanced program than general Diploma in Computing and Information Technology field as it is offered after Graduation or

Bachelor's Degree. It is normally offered as 1 (one) year program. Hence it may be treated as at-least 16 years of education and training program. It may be also possible to receive after four or five years Bachelor's degree and thus in that context the level of education may be treated as 17 years or 18 years respectively. Moreover, the PG Diploma program is available both annual pattern and also as semester pattern. Many universities offered Post Graduate Diploma program in distance mode of education [9], [11], [12]. PG Diploma is awarded both on the basis of marks and based on credit. The basic PG Diploma in Indian universities are available with the following tag.

1. Post Graduate Diploma in Computer Application (PGDCA)
2. Post Graduate Diploma in Information Technology (PGDIT)

However among these two, most important and popular is Post Graduate Diploma in Computer Application (PGDCA). It is offered by a number of universities in India. Though, in many universities some of the sub fields are also offered with Post Graduate Diploma award. Some of the areas and nomenclature are included-*Web Designing, Computer Networking, Animation, Software Engineering* as far as private universities are concerned.

##### B. PGDCA & Private Universities: An Overview

Within the circle of Post Graduate Diploma, the nomenclature *Post Graduate Diploma in Computer Application* is most popular and abbreviated as PGDCA. The program PGDCA is available in almost all types of universities viz. Central Universities, State Universities, Deemed Universities, Private Universities and even Institute of National Importance (INI) such as in ISI Kolkata [6], [10], [13]. PGDCA is mainly concentrated with Software Technologies and also partially on following technologies and systems

1. Database Technologies
2. Networking Technologies
3. Web Technologies

In most of the curriculum of PGDCA, the core concentration of the program is on Software Technologies and thus a majority of the paper/course credit lies on these subjects and remaining other areas are (Database Technologies, Networking Technologies, Web Technologies etc.) and in most of the cases at-least one paper offered. However important to note that in many universities a basic paper on Fundamentals of Computing/Information Technology is also offered. It is important to note that the PGDCA program is an ample opportunity for the non-Computing-IT graduates to enter IT education at higher level and also to enter IT profession. Initially this was treated as most valuable and important way to become computer trained as after graduation one can enter into the training cum education program and gradually it has become a level of education above Bachelor's degree and less than Post Graduate Degree.

India holds a large number of Higher Educational Institutes in the world (more than 40000) and among these above 800 are degree awarding bodies comprises with the Central Universities, State Universities, Private Universities, Deemed Universities, Institute of National Importance etc. India holds about 279 Private universities expand pan India basis except few states and union territories Tamilnadu, Andrapradesh, Kerala, Jammu & Kashmir, Goa etc. As far as PGDCA program is concerned this is offered in 42 universities and among these 44 programs are on offer. Moreover it is important to note that Rajasthan and Madhya Pradesh hold the first position in respect of the highest number of PGDCA program offering. Though the State Chhattisgarh also holds a rank in terms of number of PGDCA program delivery (a total 8 programs are offered) with few unique program in the country. The figure: 1 showing top 5 states in terms of PGDCA program offering.

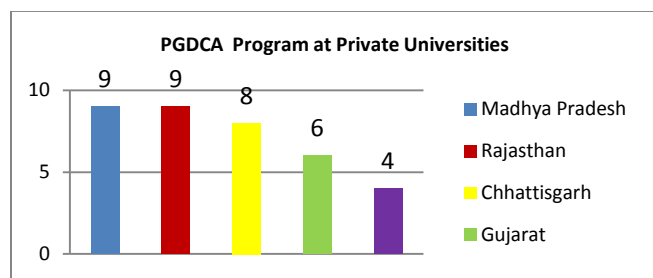


Fig. 1 Showing Top 5 States offering PGDCA program in Private Universities in India

### C. PGDCA and Emerging Fields

Post Graduate Diploma program in the areas of Computing and Information Technology in recent past receive significant attention among the academic community and students. The development of Computing and Information Technology sectors in recent years created newer nomenclatures and emerging fields as well. Some of the Indian private universities offer Post Graduate Diploma in the emerging areas viz. Animation, Cyber Security, Web Designing, Networking, Library Automation and Networking etc. However, there is a craze for PGDCA program in general. It is most asked for the industry and other office level jobs along with other degrees. Hence candidates with micro specialization may fall-in problem in the areas of job and higher studies if any. For example, one private university named Dr. CV Raman University, Chhattisgarh offers micro specialization within the flavor of Computer Applications with the following nomenclature

1. Post Graduate Diploma in Computer Application (E-Commerce)
2. Post Graduate Diploma in Computer Application (Professional)

Details on such programs with universities have been mentioned in Table I. It is important to note that few State Legislated Private Universities though offers Bachelors and Master's program in the areas of Computing and IT but don't have PGD in the field.

TABLE I PG DIPLOMA PROGRAM IN EMERGING IT AND COMPUTING AREAS [10]

PG Diploma in Emerging Area and Sub Field in Private Universities in India			
Sl. No.	Universities	Place	Programs
1	Venkateshwara Open University	Itanagar, Arunachal Pradesh	PGDLAN
2	Dr. C.V. Raman University	Bilaspur	PGDCA (Professional) PGDCA (E Commerce)
3	Desh Bhagat University	Mandi	PGD in Networking PGD in VB.NET
4	RIMT University	Mandi Gobindgarh	PGD in Cyber Security PGD in Web Designing
5	Sunrise University	Alwar	PGD in Animation

However, it is important to note that in some of the Private Universities (namely Jagadguru Rambhadracharya Handicapped University and Noida International University) also offers a different kind of Post Graduate Diploma program in the field with the broadest nomenclature of the field as Post Graduate Diploma in Information Technology (PGDIT). A detail on this has been reported in Table II. The program is similar to the PGDCA program with same eligibility criteria and duration. It is

important to note that the field 'Computer Application' is common and available only in India, rest of the world having other nomenclature as an academic and professional degree viz. Post Graduate Diploma in Computer Science/ Information Technology, Information Science/ Information System as a broad branch of study [10]. But the field Computer Application still not yet started in the rest of the world while as an applied program Information Technology (PGDIT) is offered.

TABLE II PG DIPLOMA IN INFORMATION TECHNOLOGY IN INDIAN PRIVATE UNIVERSITIES

<b>PG Diploma in Information Technology (PGDIT) in Private Universities in India</b>			
<b>Sl. No.</b>	<b>Universities</b>	<b>Place</b>	<b>Programs</b>
1	Jagadguru Rambhadracharya Handicapped University	Chitrakoot Dham	PGDIT
2	Noida International University	Noida	PGDIT

Information Technology is one of the broadest branches of Computing that deals several components viz. Web Technology, Networking Technology, Database Technology, Software Technology etc. Hence a PGDIT program itself deals the nature of PGDCA but still in India PGDIT is very much less offers and known. However small branches of IT and Computing may offer as the following style of educational delivery

1. Post Graduate Diploma in Information Technology (Networking Technology)
2. Post Graduate Diploma in Information Technology (Web Technology)
3. Post Graduate Diploma in Information Technology (Software Technology)
4. Post Graduate Diploma in Information Technology (Database Technology)
5. Post Graduate Diploma in Information Technology (Multimedia Technology) etc.

With this kind of model one can get the broadest branch of Information Technology program as Post Graduate Diploma program and also can get smaller areas of specializations hence instead of Post Graduate Diploma in Network Technology one can get Post Graduate Diploma in Information Technology (Networking Technology); hence both IT and Networking Technology as an award.

#### *D. MCA and PGDCA as Eligibility Criteria*

Computer Application becomes an important branch of study in India and most common and popular program is Master of Computer Application (MCA) since 1980s whereas during late of 1990s its Bachelor program got popularity in students and academic community. Gradually as an alternative program, Post Graduate Diploma program has been started in many universities in India. The main intension of the program was offering a university award on Computing having one year duration. Hence instead of pursuing one year computing program at the computer centers and organizations the PGDCA program at the universities became an important program of training and education. Though still there are many differences between the PGDCA program offered at the Universities and other Centres. The university based PGDCA program highly deals with theoretical aspects and lesson practical. Moreover, basics of Computing and IT skills in many PGDCA program offered by the universities are still

limited. The most important reason for opting PGDCA program at the University is availing Higher Studies as well.

It is an important fact that at Bachelors level Computing related programs are Bachelor of Computer Applications (BCA)/ BSc-IT/ BSc-CS/BSc-CA etc. and all these are 15 years of education or 3 years of post 10+2 level of study. As per the Indian Education Systems any kind of Post Graduate Diploma program is at least 16 years of study and offered after a Bachelor's degree and thus it most cases Post Graduate Diplomas are treated as equivalent of Bachelors in the same field and thus in respect of PGDCA it is also considered as equivalent of Bachelor's degree in the related fields in industry and academia. Normal MCA degree has been started in India as an applied program for the industry with emphasize on Software Technologies and Development. And the program is open to all Bachelor's degree holders irrespective of their previous stream. Whereas other Master's program is in the areas of Computing normally for the concerned/ related to the relevant program of study. The MCA program although a three years program due to its nature of offering opportunities to other background and degree holders. It is worthy to note that the 2 Years Masters of Computer Application (MCA) also been started in recent past for the Bachelors in respective field of study (without any option for the relevant degree holder viz. Mathematics). Most worthy that many universities also considered PGDCA as a Bachelors equivalent in the field and thus the PGDCA holders become eligible for MCA program entry. In addition to this, many universities have also allowed PGDCA holders directly to the MCA degree in second year of study after considering PGDCA as 16 years of study. Hence the mode of education is like this

1. Bachelors in Any Stream (minimum 3 years duration) + MCA = 6 Years of Study.
2. Bachelors in Any Stream (minimum 3 years duration) + PGDCA (1 Year) + 2 Years MCA = 6 Years of Study.
3. Bachelors in Computing (BCA/BSc related subjects 3 Years) + 2 Years MCA = 5 Years.

As per the University Grants Commission (UGC) norms, a Master's degree can be availed only after 5 Years of post 10+2 Education. Hence all these above duration regarding MCA award become fulfilled. Refer Table III to see the 2 Years MCA in Private Universities offered via PGDCA.

TABLE III LATERAL ENTRY/ 2 YEAR MCA PROGRAM VIA PGDCA OR PGD PROGRAM

2 Year MCA through PGDCA Lateral Entry Scheme in Private Universities in India			
Sl. No.	Universities	Place	Programs
1	Ansal University	Gurgaon	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
2	Manav Bharti University	Solan	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
3	Martin Luther Christian University	Shilong	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
4	University of Science & Technology	Shilong	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
5	A.K.S. University	Satna	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
6	GNA University	Phagwara	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
7	Jayoti Vidyapeeth Women's University	Jaipur	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
8	Madhav University	Sirohi	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
9	OPJS University	Churu	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
10	PAHER University	Udaipur	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
11	SRM University	Gangtok	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
12	Invertis University	Bareilly	2 Year MCA (Lateral Entry): Related Degree/ PGDCA
13	The Glocal University	Saharanpur	2 Year MCA (Lateral Entry): Related Degree/ PGDCA

## V. FINDINGS AND SUGGESTIONS

1. Computer Application is a field of professional practice and also an important area of study available only in Indian Universities.
2. Computer Application branch is available and very much popular in almost all type of Universities viz. Central University, Private University, State University and Deemed University.
3. Computer Application program is purely concentrated on Software Technologies only and ignored other important branches of Information Technology.
4. In India, about 1 Lakh intake capacity in Masters of Computer Application field and it is governed by the AICTE while BCA and PGDCA programs are not under the preview of AICTE.
5. Initially, PGDCA started as a Post Bachelors training program in Indian Universities and gradually many universities have started the same. Moreover PGDCA today treated as a branch and level of study and thus it gives an opportunity for higher study leading to Master's Degree.
6. As far as Private Universities are concerned out of 279 Universities (as of October, 2017) 42 Universities offering 44 PGD program in the field.
7. Post Graduate Diploma program in some universities also started in other branches and sub fields but in most cases, PGDCA is a most sought-after program.
8. In India 13 Private Universities offer MCA program as 2 Year Lateral Entry Program with PGDCA as entry qualification and thus it gives an ample opportunity over and above AICTE's traditional MCA program/norms.

## VI. CONCLUSION

Computer Application as a program of study responsible for the job and placement in IT industry leading to positions

viz. Software Developer, Software Engineer, Software Analyst, System Analyst, UML Developer etc. Although Private Universities may also offer programs with specializations viz. PGDCA (Networking Technology), PGDCA (Web Technology), PGDCA (Multimedia Technology) etc. It is a fact that worldwide Post Graduate Diploma is most popular with Information Technology nomenclature but Indian universities are highly concentrated on Computer Application nomenclature. The biasness in Computer Application offering, studying is most common from students and educational institutions context. Importantly the changing nomenclature keeping PGDCA/PGDIT may extend various job opportunities in the diverse field of IT industry and also in other organizations and universities as well. Most of the Private Universities are highly associated with the organizations and industries from the beginning and regarding PGDCA and similar PGD programs more integration and affiliation have no doubt valuable and worthy in a different context.

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