

About Electronics & ICT Academy at IIITDMJ (MP)

Department of Electronics and Information Technology, Government of India has instituted four Electronics and ICT Academies with one academy at IIITDM Jabalpur with the primary objective of preparing manpower for two important missions - 'Digital India' and 'Make in India'. The Academy aims at scalable training programmes in niche areas of electronics and ICT for the development of required knowledge base, skills and tools to unleash the talent of Indian population. IIITM Gwalior, MANIT Bhopal, and IIT Indore are partners in organizing specialized courses for faculty, students and unemployed graduates under the Academy. In addition, the Academy will conduct customized training programmes for corporate sector and research promotion workshops for faculty teaching in colleges. The Academy is envisioned to become a central hub of activities on training, research, consultancy work and entrepreneurship programmes.

About PDPM IIITDM Jabalpur

IIITDM Jabalpur was established in 2005 with a focus on education and research in IT enabled Design and Manufacturing. Since its inception, PDPM IIITDM Jabalpur has been playing a vital role in producing quality human resources for contribution in India's mission of inclusive and sustainable growth. The Institute offers undergraduate, post graduate and PhD programmes in Computer Science and Engineering, Electronics and Communication Engineering, Mechanical Engineering, Design and PhD programmes in Mathematics and Physics. Under IIIT act, the Institute has been declared an Institute of National Importance in January 2015. The Institute campus is being developed on 250 acres of land close to Dumna Airport, Jabalpur. The Institute is 10 kms from the main railway station and 5.5 kms from Dumna airport, Jabalpur

Faculty Development Programme

Data Structures and Algorithms using C

Who can attend? Programmes are open to faculty, master level students and research scholars from all the colleges and universities in the states of M.P., Chhattisgarh, Maharashtra, Gujarat and Rajasthan. Industry personnel working in the concerned/allied discipline may also apply.

How to apply?

Online – The participants may log on to the website ict.iiitdmj.ac.in and fill up the application form apply online clearly mentioning name of the course.

By Email – Scanned copy of the filled in application form duly endorsed by the forwarding authority to be mailed at academyiiitdmj@gmail.com. Application format may be downloaded from the website (Also given in this brochure).

Print out of the filled in application form duly endorsed by the forwarding authority and a demand draft in favour of 'Electronics and ICT Academy, IIITDMJ' payable at Jabalpur may be brought at the time of on-site registration on September 19, 2015. No Travelling Allowance will be paid by the Academy.

Important Dates:

Last Date of Online Registration: Sept. 12, 2015

Spot Registration also available if seats are available.

Course Dates: September 19-26, 2015

Registration Fee:

Rs. 2000/- (Course material + lunch inclusive)

Accommodation charges Rs. 2000/- (including breakfast and dinner)

Course Coordinators

Dr. Sraban Kumar Mohanty
Email: sraban@gmail.com

Dr. Manish Kumar Bajpai
Email: manishkumarbajpai@gmail.com

Website: ict.iiitdmj.ac.in

Data Structures and Algorithms using C

September 19-26, 2015

Seamless Learning Opportunities

```
void quicksort(float &x, int first,int last){
    int pivot,j,temp,i;

    if(first<last){
        pivot=first;
        i=first;
        j=last;

        while(i<j){
            while(x[i]<=x[pivot]&&i<last)
                i++;
            while(x[j]>x[pivot])
                j--;
            if(i<j){
                temp=x[i];
                x[i]=x[j];
                x[j]=temp;
            }
        }

        temp=x[pivot];
        x[pivot]=x[j];
        x[j]=temp;
        quicksort(x,first,j-1);
        quicksort(x,j+1,last);
    }
}
```

Faculty Development Programme
Under Electronics and ICT Academy

An Initiative of
Department of Electronics and
Information Technology,
Government of India

Electronics and ICT Academy
PDPM Indian Institute of
Information Technology, Design
and Manufacturing, Jabalpur,
Dumna Airport Road,
Jabalpur 482005

Building
Human
Resource
For
Digital India

EI&ICT Academy
IIITDMJ

Faculty Development Programme on

Data Structures and Algorithms using C September 19-26, 2015

Introduction and objectives of the course:

This course provides students and faculties a comprehensive study of Data Structures and Algorithms using C programming language.

Aim of the course is to enable the audience to assess how the choice of data structures and algorithm design methods impacts the performance of programs.

The course will focus on the mathematical background required to show the correctness as well as to determine the run time and memory usage of algorithms.

It will also emphasize on how to choose the appropriate data structure and algorithm design method for a specified application. This course offers the students a mixture of theoretical knowledge and practical experience

Tentative List of Resource Persons:

Prof. Naveen Garg,
Professor,
Department of Computer Science and
Engineering, IIT Delhi

Prof. Harish Karnick,
Professor and Head,
Department of Computer Science and
Engineering, IIT Kanpur

Dr. Sraban Kumar Mohanty,
Assistant Professor,
Computer Science and Engineering
PDPM IIITDM Jabalpur

Dr. Manish Kumar Bajpai,
Assistant Professor,
Computer Science and Engineering
PDPM IIITDM Jabalpur

Course Contents

Fundamentals of C: Data types in C, Variables, Variables names, I/O, standard Input/Output, Formatted inputs/Output, Expressions and Operators, control flow,

Advanced topics in C: Arrays and pointers, Functions, Structures and Unions, scope rules, Recursion, String handling, Dynamic memory allocation, file management, Preprocessor, Library Functions and header files

Review of basic concepts: Models of computation, Performance of algorithms: space and time complexity, asymptotic notations, Recurrence relation, Lower Bound Theory: Sorting, searching and order static

Data Structures: Arrays, Linked list, stack, Queue, Heaps, search trees, Indexing: Hashing, Tree Indexing: B/B+-tree, TRIE; Binomial Trees, Red-Black trees

Schedule

There will be two sections followed by hand on experience every day.

Day-1: Introduction to Algorithms and Fundamentals of C

Day-2: Analysis of Algorithms and Advance topics in C

Day-3: Sorting and searching and Advance topics in C

Day-4: Lower bound proofs, linear time sorting algorithms and Advance topics in C

Day-5: Basic data structures and Advance topics in C

Day-6: Advanced data structures and Advance topics in C

Day-6: Advanced data structures

Contact Us

Course Coordinator,
Data Structures and Algorithms using C
Electronics and ICT Academy
PDPM Indian Institute of Information Technology,
Design and Manufacturing, Jabalpur,
Dumna Airport Road, Jabalpur 482005

academyiiitdmj@gmail.com

Website: ict.iiitdmj.ac.in

Application for Registration

Name of the Course / Programme:

Name of the Applicant (first, last):

Gender:

Designation:

Name and Postal Address of the
Organization/Institute/college:

City/town:

Email:

Alternate email (if any)

Phone Number:

Mobile Number:

Do you need accommodation? Yes/No. If Yes

Date and time of arrival

Date and time of departure

Note: Accommodation and meal facility will be available only from the evening of September 18 to the morning of September 27, 2015.

Name and designation of the authority who
forwarded the application /gave approval for
attending the course)

Details of the Demand Draft: Number, Date, Issuing
Bank, payable at

Signature of the Applicant

I hereby agree to relieve Mr./ Ms./ Dr.
In case she/he is selected to attend the programme.

Signature and Seal of the Forwarding Authority