



# Dronacharya College of Engineering

## ISSUE

vol v issue xlvii

## INFORMATION TECHNOLOGY DEPARTMENT

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### From Editor's Desk :

**Dronacharya College of Engineering** is committed towards the holistic development of students believing that education is a journey of discovery; an adventure that shapes future generations.

We, at DCE, empower today's learners to become the leaders of tomorrow. We make our students embark their journey of discovery, developing their own abilities, skills and self-belief needed to succeed in the professional world.

A towering structure can only be built and stand tall if it has a strong foundation. The same is true for us. We are proud to be engaged in building a magnificent edifice in the life of each and every **Dronacharyan**. Besides imparting technical education, we also strive to nurture the physical, mental, emotional and social aspects of our students' personality.

Since the path of progress in a society is an endless journey, **Dronacharya College of Engineering** is striving incessantly to march forward to accomplish its mission. We are always motivated and encouraged by our **Hon'ble Chairman, Dr. Satish Yadav**, a successful academician and a renowned philanthropist.

**Addressing the students on 24th April, 2010 on the occasion of Farewell Function of our 9th batch Dronacharyans**, he urged the students to stay focused and career oriented. He also reminded that their parents and teachers want to see them passing with flying colors across the globe. He also shared the lessons of the **Bhagwad Gita** where Lord Krishna says: **Sarvam Karmakhilam Partha Gyane Parismapte**.

**(O Parth, the entire Karma ultimately culminates in Gyana.)**

We are grateful to his active, ever-growing and enthusiastic perseverance.

Our dynamic, worthy and dedicated **Principal, Prof (Dr.) B. M. K. Prasad**, wished the outgoing students a great success and encouraged them to work hard making a name for themselves and their Alma Mater - **Dronacharya College of Engineering** - in the world.



**Editor, (Dr. Sunil K. Mishra)**



## From HOD's Desk :

**"Success is simple. Do what is right, the right way, at the right time"**

**Information Technology Department** is achieving new milestone in quality education. To make our students professionally qualified we provide technical education which helps our students to face challenges of the world. To increase the technical competence in our students the department also organizes personality development classes, technical quizzes, seminars etc.



We with the collaboration of **IBM** organized a **faculty certification training program on Rational Application Developer for Web Sphere Software V6.0 from 20th January to 23rd January 2010**. To provide the sound technical knowledge of database, we also **organized a four day certification training program on DB2 and RAD for the students and faculty members**. It is a matter of great pleasure that the trainers were satisfied with the performance of the students. Our students are involved in making their live projects under the professional guidance of IBM.

I congratulate everybody who made us proud in setting our standards.

The Department has a very attractive history of producing a maximum number of University Toppers and Merit Holders. Our endeavor is not only to maintain these positions but also keep on improving.

I wish all the students **BEST OF LUCK** for the university examination.

*Head of Department (Prof. (Dr.) Jitender Kumar)*

## Blood Donation Camp :

**"Blood is life, Blood saves life and Blood Makes life"**

With the help of **Rotary Blood Bank**, we organized a **blood donation camp at our college campus**. **More than four hundred students and staff members of DCE donated the blood**. This noble event was initiated by our **Hon'ble Principal, Prof. (Dr.) B. M. K. Prasad** followed by **HOD IT Dr. Jitender Kumar** and all faculty, staff and students.



Respected Principal receiving a Memento from Rotary Blood Bank



Our Dronacharyans Donating Blood

## Microsoft Dreamspark Yatra :

**"Microsoft Dreamspark Yatra, Dream today, Create tomorrow"** is the initiative taken by Microsoft Corporation to help the millions of students around the world.

There is a lot of technological gap between the students learning in university syllabus and the actual work environment in the industry. To bridge this gap Microsoft Corporation has selected Dronacharya College of Engineering, Khentawas Gurgaon to organize a workshop on a wide range of latest technologies like Windows Azure, Windows Mobile Development, Microsoft Robotic Studio, PhotoSynth, Silverlight etc. We got overwhelmed response from other technical colleges and institutes of NCR and Haryana. Many students from different colleges also participated in this program and were benefited.

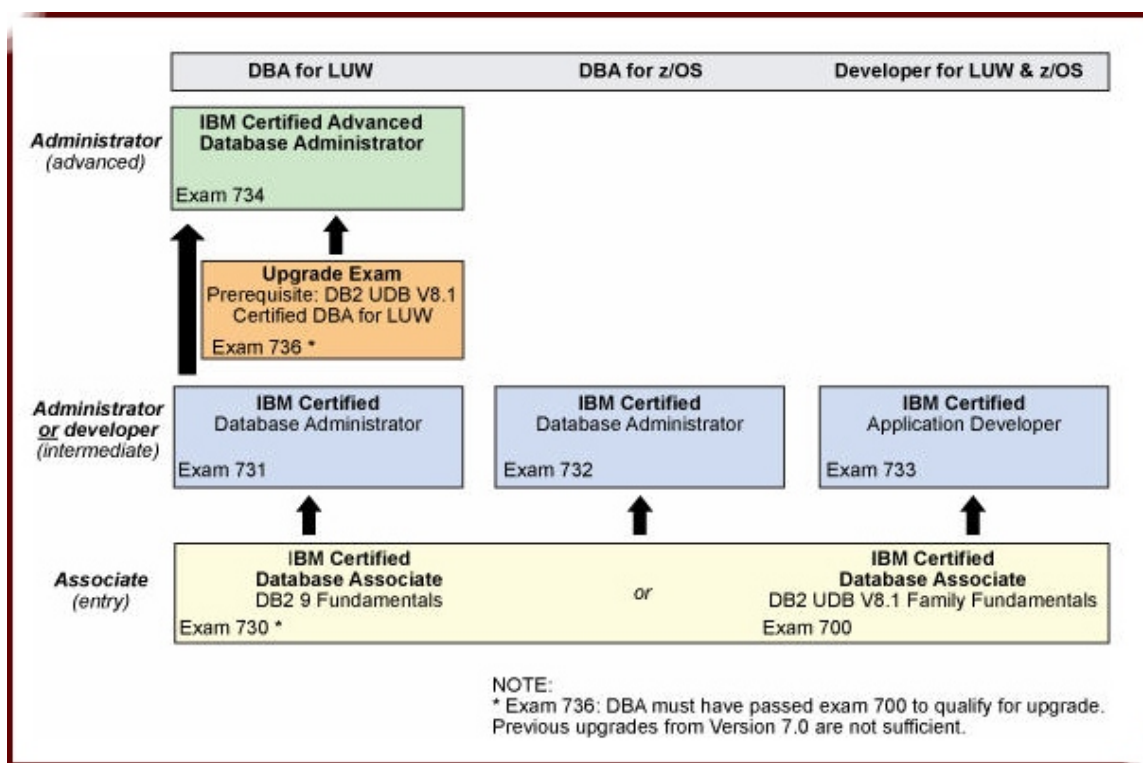
## IBM Certification Programme :

**Rational Application Developer for WebSphere Software V6.0 Certification:** Dronacharya College of Engineering is accredited as Center of Excellence of IBM. This center helps the students to develop their technical skills. Under this program, IBM trains the students and also prepares them for the certification programme.

**DB2 Certification programme:** India is the second largest growing economic country. Even at the time of recession Indian economy has not suffered very much. Indian professionals are leading the top notch MNC's around the globe.

DB2 completely dominates on mainframes and the IBM System with over 90% of the database market share for each. IBM is one of the top two commercial database vendors for both UNIX® and Linux® systems. On Windows® servers, Microsoft's SQL Server leads in market share, yet DB2 presents a reasonable presence nonetheless.

We, at DCE, with the help of IBM India organized a four-day training program on DB2 9 for the final year students. The students were provided the certification book, sample practice tests and some study resource links.



### Campus Placement :

**Dronacharya College of Engineering** is also committed to provide 100% placement of the students. Many students have been placed in the reputed companies like **Hewitt, I-Flex Solution, Blue Star Technologies, 3a Mobile, Open Access Technology Ltd., IT Global Software Ltd, Bhagatdeep Software Ltd., Interglobe Technology, Rave Technologies, Omni Tec Security, Liqid E-Learning Services Pvt. Ltd. and Dell Soft Technologies Pvt. Ltd., etc.**

### Live Projects Undertaken By Students :

#### Network Analysis & Security

The world has changed a lot in the last couple of decades. So many new technologies have emerged making life so easier. The whole world is reachable with a single click of mouse. But today in the world of internet no network is fully secure in itself.

The aim of this project is to study the real time environment of network, security tools available and analyze a network as to how data transfer is taking place in the network.

#### The main features of the project are:

- ✦ Preparing a test network.
- ✦ Study all the threats that our network can be subjected to and study of all security tools and measures that can secure our network.
- ✦ It will be supported by a self-help website which can suggest all the different tools which can help to solve a particular query/error. This will enable a user to some extent solve its problem by himself.
- ✦ This project has analyzed the Wi-Fi setup of DCE, Gurgaon and the security measure taken to design the campus network.
- ✦ It creates the real time scenario to trace packet transferring in a network and to capture those packets which seem to be corrupted or need to be checked.

**Project Guide**

✦ Mr. Puneet Goswami

**Team**

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**User Authentication ID**

The Project User Authentication is the process of verifying the identity of a user that is requesting a service from Administrator. More specifically, authentication involves acquiring and verifying the values of the configured attributes of the user. For example, the user might be prompted to log in with a user name and password, and then the server would look in a preconfigured database to verify that the user's password was correct. User can check his/her status by entering the password or id through which he was registered.

This is the demo project of "**NATIONAL ID CARD**" which is the dream project of **Mr. Nandan Nilekani, Chairman, Unique ID Program, Government of India.**

**Main Features of the projects are:**

- ✦ Stores the user's personal as well as professional details.
- ✦ The specific ID given to the user after the registration to check his status in the following fields:
  - ✦ Ration details
  - ✦ Medical Insurance and Medical Details
  - ✦ Passport system
  - ✦ Licensing
- ✦ The generated id is also encoded and printed on the cards using the EAN-C bar coding standard to provide the card a global and universal acceptance.
- ✦ To provide the result sheet, modified details, result on the basis of ID number to provide online information and deletion of records.
- ✦ To help in tracking the Fake User.
- ✦ To reduce the conventional level of documentation and storing all the related History in one ID number.

**Functionalities of the Project:**

Following are going to be the functionalities of the project:

- ✦ **Creating new ID:** When a user registers his account in the software, a new ID has to be issued to the user, which will store all his personal and professional details and can be retrieved for any official enquiry.
- ✦ **Checking the status:** A user can check his/her previous as well as current details. He/she can also get information about the Govt. changing regulations and budget and the impact of same in his life.
- ✦ **Managing the records:** It manages the records of registered users and a user can check the new and previous status in his ID.

**Project Guide**

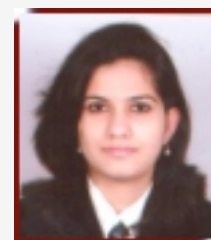
✦ Mr. Vijender Hooda

**Team**

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## Steganography in Ipv6

Steganography is the art and science of hiding messages. Steganography is often combined with cryptography so that even if the message is discovered, it cannot be read. The word steganography is derived from the Greek words "**steganos**" and "**graphein**", which mean "**covered**" and "**writing**". Steganography, therefore, is covered writing.

Steganalysis is the method of processing steganographic data. There are two methods of detecting steganographically encoded data.

- Visual Steganalysis
- Statistical Steganalysis

In this project, we want to embed the data in Ipv6. We will focus on some of the loopholes in IPv6 and then try to propose a novel algorithm for efficient data hiding.

### IPv6 header - Possible Hidden Channels:

- **Source Address:** The 128-bit Source Address field contains the IPv6 address of the node originating the packet. IPv6 addresses are typically composed of two logical parts: a 64-bit (sub-network prefix) and a 64-bit host part, which is either automatically generated from the interface's MAC address or assigned sequentially.
- **Next Header:** The 8-bit Next Header field identifies the type of header immediately following the IPv6 header and located at the beginning of the data field (payload) of the IPv6 packet.
- **Priority:** The 4-bit Priority field in the IPv6 header can assume 16 different values. It enables the source node to differentiate packets it generates by associating different delivery priorities to them. These 16 possible values are further divided into two groups: from 0 through 7 and from 8 through 15.

### Project Guide

- Mr. Vishal Bharti

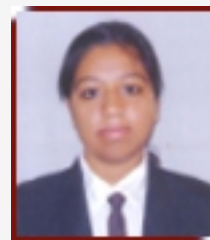
### Team



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## Technology Focus :

### Quantum Computing



Nitesh Punia  
Roll No. 10368

Modern computer components may seem impossibly small, but they are all large in one important sense. They are massive enough to obey the laws of classical mechanics. But what if they weren't? What if computers were built with subatomic particles that behaved according to the rules of quantum mechanics? How would such machines behave? What could they compute? How quickly? How reliably? When researchers asked these questions in the 1980s, they created a new field: **Quantum Computing**.

In a quantum computer, the fundamental unit of information (called a quantum bit or qubit), is not binary but rather more quaternary in nature. This qubit property arises as a direct consequence of its adherence to the laws of quantum mechanics which differ radically from the laws of classical physics. Quantum computers have unique working principles, and bring about completely new algorithms that run on Quantum Turing Machines.

Quantum computing will not help us in doing  $a+b$ , or in implementing MFC/C++ applications. Researchers are working to figure out computational problems for which quantum computers will provide a significant speedup.

- An exponential speedup in computation time will be possible for some problems which are not NP-hard, but not known to be solvable in polynomial time on a classical computer. The most important one is Shor's algorithm: factoring a 100 digit number. A classical computer would take 1024 years, and a quantum computer can do it in 20 minutes! This is a big deal if you realize that Shor's algorithm(s) are a key to robust cryptography applications.
- Finger printing for data security & search applications: just 40 Qubits can fingerprint a 1000 page novel.

The world of quantum mechanics goes against the grain of everyday experience. It's an **"Alice in Wonderland"** realm beyond the ones and zeroes of classical computing. But if we can figure out how to put this world to work, it would lead to a technological quantum leap, allowing us to solve problems that would take millions of years to figure out using present-day computers. And that has huge implications for the Internet indeed, for any means of communicating data.

In Aug 2000, Isaac L. Chuang of the IBM Almaden Research Center announced that he and his collaborators had constructed a 5 qubit machine using a molecule with 5 FI atoms. Unfortunately this technology probably won't scale up to a usable size.

Certainly, the possibilities are endless. The future will be far more exciting than what we can imagine.

### *Student's Viewpoint About The Department :*

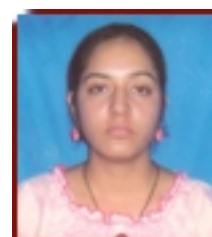
**Dronacharya College of Engineering** gives students good exposure to expose their talent may it be academics, cultural activities, sports etc. There has been a gradual change in the way we look at life and understand the real world. In today's world, it is necessary not only to be good in your professional field but also to know the reality and act wisely.

**Dr. Jitender Kumar, the Head of IT Department**, have always guided us to choose the right and apt path. He always stands with us whenever we need his help.



**Sakshi Chopra** (Roll No. 9316)

The Department of Information Technology has always been on a high growth path and has experienced and dedicated faculty members with a strong commitment in imparting engineering education. To keep pace with the current technological trends, our department has been constantly organizing Seminars and Presentation on various technologies. Our department has set up the **Adventure Club** which is going to organize various trips and educational tours to different parts of the country. Under the guidance of our worthy, highly qualified faculty members, we are sure to develop by leaps and bounds.



**Neha Pandita** (Roll No. 11368)

In the contemporary era of striving for excellence in every domain of life success is synonymous with grit, perseverance and faith in oneself. While cognitive aspect is given prime attention now a days, the emotional and behavioral compatibility cannot be ignored. A proper balance has to be struck between an individual's professional and achievements with that of his roots and moral values, that would enable him to become a successful human being. Consistent striving blended with determination and time management can confront all hurdles and bring success. And I feel extremely blessed to be a part of the College with such repute.

**I would like to express my gratitude towards the faculty for not only providing us with the best of education but also grooming us as future leaders.**



**Kumud Bhardwaj** (Roll No. 10363)

**"If you study to remember, you will forget, but if you study to understand, you will remember".**

These words instantly make me relate to my college Dronacharya College of Engineering, Gurgaon. The Management, Staff and Students are always working towards a common goal to uphold the values and education standards in us. We are encouraged to grow, prosper and flourish as individuals.

The **Information Technology Department** is the most dedicated department in the college. Our Department has a balanced blend of senior and junior Faculty members.



**Sonia Goyat** (Roll No. 10386)

The Department has witnessed tremendous progress in the last few years. The Faculty members are also extremely helpful and supportive. Our Department is progressing in various spheres like quality of teaching, better labs and placements etc.

I wish to express my gratitude to the Dronacharya College of Engineering for giving me a chance to be a part of **Information and Technology Department**. IT Department concentrates on the overall development of students. **Apart from aiming at academic growth, it also aims at improving moral values of students by arranging lecture sessions by Brahma Kumaris, Dr. Anil Sethi etc. From technical point of view it is doing its best by having workshops with IBM, MICROSOFT, ADOBE and many more so that the students can get the exposure to the up going and upcoming technologies in the market.** Our department has the Entrepreneurship Development Cell to provide us a means of getting enough knowledge of how to start our own business, so that rather than being an employee we would be able to produce jobs.



**Dushyant Sapra** (Roll No: 10355)

**"The foundation of every State is the education of its youth."**

At the outset, I feel proud to be a member of Dronacharya College of Engineering family. The best feature I observe is that here the faculty members touch all the rings of life to make us a perfect human being. The focus of education in DCE is to kindle thirst for knowledge.

**I am extremely grateful to the Hon'ble Management as well as the Faculty members** of the Institution and wish it grows by leaps and bounds.



**Sourabh Kr. Singh** (Roll No: 9324)