

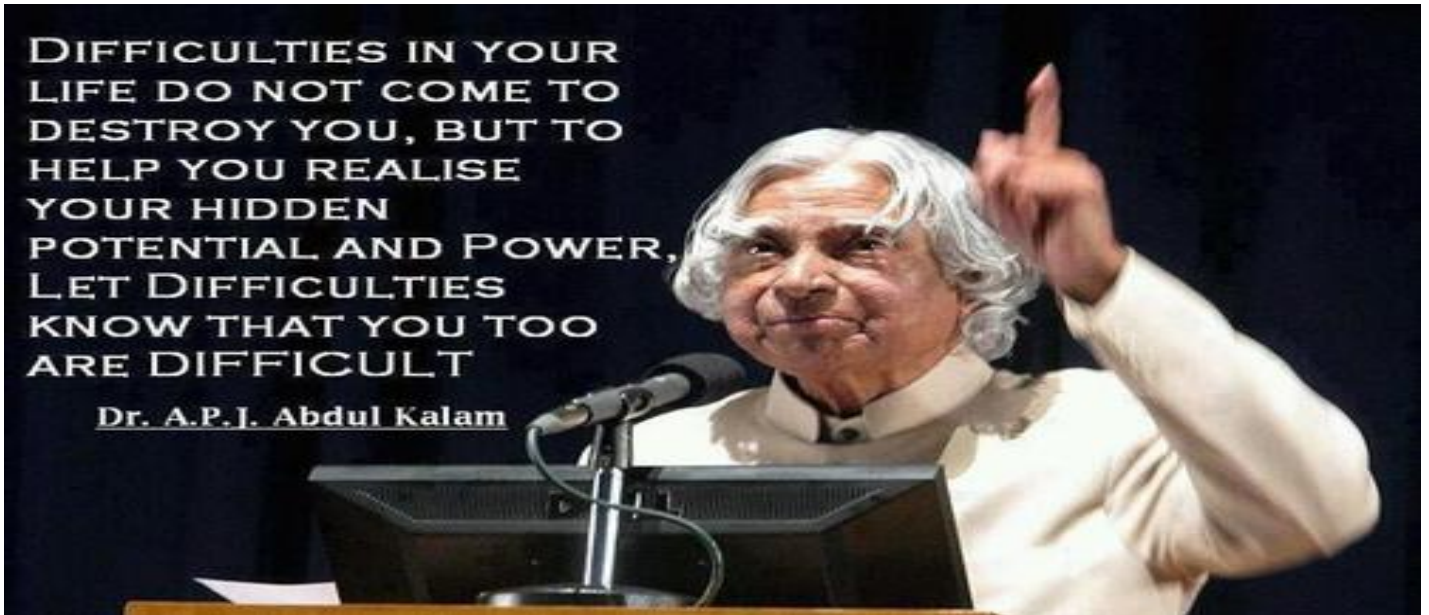


# BITS NEWS E-BULLETIN



UNDER CSI

## DEPARTMENT OF INFORMATION TECHNOLOGY



IT is the area of managing technology and spans a wide variety of areas that include computer software, information systems, computer hardware, programming languages but are not limited to things such as processes, and data constructs.

IT professionals perform a variety of functions (IT Disciplines/Competencies) that ranges from installing applications to designing complex computer networks and information databases. A few of the duties that IT professionals perform may include data management, networking, engineering computer hardware, database and software design, as well as management and administration of entire systems.

**Teacher In-charge**  
**Prof. P. S. Jain**

**Program Coordinator**  
**Prof. N. A. Chavhan**

**EDITOR (Students)**

**Animekh Misra**  
**(VII Sem)**

**Mayank Shastri**  
**(V Sem)**

**Sagar Pandey**  
**(III Sem)**

## Department Vision and Mission

### Vision

- To achieve excellent standards of quality education by keeping pace with rapidly changing technologies.
- To create technical manpower of global standards with capabilities of accepting new challenges in Information Technology.

### Mission

- To create competent and trained professionals in information technology who shall contribute towards the advancement of engineering, science and technology & useful for the nation.
- To impart quality and value based education to raise satisfaction level of all stakeholders.
- To apply new developments in Information Management and provide all possible support to promote research & development

## Programme Educational Objectives

The educational objectives of the Information Technology programme are designed to produce competent engineers who are ready to contribute effectively to the advancement of information technology causes and to accommodate the needs of the profession. The graduates shall:

1. Practice Information Technology in the general disciplines of design, development & deployment of software and integration of existing technologies for e-governance nationwide.
2. Apply fundamental technical knowledge and skills to provide workable solutions to problems in various areas of IT.
3. Pursue higher education, research and development and deploy creative efforts in the area of Information Technology.
4. Use the acquired knowledge in societal and environmental sensitive manner with professional ethics in a team.

## Programme Outcomes

### **Engineering Graduates will be able to:**

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3. Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- 5. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- 6. The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7. Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- 11. Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 12. Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## CBCS AWARENESS PROGRAM FOR FACULTY IN DEPARTMENT OF INFORMATION TECHNOLOGY



CBCS Awareness Program was arranged in the department of Information Technology on 16<sup>th</sup> June 2016 at 10.30 pm. The program was arranged to create awareness regarding Choice Based Credit System Implementation in faculty members of the department. Prof N A Chavhan, Head of the department welcomed Dr.S.B.Jaju, incharge of CBCS Awareness and Implementation Committee. Dr.S.B.Jaju informed all the faculties that the CBCS is implemented in the institute from session 2015-16 to first year. For session 2016-17, it is to be implemented for III Semester students of all departments. Prof N A Chavhan, the members in CBCS awareness and implementation committee explained rules & regulations, merits of CBCS system and dos and don't's and flexibility offered in the system.

Dr.S.B.Jaju also informed about vital role of faculty advisor. He also informed that the faculty advisors will guide the students in selection of the courses. Then departmental scheme going to be offered to students was discussed in the program. The queries about implementation, rules asked by the faculties were resolved by Dr.S.B.Jaju and Prof N A Chavhan.

## 5G-CAPABLE STRETCHABLE ELECTRONICS

A team of US research engineers has just developed the world's fastest stretchable, wearable integrated circuits, which has the capability to drastically revolutionise Internet of Things. These stretchable integrated circuits can operate at radio frequency levels (**40GHz**) much higher than other ones.

What makes the new, stretchable integrated circuits so powerful is their unique structure, inspired by twisted-pair telephone cables. They contain, essentially, two **ultra-tiny**



**intertwining power transmission** lines in repeating S-curves.

This **serpentine shape** -- formed in two layers with segmented metal blocks, like a **3-D puzzle** -- gives the transmission lines the ability to stretch without affecting their performance. It also helps shield the lines from outside interference and, at the same time, confine the electromagnetic waves flowing through them, almost completely eliminating current loss.

*“The advance could allow health care staff to monitor patients remotely and wirelessly, increasing patient comfort by decreasing the customary tangle of cables and wires.”*

These circuits can also be used in wearable devices that stick to the skin like temporary tattoos. Unlike other stretchable transmission lines, whose widths can approach 640 micrometers (or .64 millimeters), the researchers' new stretchable integrated circuits are just **25 micrometers** (or .025 millimeters) thick. That's tiny enough to be highly effective in **epidermal electronic systems**, among many other applications.

Submitted by:  
Animekh Misra  
I.T., Seventh Semester