DESALITE
e-NEWSLETTER

REFLECTORE

Newsletter by the Department of Science

August 2017

SFS/BSC-BCA02/ AUG 17

SPECIAL POINTS OF INTEREST:

- **Intake of BCA has increased to 67 from 46 students**
- **Intake of BSc has increased to 33 from 20 students**
- **A new course BSc (PCM) is introduced with an intake of 25 students**

IN THIS ISSUE

Principal's Message

Fr Dr Herold Christopher
Principal

Dear Desalites,

"All that does not move towards eternal love, Move towards eternal death" says SFS. The activities in the college are designed in such a way that all in a way that all the Desalites would look up to God in Thankfulness

The department also has proved to help Desalites achieve wisdom and not just marks. when the efforts of faculty and students are motivated towards GOOD then there is no question about the blessings of God on them. May each day that you spend here add up to your happiness.

Hail Desalites

Class Toppers in University Exam - Apr/May 2017

BCA SEM–II

Shaikh Umme Hermain
Class Topper (86%)
Data Structure (146/150)
DBMS (128/150)

Manish Bharathi
Maths(141/150)

BCA SEM–IV

Dickson Prince
Class Topper 84%
Unix Programming (136/150)

Shobha R
Visual Basic(137/150)
Operations Research (128/150)

Bsc SEM–II

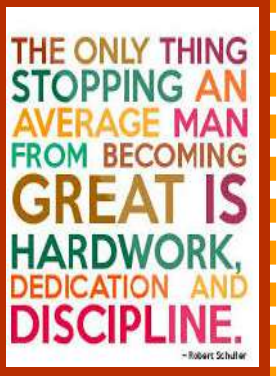
Divya
Class Topper 83%
Electronics (130/150)
Computer Science(145/150)

Swathi
Maths(130/150)

BSc SEM–IV

Manigandan
Class Topper 71%
Computer Science(107/150)

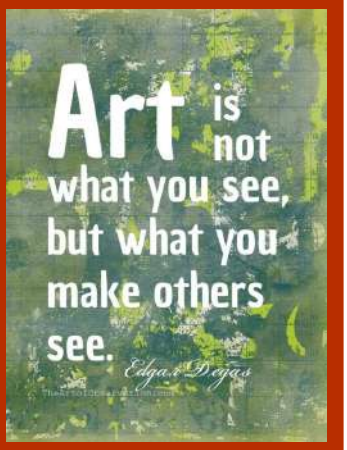
Manjunath
Electronics (112/150)
Maths (111/150)



Students Achievements

- NCC students had a camp interview with CO of 1 kar BN NCC Battalion where 3 members Arun kumar D , Ramnath S and Swapna Sharma got selected for the TSC (Thal Sainik Camp) 1 st Camp which held in Tumkur for 10 days.
- After the camp every-one got selected for Pre-IGC.
- For next level Camp Swapna Sharma got selected and went for the IGC (Inter-Group Competition) Camp which held in Belgaum for 12 days.

SWAPNA
Congratulations



Departmental Activities

Prayan & Prathiba - 2017

Inauguration of different associations of the college "Prayan" and Intra collegiate cultural fest "Prathiba" was organised on 10th ,11th and 12th of August 2017.

The cultural committee of the college works with the objective of developing the cultural talents of the students, improving their capabilities to work as a team and raising their level of self -confidence in interacting with fellow students and peers.

Cultural activities organised by the committee include a number of intra college competitions in Mehndi, Rangoli, Pot Painting, Elocution, Street Play, Fashion show , Singing (Solo & Group), Dance (Solo & Group), etc. Winners of the competitions are awarded certificates and trophies .

Fresher's Party - 'Rangi ya maisha'

Continuing with the proud tradition of the college, senior students and new comers of the college mingled with each other at the freshers' welcome party held on 9 August 2017 in the college auditorium.

It was a fun filled event at which the freshers got an opportunity not only to showcase their talents and but also to interact with the seniors.

After the competitions, it was for the freshers and seniors to rock the fresher party with dancing and grooving.

Finally the program ended, leaving behind sweet memories that will be cherished lifelong.

Industrial Visit "EDUTAINMENT" Education & Entertainment

On 18th August 2017, the Department of Science had organized an industrial visit for one hundred fifty students, who were accompanied by seven of the faculty members of the Department.

The visit was to

- Visvesvaraya Industrial and Technological Museum
- Jawaharlal Nehru Planetarium
- HAL Aerospace Museum

The Students got live exposure of Communication Science and Aerospace Technology, which can help them in their internships and further career enhancements.

The students have enjoyed the technical endeavor at all the organizations a lot. Visit seems to be very informative and gives good learning experience.

It was the unique example of **'EDUTAINMENT'** i.e. Education & Entertainment.

Faculty Achievements

A Paper presentation was done by **Prof Smrutee Markhedkar and BSc (MEC) final year student Manigandan D** on topic: **Electronic skin- An application of nanotechnology** in National Conference having title as "Nano Materials and Nano Electronic Devices for Energy Applications".

The Conference was organized by the Department Of Physics & Electronics, Indian Academy Degree College –Autonomous, Bengaluru on 28 &29 July 2017.

A very significant Three Day National Conference on 'The idea of a National University 'was organized by the Centre for Education Beyond Curriculum,(CEDBEC), Christ University, was attended By **Mrs. Sailaja IQAC Coordinator, and Dr.Loknayaki Research cell Coordinator**, from the Department of Computer Science.

Eminent personalities from across the world participated in the event.

Sharings and discussions were held on various topics related to "The contemporary scenario of Indian higher education", "Philosophies, Policies, Structures and Practices of a National University", "National university and public good", "National university and beyond".

Students Corner

What is ANDROID?

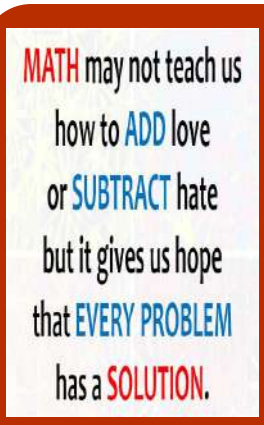
Android is a mobile operating system developed by Google. It is based on the Linux kernel and has been designed primarily for touch screen mobile devices such as smartphones and tablets.

Android's user interface is mainly based on direct manipulation, using touch gestures that loosely correspond to real-world actions, such as swiping, tapping and pinching, to manipulate on-screen objects, along with a virtual keyboard for text input.

In addition to touch screen devices, Google has further developed Android TV for televisions, Android Auto for cars, and Android Wear for wrist watches, each with a specialized user interface. Variants of Android are also used on game consoles, digital cameras, PCs and other electronics.

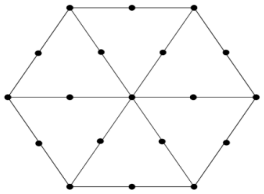
By Akash IIIrd SEM BCA

Android Versions



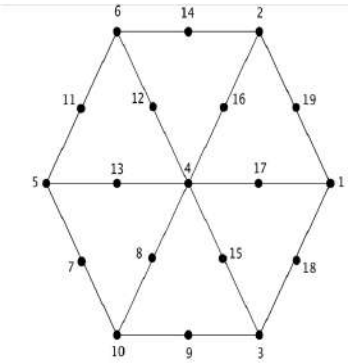
Math is Fun

Here are 19 dots arranged in a hexagon. Your task is to label the dots with numbers 1 to 19 so that each set of 3 dots that lie along a straight line segment



Solution : Here is one solutions. Try to find other good strategy for solving the puzzle

By
Manish Bharathi
BCA IIIrd SEM



Faculty Corner

Eyetracking

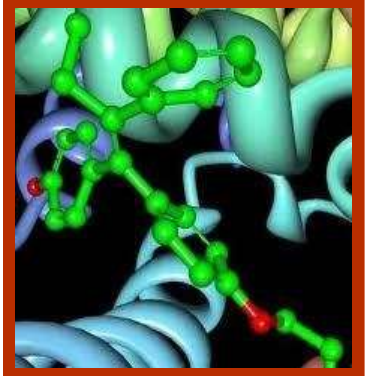
Eye tracking is the process of measuring where eye gaze is focused to infer what someone is paying attention to and/or ignoring. The object of focus could be a digital display (e.g., on a phone, tablet or computer) or another person in a conversation, for example in face-to-face settings or in video conferences. Researchers measure what is looked at (point of gaze) and for how long (gaze duration), and the order in which gaze shifts.

Eye tracking data is collected using either a remote or head-mounted 'eye tracker' connected to a computer. The aggregated data is written to a file that is compatible with eye-tracking analysis software such as EyeWorks.

The most common method to explore eye data is to analyze the visual path of one or more participants across an interface such as a computer screen. Each eye data observation is translated into a set of pixel coordinates. From there, the presence or absence of eye data points in different screen areas can be examined. This type of analysis is used to determine which features are seen, when a particular feature captures attention, how quickly the eye moves, what content is overlooked etc Beyond the analysis of visual attention, eye data is used in the fields of advertising, entertainment, packaging and web design for studying the visual behavior of the consumer. We use our eyes almost constantly, and understanding how we use them has become an extremely important consideration in research and design.

Prof. Jithy Lijo
Dept of Computer Science

Chemoinformatics



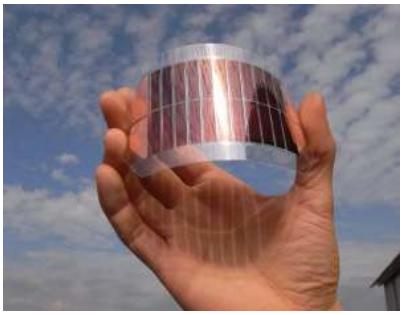
Chemoinformatics is the use of computer and informational techniques applied to a range of problems in the field of chemistry. Chemoinformatics is the mixing of those information resources to transform massive chemical data into information and information into knowledge for the intended purpose of making better decisions faster.

The primary application of cheminformatics is in the storage, indexing and search of information relating to compounds. Thus cheminformatics combines the scientific working fields of chemistry, computer science and information science, for example in the areas of topology, chemical graph theory, information retrieval and data mining in the chemical space.

Chemical data can pertain to real or virtual molecules. Virtual libraries of compounds may be generated in various ways to explore chemical space and hypothesize novel compounds with desired properties. The calculation of quantitative structure-activity relationship and quantitative structure property relationship values can be used to predict the activity of compounds from their structures.

Dr Nebula Murukesh
Department of Chemis-

Organic Solar cell



Photovoltaic's deal with the conversion of sunlight into electrical energy. Conventional, silicon is still the leading technology on the world market of photovoltaic solar cells, with power conversion efficiencies approaching 15 – 20% for mono-crystalline devices.

Organic solar cells are made of thin layers of organic materials with thickness in the 100 nanometer range. The motivation for using organic dyes is to replace the expensive silicon in conventional photovoltaics is due to the intrinsic advantages, such as their light weight, flexibility, and low material and manufacturing costs.

Organic solar cells basically consists of the following layers: first electrode, electron transport layer, photoactive layer, hole transport layer, and second electrode. In general, a solar cell absorbs light, separates the created electrons and holes from each other and delivers electrical power at the contacts.

The fundamental difference between the working principles of organic and inorganic solar cells is the direct generation of free charge carries in the inorganic solar cells. In organic materials the light absorption is followed by the creation of excitons with a typical binding energy (due to coulomb-interaction) of 0.3 -0.5 eV.

Since the necessary electric field (> 10^6 V/cm) to overcome this binding energy is not available in an organic solar cell, the excitons are usually separated an interface between two different organic layers (heterojunction).

The energy alignment of these two materials has to be optimized, so that on the one hand the excitons are efficiently separated, but on the other hand no energy might be lost in this process. These are particularly used in smart phone charger, small home electronics, and power generators and so on.

Dr Laurel Lobo
Department of Physics

Cartoon Time "Impact of Gadgets on Human Life"

Cartoon Courtesy
Selsiya IIIrd Sem BCA

Upcoming Event

'MIMAMSA' - Student National Seminar

September 15, 2017

Editorial Board

Prof. Jithy **Dr Smrity** **Prof. Annie** **Prof.Roshini**

Reflectore is a Newsletter published from the **Department of Science - St Francis de Sales College, Electronics City, Bengaluru - 560100**. It highlights the activities of the Department and serves as a link between the Department as well as other colleges. You are welcome to send your feedback to *sfsbca.hod@gmail.com*

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