



**BHAVAN'S SHRI ISHVARLAL L. P. ARTS-SCIENCE
&
SMT J. SHAH COMMERCE COLLEGE**

SciTech

Bhavan's Science E-Magazine



2019-20



Editor's Desk

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The aim of our E-magazine *SciTech* is to keep Bhavan's College community informed about current annual activities, events, achievements, interdisciplinary collaborations, thought provoking articles and announcements. This newsletter aims to promote and disseminate knowledge about science discipline.

The E-magazine will provide concise information linked to specific, scientific activities from each department of science faculty.

The year 2019-2020 has been declared as an International Year of the 'Periodic Table of Chemical Elements' by UNESCO. The year has also been marked by significant events like Chandrayaan-2, solar eclipse, new definition of units kg, mole and Kelvin, announcement of human space mission Gaganyaan.

The science faculty has taken efforts to organize relevant programs within the time framework of its academic calendar and apprised students of its significance. The students are inspired by such activities and are encouraged to achieve excellence in their study.

Year 2019-2020 has shown promising results of students in their University examination. The current E-magazine has highlighted their academic results in the academic achievements.

- ❖ Dr P. G. Sutariya NAAC, Coordinator
- ❖ Dr B. K. Patel, Dr J. M. Shah, Dr. A.D.Shah, Dr P. P. Dholakia Chemistry Dept.
- ❖ Dr T. R. Trivedi, Prof S. V. Dholakia, Dr S. A. Gandhi Physics Dept.
- ❖ Dr Y. M. Kadiyani, Biology Dept.



Message from the Management

Dear Readers,

We feel honored and happy to write this message that your college is going to launch the Annual E-magazine *SciTech* by science faculty. *We would like to congratulate Dr. Mahendra K Nayee and his team for putting up their extreme efforts in success of this e-Newsletter.* This E-magazine will be launched on 28th February 2020 at the *One Day State Level Workshop on Chemistry: Our Life Our Future* This annual E-magazine reflects academic achievement by faculty and students.

With Warm regards and best wishes from the Bhavan's Dakor Kendra Management.



Message from the Principal

Dear Readers,

*I am very much pleased to see that Science Faculty have initiated this BHAVAN'S SCITEC -2020 e-News Letter. This E-magazine will provide all the annual activities, achievements and articles by Chemistry, Physics, Biology and Mathematics Departments. As we are going to release this E-magazine in **One Day State Level Workshop on Chemistry: Our Life Our Future** on the special occasion of National Science Day- 28th February 2020. I would like to congratulate all the faculty members, students of science discipline for their efforts. I also extend my warm wish for their upcoming events.*

Dr. M. K. Nayee
(I/C Principal)

Chemistry Department



Department of Chemistry has organized one Expert talk on Orgel Diagram for B.Sc. and M.Sc. Students on 8th August 2019. This lecture was delivered by Dr.R.T.Jasrai (Head, Department of Chemistry, Petlad Science College).



Department of Chemistry has organized MINAXI-LALIT SCIENCE AWARD TEST-2020 under the banner of Gujarat Science Academy, Gujarat on 13th October 2019. There were 116 students from M.Sc. who actively participated in this test. This test was supervised by Dr. Jayesh M Shah and Dr.Pinkesh Sutariya.



Department of Chemistry organized an Expert talk on Science Start Up for B.Sc. and M.Sc. Students on 24th Dec., 2019. This lecture was delivered by Dr. Alok Pandya (Assistant Professor, Department of Physical Chemistry, Institute of Advanced Research, Gandhinagar). He also presented live demonstration of few start up to B.Sc. and M.Sc. Students. This program was organized by Dr.Pinkesh Sutariya.

Students from B.Sc. (II, IV and VI) semesters participated in State level workshop on Elements of Periodic Table was organized by IICISST, V V NAGAR, Sardar Patel University. 26 students participated with different Chemistry models based on Periodic Table. Among these 26 students, one group received second prize in best model category. These all models were prepared and guided by Dr.Pinkesh Sutariya.



Chemistry Department

Participation in State Level workshop on Eureka 3.0 Science and Start Up Conclave, Institute of Advanced on 30-31st January 2020



Students from B.Sc. and M.Sc. participated in State level workshop on IAR Eureka 3.0 Science and Start Up Conclave which was organized by Institute of Advanced Research Gandhinagar. There were 15 students who made different Chemistry models based on Periodic Table. Among these 15 students, one group received First prize in best model category. These all models were prepared and guided by Dr.

Pinkesh Sutariya.

Invited Talk by Dr.Pinkesh G Sutariya at IICISST on Trends, Facts and Unusual things of Periodic Table



Dr. Pinkesh Sutariya delivered an Expert talk in State Level workshop on Elements of Periodic Table at IICISST, V.V.NAGAR, Sardar Patel University on 30th December 2019. He delivered a lecture on Trends, Facts and Unusual things of Periodic Table.

Invited Talk by Dr.Pinkesh G Sutariya at Eureka 3.0 Science and Start Up Conclave

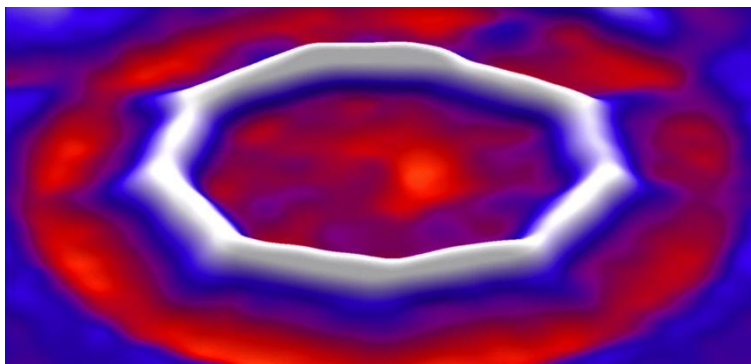


Dr. Pinkesh Sutariya delivered an Expert talk in Eureka 3.0 Science and Start Up Conclave which was organized by Institute of Advanced Research, Gandhinagar on 30-31st January 2020. He delivered a lecture on some of the important topics in Chemistry and fluorescence sensor based on supramolecular assemblies. In the same conference, he also received The most Dynamic Faculty Award by IAR.

Chemists have created new image of new carbon and IUPAC names 10 chemistry innovations that will change the world

Dr. Pinkesh G Sutariya
Chemistry Department

The molecule called cyclocarbon joins other carbon forms, like buckyballs and carbon nanotubes.



An elusive wreath of carbon has made its long-awaited debut. Scientists created a molecule called cyclocarbon and imaged its structure, describing the ring of 18 carbon atoms. The work unveils a new face of one of chemistry's most celebrated

elements. "It's not every day that you make a new form of carbon," says chemist Rik Tykwinski of the University of Alberta in Edmonton, Canada, who was not involved with the research. The result had eluded chemists for so long that Tykwinski had placed a bet about whether cyclocarbon would be created and imaged. Cyclocarbon joins other forms of the versatile element, including diamond, graphite, thin sheets called graphene, tiny spheres known as buckyballs and miniature cylinders called carbon nanotubes.

Nanopesticides, MOFs and 3D bioprinting among potential breakthrough technologies for a sustainable future. For its 100th anniversary, the International Union of Pure and Applied Chemistry (IUPAC) has released a list of 10 chemistry innovations – technologies in between discovery and commercial product – they think will change the world. IUPAC will release the next line-up of world-changing innovations in 2020. Nominations will open in July this year. (1) Nanopesticides (2) Enantioselective organocatalysis (3) Solid-state batteries (4) Flow chemistry (5) Mechanochemistry and reactive extrusion (6) MOFs (7) Directed enzyme evolution (8) Turning polymers back into monomers (9) Reversible deactivation radical polymerisation (RDRP) (10) 3D bioprinting.

CHEMISTRY: An Exciting Science & Unlimited Opportunities

N. V. Sastry

*Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar – 388120,
Gujarat*

Email: nvsastry@spuvvn.edu

Chemistry and life are inseparable. In fact the life and life process are just chemical reactions and processes that occur at cell and molecular level to the bulk body interactions. The life and its existence are mainly due to the biomolecules that can be classified into nucleic acids, proteins, fats and sugars. So the knowledge of chemistry plays a central role in understanding the science of life. At molecular level, the basic and fundamental unit of a chemical is an atom. Atoms bond to produce molecules which further aggregate into physical matter which we can as well as cannot see around with our naked eye. My talk will present few thoughts on role of chemistry in society. The physical matter exists in gas, liquid and solid states that are distinguished from each other in terms of the packing and relative motions of molecules. The importance and utility of any matter lies in its properties both physical as well as chemical. The nature and type of properties decide the behavior of matter which in turn lead to the judgment of its application. The exploration of applications brings in the synthesis of molecules and manufacturing of materials. This leads to industrial activity and hence further adds jobs, market and economy. The latter are highly essential for judging the quality of life in a given nation. Therefore the chemistry that starts at atomic and subatomic level, finally ends up with the development and quality of life.

In the second part I will be dealing with the opportunities for young undergraduates or graduates in chemistry in terms of jobs, entrepreneurship and knowledge pursuing. A well trained chemist can easily enter into other frontiers of science namely materials science, physics, biology, and even mathematics and economics. Every sector including pharmacy, agriculture, environment, health care, food, forensic science, defense manufacturing and materials, needs the services of a trained chemist. The job profile for a chemist could be production, nonproduction and as well as self entrepreneurs. A thoughtful and adventurous chemist can be job giver rather than a job seeker. I will also present few very important skills required for a success story. These include strong scientific base, consistent and sustained interest, hard work, analytical mind, commitment etc.

❖ *The abstract is a glimpse of his talk to be delivered on 28th Feb, 2020 as a Keynote Speaker on the occasion state level workshop on Chemistry: Our Life Our Future.*

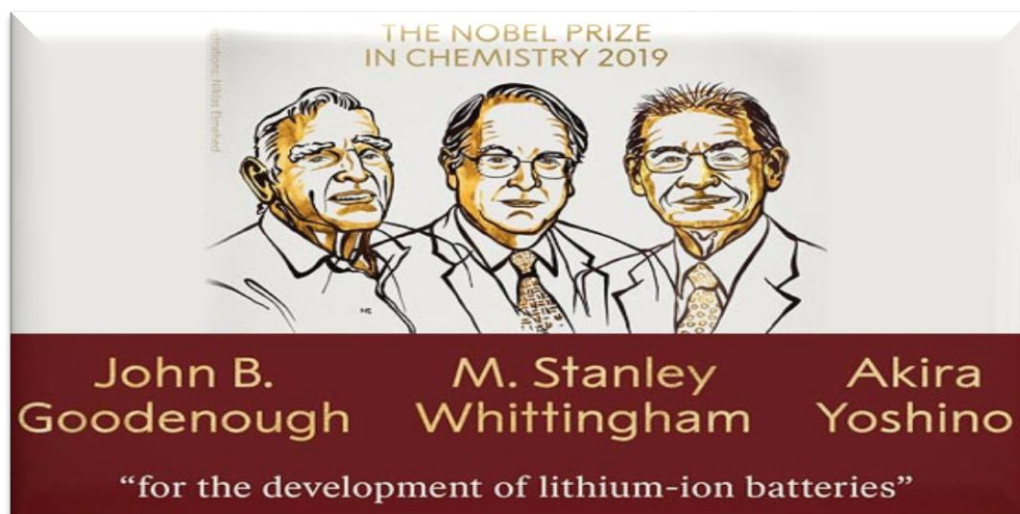
Faculty Achievements

- Dr. Pinkesh Sutariya has published three research articles in reputed International Journals, one book chapter in Nova Publisher during this academic year (2019-2020).
- Dr Pinkesh Sutariya has also received First Prize in Oral Presentation in “National Seminar on Applied Polymer Science and Technology (NSAPST-2020) which was organized by Department of Chemistry, Sardar Patel University, Vallabh VidyaNagar: 388120 on 28-29th January 2020.
- Dr. Pinkesh Sutariya has got project approval from Department of Science and Technology- Science for Equity, Empowerment and Development Division (DST-SEED), New Delhi. This research project is based on “Hybrid calix[4]arene fluorescence paper based device for recognitions and determination of pesticides”. File No: SP/YO/2019/1071.
- Dr Bhavnaben K. Patel attended UGC Sponsored Short Term Course conducted at HRDC, Sardar Patel University, Vallabh Vidyanagar from 30th September,2019 to 06th October,2019.
- Dr Jayesh M.Shah attended UGC Sponsored Short Term Course conducted at HRDC, Sardar Patel University, Vallabh Vidyanagar from 30th September,2019 to 06th October,2019

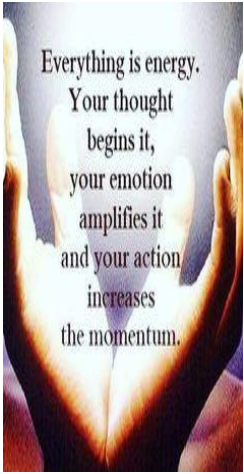
Nobel Prize in Chemistry -2019

The 2019 Nobel Prize in Chemistry has been awarded to John B Goodenough, M Stanley Whittingham and Akira Yoshino for the development of lithium-ion batteries. These three scientists created the right conditions for a wireless and fossil fuel-free society.

John B. Goodenough, M. Stanley Whittingham and Akira Yoshino have been awarded the Nobel Prize in Chemistry for the development of lithium-ion batteries. Lithium-ion batteries have revolutionized the world of technology. The batteries power everyday products such as smartphones, laptops and even electric vehicles. “Through their work, this year’s Chemistry Laureates have laid the foundation of a wireless, fossil fuel-free society,” the Nobel Foundation said while announcing this year’s winners. John B. Goodenough was born in Germany in 1922 and is currently at the University of Texas in the US. M. Stanley Whittingham was born in 1941 in the UK and currently teaches at the Binghamton University in the US. Akira Yoshino was born in 1948 in Japan and is currently a professor at the Meijo University in Japan.

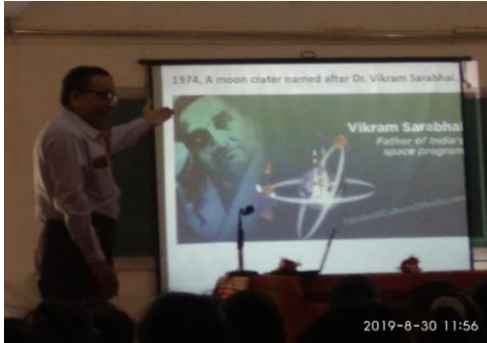


Physics Department



Students led by Dr Sahaj Gandhi participated in one-day programme for students and teachers, at and with Science City Ahmedabad ,on 7th July,2020(including competitions on Physics essays, experiments, Computer-applications). Students had a chance to interact with Dr J. N. Desai , a well known Astrophysicist and former Scientist of PRL .

Students of Bhavan’s College had opportunity to view the launching of Chandrayaan-II on 22nd July,2019 at 02:43 IST in the college from live telecast. More than 75 students of various faculties attended the live event with eager and enthusiasm.



Dr K.N. Joshipura, General Secretary, Indian Association of Physics Teachers (IAPT) delivered an interactive lecture for students on for centenary celebrations of birth year of Dr Vikram Sarabhai and our space program Chandrayaan-2 on 29th August,2019.The program was jointly sponsored by IAPT and C. C. Patel Community Science Center, Sardar Patel University, Vallabh Vidyanagar.

Dr Vibha Vaishnav Associate Professor Department of Electronics, Sardar Patel University, and Director, C.C.Patel Community Science Center delivered a talk on ‘Role of Women in Science’ and encouraged students to visit Community Science Center and participate in various programs.





Students of Science Faculty participated in viewing and helping neighboring school children also viewing 'Solar Eclipse on 26th December, 2019. Earlier students were guided in preparing pin-hole camera for viewing the solar eclipse which they utilized during the event.



Students were also provided special filters for viewing the event. The school children were very excited and had interaction with faculty members and students of Physics Department.



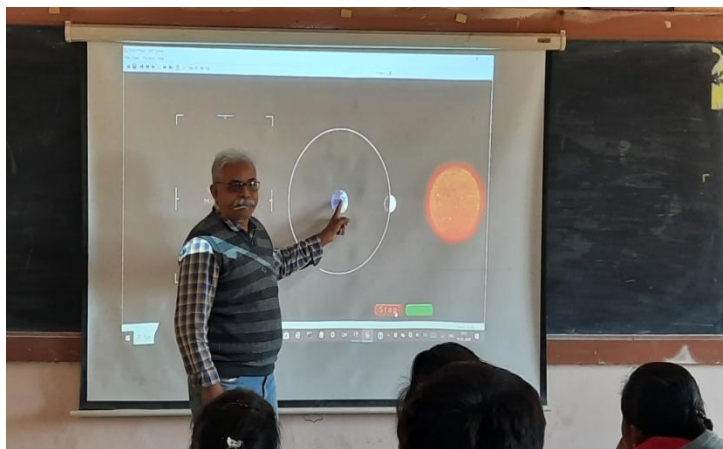
Physics Department



Around 30 students participated in National Graduate Physics Examination (NGPE) conducted by Indian Association Physics Teachers (IAPT) on 19-01-2020 at Bhavan's College, Dakor. This is the tenth year since Physics Department of Bhavan's College is conducting this examination.

An expert Lecture on '*Physics of Indian Calendar: Panchang*' was given by Prof. B. Y. Thakore, Professor, Department of Physics, Sardar Patel University, Vallabh Vidyangar, The students were excited and eager to know about the Physics behind Panchang (પંચાંગ).

Prof B. Y. Thakore explained in detail about the motion of planets in the solar system and their relation with moon and sun. Prof Thakore detailed the mathematical calculations which determine the **tithi** and **festivals** according to Indian calendar.



Students of Bhavan's College participated in CPEX-2020 (Competition of Physics Experiment) conducted by IAPT at cluster level. Institutes affiliated with Sardar Patel University were invited to participate in the competition and the winner at cluster level are eligible to participate at state level. The inaugural completion in 2017 at State level was won by students of our college

Mission 'Gaganyaan'

Dr T. R. Trivedi
Physics Department

Gaganyaan announced by our Prime Minister on our Independence Day is a Indian mission that will take Indian astronauts to space. The mission intends to send 3 astronauts to space for a minimum of seven days by 2022, as part of the Indian Human Spaceflight Programme. The spacecraft is developed by Indian Space Research Organization (ISRO) which consists of a service module and a crew module, collectively known as the Orbital Module. India will launch its first manned mission to space, making it the fourth country to send a human to space. The capsule will



rotate around the Earth every 90 minutes, and astronauts will be able to witness sunrise and sunset. The three astronauts will be able to see India from space every 24 hours, while they conduct experiments on micro-gravity. The spacecraft will be placed in a low earth orbit of 300-400 km by ISRO'S Geosynchronous Satellite Launch Vehicle GSLV Mk III, the three-stage

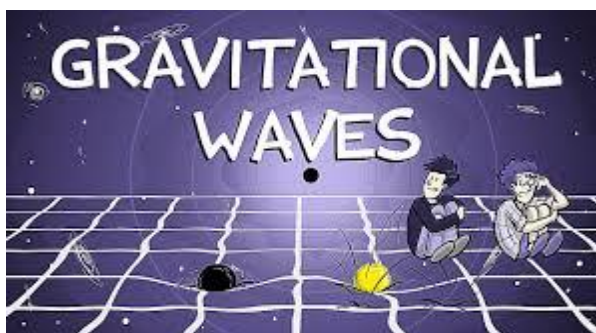
heavy-lift launch vehicle. ISRO has developed some critical technologies like re-entry mission capability, crew escape system, crew module configuration, thermal protection system, deceleration and flotation system, sub-systems of life support system required for Mission Gaganyaan. Meanwhile, India will be sending a humanoid, that will have systems that simulate human functions into space-the first of the two unmanned missions - using its powerful rocket Geosynchronous Satellite Launch Vehicle MkIII. There will be another unmanned mission before the Gaganyaan, later this year. ISRO will carry six micro-gravity experiments in the crew capsule during these two unmanned mission. ISRO will also be launching dedicated two communication satellites- Indian data relay satellite system (IDRSS), to ensure that the astronauts remain in constant touch with the ISRO scientists throughout the mission.

Mission 'Gaganyaan' will be a major turning point in India's Space Program. We wish success for the program.

Gravitational-Waves

Dr Sahaj A. Gandhi
Physics Department

Gravitational waves are ripples in space time which are created whenever objects with mass move. They were predicted by Albert Einstein in 1916 on the basis of his theory of general relativity. As **gravitational waves** are not created by stationary objects, they must be detected from moving systems. Gravitational waves are perturbations in the theoretical curvature of space time caused by accelerated masses. The existence of gravitational radiation is a specific prediction of general relativity, but is a feature of all theories of gravity that obey special relativity. Since the 1960s, gravitational-wave detectors have been built and constantly improved. The present-day generation of resonant mass antennas and laser interferometers has reached the necessary sensitivity to detect gravitational waves from sources in the Milky Way. Gravitational-wave observatories are the primary tool of gravitational-wave astronomy. A number of experiments have provided indirect evidence, notably the observation of binary pulsars, the orbits of which evolve precisely matching the predictions of energy loss through general relativistic gravitational-wave emission. The 1993 Nobel Prize in Physics was awarded for this work. In February 2016, the Advanced LIGO team announced that they had detected gravitational waves from a black hole merger. The 2017 Nobel Prize in Physics was awarded for this work. LIGO-India is a planned collaborative project between the LIGO Laboratory and the Indian Initiative in Gravitational-wave observations (IndIGO) to create a gravitational-wave detector in India. This is an initiative to set up advanced experimental facilities for a multi-institutional observatory project in gravitational-wave astronomy located near Aundha Nagnath, Hingoli District, Maharashtra.



Faculty Achievements

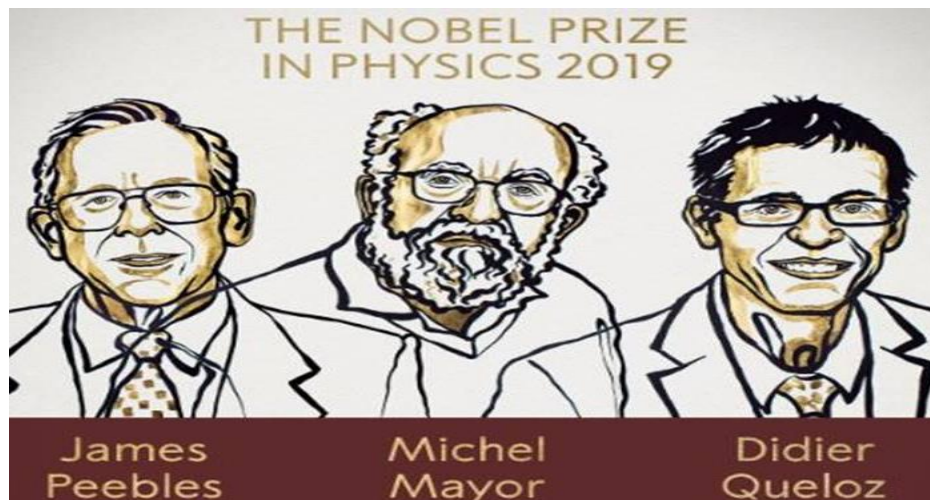
- Dr Sahaj Gandhi has published 4 research papers in reputed International Journals during the year 2019-2020.
- Dr Sahaj Gandhi has cleared online certification course on *Experimental Physics-II* conducted by NPTEL (National Program on Technology Enhanced Learning now also known as Swayam) supported by Ministry of HRD, Government of India during October-2019.
- Dr Sahaj Gandhi has cleared online certification course conducted by Prof H.C.Verma (Recipient of Padma –Shri, 2020, ex Professor emeritus IIT- Kanpur) on *Basics of Quantum Mechanics* during November-2019.
- Dr Sahaj Gandhi participated in 34th Gujarat Science Congress held at Faculty of Science, Ganpat University, Mehsana and received award for Best poster presentation -3rd rank.
- Abstract entitled *Luminescent Novel Calix[4]Arene Based Naphthalene As Drug For Anti-Cancer: A Versatile Material For Drug Design And Applications* accepted for poster presentation by International Conference on Drug Discovery 2020(ICDD 2020) taking place at BITS-Hyderabad, 29th Feb - 2nd Mar 2020
- Dr Sahaj Gandhi has been nominated as a reviewer for Journal of Food Biochemistry(JFBC-Wiley Publications) to review manuscripts.
- Dr Tarun Trivedi published an article in Pragami Tarang(ISSN-2347 2782)-Annual magazine-journal of Physics and related areas published by Indian Association of Physics Teachers(IAPT,RC-7).

Nobel Prize in Physics -2019

The 2019 Nobel prize for Physics was awarded to Swiss Scientists Michel Mayor and Didier Queloz and Canadian – American physicist James Peebles. Nobel prize in physics awarded to cosmology and exoplanet researchers. These three scientists have been awarded the 2019 Nobel prize in physics for groundbreaking discoveries about the evolution of the universe and the Earth’s place within it.

James Peebles laid foundation for modern cosmology regarding theoretical discoveries about the evolution of the universe.

The Swiss astronomers Michel Mayor and Didier Queloz share the other half of the prize for their discovery of the first planet beyond our solar system i.e. “Discovery of an exoplanet orbiting a star similar to sun”



Biology Department



Biology Department had organized lecture on Plant Diversity for B.Sc. Biology students. The Speaker of this lecture was Dr. Rupesh N. Nakar, who serves as Assistant Professor of Botany at Sheth PT Arts and Science College Godhra

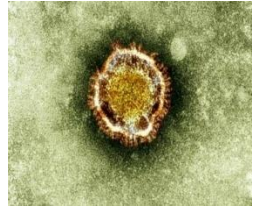
Faculty Achievement

Research Paper under process for publishing in Indian Journal of Fisheries, ISSN – 0970-6011 1)
Study on Changes of Cholesterol and Protein Content in Liver of two Species of Fishes off Jodia Coast in Gulf of Kutch.

Coronavirus -COVID 19

Dr Y.M.Kadiyani
Biology Department

On February 11, 2020 the World Health Organization announced an official name for the disease that is causing the 2019 novel coronavirus outbreak, first identified in Wuhan China. The new name of this disease is coronavirus disease 2019, abbreviated as COVID-19. In COVID-19, 'CO' stands for 'corona,' 'VI' for 'virus,' and 'D' for disease. Formerly, this disease was referred to as



“2019 novel coronavirus” or “2019-nCoV. Coronaviruses are a large group of viruses that are common among animals. Coronaviruses are a large family of viruses, including some that cause the common cold to some that cause major diseases such as the Severe Acute Respiratory Syndrome (SARS) and the Middle East Respiratory Syndrome (MERS). In rare cases, they are what scientists call zoonotic, meaning they can be transmitted from animals to humans. The viruses can make people sick, usually with a mild to moderate upper respiratory tract illness, similar to a common cold. Coronavirus symptoms include a runny nose, cough, sore throat, possibly a headache and maybe a fever, which can last for a couple of days. For those with a weakened immune system, the elderly and the very young, there's a chance the virus could cause a lower, and much more serious, respiratory tract illness like a pneumonia or bronchitis. There are a handful of human coronaviruses that are known to be deadly. For prevention of coronavirus-COVID-19, following precautions are advised by WHO (World Health Organization):

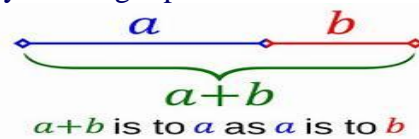
- 1) Wash your hands frequently
- 2) Practice respiratory hygiene
- 3) Maintain social distancing
- 4) Avoid touching eyes, nose and mouth
- 5) If you have fever, cough and difficulty breathing, seek medical care early
- 6) Avoid consumption of raw or undercooked animal products

Mathematics Department

Golden Ratio: The Astonishing Beauty of mathematics

Definition: Golden Ratio

The Golden Ratio is found when we divide a line into two parts so that: "the longer part divided by the smaller part is also equal to the whole length divided by the longer part.



$$\frac{a}{b} = \frac{a+b}{a} = \phi \text{ (phi)} = 1.61803 ; a > b; a, b \text{ are positive}$$

The golden ratio (*symbol is the Greek letter "phi" shown*) is a special number approximately equal to 1.61803.

It appears many times in geometry, art, architecture and other areas.

The Actual Value

The Golden Ratio is equal to: **1.61803398874989484820...** (etc.)

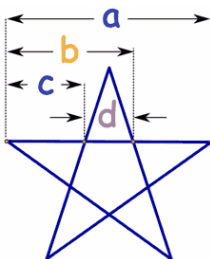
The digits just keep on going, with no pattern. In fact the Golden Ratio is known to be an Irrational Number, and I will tell you more about it later.

The Golden Ratio is also sometimes called the **golden section, golden mean, golden number, divine proportion, divine section** and **golden proportion**.

Example of Pentagonam

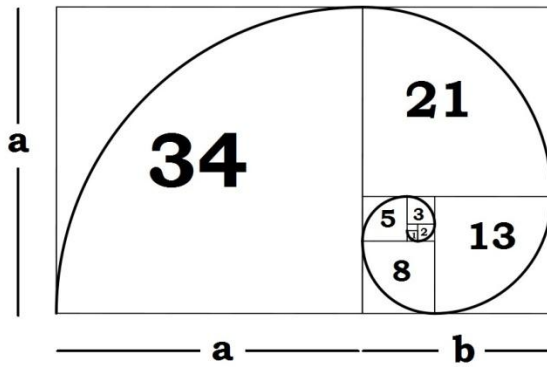
No, not witchcraft! The pentagram is more famous as a magical or holy symbol. And it has the Golden Ratio in it

$$a/b = 1.618... ; b/c =$$



$$1.618... ; c/d = 1.618...$$

The Vitruvian Man of Leonardo da Vinci :Leonardo Da Vinci, used the golden ratio. The Mona Lisa has many golden rectangles throughout the painting. By drawing a rectangle around her face, we can see that it is indeed golden ratio.



If we divide that rectangle with a line drawn across her eyes, we get another golden rectangle, meaning that the proportion of her head length to her eyes is golden. There are other golden rectangles that can be drawn on the rest of her body, like from her neck to the top of her hands. Last Supper: Leonardo Da Vinci used golden ratio to define all the fundamental proportions of his painting of "The Last Supper," from the dimensions of the table at which Christ and the disciples sat to the proportions of the walls and windows in the background sculptures to achieve balance and beauty. Plato (428 B.C – 347 B.C) considered the golden ratio to be the most universal building of mathematical relationships. Euclid (365 B.C – 300 B.C) linked golden ratio to the construction of pentagram.

Thinking to the golden ratio, to the Fibonacci series, and spiral patterns one can think that there would be a “rational” explanation of this, may be some laws in natural shapes.

**Bhavan's Top Performance in University
Examination 2019-20**

Class	Name	CGPA	University Rank
B.Sc. Sem. I	Astha Dilipkumar Jayswal	8.18	13
B.Sc.Sem. III	Rushikumar Satishchandra Joshi	8.43	10
B.Sc. Sem V	Harikishan Devsinh Parmar	9.5	3
M.Sc. I	Krushna Alpeshkumar Bariya	7.76	3
M.Sc. I	Kinjal Ramnaresh Yadav	7.76	3
M.Sc.III	Naushinbanu Javidali Saiyad	7.94	12

Important Scientific Dates

No	Date	Scientific Events	Noteworthy Websites
01	February 28	National Science Day	https://www.nobelprize.org/prizes/physics/1930/raman/biographical/
02	March 14	Pi Day	www.piday.org
03	March 16	Measles Vaccination Day	https://www.who.int/immunization/diseases/measles/en/
04	March 22	World Water Day	https://www.worldwaterday.org/
05	March 24	World Tuberculosis (TB) Day	https://www.cdc.gov/tb/worldtbd/default.htm
06	April 7	World Health day	https://www.wincalendar.com/in/World-Health-Day
07	April 22	World Earth Day	https://www.earthday.org/
08	April 23	World Book & Copyright Day	https://www.worldbookday.com/
09	April 26	World Intellectual Property Day	https://www.wipo.int/ip-outreach/en/ipday/
10	May 8	World Red Cross Day World Thalassaemia Day	https://www.indianredcross.org/
11	May 11	National Technology Day	https://dst.gov.in/national-technology-day
12	May 22	International Day for Biodiversity	https://www.cbd.int/idb/
13	Jun 5	World Environment Day	https://www.worldenvironmentday.global/
14	Jun 21	International Yoga Day	https://www.un.org/en/events/yogaday/
15	Jun 30	World Asteroid Day	https://asteroidday.org/
16	July 28	World Nature Conservation Day	https://medwet.org/2018/07/wetlands-in-world-nature-conservation-day/
17	August 6	Hiroshima Day	https://www.history.com/topics/world-war-ii/bombing-of-hiroshima-and-nagasaki
18	August 9	Nagasaki day	
19	Sep 5	Teacher's Day	https://www.iep.utm.edu/radhakri/
20	Dec 22	National Mathematics Day	https://writings.stephenwolfram.com/2016/04/who-was-ramanujan/



Bhavan's Shri Ishvarlal. L. P. Arts-Science

And

Smt. J. Shah Commerce College

Dakor-Umreth Road, Dakor: 388225, Dist: Kheda, Gujarat

Tel No. 02699-244454

www.bhavanscollegedakor.org

bhavansdakor@rediffmail.com

Affiliation: Sardar Patel University

NAAC : 2.27

Dakor Kendra Committee

Chairman	Shri I. L. Pandya
Vice Chairman	Shri Bhushan Bhatt Shri Pradip Shah
Hon. Secretary	Mrs Nikita Gandhi
Treasurer	Shri Rushikesh S. Shah
Member	Dr Jitesh Talati Shri. Dushyant Laijawala Shri D.S. Dalal Shri Ashokbhai Patel Shri P.M. Madkaikav Shri H S Bhatt
I/C Principal	Dr M. K. Nayee
Convener	Dr P. G. Sutariya

Science Faculty Profile



Name : Dr. Bhavana K. Patel
Designation : Associate Professor
Specialization : Organic Chemistry

Office Address: Bhavan's Shri Ishvarlal. L. P. Arts-
Science And Smt. J. Shah Commerce College, Dakor:
388225 , Gujarat-India

E-mail : bhavnakpatel72@gmail.com

Other Details

Date of Birth	22 August, 1972
Educational Qualifications	M.Sc. Ph.D
Date of Joining	21 February, 2004
Academic Experience	15 YEARS
Research Areas of interest	Chemistry
Expertise	Teaching
Highlights of achievements	
No. of publications	07
No. of Books	-
No. of Conferences	International: - National : 03 State: 02



Name : Dr.Jayeshkumar Mafatlal Shah

Designation : Associate Professor

Specialization : Organic Chemistry

Address : Bhavan's Shri Ishvarlal. L. P. Arts-Science
And Smt. J. Shah Commerce College, Dakor: 388225 ,
Gujarat-India

Office : 02699-244454

E-mail : bhavansdakor@rediffmail.com

Other Details

Date of Birth	01-06-1970
Educational Qualifications	M.Sc,B.Ed.M.Phill,Ph.D
Date of Joining	23-02-2004
Academic Experience	21 Years
Research Areas of interest	Resin
Expertise	Organic and inorganic chemistry
Highlights of achievements	Member of Board of studies P.G Recognised Teacher
No. of publications	03
No. of Books	06
No. of Conferences	International: National 15 State: 06
No. of Invited Talks	---



Name : Dr. Anjanaben Dilipkumar Shah

Designation : Adhyapak Sahayak

Specialization : Organic Chemistry

Office Address : Bhavan's Shri Ishvarlal. L. P. Arts-Science And Smt. J. Shah
Commerce College, Dakor: 388225 , Gujarat-India

E-mail : anjanadilipkumarshah@gmail.com

Other Details

Date of Birth 19/07/1960

Educational Qualifications M.Sc., Ph.D.

Date of Joining 12/12/1988

Academic Experience 30 Yrs

Research Areas of interest Polymerization of Aldol Reaction

Expertise Heterocyclic Compounds

Highlights of achievements Gold Medal received in MSc in S P University

No. of publications

No. of Books

No. of Conferences

International:

National : National Conference On "Medicinal Chemistry at the Interface Of 21st
Century: An Indian Perspective" At Chemistry Department, V.P.& R.P.T.P
Science College, Vallabh Vidyanagar, Gujarat, India

State:



Name : Dr.Pinkeshkumar G Sutariya

Designation : Assistant Professor

Specialization : Organic Chemistry

Office Address : Bhavan's Shri Ishvarlal. L. P. Arts-Science And
Smt. J. Shah Commerce College, Dakor: 388225 , Gujarat-India

E-mail : pinkeshsutariya@gmail.com

Other Details

Date of Birth	23/06/1988
Educational Qualifications	B.Sc., M.Sc., Ph.D.
Date of Joining	11/08/2014
Academic Experience	6 Years 4 Months
Research Areas of interest	Supramolecular Chemistry, Fluorescence Sensor
Expertise	Organic Chemistry
Highlights of achievements	<ul style="list-style-type: none">➤ Received UGC-BSR meritorious fellowship (2011-12).➤ Received Young Scientist major research Project (2016)➤ Best Research Paper Award (01=International, 03 National, 02 State level Conference)
No. of publications	27
No. of Books	13 Books, 02 Book Chapters
No. of Conferences	International: 06 National:13 State:20
No. of Invited Talks	03
No. of Minor/ Major projects carried out	01 (DST –SERB Major, YSS/2015/001258)
Citations, h-index, i10 index	404, 13,14



Name : Dr. Prakash P. Dholakiya
Designation : Assistant Professor
Specialization : In-Organic Chemistry
Office Address: Bhavan's Shri Ishvarlal. L. P. Arts-Science And
Smt. J. Shah Commerce College, Dakor: 388225 , Gujarat-India
E-mail : ppdholakiya9@gmail.com

Other Details

Date of Birth	27/01/1974
Educational Qualifications	M.Sc., Ph.D.
Date of Joining	18/01/2016
Academic Experience	9 Years
Research Areas of interest	Hetro-chelate
Expertise	Synthesis of Schiff base- Chelate, IR and Magnetometer
Highlights of achievements	
No. of publications	8
No. of Books	05
No. of Conferences	International: 00 National : 03 State:
Citations, h-index, i10 index	Citations: 160 h-index : 05 i10-index: 05



Name : Dr. Yakub M. Kadiyani
Designation : Assistant Professor
Specialization :Zoology

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Smt. J. Shah Commerce College, Dakor: 388225 , Gujarat-India

E-mail :yakubkadiyani@gmail.com

Other Details

Date of Birth	29/03/1962
Educational Qualifications	M.Sc. Ph.D.
Date of Joining	12/10/1989 to 08/07/2009 D.K.V. College Jamnagar and 09/07/2009 to Continue Bhavan's College, Dakor
Academic Experience	29 Years
Research Areas of interest	Fisheries
Expertise	Fisheries
Highlights of achievements	
No. of publications	12
No. of Books	1
No. of Conferences	International: Nil National -2 State:-Nil



Name : Dr Tarunkumar Rameshchandra Trivedi

Designation : Assistant Professor

Specialization : Condensed Matter Physics (Solid State Physics)

Office Address : Bhavan's Shri Ishvarlal. L. P. Arts-Science And Smt. J. Shah
Commerce College, Dakor: 388225 , Gujarat-India

E-mail : tarun.trivedi@gmail.com

Other Details

Date of Birth 19-06-1964

Educational Qualifications M.Sc., Ph.D.

Date of Joining 11/7/1989,

Academic Experience 30 years

Research Areas of interest Solid State Physics

Expertise Crystal Growth

Highlights of achievements

- ❖ Invited for evaluation of Part B (problem solving) answer papers of the National Standard Examination in Physics (NSEP) 2013-2014 at IAPT Central Exam Office, Pune, from 21 to 25th December 2013. NSEP is the first screening test in selection of Indian Team for the 45th International Physics Olympiad, that was organized in Kazakhstan in July 2014.
- ❖ Invited as a 'Resource Person in Summer Course in Experimental Physics -2016 held at Homi Bhabha Center for Science Education (HBCSE), TIFR, Mankhurd, Mumbai during 9th May to 20th May, 2016.
- ❖ Appointed as a member of Editorial Committee of for Std XI and Std XII textbook of Physics published by Gujarat Textbook Board
- ❖ Member of Editorial Committee of Pragami Tarang (ISSN-2347 2782)-Annual magazine-journal of Physics and related areas published by IAPT(Indian Association of Physics Teachers)

No. of publications 06

No. of Books -

No. of Conferences/Seminars International: 01
National :10
State:15

No. of Invited Talks 05



Name : SANDIP VINAYCHANDRA DHOLAKIA

Designation : ASISTANT PROF.

Specialization : PHYSICS

Office Address: Bhavan's Shri Ishvarlal. L. P. Arts-Science And
Smt. J. Shah Commerce College, Dakor: 388225 , Gujarat-India

E-mail : sandipbhuj@gmail.com

Other Details

Date of Birth	10/03/1967
Educational Qualifications	M.Sc.
Date of Joining	02/09/1989
Academic Experience	30 yrs.
Research Areas of interest	
Expertise	
Highlights of achievements	
No. of publications	7
No. of Books	2
No. of Conferences	International: National: - 5 State:- 4
No. of Invited Talks	



Name : Dr. SAHAJKUMAR ANILKUMAR GANDHI

Designation : Assistant Professor

Specialization : Condensed Matter Physics

Office Address : Bhavan's Shri Ishvarlal. L. P. Arts-Science And Smt. J. Shah
Commerce College, Dakor: 388225 , Gujarat-India

E-mail : sahajg7@gmail.com

Other Details

Date of Birth	01/07/1984
Educational Qualifications	M.Sc., Ph.D.
Date of Joining	18/01/2016
Academic Experience	7 Years
Research Areas of interest	X-ray Crystallography, Computational Physics, Molecular Docking Study
Expertise	X-ray Crystallography, Supramolecular Chemistry, Crystal Engineering, Drug design Computational Chemistry/Molecular modeling: Ab initio, Molecular Mechanics and DFT study
Highlights of achievements	CSIR-NET in June 2011 Best Research Paper Award (02 National, 05 State level Conference)
No. of publications	28
No. of Books	01 (Book Chapter)
No. of Conferences	International : - 03 National : - 22 State : - 14
Citations, h-index, i10 index	Citations: 105 h-index : 07 i10-index: 06