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CAMPUS-ANVESHAN

College of
Engineering,
Technology & Research



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Principal's Desk

I welcome all students to this great institution of higher learning and assure you of a nurturing and caring environment that will see all of you blossom into empowered and sensitive human beings.

Each and every one of you will one day have to ascribe a meaning to your life. As Swami Vivekananda said, "Truth can be stated in a thousand different ways, yet each one can be true." Your education here, in this college and outside it, during your time here and long after you graduate, will help you find that truth.

My very competent team of faculty members strive to focus on each and every student, monitor and mentor them, appreciate their achievement and encourage them to overcome their short comings. I advise all the faculty members to create appropriate, meaningful and participative learning ambience, including life skills in the impressionable students.

Besides all of the impressive work happening inside the classroom and laboratories, there are a lot of great achievements by our students in technical event like TECHVYOM-2K22 and lots of participation in Technical and Non-Technical events that are organised by institution weekly in Zero Hour.

At last but not the least, I expect all my students, faculty members and staff to focus on their cherished goals, and bring SRMSCETR to new heights of success and achievements.

Dr. L. S. Maurya
Principal

Everything comes to us
that belongs to us if we create
the capacity to receive it.

- Rabindranath Tagore



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HAPPENING AT THE COLLEGE

TECHVYOM 2K22

On **07/05/2022** National Level Technical Fest was organised at **SRMS CET**. More than hundred students of **SRMS CET&R** from all years were participated in that event and many of them won prizes in various events.

Mr. Brij mohan (CSE) 2nd year secured the **Second Position in Beat-the-Bug** competition and bagged a Trophy, certificate and Cash Prize of **INR500**.



Mr. Aditya Singh Tomar (CSE) 1st year secured **First Position in Lan War (Mini Militia)** and got Cash Prize of **INR 1000**.



Mr. Mayank Chaudhary, Mr. Yash Maurya, Mr. Abhishek Gangwar, Mr. Mathew Edmund (CSE) 1st year students secured **Second Position in Glider Plane** team event.



2018 Batch Farewell Party

On Saturday morning of **14th May, 2022**, A grandeur farewell party was organised by 2019 Batch students from 10:30 A.M. to 4:00 P.M. in the **Main Auditorium of S.R.M.S- CETR Campus**. The Program Began At Sharp 10:30 A.M. With The Welcoming of all the Dignitaries Including Trust Secretary, Shri Aditya Murti.

This Was Followed By Garlanding, Saraswati Vandana and Ganesh Vandana. Address to all the Passing-Out Students By Trust Secretary, Shri Aditya Murti, Marked The Completion Of Inaugural Of The Event.

All the 2019 Batch students gave their best for full enjoyment of their beloved seniors and to entertain them by applying best of their efforts. Several singing, dance, both solo as well as duet, open-mic like performances cherished the whole event.

The most humorous performance of mock-rock totally grabbed and held the audience attention till the end.

Several games like Musical chairs, Falling lemon were also conducted and played by both hostellers as well as day-scholars girls and boys in which they showed their gaming talent to the audience.

The lunch treat was also scheduled from 12:30 P.M. for the students.

As a result of all incomparable efforts, the 2018 batch students really enjoyed the whole show specially curated for their enjoyment.

Lastly, all the passing-out students were given exciting gift hampers in a ceremony in which they also showed their hidden talent as all were asked to perform something for their junior batches.

They also performed exceptionally well and were a lot appreciated. Overall, the program made the seniors relive all their past 4 years' life moments and memories in the event with the help of a video presentation prepared for them.

HAPPENING AT THE COLLEGE

Lastly, the program concluded with talks, greetings and selfie-sessions by passing-out batch so that their bond continues as they are now going in yet another phase of their lives.



HAPPENING AT THE COLLEGE

Zero Hour Activity

On **26/05/2022** the Department of Computer Science Engineering organised a “Badminton Competition” at college level. Many Boys and Girls were participated in this event. The winners of this event were awarded by certificates and winners are:

Boys: **Mr. Harsh Vardhan Saxena (CSE)2nd year**

Girls: **Ms. Drishti Sharma (CSE)2nd year**



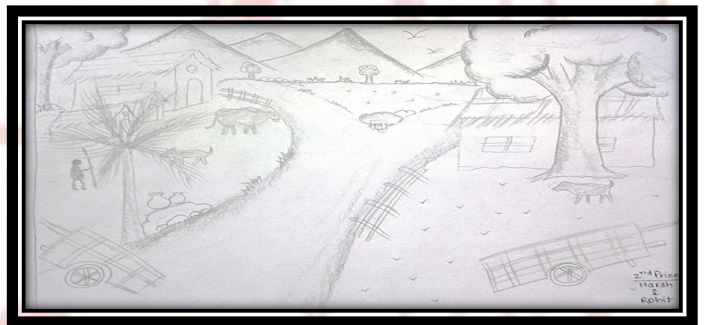
Zero Hour Activity

On **26/05/2022** the Department of Computer Science Engineering organised a “Blind Art Competition” at college level. The winners of this event were awarded by certificates and winners are:

First: Ms. Samreen Khanam & Ms. Saumya Mishra (CSE 1st Year)

Second: Mr. Harsh Vaish & Mr. Rohit (CSE 1st Year)

Third: Mr. Lakshya Upadhyay & Ms. Riya Saxena (CSE 1st Year)



STUDENT CORNER

"MY JOURNEY THROUGH SCHOOL LIFE...."

I just close a chapter of my life that I will remember and cherish forever. If I had a chance to do it again, I would. The relationships I've made with peers and teachers is something unlike buying a new toy. This feeling is authentic. But it's time to move on to write the next part of life.

Take a struggle today

For a better tomorrow

You should work through life

No matter how tough the situation

Always go forward

Always take a step forward

Be respectful to your peers and never have fear.

*Compiled by
Ms. Divya Singh
B.Tech. (Second Year) CS*

How to Create the Life That You Want in 1 Year

1) DO A LIFE AUDIT.

Doing a life audit is crucial for pinpointing where to make adjustments and jumpstarting your new journey.

Start by figuring out where you stand in the 8 areas of life - health, finances, personal development, career, relationships, self-care, home life, and free time.

What changes would make the biggest impact in your life for each area?

2) MAKE A MINDSET SHIFT.

Your mindset is what sets the tone for everything in your life. Changing your mindset is what will change your life. What we think and believe is what we act upon.

Change your perspective - from now on anytime anything negative happens, instead of feeling like a victim, ask yourself what you can control or change.

3) CREATE A VISION.

Having a vision means we have a clear sense of purpose. It means we have much larger picture of our

business, or our life, then simply setting and reaching short term goals and tackling problems as

Visions are driven by passion and dreams, and they are reflected through real efforts to create real results.

4) WORK ON YOURSELF DAILY.

Once you have your vision, the fog lifts and your road map starts to become clear again. But, nobody is going to drive the car for you. You've got to put in the work to achieve your goals and change your life.

Consistently, daily practice is how you make that happen. If you watered the plants just a little each day, over time you garden always grew.

5) DESIGN YOUR ENVIRONMENT FOR SUCCESS

If you want to change your life, YOU aren't the only thing that has to change - your environment has to change too.

For example, if you always hang out with negative - thinking friends, you'll tend to believe the limitations they're setting for you. However, if you hang out with other "do'ers" and people who want to see you succeed, there's a much higher chance that you will.

6) LEARN NEW SKILLS AND IMPROVE UPON YOUR EXISTING ONES.

Nothing will change your life faster than building new skills. Whatever the case, imagine a year where you start out having a limited skill-set. Dedicate time during your day to build your skills.

Learn them via books, videos, and podcasts, but don't forget to physically practice your skills too.

7) LASTLY, ENJOY THE PROCESS.

The whole point of this exercise is to CHANGE. That means your thoughts and behaviours, will change throughout the year. You may realize that what you initially sought isn't what you want anymore.

Don't get so focused on the process that you lose sight of what YOU want and most importantly...have fun.

*Compiled by
Mr. Rahul Chaurasia
B.Tech. (Second Year) CS*

STUDENT CORNER

College Life

People who go to college are incredible.
We go to classes.
We read and absorb and are comprehensively tested on heavy amounts of various materials.
We sleep very little.
We party too much.
Someone is always sick.
Someone is always complaining.
We become attached to close friends.
We smother each other.
We learn too much.
We think often of the past and want to go back.
We know we cannot.

We all have separate lives, families, backgrounds and pasts.
We live totally different from how we used to live.
We are frustrated and sometimes want to give up, but we never stop trying.
We disregard health.
We eat awful foods.
We are forced to think about the future.
We are scared and confused.
We reach out for things, yet we don't find them.
We try to sort out our minds, which are filled with studies, worries, problems, memories, emotions, powerful feelings.
We wander the halls looking for happiness.
We hurt a lot.

We keep going, though, because above all else, we never stop learning, growing, changing, and most important dreaming.
Dreams keep us going and they always will.
All we can do is be thankful that we have something to hold onto, like dreams and each other.

*Compiled by
Mr. Sumit Mishra
B.Tech. (First Year) CS*

Use of Technology

Technology has become an everyday need in the present time.

With the increasing spread of digitalization around the world technology is now not only a way towards advanced scientific developments, it is also a mandatory need when it comes to sustainable development.

The use of technology in education is a major call of the hour. By using several technological supporting systems like e-notebooks, e-books etc a world full of information can be compressed into a single platform.

The use of interactive classroom boards, the use of chalk and duster are also decreasing. Also, the teachers can access the internet anytime between the lectures for reference and better understanding of the students.

There are a huge number of ways in which study related games and power point presentations help the teachers build student involvement through several technological means.

Technology also helps students to remain inter connected all the time.

In this way they can solve and discuss their problems whenever they wish to. The teachers too can help them out always.

The use of technology also helps in the decreased use of paper.

By doing so not only are trees saved but we walk towards a greener environment altogether. It is important to spread information about saving nature to all parts of the world and technology is the best way to do it.

*Compiled by
Mr. Mohd. Ammar Ahmad
B.Tech. (Second Year) CS*

FACULTY ARENA

Nanotechnology: Technology for Future

"There's Plenty of Room at the Bottom: An Invitation to Enter a New Field of Physics" was a lecture given by physicist Richard Feynman at the annual American Physical Society meeting at Caltech on December 29, 1959

Nanoelectronics:

It means using nanotechnology in electronic components. The ongoing shrinking of electronics is essential to further boost processor speed and lower manufacturing cost per bit; however, as the proportions of vital electronics get closer to atomic size, quantum tunneling, and other effects become increasingly prohibitive.

Scientists are thus pursuing more extreme approaches to advancing technology, including approaches related to nanoscale physics.

So-called 'Nanoelectronics' appear very promising altering the nature of electronics and digital technology.

The term Nanoelectronics includes a broad group of technology and materials with unique qualities so minute that atomic-scale interactions and quantum mechanical qualities play a considerable role in their functionality.

At the nanoscale, different forces have more influence than those that dominate at the macro-scale.

For instance, quantum tunneling, and atomistic disorder are essential concerns for those working with Nanoelectronics.

Nanoelectronics holds significant promise for expanding the abilities of electronics devices while reducing their size, weight and power requirements. Display screens can be improved by cutting power requirements while lowering the weight and density of displays. Scientists are also working on a kind of nanoscale memory chip capable of holding one terabyte of data per square inch or more. There are many applications such as

- Computing and electronic products include Flash memory chips for iPod Nanos, antimicrobial and antibacterial coatings on the mouse, the keyboard, and the cell phone castings.

- To process, transmit and store information by taking advantage of properties of matter that are distinctly different from macroscopic properties. Nanotechnology is used for printed electronics for RFID, smart cards, smart packaging, It is used for more life-like video games and flexible displays for e-book readers.
- The concept of Nanoelectronics is used for nanoscale transistors that are faster, more powerful, and increasingly the energy-efficient, *You will see soon the futuristic application in your life time that your computer's entire memory may be stored on a single tiny chip.* Nanotechnology is used in many new TVs, laptop computers, digital cameras, cell phones, and it is used in many devices to incorporate nanostructured polymer films known as organic light-emitting diodes or OLEDs, where OLED screens offer brighter consumption and longer lifetimes.
- The concept of Nanoelectronics is used for magnetic random access memory (MRAM) enabled by nanometer-scale magnetic tunnel junctions that can quickly and effectively save even encrypted data during a system shutdown or crash, So, It enables resume-play features.
- The concept of Nanoelectronics in electronics provides faster, smaller and enhanced handheld devices, it provides advanced display technologies with conductive nanomaterials, data storage, quantum computing, printable and flexible electronics, and magnetic nanoparticles for data storage.
- The concept of Nanoelectronics can actually revolutionize a lot of electronic products, procedures, and applications such as electronic products include nano transistors, nano diodes, OLED, plasma displays and quantum computers. The concept of Nanoelectronics in electronics increases the capabilities of electronics devices while reducing their weight and power consumption, It increases the density of memory chips and it reduces the size of transistors that used in integrated circuits.
- Nanotechnology improves display screens on electronics devices, So the power consumption will be reduced, the weight and the thickness of the screens decreases

FACULTY ARENA

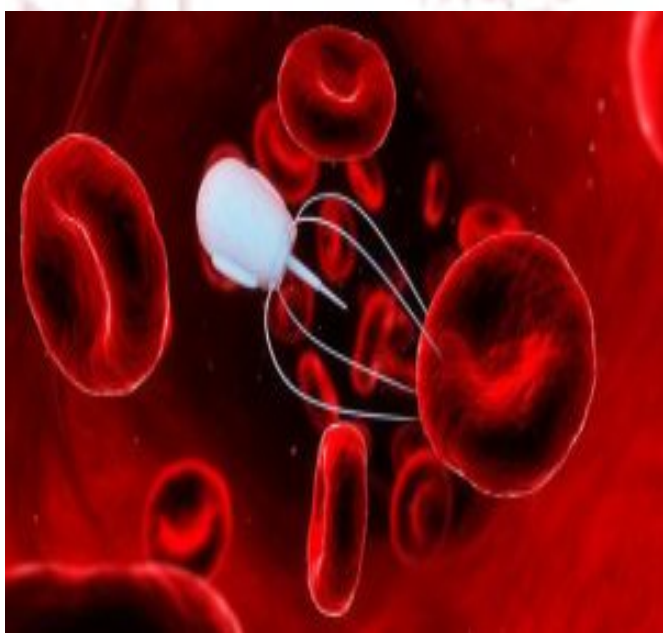
Nanomedicine:

It is the medical application of nanotechnology. Nanomedicine is a branch of medicine that applies the knowledge and tools of nanotechnology to the prevention and treatment of disease. Nanomedicine involves the use of nanoscale materials, such as biocompatible nanoparticles and nanorobots, for diagnosis, delivery, sensing or actuation purposes in a living organism. It is preserving and improving the human health by using molecular tools and molecular knowledge of the human body.

Nanotechnology in medicine

Nanomedicine involves the use of nanoparticles in the surgical and medical treatment of patients

- It is used for the treatment of diseases in living organisms, Nanotechnology involves manipulating properties and structures at the nanoscale, it often involves dimensions that are just tiny fractions of the width of a human hair.



- The Concepts of Nanomedicine is already used in products such as cosmetics and sunscreens, the nanoscale materials in cosmetic products provide greater clarity or coverage, cleansing, and absorption.
- Nanoscale materials are used in antioxidant, anti-microbial, and other health properties in the sunscreens, the cleansers, the complexion treatments, the creams and lotions, the shampoos, and specialized makeup.

- The Concepts of Nanomedicine is used in cancer that can lead to breakthroughs in terms of detecting, diagnosing and treating various forms of cancer, Medical nanotechnology tools are more personalized, portable, cheaper, safer and easier to administer.
- The Concepts of Nanomedicine and nanomaterials shall support in the formation of molecular systems that may be strikingly similar to living systems, these molecular structures could be the basis for the regeneration or replacement of body parts that are currently lost to infection, accident, or disease.
- The Concepts of Nanomedicine and nanomaterials has been used in the early diagnosis of atherosclerosis, or the buildup of plaque in arteries and gold nanoparticles can be used to detect early-stage Alzheimer's disease.
- Quantum dots are semiconducting nanocrystals that can enhance biological imaging for medical diagnostics when they are illuminated with ultraviolet light, they emit a wide spectrum of bright colors that can be used to locate and identify specific kinds of cells and biological activities. These crystals offer optical detection up to 1,000 times better than conventional dyes used in many biological tests, such as MRIs, and render significantly more information.
- Nanotechnology is used in the multifunctional therapeutics where a nanoparticle serves as a platform to facilitate its specific targeting to the cancer cells and delivery of a potent treatment, they minimize the risk to normal tissues.
- The research is underway to use nanotechnology to spur the growth of nerve cells such as in damaged spinal cord or brain cells, Nanotechnology in medicine will benefit those that suffer from heart disease, respiratory problems, and diabetes in the future.
- Nanotechnology in medicine will be used to help in fertility-issues, brain issues or malfunctions and even the reparation of senses.

Continued...

Compiled By:
Dr. Rajeev Pandey
Chief Proctor

AI to make roads in India safer to drive

Artificial Intelligence (AI) powered solutions may soon make roads in India a safer place to drive.

A unique AI approach that uses the predictive power of AI to identify risks on the road, and a collision alert system to communicate timely alerts to drivers, to make several improvements related to road safety, is being implemented in Nagpur City with an objective of resulting in a significant reduction of accidents.

The project 'Intelligent Solutions for Road Safety through Technology and Engineering' (iRASTE) at Nagpur will identify potential accident-causing scenarios while driving a vehicle and alert drivers about the same with the help of the Advance Driver Assistance System (ADAS).

The project will also identify 'greyspots', i.e., by data analysis and mobility analysis by continuously monitoring dynamic risks on the entire road network. Greyspots are locations on roads, which left unaddressed could become blackspots (locations with fatal accidents).

The system also conducts continuous monitoring of roads and designs engineering fixes to correct existing road blackspots for preventive maintenance and improved road infrastructure.

The iRASTE project is under by the I-Hub Foundation, IIIT Hyderabad, a Technology Innovation Hub (TIH) set up in the technology vertical- Data Banks & Data Services supported by the Department of Science and Technology (DST) under its National Mission on Interdisciplinary Cyber Physical Systems (NM-ICPS) along with INAI (Applied AI Research Institute).

The project consortium includes CSIR-CRRI, and Nagpur Municipal Corporation, with Mahindra and Intel as the industry partners.

Vehicle Safety

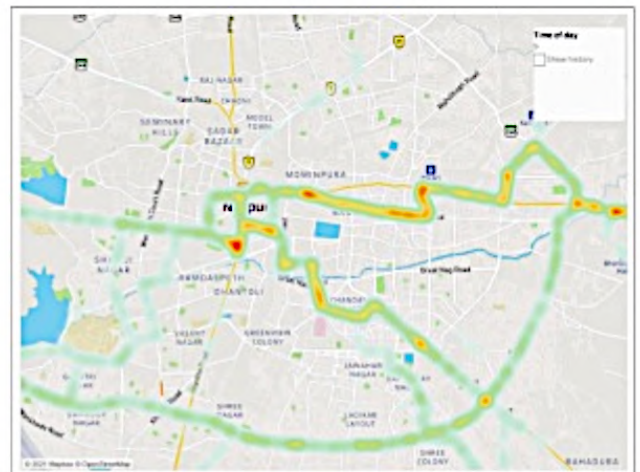
ADAS + Driver Trainings

Camera focused on road
Display unit (audio + visual alerts)



Mobility Analysis

GreySpot Map



Infrastructure Safety

Blackspots fixes



FACULTY ARENA

The Hub is working to coordinate, integrate, and amplify basic and applied research in broad data-driven technologies as well as its dissemination and translation across the country.

One of the primary aims is to prepare a critical resource for the future use by researchers, startups, and industry, mainly in the areas of smart mobility, healthcare along with smart buildings.

What makes the iRASTE project even more unique is that AI and technology is being applied to create practical solutions, as a blueprint, for Indian conditions. While the initial rollout of iRASTE is in Nagpur, the eventual goal is to replicate the solution in other cities too.

Currently, talks are on with the Telangana government to adopt the technology in a fleet of buses that ply on highways. There are further plans to extend the scope of iRASTE to Goa and Gujarat also.

I-Hub Foundation has also used techniques ranging from machine learning, computer vision and computational sensing for several other data-driven technological solutions in the mobility sector.

One such solution is the India Driving Dataset (IDD), a dataset for road scene understanding in unstructured environments captured from Indian roads, which stands out by deviating from the worldwide assumptions of well-delineated infrastructure such as lanes, limited traffic participants, low variation in object or background appearance and strong adherence to traffic rules.

The dataset, a first of its kind, consists of 10,000 images, finely annotated with 34 classes collected

from 182 drive sequences on Indian roads obtained from a front-facing camera attached to a car driven around Hyderabad, Bangalore, and their outskirts. The dataset is released in the public domain for unrestricted use under public license and is becoming a defacto dataset for all analysis on Indian road scenes. Currently, there are over 5000 registered users for this dataset across the world.

Another dataset called Open World Object Detection on Road Scenes (ORDER) has also been developed using the India Driving Dataset that could be used by autonomous navigation systems in Indian driving conditions for localization and classification of the objects in a road scene.

Besides this, a Mobility Car Data Platform (MCDP) has been designed with several sensors – cameras, LIDARs, with necessary compute for anyone to capture or process data on the car that can help researchers and start-ups in India test their automotive algorithms and approaches in navigation and research on Indian roads. LaneRoadNet (LRNet), a new framework with an integrated mechanism considering lane and road parameters using deep learning, has been designed to address problems of Indian roads, which have several obstacles, occluded lane markings, broken dividers, cracks, potholes, etc. that put the drivers at significant risk while driving.

In this framework, a road quality score is calculated with the help of a modular scoring function. The final score helps the authorities to assess road quality and prioritize maintenance schedules of the road so as to improve the drivability.

In order to help local self-government institutions employ suitable rejuvenation methods in tree starved streets, I-Hub Foundation designed a framework for street tree detection, counting and visualization that uses object detectors and a matching counting algorithm. The work has paved way for a quick, accurate, and inexpensive way to recognize tree-starved streets.

Reference: dst.gov.in

Compiled By:
Mr. Vinit Sharma
Assistant Professor
Basic Science Department

HEALTH TIPS

1. Exercise

Regular physical activity has many benefits for both your physical and mental well-being! It is one of the most important things you can do to maintain your health. Exercise can be done anywhere, including at home or at the gym.

2. Read Books

Reading is known to reduce stress levels by giving your brain a break from the busyness that weighs us down. It exercises your brain and keeps your memory in tip-top condition. Reading at night or before bed can even help you fall asleep.

AYURVED

आयुर्वेद में उपचार से पूर्व व्याधि निदान में नाड़ी-परीक्षा को अत्यधिक महत्त्व दिया गया है। जितना व्यापक विचार नाड़ी-परीक्षा के संदर्भ में आयुर्वेद ने किया है, उतना अन्य किसी भी चिकित्सा पद्धति में नहीं किया गया है। रावण तथा कणाद ने नाड़ीशास्त्र पर स्वतंत्र ग्रंथ लिखे हैं एवं योगरत्नाकर, शार्ङ्गधर आदि में भी इसका विस्तृत विवेचन है। नाड़ी-परीक्षा में चिकित्सकों (वैद्यों) के लिए भी नियम हैं तथा रोगी के लिए भी। परीक्षा संबंधी नियम भी योगरत्नाकर ने विस्तार से लिखे हैं। कहते हैं कि यदि नाड़ी में बार-बार कंपन हो, पतले धागे के समान सूक्ष्म स्पंदन मिल रहा हो एवं उँगली को स्पर्श करता स्पंदन अत्यंत हलका (अल्प बल) अनुभव कराता हो तो यह निश्चित रूप से मृत्यु सूचक है। विलक्षण है हमारा आयुर्वेद।

अक्टूबर २००८

MOTIVATIONAL STORY

अध्यापन

पंडित हजारी प्रसाद द्विवेदी जी से किसी ने प्रश्न किया—“एक अच्छे अध्यापक को किस प्रकार पढ़ाना चाहिए?” वे बोले—“अध्यापक को अपने छात्रों को अच्छी तरह समझना चाहिए एवं उन्हें प्रेम करना चाहिए। पढ़ाते समय छात्र को गूढ़ ज्ञान देना ठीक नहीं है। दूध में कुछ पानी मिलाने के समान ज्ञान के साथ-साथ किस्से, कहानी, कविता आदि सुनाकर छात्रों के मन को ज्ञान ग्रहण करने योग्य बनाना चाहिए।” सज्जन, द्विवेदी जी के कहे का मर्म समझ गए। उन्हें लगा कि अध्यापन का सही अर्थ यही है कि छात्र को लगे ही नहीं कि उसे ज्ञान दिया जा रहा है, बल्कि शिक्षक के आचरण से वह स्वतः ही ज्ञान को आत्मसात् कर ले।

जनवरी २०१८

DO YOU KNOW

1. Which of the following technologies is a public domain message passing system available on many multi-computers?

- A. Sub networking technology
- B. Simple networking
- C. Parallel virtual machine
- D. Separated networking

2. Which of the following technologies provides a highly virtualised cloud data centre located inside the company's firewall?

- A. Public cloud
- B. Private cloud
- C. System integrator
- D. Client server computing

3. Which of the following is a formal standard with a standardisation committee and an official document?

- A. MPI
- B. HTTP
- C. FTP
- D. TCP

4. Which of the following techniques is the fourth basic concept in message passing interface in which the processes can be arranged in a tree, ring, grid etc?

- A. Gateway
- B. Caching
- C. Stratification
- D. Virtual topology

5. Which of the following technologies does **not** deal with process creation or management as a parallel virtual machine does?

- A. Virtual machine technology
- B. MPI-1
- C. Net flow
- D. Distributed computing

6. Which of the following technologies abstracts the network into a generalised pool of network capacity?

- A. Network virtualisation
- B. Sub networking technology
- C. Separated networking
- D. Router

7. Which of the following technologies includes a set of 57 instructions resulting in increasing multimedia capabilities of a computer chip?

- A. CORBA
- B. AWT
- C. Shared networking
- D. MMX

8. Which of the following technologies is used to increase compute utilisation by pooling compute clusters?

- A. Sub networking technology
- B. Single networking
- C. VMware network virtualisation
- D. Client server computing

Answers:

1.C

2.B

3.A

4.D

5.B

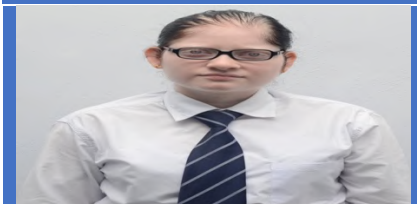
6.A

7.D

8.C

CONGRATULATIONS

The following student have been finally selected by Qspiders Incubation Team in the Virtual Campus Recruitment Drive held on 28th May, 2022:

	Name	Company
	KHUSHBOO	Qspiders Incubation Team