



THE TIMES OF INDIA

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**TODAY'S
EDITION**

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STUDENT EDITION

TUESDAY, SEPTEMBER 28, 2021


**PM MODI LAUNCHES
PRADHAN MANTRI
DIGITAL HEALTH
MISSION**


Prime Minister Narendra Modi, on Monday, launched the Pradhan Mantri Digital Health Mission (PM-DHM) via video conference.

- PM-DHM will create a seamless online platform through the provision of a wide-range of data, information and infrastructure services, duly leveraging open, interoperable, standards-based digital systems while ensuring the security, confidentiality and privacy of health-related personal information
 - The mission will enable access and exchange of longitudinal health records of citizens with their consent
- The key components of PM-DHM include a health ID for every citizen that will also work as their health account, to which personal health records can be linked and viewed with the help of a mobile application, a Healthcare Professionals Registry (HPR) and Healthcare Facilities Registries (HFR) that will act as a repository of all healthcare providers across both modern and traditional systems of medicine.

CBSE introduces Blockchain TO GO PAPERLESS, MAKE RESULTS TAMPER-PROOF

In a bid to go completely paperless and keep Board results secure and tamper-proof, the Central Board of Secondary Education (CBSE) has introduced 'Blockchain' technology. The CBSE Director of Information and Technology, Antriksh Johri, said, "Blockchain implementation has been done by CBSE. Earlier, we introduced Artificial Intelligence (AI) and Machine learning (ML) for affiliation systems. Here, the data is linked and stored with cryptographic security so that it is immutable and traceable." Johri further stated, "This will serve as a single source truthful data for verification for students going for higher education or employment."



- Blockchain technology records the data in a distributed ledger with the ownership of all participating stakeholders. The data is recorded in the chain based on the consensus among the stakeholders and simultaneously replicated at all the locations in the distributed network of Blockchain nodes
- This eliminates the dependency on a third party for verification. The data of the last three years, starting from 2019 has been recorded in this, and the other data of previous years will be uploaded gradually

In 2016, CBSE was the first to develop its own academic repository named 'Parinam Manjusha'



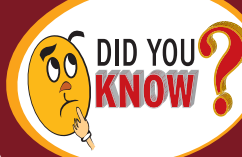
\$3.7 TRILLION SOCIAL COST OF PLASTIC; MORE THAN INDIA'S GDP!

According to the World Wild Fund (WWF), the pollution, emissions and clean-up costs of plastic produced in 2019 alone could be \$3.7 trillion. In the same year, India's GDP was at around \$2.87 trillion. The report, titled 'Plastics: The Cost to Society, Environment and the Economy', warns that unless urgent action is taken, these social costs for plastic produced in 2040 will rise to \$7.1 trillion – greater than the combined GDP of Germany, Canada and Australia in 2019. "Tragically, the plastic pollution crisis is showing no signs of slowing down," said Marco Lambertini, director-general of WWF International. If the status quo remains, we might end up with more plastic than fish way before 2050, he added.



By social or societal costs, the wildlife body means the pollution, emissions and clean-up costs of plastic pro-

Since the 1950s, roughly 8.3 billion metric tons of plastic have been produced. Nearly 60 per cent of that plastic finds its way into the landfills or the natural environment, and eventually, a bulk of that ends up in the oceans. While the plastic in the oceans finds its way into the turtles' guts, the plastic debris in the landfills is responsible for the deaths of more than a million seabirds and more than 100,000 marine mammals each year



VIEWPOINT

A law on front-of-pack labelling on packaged junk food?



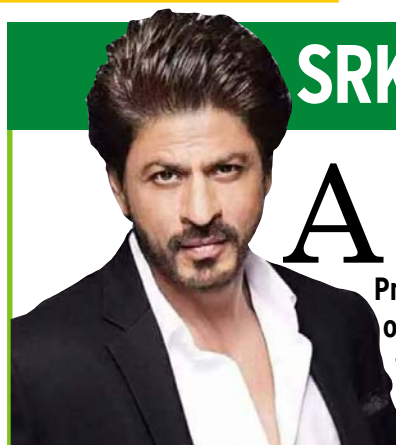
To help India fight obesity and diet-related non-communicable diseases (NCDs) epidemic, the Centre for Science and Environment (CSE) has called for a law on front-of-pack labelling to inform the consumers about the unhealthy packaged junk food, enabling them to make informed decisions about what they intake. "Countries are working to find ways to nudge the consumers into healthy food choices and to contain the growing crisis of obesity and diet-related NCDs such as diabetes, hypertension and heart ailments. It is a crisis that increasingly impacts children and also worsens the Covid-19 symptoms," said Sunita Narain, Director General, CSE.

The analysis underlined how even after seven years, four committees and two draft regulations, India still does not have the much-needed front-of-pack labelling law to warn the consumers about the harmful levels of fat, salt and sugar hiding in ultra-processed junk food.

- The analysis clearly enumerates how the draft thresholds – limits above which a product could be marked unhealthy – proposed by the FSSAI-constituted working group have suited the packaged food industry, as they were much relaxed than those proposed by the FSSAI in its earlier labelling drafts of 2018 and 2019 as well as those adopted by countries with best practices. The proposed thresholds have now been put on hold after most consumer organisations opposed them
- This working group was formed to look into the issue of thresholds following a CSE study in December 2019, which said that most popular packaged junk food have salt and fat content several times higher than the thresholds proposed by the FSSAI in its labelling drafts of 2018 and 2019. Therefore, they would have been marked 'red' as per the proposed law at that time.

Share your views at toinie175@gmail.com

SRK makes it to Indian Sign Language dictionary



Actor Shah Rukh Khan's name has been included among the 10,000 words in the Indian Sign Language (ISL) dictionary, which was launched by Prime Minister Narendra Modi recently. Deaflympics, online banking and carpooling are some of the words that have been newly-drafted into the digital dictionary of India's non-voiced lexicon.

One needs to hold the fingers of their right hand like a gun and tap on their heart twice to signify Shah Rukh Khan

TWITTER WILL ALLOW HOSTS TO ADD TOPICS TO SPACES

Micro-blogging site Twitter is set to add topics to Spaces for hosts to tag their Spaces with up to three relevant topics. "New in Spaces: Topics, when creating or scheduling a Space,

Currently, there are only 10 Topics to choose from limited to English. The initial 10 Topics are business, finance, music, sports, technology, gaming, world news, entertainment, arts-culture, home-family and careers



some of you on Android can choose up to 3 Topics to tag it with from a list of our top 10 Topics. But it's only 10 Topics for now and we'll expand as we build together," the company said in a tweet.

1 Twitter also started rolling out a new update to Spaces to allow hosts to designate up to two co-hosts for its social audio rooms

2 The update will make it easier for hosts of the audio space to help manage and

moderate conversations

3 Once invited, the co-hosts have almost all the same moderation and managing privileges as the main host, they can speak, invite other members of the room to speak, pin tweets, boot people from the room, and more

ONLINE TOI STUDENT EDITION

OMG! Oh My Gandhi! Gandhism for the present world

Happy Gandhi Jayanti 2 OCTOBER

WHAT WOULD GANDHI DO...

It's time to celebrate the Father of Our Nation. Join us as we wish him a very Happy Birthday and celebrate OG - the Original with an OMG!

We have known him as the Mahatma, a sadhu, a revolutionary, a lawyer, a Satyagrahi, a catalyst, and NOW...we get to know him as the New-Age Problem Solver.

From Wellness, Environment, Education, Global Politics, Fashion, Business, Management, Nutrition, Handlooms, and MORE - Gandhi can tackle it all.

ON THE WEBSITE Online Debate Session on Gandhi's relevance now where students can send us their videos: #OmMyGandhi challenge as students send one daily batch of Gandhi and report back. Reimagine Gandhi as Supreme as we invite them to send us their art, poem, essays on all things Gandhi.

COLLECTOR'S EDITION

MARK YOUR DATE OCTOBER 2, 2021

The celebration starts early on our website from Monday, September 27, 2021

AND MUCH, MUCH MORE

REVISE, MAKE A QUANTUM LEAP IN PHYSICS EXAM



CLASS: XII - 2020-21

SUBJECT:

PHYSICS (CBSE)

Time Allowed: 3 Hours

Maximum Marks: 70

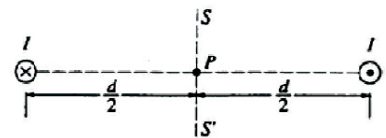
PAPER SET BY SUNITHA GUJJULA, PRINCIPAL, WESTBERRY SCHOOL, BHIMAVARAM, ANDHRA PRADESH

SECTION-A

All questions are compulsory. In case of internal choices, attempt any one of them.

Q1. An electron beam is moving vertically upwards. If it passes through a magnetic field directed from South to North in a horizontal plane, in what direction will the beam be deflected? [1]

Q2. Two long, parallel wires are separated by a distance d , as shown. One wire carries a steady current I into the plane of the page while the other wire carries a steady current I out of the page. At what points in the plane of the page and outside the wires, besides points at infinity, is the magnetic field due to the currents zero? Justify your answer. [1]



Q3. A strong bar magnet is held very close to the opening of a solenoid as shown in the diagram. As the magnet is moved away from the solenoid at constant speed, what is the direction of conventional current through the resistor? [1]

OR

Define capacitor reactance. Write its S.I. units?

Q4. Identify the part of the electromagnetic spectrum to which the following wavelengths belong: [1]

(i) 10^{-1} m (ii) 10^{-16} m

Q5. An electron and alpha particle have the same de Broglie wavelength associated with them. How are their kinetic energies related to each other? [1]

Q6. According to the Bohr Theory of the hydrogen atom, electrons starting in the 4th energy level and eventually ending up in the ground state, could produce a total of how many lines in the hydrogen spectra? [1]

Q7. In decay of free neutron, name the elementary particle emitted along with proton and electron in nuclear reaction. [1]

Q8. How does the width of a depletion region of a p-n junction vary if doping concentration is increased? [1]

OR

In half wave rectification, what is the output frequency if input frequency is 50 Hz.

Q9. Which specially fabricated p-n junction device is used for detecting light intensity? [1]

Q10. When a voltage drop across a p-n junction diode is increased from 0.50 V to 0.51 V, the change in the diode current is 9 mA. What is the dynamic resistance of diode? [1]

For question numbers 11, 12, 13 and 14, two statements are given-one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.

a) Both A and R are true and R is the correct explanation of A

b) Both A and R are true but R is NOT the correct explanation of A

c) A is true but R is false

d) A is false and R is also false

Q11. Assertion: The focal length of lens changes when red light is replaced by blue



light.

Reason: The focal length of lens does not depend on colour of light used.

Q12. Assertion: Propagation of light through an optical fiber is due to total internal reflection taking place at the core-clad interface.

Reason: Refractive index of material of core of optical fiber is greater than that of air.

Q13. Assertion: In bringing an electron towards a proton electrostatic potential energy of the system decreases.

Reason: Potential due to proton is negative.

Q14. Assertion: Two particles of same charge projected with different velocity normal to electric field experience same force

Reason: A charged particle experiences force, independent of velocity in electric field

SECTION-B (4 MARKS EACH)

Questions 15 and 16 are Case Study based questions and are compulsory. Attempt any 4 sub parts from each question. Each question carries 1 mark.

Q15. Suppose the parallel plates in the above Fig. each have an area of 0.2 m² and are 1 cm apart. We connect the capacitor to a power supply, charge it to a potential difference of 3 kV and disconnect the power supply. We then insert a sheet of insulating plastic material between the plates, completely filling the space between them. We find that the potential difference decreases to 1 kV while the charge on each capacitor plate remains constant.

1. The capacitance after the dielectric is inserted

a) 431 pF b) 531 pF c) 631 pF d) 731 pF

2. The dielectric constant of the dielectric

a) 1 b) 2 c) 3 d) 4

3. The original electric field between the plates

a) 1×10^5 V/m b) 2×10^5 V/m

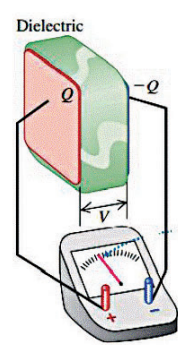
c) 3×10^5 V/m d) 4×10^5 V/m

4. The electric field after the dielectric is inserted.

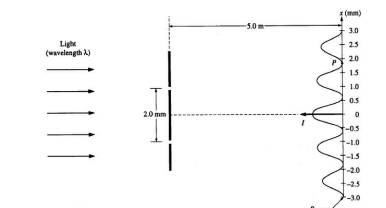
a) 1×10^5 V/m b) 2×10^5 V/m

c) 3×10^5 V/m d) 4×10^5 V/m

Q16. Coherent monochromatic light of wavelength λ in air is incident on two nar-



row slits, the centers of which are 2 mm apart, as shown below. The interference pattern observed on a screen 5 m away is represented in the figure by the graph of light intensity I as a function of position x on the screen.



1. At point P (1.8 mm) in the diagram, there is a minimum in the interference pattern. Determine the path difference between the light arriving at this point from the two slits.

a) 6.2×10^{-7} m b) 7.2×10^{-7} m

c) 8.2×10^{-7} m d) 9.2×10^{-7} m

2. Determine the wavelength, λ , of the light.

a) 1.8×10^{-7} m b) 2.8×10^{-7} m

c) 3.8×10^{-7} m d) 4.8×10^{-7} m

3. What is fringe width?

a) 1.2 mm b) 2.2 mm c) 3.3 mm d) 4.3 mm

4. What is fringe width if above experiment is performed in water having refractive index 1.3?

a) 0.8 mm b) 0.9 mm c) 1.6 mm d) 1.8 mm

SECTION-C (2 MARKS)

All questions are compulsory. In case of internal choices, attempt any one.

Q17. A square loop of wire 0.3 meter on a side carries a current of 2 amperes and is located in a uniform 0.05-tesla magnetic field. The left side of the loop is aligned along and attached to a fixed axis. When the plane of the loop is parallel to the magnetic field in the position shown, what is the magnitude of the torque exerted on the loop about the axis?

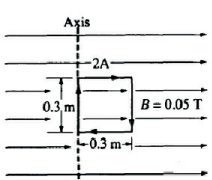
Q18. Obtain the expression for the potential energy of an electric dipole of dipole moment p placed in an electric field E .

OR

(i) Can two equi-potential surfaces intersect each other? Give reasons.

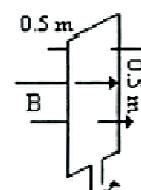
(ii) Two charges $-q$ and $+q$ are located at points A (0, 0, -a) and B(0, 0, +a) respectively. How much work is done in moving a test charge from point P(7, 0, 0) to Q(-3, 0, 0)?

Q19. Explain with help of circuit dia-



gram, the action of a forward biased p-n junction diode which emits spontaneous radiation. State the least band gap energy of this diode to have emission in visible region.

Q20. A square loop is placed in a uniform magnetic field perpendicular to the plane of the loop as shown. The loop is 0.50 meters on a side and the magnetic field B has a strength of 2 T. If the loop is rotated through an angle of 90° in 0.1 second what would be the average induced EMF in the loop?



Q21. In a single slit diffraction experiment, when a tiny circular obstacle is placed in the path of light from a distant source, a bright spot is seen at the centre of the shadow of the obstacle. Explain why? State two points of difference between the interference pattern obtained in Young's double slit experiment and the diffraction pattern due to a single slit.

Q22. Waves are produced by two point sources S and S' vibrating in phase. See the diagram. X represents the location of the 2nd dark fringe. The path difference SX - S'X is 4.5 cm. Then find the wavelength of the waves (approximately)

Q23. A ray of light, incident on an equilateral glass prism ($\mu = \sqrt{3}$) moves parallel to the base line of the prism inside it. Find the angle of incidence for this ray.

Q24. What happens to the resistance of a p-n junction when it is (i) forward biased, (ii) reverse biased?

Q25. (i) Name the three elements of the Earth's magnetic field.

(ii) Where on the surface of the Earth is the vertical component of the Earth's magnetic field zero?

SECTION-D (3 MARKS)

All questions are compulsory. In case of internal choices, attempt any one.

Q26. Using the postulates of Bohr's model of hydrogen atom, obtain an expression for the frequency of radiation emitted when atom make a transition from the higher energy state with quantum number n_i to the lower energy state with quantum number n_f ($n_f < n_i$).

Q27. Light of wavelength 2000 Å falls on a metal surface of work functions 4.2 eV. What is the kinetic energy (in eV) of the fastest electrons emitted from the surface?

(i) What will be the change in the energy of the emitted electrons if the intensity of light with same wavelength is doubled?

(ii) If the same light falls on another surface of work functions 6.5 eV, what will be the energy of emitted electrons?

Q28. A cell of emf \mathcal{E} and internal resistance r is connected across a variable load resistor R . Draw the plots of the terminal voltage V versus (i) R and (ii) the current I . It is found that when $R=4$ ohm, the current is 1 A and when R is increased to 9 ohm, the current reduces to 0.5 A. Find the values of the emf \mathcal{E} and internal resistance r .

OR

Explain the term 'drift velocity' of electrons in a conductor. Hence obtain the expression for the current through a conductor in terms of 'drift velocity'. From above expression obtain ohms law.

Q29. An inductor L of inductance XL is connected in series with a bulb B and an

ac source. How would brightness of the bulb change when

(i) number of turn in the inductor is reduced, (ii) an iron rod is inserted in the inductor and (iii) a capacitor of reactance $XC = XL$ is inserted in series in the circuit.

Justify your answer in each case.

Q30. a) Give one point of difference between nuclear fission and nuclear fusion. **b)** Suppose we consider fission of a ^{56}Fe into two equal fragments of ^{28}Al nucleus. Is the fission energetically possible? Justify your answer by working out Q value of the process. Given (m) ^{56}Fe = 55.93494 u and (m) ^{28}Al = 27.98191

SECTION-E (5 MARKS)

All questions are compulsory. In case of internal choices, attempt any one.

Q31. Draw a labelled ray diagram of a compound microscope and write an expression for its magnifying power. The focal length of the objective and eye-lens of a compound microscope are 2 cm, 6.25 cm respectively. The distance between the lenses is 15 cm.

(i) How far from the objective lens, will the object be kept, so as to obtain the final image at the near point of the eye? (ii) Also calculate its magnifying power.

OR

Draw a labelled ray diagram of an astronomical telescope, in the normal adjustment position and write the expression for its magnifying power. An astronomical telescope uses an objective lens of focal length 15 m and eye-lens of focal length 1 cm. What is the angular magnification of the telescope?

If this telescope is used to view moon, what is the diameter of the image of moon formed by the objective lens? (Diameter of moon = 3.5×10^6 m and radius of lunar orbit = 3.8×10^8 m).

Q32. Describe briefly, with the help of a labelled diagram, the basic elements of an AC generator. State its underlying principle. Show diagrammatically how an alternating emf is generated by a loop of wire rotating in a magnetic field. Write the expression for the instantaneous value of the emf induced in the rotating loop.

OR

A series LCR circuit is connected to an ac source having voltage $v = v_m \sin \omega t$. Derive the expression for the instantaneous current I and its phase relationship to the applied voltage. Obtain the condition for resonance to occur.

Draw the graph between current and applied frequency.

Q33. (a) Define electric flux. Write its S.I. units.

(b) Using Gauss's law, prove that the electric field at a point due to a uniformly charged infinite plane sheet is independent of the distance from it.

(c) How is the field directed if (i) the sheet is positively charged, (ii) negatively charged?

OR

(a) Define electric dipole moment. Is it a scalar or a vector? Derive the expression for the electric field of a dipole at a point on the equatorial plane of the dipole. (b) Draw the equipotential surfaces due to an electric dipole. Locate the points where the potential due to the dipole is zero.

These questions are meant for practice purpose only. Students are advised to check format, syllabus and marks for Board test papers with their teachers. Questions have been given by teachers and NIE is not responsible for them.

PLASMOLYSIS AND DEPLASMOLYSIS

MY SCHOOL PROJECT

Our school gave us the opportunity to showcase our scientific interests through experiments at the Science Fair. As Biology is a subject that interests me, I decided to perform an experiment on plasmolysis which refers to the shrinkage of the protoplasm of a plant cell from its cell wall due to exosmosis under the influence of hypertonic solution.

Plasmolysis can either be concave or convex. It is divided into three stages - incipient (initial stage), evident and final plasmolysis stage.

ABSTRACT

Onion peel undergoes plasmolysis under the influence of salt solution, and if the process is reversed, it will undergo deplasmolysis and get back its original structure.

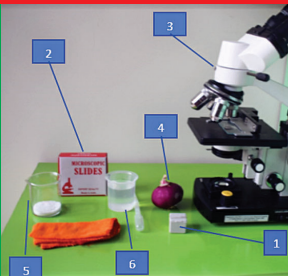
Therefore, the question is, how does onion behave in salt solution?

The variables are salt solution and water.

When onion comes in contact with salt solution (minimum 11 M concentration), the cell content should shrink to the bottom of the cell and revert if diluted.

LIST OF MATERIALS USED

1. Glass cover
2. Microscopic slides
3. Microscope
4. Onion peel
5. Sodium Chloride (Table salt)
6. Distilled water

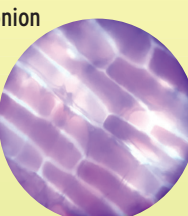


THE EXPERIMENT

1. Prepare a slide with an onion peel.
2. Place it under the microscope and note your observations (The higher the magnification, the better for you to observe the effects. The images in this report are at 2000x magnification).
3. Drop two to three drops of 11g of NaCl mixed in 100ml of water, on the slide. Use a filter paper to help the water seep into the onion peel by capillary movement. Now place this slide under the microscope.

OBSERVATION

Normal cells of an onion peel before adding the salt solution. The structure of the cells is defined and rectangular in shape.



NOTE:

No liquids or stains were used while preparing the onion peel slide.

Cells as observed after 10 minutes of placing the NaCl solution on the onion peel.



The onion peel has undergone concave plasmolysis. This is the process where the plasma membrane separates from the cell wall due to the formation of several concave pockets.

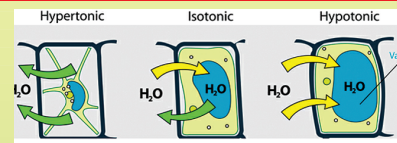
DEPLASMOLYSIS

Plasmolysis is reversible. This is deplasmolysis, where the cell structure can be reversed into its original shape and turgidity by placing it in a hypotonic solution (diluted NaCl solution).

Water enters the plasmolysed cell leading to the enlargement of the protoplasm into its original size.

CONCLUSION

Plasmolysis is the contraction of the cell membrane as a result of water loss from the cell.



WHAT'S NEXT?

Given the opportunity, I'd like to take this one step further and try to understand the impact of plasmolysis/deplasmolysis on the strength or life of the cell walls and its impact on the life of the plant.

Vreethi K, Class XI, DPS Whitefield, Bengaluru



CREATIVE IDEAS FLOW AT COMMERCE FORUM

Commerce Week celebrations at Delhi Public School, Nacharam, witnessed Senior Secondary students putting their heads together to come up with unique brainstorming sessions and creative presentations.

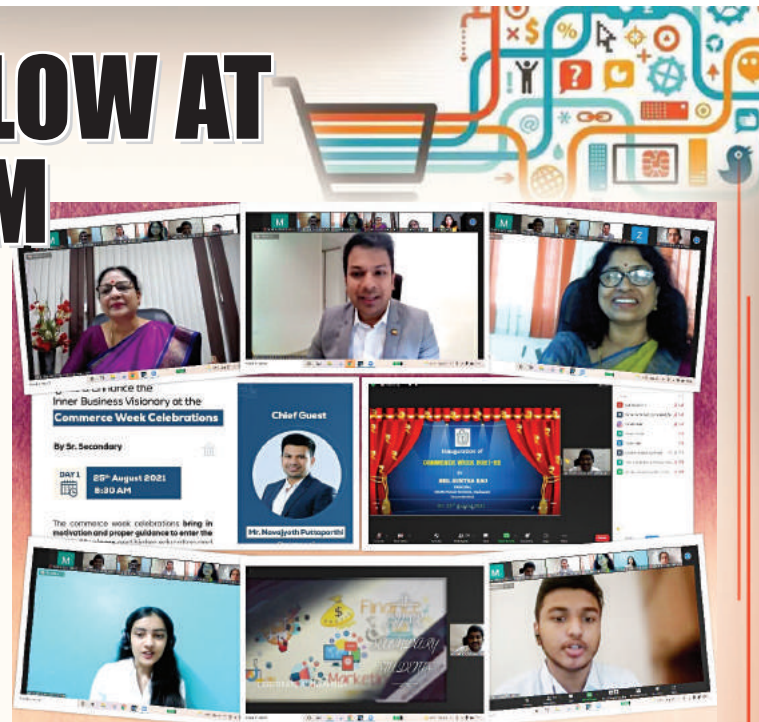
The programme was inaugurated by chief guest CS Navajyoth Puttaparthi, chairman of the ICSI chapter, Hyderabad, along with principal Sunitha Rao.

In the bipartite event on Day 1, Accounts Analytica included a series of creative role plays on accountancy in other disciplines and skits on financial analysis. It highlighted the system control checks which provided insights into auditing. The next, Econo Blogger, started off with a unique news report from a parallel world providing an interesting outlook on digitalization and its

**Delhi Public School
Nacharam**

transformation. Animated presentations on cashless economy and its global trend were demonstrated. A panel discussion on the need for wider acceptance of digitalisation gave the audience a reality check. A hilarious skit by class XII students and an absorbing street play enraptured the audience.

On the second day, students were engaged in a plethora of activities such as cartooning, business idea, Ad Mad, connecting dots, raise your mic and pioneering innovations. An invigorating address by chief guest Khushi Mehta, CEO of Learnero, ignited the innate business ideas in students. Students of class XII imparted a few lessons on networking along with the thrilling programme, Shark Tank.



The week culminated with a valediction ceremony where E-newsletter was unveiled by Sr Vice Principal Nandita Sunkara and Commerce coordinator Ajay Bharat Pandey. The principal congratulated

ed the entire commerce department for successfully conducting the event filled with informative and fun activities, leaving the students with a broader perspective and new-found knowledge.

Farmers and their struggle

**Saanvi Vaggu, class VIIIA,
Bharatiya Vidya Bhavans
Public School
Jubilee Hills**

Farmers are the backbone of our society. They are the ones who provide us with the food that we consume every day. The entire population of a nation is dependent on farmers. Hence, they should be given the most importance in society. But unfortunately, this does not happen as we see their dismal standard of living.

We can support farmers by buying the yield directly from him. The government and companies can share the latest technologies in the field

FARMERS DEAL WITH MANY PROBLEMS...

- Cope with climate change, soil erosion, and biodiversity loss
- Satisfy consumers' changing tastes and expectations
- Meet rising demand for more output of higher quality
- Invest in farm productivity
- Adopt and learn new technologies
- Stay resilient against global economic factors
- Inspire young people to stay in rural areas and become future farmers

with them. Farmers won't be dealing with any losses if we support them. Let's all pray for farmers to live the life they deserve.



A mission to save rivers

**Delhi World School
Chintal**

Students at Delhi World School, Chintal, motivated their peers to join the mission to save rivers with their chart presentation.

The fourth Sunday of every September is celebrated as World Rivers Day. It is a celebration of the world's waterways. Rivers in every country face an array of threats, and only through our active involvement can we ensure their health in the years ahead.

The observation of World Rivers Day (WRD) was proposed by Mark Angelo, the internationally renowned river advocate. The first World Rivers Day was celebrated in 2005 and it turned out to be a great success. This year's theme is "Rights of Rivers". To create awareness on the need to improve and protect rivers, students conducted an

awareness programme during the morning assembly where they communicated the importance and conservation of rivers. School Principal Sujatha Sayana appreciated the efforts of the students and asked them to make conscious efforts to save water and thereby save our planet.



LET'S FIGHT TOGETHER

Today, the world is united under one banner
Today, we hear protests in a single manner,
Against injustice is our fight
Not just to show our might.
Together we shall fight this calamity,
To deliver us justice,
peace and prosperity
Let's choose right over wrong
And make the world stand firm and strong.



BHAVYANTH CHINNI, class X A, Global Edge School

SOBORNO ISAAC BARI INSPIRING ICONS

The wonder kid

The young professor Soborno Isaac Bari is always my inspiration. He has proved that age is never a barrier and if you are talented and have potential nothing can stop you from reaching the pinnacle of success.

This child prodigy who is just 8-year-old is a professor and teaches mathematics and physics. He is one of the youngest professor worldwide is often called as Einstein of this era. He had interest in mathematics right from the age of 2. Once he said if $1+1=2$ then $n+n=2n$ which left his parents surprised as they had not taught him this.

It was after that they started giving him mathematics exercise regularly and he would solve all of them with great ease. He has been named as Soborno Isaac Bari after Sir Isaac Newton. He has won Global Child Prodigy Award in the year 2020 and he was top

"Believe in yourself
and you can do
unbelievable things"



among the 100 child prodigies in that year. This little boy works as a Professor at MIT and teaches Physics and Maths. He has also authored a book which aims to spread happiness and peace.

Soborno has also planned to write books on mathematics because he feels that 20 percentage of World's population has maths anxiety. This little boy made me realize that all of us have hidden potential and we just need to believe in our abilities and find out what we are good at.



SARIKA.M, class VIII, CMS Matric HSS, Coimbatore

IT'S RED COLOUR DAY

**Ushakiran, Pre-Primary
Mentor, Gitanjali
International School
Hyderabad**



The Pre-Primary students of Gitanjali International School celebrated Red Colour Day which turned out to be a wonderful learning process.

Activities like painting, crumpling and pasting as well as a preparing a yummy salad with red colour fruits entertained as well as informed them about the colour red. Red is a primary colour that signifies love and compassion.

The teacher, principal, and all the students were dressed in red attire. The objective was to develop awareness, observation, and classify objects in the environment by colour.

INSTRUCTIONS

1. Lie down on your back comfortably on a yoga mat. Look straight in the upward direction.
2. Fold both of your legs and bend them down below your buttock, making your sole touch the ground. Keep the feet and knees at least 30 cm apart.
3. Place both of your hands beside your head and keep them beneath your shoulders in a way that the fingers turn towards the legs.
4. Take a long, deep breath and slowly start raising your body.
5. Arch your back while raising the body supporting the weight of your upper body on the back and top of your head.
6. Lift your head and trunk from the ground and straighten your hands and legs as much as possible.
7. Arch the back as high as possible but do not strain. The neck should be relaxed.
8. Lift the heels and balance on foot, fingers and hands for some seconds and slowly lower the heels.
9. Stay in this posture while breathing normally for as long as you feel comfortable and return to the floor slowly while exhaling. Slowly lower the body to the floor

Chakrasana

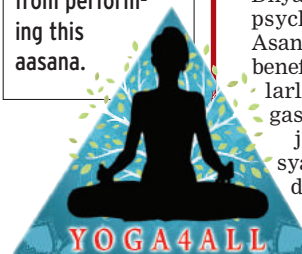
Chakrasana is also called a full wheel pose or upward bow pose. It gets its name from the Sanskrit words, Chakra, meaning wheel, and asana, meaning posture.

BENEFITS

1. It helps in expanding the chest that in turn provides more oxygen to the lungs
2. Reduces stress and tension in the body
3. Sharpens the eyesight

PRECAUTIONS

People with heart ailments, weak arms or wrists should refrain from performing this asana.



Physical Education Department,
Lakshmipat Singhania Academy, Kolkata

Yoga should be practiced under the supervision of Yoga Guru. The views expressed in the above article are those of the authors and the newspaper takes no responsibility for it.

Yoga, the best medicine

Yoga clearly states that 'Your Body is Your Medicine.' Yes, it's true. Yoga is a tool that helps us deal with our physiological and psychological issues.

Asanas improve our physiological well being while Pranayama and Dhyana help us deal with psychological issues. Asanas that have multiple benefits if practiced regularly include Sarvangasana, Halasana, Bhujangasana, Matsyasana, Arda Mastendrasana and Paschimotanasana. Respiratory problems, indigestion, insomnia, Pcod and stress can be

**Chandana, Yoga teacher,
Sister Nivedita School**

addressed by these asanas. Suryanamaskaras are best for relieving stress, but we need to be regular as we can feel the flow of Prana and the mind will certainly be relaxed.

In this digital era, we must take utmost care of our eyes. Practice of eye exercises regularly makes them healthy as well as more attractive and expressive.

Always focus on your breathing during any asana. Let us practice these exercises regularly and be healthy.



Painters' Gallery

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HEALTH FIRST: SURABOYEENA REYANSH RAJ, class IV D, Little Flower High School, Abids



MYSTIC: VARUNIKA, class V Colombia, Silveroaks Mighty Oak Campus, Hyderabad



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DC EYE PLAY-OFF BERTH

Have their nose ahead against KKR as they aim for maiden title triumph

A dominant Delhi Capitals will fancy their chances of securing a play-off berth when they face Kolkata Knight Riders in the Indian Premier League at Sharjah on Tuesday.

A cloud of uncertainty over KKR's injured all-rounder Andre Russell's participation gives Delhi more reasons to feel optimistic ahead of their afternoon match at the Sharjah Cricket Stadium.

DC on a roll

Eyeing a maiden title triumph, DC are on a roll having dominated most of their opponents with an aggressive brand of cricket this season, and look pretty confident of not just making the play-offs but also doing one better than last year when they lost to Mumbai Indians in the summit showdown. DC are placed second in the pecking order with eight wins and 16 points from 10 outings, while two-time winners KKR find themselves in the fourth position with four wins and six defeats.

While the Delhi Capitals are coming off a crushing win over Rajasthan Royals in the previous outing, KKR will enter the game after having suffered a reversal at the hands of Chennai Super Kings, despite setting a stiff target of 172 on Abu Dhabi's big ground. KKR missed Russell towards the end after he walked off the field with a hamstring problem, having



bowled three decent overs.

In his absence, Prasidh Krishna was given the responsibility of bowling the 19th over and even though he has impressed with his death bowling in the past, he had no answer to a marauding Ravindra Jadeja on Sunday.

Kuldeep Yadav sustains knee injury

Left arm wrist spinner Kuldeep Yadav has sustained a serious knee injury and is likely to miss most of the domestic season, having already come back to India with his IPL campaign in the UAE cut short. The out-of-favour India international who was with Kolkata Knight Riders is expected to go through a long rehabilitation process before attempting a comeback to competitive cricket.

"There was no chance that he could have taken any further part and was sent back to India," a senior BCCI official said.

KKR have task cut out

Up against one of the in-form teams of this edition, KKR will have their task cut out when they take to the field against DC. Eoin Morgan and his team know there will be very little margin for error as they head into a game which is more crucial from their point of view as far as keeping their play-offs prospects are concerned.

KKR will have to deliver on all fronts if they are to challenge the might of Delhi Capitals, who are led by the dynamic Rishabh Pant and flooded at the moment with in-form players. The likes of Morgan, Dinesh Karthik, Nitish Rana, Venkatesh Iyer and Shubman Gill will have to fire in unison to ensure that the team is able to compete in batting. Rahul Tripathi will enter the game with some confidence, having top-scored with a brisk 45 against CSK. Then, the bowlers will have to stick to the plans.

DC, on the other hand, are sitting pretty at the moment. They put up a stellar display to beat Rajasthan Royals in the last outing and going by their form, DC are likely to continue in the same vein. The likes of Pant, Shreyas Iyer, Shikhar Dhawan, Prithvi Shaw and Shimron Hetmyer form a very formidable group with the bat.

While in bowling, the guile of spin duo Ravichandran Ashwin and Axar Patel is being complemented well by the pace and bounce of Anrich Nortje, Kagiso Rabada and Avesh Khan.

Ravichandran Ashwin

TIME RUNNING OUT FOR STRUGGLING MI

Inconsistent Punjab Kings back to winning ways, but cannot take it easy

On a slippery slope after a hat-trick of losses, defending champions Mumbai Indians will need their famed top-order batting to fire and turn things around when they take on Punjab Kings in the IPL in Abu Dhabi on Tuesday.

Time is running out for Mumbai after they lost all the three games post the resumption of the IPL in the UAE, slipping to the seventh spot with 8 points from 10 games. While the five-time champions faltered in their run-chase against Chennai Super Kings and Royal Challengers Bangalore, the team couldn't defend its total against Kolkata Knight Riders.

MI form a worry

MI's batting has been a major worry for the franchise as their mainstays with the willow, including Suryakumar Yadav and Ishan Kishan, have been struggling for runs. Skipper Rohit Sharma scored 33 and 43 in the last two games but couldn't capitalise on the starts. After being left out of the first two games due to fitness issues, Hardik Pandya was included in the playing XI against RCB, but his stay was short-lived.

The form of these players, who are also part of the Indian squad for the upcoming T20 World Cup, is a worrying sign not only for the franchise but also for the country's campaign in the showpiece event, which will be held in the UAE and Oman after the IPL.

In bowling, Jasprit Bumrah has consistently delivered, returning with 8



wickets so far in the last three matches, while fellow pacers Trent Boult and Adam Milne too have contributed with 3 scalps each. But the spin duo of Rahul Chahar and Krunal Pandya has disappointed and will need to step up their performance if MI are to qualify for the knockout stage.

Punjab can't afford slip-ups

Punjab, on the other hand, are placed in the fifth spot after returning to winning

I think that hunger is going to be very important for us going forward and we got to believe it, this team has done it in the past, so there is no reason why we can't do it
MI director of operation
ZAHEER KHAN

ways in their last game against Sunrisers Hyderabad following a splendid performance from the bowlers, who made up for the team's below-par batting display. With 8 points from 10 games, just like MI, Punjab too can't afford any slip-up.

Punjab boast of some excellent Indian and foreign talent, and yet, they have regularly messed up games, and are one of the most inconsistent teams in the league. After failing to score 4 runs in the final over against Rajasthan Royals, the Mohali-based team made three changes in their previous game and it will look to continue with the winning combination after making too many changes over the last 14 seasons.

Batters unable to read conditions

Punjab possesses a formidable batting lineup with skipper KL Rahul and Mayank Agarwal scoring the bulk of the runs at the top of the order. With the ageless Chris Gayle, Aiden Markram and Nicholas Pooran also in the ranks, Punjab do have the firepower in batting to blow away any attack. However, Punjab's batters couldn't adjust to the slow conditions at Sharjah in their last game, prompting skipper Rahul to ask them to learn to bat according to the surface.

In the bowling department, Mohammed Shami and young Arshdeep Singh have shone the brightest, while spinner Ravi Bishnoi grabbed the opportunity with both hands as he returned with three wickets after his inclusion in the last game.

Rohit Sharma