THE TIMES OF INDIA

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TODAY'S EDITION

➤ How much do you know about 'The Merchant of Venice'? Check out our quiz on the Bard's play **PAGE 2**

➤ Yoga asanas you should know to keep your mind and body fit **PAGE 3**

➤ How have the Indian contingent fared so far at the Tokyo Olympics? Who is leading the medal tally? Read more about Tokyo 2020 **PAGE 4**

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TOKYO TALES

MUKESH AMBANI

The Chairman of Reliance Industries shares his optimism on how India at 100 could be as rich as US and China, and how we can make the next 30 years the best in India's history...

Celeb talk

ON INDIA'S CAPABILITY

Destiny and Drive are making the 21st century's favourite nation ready for a great leap forward. India stands at the doorstep of prosperity that is both significant and inclusive, and of delivering all-round human development through the democratic route. With faith in our potential, confidence in our collective capabilities, and unity in action, we can exceed the world's expectations.

ON INDIA'S GROWTH CHART

India's GDP of $266 billion in 1991 has grown by over 10 times. Our economy has become the fifth-largest in the world. Poverty rates have halved despite population rising from 880 million to 1.38 billion. Key infrastructure has improved beyond recognition. Our expressways, airports and ports are now world-class, and so are many of our industries and services. No young Indian today would believe that people had to wait for years to get a telephone or a gas connection, or that businesses had to to seek government's permission to buy a computer.

On how to make India at par with US and China

1 The Indian model of development should focus on **creating wealth for the people at the bottom of the economic pyramid.** Nations become prosperous when they expand their markets and ascend steadily on the value chain, inclusively

2 India now has an opportunity to lead the Fourth Industrial Revolution. By speedily deploying its technologies, **our entrepreneurs can achieve quantum increases in productivity and efficiency. This will transform not only our large industries and services, but also**

agriculture, MSMEs, construction, renewable energy, arts and crafts, etc. These are precisely the areas with the highest potential to create large-scale employment, which is India's most pressing need.

3 To turn these exciting possibilities into realities, **India should become a nation of innovators.** Traditionally, India has been highly-innovative in low-tech activities. Now, we have to replicate this prowess using hi-tech tools so that they become facilitators of faster growth. Innovation will help our entrepreneurs provide high-quality, yet extremely

affordable, services and solutions to meet India's needs.

4 We need to change our understanding of **wealth and the ways to pursue it** and bring them in alignment with India's ancient wisdom rooted in the primacy of empathy.

5 The Indian model of wealth creation **requires reconceptualisation of entrepreneurship itself.** Tomorrow's successful businesses will be partnerships and platforms, which promote both healthy competition and fruitful collaboration.

SHARATH KAMAL REACHES THIRD ROUND WITH HARD-FOUGHT WIN

Achanta **Sharath Kamal** reached the third round of the men's singles table tennis competition, fighting back from a game down to beat Tiago Apolonia of Portugal 4-2 in 49 minutes. The Indian, playing in his fourth Olympics, runs into reigning Olympic and world champion Ma Long of China, the top seed, in the third round.

BHAVANI DEVI'S CAMPAIGN ENDS WITH LOSS IN SECOND ROUND

CA Bhavani Devi, the first Indian fencer, to win a round at the Olympics, went out with her head held high as she fought well against France's Manon Brunet 7-15 in a Round of 32 match of the women's individual sabre competition.

MEN'S ARCHERY TEAM REACH QUARTER FINALS

The Indian men's archery team reached the quarterfinals beating Kazakhstan 6-2. The Indian team of Atanu Das, Pravin Jadhav and seasoned Tarundeep Rai defeated the Kazakhstan team of Denis Gankin, Ilfat Abdullin and Sanzhar Mussayev in a close encounter in which all four sets were decided by a single point. They will now meet top seeds South Korea in the next round.

SANTHOSH GEORGE KULANGARA

INDIA'S FIRST SPACE TOURIST

Spotlight

1 Santhosh George Kulangara is set to become India's first space tourist, having booked his seat back in 2007 in one of the proposed paid commercial space flights to be launched by Richard Branson's Virgin Galactic. The globetrotter is really pumped up about his journey, following the space trips made by Branson and Amazon founder Jeff Bezos earlier this month.

2 Santhosh had booked his seat for $2.5 lakh at a time when people knew little about the project. ''Commercial space flights were just a distant hope at that time. But I have been waiting since then,'' he says.

3 He plans to carry a camera along with him to space.

4 Santhosh owns a publishing house named Labour India and an exploration channel Safari TV based out of his native town Marangattupally in Kottayam.

HEAVIEST RAINFALL IN 1,000 YEARS INUNDATE CHINA

The death toll from the rain-triggered unprecedented floods in central China has risen to 56, with five people reported missing and the official estimated losses totalled about $10 billion.

EXTREME WEATHER ACROSS MANY PARTS OF THE GLOBE HAS RENEWED FOCUS ON CLIMATE CHANGE
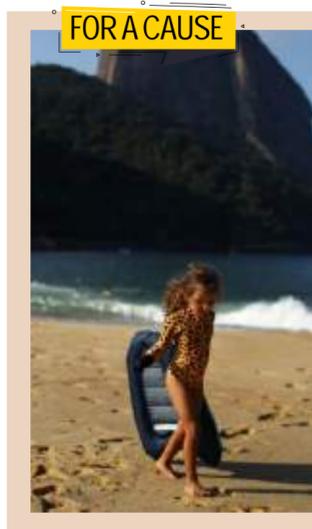
THE LIST OF EXTREMES IN JUST THE LAST FEW WEEKS HAS BEEN STARTLING:
■ Unprecedented rains, followed by deadly flooding in central China and Europe
■ Temperatures of 49 Celsius in Canada, and tropical heat in Finland and Ireland
■ The Siberian tundra ablaze. Monstrous US wildfires, along with record drought across the US West and parts of Brazil

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Meet 4-yr-old Nina Gomes whose mission is to clear plastic waste from the ocean

FOR A CAUSE

Nina Gomes is no average environmentalist. Just 4 years old, she picks trash with her father from the water along the beaches of Rio de Janeiro. "She is already a mini-defender of the ocean," her father said. With Nina in tow, Gomes sets out on a paddleboard into the picturesque but polluted waters of Rio's Guanabara Bay, where she grabs plastic bottles and bags and puts them in a mesh net. Asked why she collects waste from the sea, she says: "Because (otherwise) fish and turtles die." Gomes hopes that Nina's example will serve to inspire love and empathy, and also help break public apathy that surrounds environmental protection in Brazil.

Gomes, who made a film in 2017 about the underwater world of Guanabara Bay, was inspired by the birth of his daughter to start Instituto Mar Urbano, a Rio-based group dedicated to fighting marine disasters. Studies by Brazil's Chico Mendes Institute for Biodiversity Conservation found that there were upwards of 400 distinct species of birds, fish, reptiles and mammals that live within or in the periphery of Guanabara Bay. Thousands of Rio residents also rely on the bay to support their livelihoods through fishing. More than 10 million people live in the areas surrounding the bay.
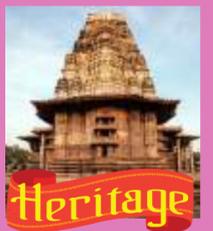
DID YOU KNOW?
Eleven million tons of plastic are discarded into the ocean every year, according to the United Nations Environment Programme. Plastic debris can be deadly to seabirds and marine life, with hundreds and thousands of marine mammals dying each year by consuming or being trapped in plastic waste

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IN OTHER NEWS

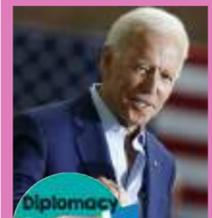### Telangana's Ramappa temple conferred UNESCO heritage tag

The Ramappa temple at Palampet in Telangana's Warangal has been conferred the tag of UNESCO World Heritage site, the culture ministry said. Ramappa temple, a 13th century engineering marvel named after its architect, Ramappa, was proposed by the government as its only nomination for the UNESCO World Heritage site tag for the year 2019.

Heritage

US won't mediate in Indo-Pak issues: Biden administration

The Biden administration, ahead of US Secretary of State Antony Blinken's India visit, has made it clear that it would not mediate between India and Pakistan. The US is "pleased to see" that the ceasefire that went into place earlier this year has remained intact, the White House said, adding: "We always encourage them to continue their efforts to find ways to build a more stable relationship going forward." During the Trump years, the President himself had offered to mediate between India and Pakistan on more than one occasion.

Diplomacy

Education minister Dharmendra Pradhan launches 'Nadi ko Jano' app

Education minister Dharmendra Pradhan launched the 'Nadi ko Jano' app on Sunday, an app that would help the users to gather information about rivers across India. The initiative, a part of the research for the Resurrection Foundation, will help in collecting water level and pollution level of the rivers.

Education

02

You don't have to see the whole staircase. Just take the first step.
-Martin Luther King Jr

FOCUS. LEARN. MASTER

TUESDAY, JULY 27, 2021

ALL'S WELL THAT ENDS WELL?

THE MERCHANT OF VENICE: A FITTING FINALE

Act V of 'The Merchant of Venice' has made a comeback. Choose correctly to complete these statements.

1 'I am the unhappy subject of these quarrels,' says
A. Antonio B. Bassanio C. Gratiano D. Lorenzo

2 Not mentioned here is
A. Crow B. Hawk C. Lark D. Wren

3 'The man that hath no music in himself' is not fit for
A. Spoils B. Stratagems C. Tensions D. Treasons

4 'A good deed in a naughty world' shines like a
A. Candle B. Fire C. Lamp D. Torch

5 Portia's return is announced by
A. Balthazar B. Nerissa C. Jessica D. Stephano

6 'Enchanted herbs' were gathered by
A. Medea B. Medusa C. Menippe D. Merope

7 Engraved on Gratiano's ring is
A. Lack B. Last C. Leave D. Learn

8 The wife in 'You give your wife too unkind a cause of grief' is

9 Nerissa does him wrong, swears Gratiano by the
A. Moon B. Sun C. Earth D. Stars

A. Portia B. Leah C. Nerissa D. Jessica

10 Bassanio's arrival is announced by a
A. Cittern B. Cornett C. Tabor D. Trumpet

11 Something with 'sweet power' to effect transformation is
A. Magic B. Memory C. Marriage D. Music

12 The last word of the play is
A. Casket B. Ring C. Letter D. Ducat

ANSWERS:	
12) B. Ring	11) D. Music
10) D. Trumpet	9) A. Moon
8) C. Nerissa	7) C. Leave
6) A. Medea	5) D. Stephano
4) A. Candle	3) C. Tensions
2) B. Hawk	1) A. Antonio

After the climax of the casket saga and the courtroom drama, we follow the adventures of Shakespeare's characters to their colourful conclusion.

Lorenzo and Jessica meditate on music in the moonlight, before the merry muddle of the rings. Antonio's wealth is restored. He is what he was at the start: the rich and respected titular protagonist of the play. Let us not forget Shylock, who has departed earlier. Forced to renounce fortune and faith, he would endorse a line in 'King Lear': 'All is cheerless, dark and deadly.'

Suryakumari Dennison, Teacher, Aavishkar Academy, Bengaluru

YOU CAN ACE THE BOARDS!

Preparing for Boards can be stressful, more so during these unsettling pandemic times. The fear of exams can often cause anxiety and pressure. But with the right measures we can score good grades without overburdening ourselves. Sharing a few tricks I practice...

PLAN YOUR DAY
Plan your day in advance. You can create a vision board or time-table regarding the subjects you want to learn that day. This can help you keep track of how much portions you have completed that day and also how much more you need to finish.

JOT DOWN MAIN POINTS
Read the text book at least a few times till the points are clear in your mind and underline the important points for revision just before the examination.

TAKE RUNNING NOTES
Take running notes in between the online classes and while reading the textbook. It boosts your focus and the notes can be used for revision when exams near.

SHORT BREAKS, A MUST
Taking small breaks after studying each chapter or subject is necessary to refresh your mind and keep yourself focused.

SOLVE PREVIOUS PAPERS
Solve question papers of previous years. This can help boost your confidence and refine the concepts, besides time management. And of course, it is important to stay healthy and hydrated. Do not overload yourselves. Take nutritious food in adequate proportions and use your time wisely. We can do it!

Nandana Sajan, class X, MGM Central Public School, Thiruvananthapuram
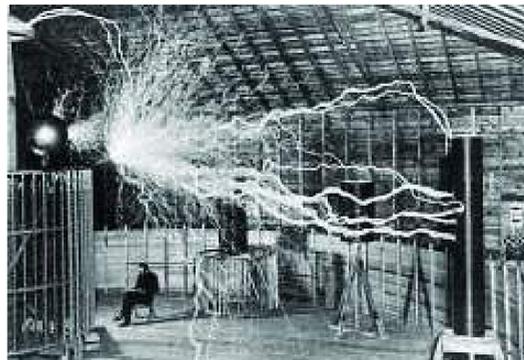

TESLA - A DIVINE GIFT TO MANKIND

Invention is the most important product of man's creative brain. The ultimate purpose is the complete mastery of mind over the material world, the harnessing of human nature to human needs" -Nikola Tesla

TESLA - This five letter word has revolutionised the world of technology. I would like to share with you all about one of the world's greatest scientist and inventor. Nikola Tesla who was born on July 10, 1856, discovered and patented the rotating magnetic field which is the main basis of Alternating Current machinery. He also developed a three-phase system of electric power transmission.

Gradually he mastered and invented the Tesla coil, induction coil which is widely used in radio technology. In Graz (Austria), he attended a technical university and observed the Dynamo which was operated as a generator and when reversed, became an electric motor. Looking at that, he conceived a way to use alternating current. That's when he made the first induction coil and was successful in utilising alternating current.

In fact the radio and television sets we are enjoying now contains a Tesla coil invented by him. To prove his point, he even lit up a lamp in his laboratory by passing electricity through his body. This shows his thirst towards bringing a change in the world. He also proved that the Earth could be used as a conductor and made to resonate at a certain frequency. His work was extended to turbines, but due to financial crisis, his ideas mostly remained in book.

We can only imagine what the world would look like, if he were to exist in this modern era.

Let's all pay tribute to one of the outstanding intellects of the world who paved the way for many technological developments of modern times. No awards would match his paranormal intelligence!

K Phani Madhuri, Physical Science Faculty, DAV Public School, Dr.N.T.T.P.S, Vijayawada

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Instant Human Height Detector

The height of a person has always been measured by measuring tapes, be it at home, hospitals or at competitions. My project provides an alternative and accurate means of measurement, the Instant Human Height Detector gadget. It is based on Arduino programming and has sensors that emit ultrasonic waves. The body of the gadget is a simple mobile phone box. This contains the robotic components. Thus, the phone box (which would have been eventually thrown) went into good use. This idea of a non-contact height detector could be commercialised as well.

THE IDEA
Having done a three-year course in robotics, I have gained valuable knowledge in this area. With the knowledge of coding and robotic components, and some spare parts lying at home, the idea was almost spontaneous. All I wanted to do was to make something new, and it came out in the form of a non-contact height detector based on ultrasonic rays.

THE WORKING
The device is simple to operate. I have attached a battery with a battery clip to use as a switch, but it can be replaced with a toggle switch as well.

Once the power is on, the sensors automatically detect the height of the human/object and a screen displays the height in cm. In these pandemic times, we must avoid physical contact. This gadget measures height with zero contact, as the measuring tapes are replaced with invisible, ultrasonic vibrations.
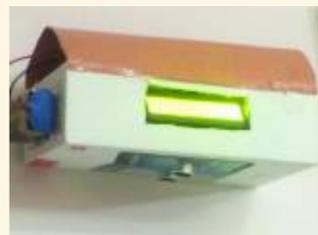
THE TECHNOLOGY
I used the properties of ultrasound waves to build this gadget. Ultrasounds are beyond the range of human hearing. The gadget is kept at a measured height from the ground, say 6 feet (6 feet = 182.88 cm). The speed of the rays are known, which is actually 0.34 cm/sec. As distance = speed*time, it calculates the distance between itself and the object using this formula.

But here, the time is the total time taken for the rays to travel to the object and then back to the sensor. Hence, the time duration must be divided by 2 to get the time taken for one journey along the distance. Thus, the formula it uses to calculate the distance between it and the object is distance = speed*time/2. It then subtracts this distance from 6 feet (the total distance between the gadget and the ground) to get the height of the object.

Therefore,
(Height of object) = (distance between gadget and ground) - (speed of rays)*(time taken/2)

THE CONCEPT
The device uses the concept of different frequencies of sound vibrations and their reflection after hitting a surface. In the gadget, the ultrasound waves travel at high frequencies on emission and bounce back to the sensor after striking a surface. We can't hear these sound vibrations, as they are above the human hearing range (20 Hz - 20000 Hz).

THE LEARNING
This device shows how ultrasound waves can be used to measure distances to far extents, while also giving the result instantly. We can apply science and technology to solve day-to-day problems.

Aarav Barnwal, class IX, Delhi Public School East, Bengaluru

THE COMPONENTS
● Arduino programming board (which contains the code of the working of the gadget)
● A breadboard (which eases the work of setting up the wires to different components)
● An ultrasonic sensor (which emits ultrasonic rays)
● An LCD screen (a Liquid Crystal Display screen that displays the height that the gadget calculates)
● Jumper wires (wires with connector pins at the ends)
● A Duracell 9V battery (as the power source)
● Everything is well packaged inside the smartphone box.