



THE TIMES OF INDIA

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We are back with the sample papers! This week we bring you chem & physics

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STUDENT EDITION

FRIDAY, JANUARY 8, 2021



WEB EDITION

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Capitol attack 'shakes the world'



As an angry mob stormed the heart of the world's most powerful democracy to overturn the electoral verdict, the rest of the world watched the once-unimaginable scenes unfolding in Washington with dismay and disbelief — and concern about what the turmoil could mean, as authoritarian forces gain strength around the globe. It has also prompted calls by a few lawmakers to remove Donald Trump from office before the President-elect Joe Biden is sworn in on Jan. 20.

At this hour, our democracy is under an unprecedented assault. To storm the Capitol, to smash windows, to occupy offices, the floor of the US Senate... threatening the safety of the duly-elected officials...it's not a protest, it's an insurrection
JOE BIDEN, President-elect, US

The attack on the Capitol, coming less than a day after the Hong Kong police arrested more than 50 democracy activists, is being seen as a blow to America's global credibility on advocating liberal values, which would make it harder for the US to hold to account the authoritarian leaders around the world

THE WORLD REACTS

Peaceful transfer of power must continue. The democratic process cannot be allowed to be subverted through unlawful protests
NARENDRA MODI, PM, India

The US stands for democracy around the world, and it is vital that there should be a peaceful and orderly transfer of power
BORIS JOHNSON, PM, UK

We will not give in to the violence of a few, who want to question democracy
EMMANUEL MACRON, President, France

X-PLAINED

CAN TRUMP BE REMOVED BEFORE HIS TERM ENDS?

There are two ways to remove the president from office: the 25th Amendment of the US Constitution and impeachment, followed by a Senate conviction. In either scenario, vice president Mike Pence would take over until Biden's inauguration.

WHAT'S THE PURPOSE OF THE 25TH AMENDMENT? The 25th Amendment, ratified in 1967 and adopted in the wake of President John F. Kennedy's assassination

in 1963, deals with presidential succession and disability. Section 4 addresses situations where a president is unable to do the job but does not step down voluntarily.

HOW CAN TRUMP BE REMOVED? For the 25th Amendment to be invoked, Pence and the majority of Trump's Cabinet would need to declare that Trump is unable to perform the duties of the presidency and remove him.

2021 GRAMMY AWARDS RESCHEDULED TO MARCH DUE TO PANDEMIC CONDITIONS

The 2021 Grammy Awards will no longer take place this month in Los Angeles and will broadcast in March due to a recent surge in coronavirus cases and deaths. According to reports, the annual show has been postponed from its original Jan 31 broadcast to a later date in March.



MUSIC

- Comedian Trevor Noah is set to host the 2021 Grammys. Pop singer Beyonce is a leading contender with nine nominations
- Beyonce's 'Black Is King,' which aired on Disney+, is nominated for the best music film, while 'Brown Skin Girl,' a song dedicated to dark- and brown-skinned women, is nominated for the best music video
- Her daughter Blue Ivy Carter, who sings on 'Brown Skin Girl,' has also earned a Grammy nomination



INDIA'S ECONOMY SHRANK 9.6% IN 2020-21, CAN RISE WITH VACCINE TO 5.4% NEXT FISCAL: WORLD BANK

India's economy battered by the Covid-19 pandemic is forecast to crater by 9.6 per cent during the current financial year but can recover by 5.4 per cent next financial year, if there is wide vaccination against the disease and it is contained, the World Bank reported on Tuesday.

MODI 'EARNED AND ACHIEVED' HIS PRIME MINISTERSHIP: PRANAB

The decisive mandate the BJP got in two consecutive general elections in 2014 and 2019 indicated the voters' preference for political stability, according to former president Pranab Mukherjee, who said Narendra Modi "earned and achieved" the prime ministership. In his memoir, The Presidential Years,

2012-2017, Mukherjee has also written that Narendra Modi became PM "through popular choice unlike Manmohan Singh, who was offered the post by Sonia Gandhi". Every general election has its "importance because the issues that are debated during the polls reflect the various views and perceptions of the electorate", he wrote.

BOOK

■ The 5.4% growth rate forecast for 2021-22 — a "rebound from a low base" — would be "offset by a muted private investment growth given the financial sector weaknesses", the report said, noting that "in the financial sector, non-performing loans were already high before the pandemic"

■ In the South Asia region, the Bank said that the economy overall fell by 6.7% in 2020 "reflecting the effects of the pandemic and nationwide lockdowns, particularly in Bangladesh and India"

■ The global economy, which contracted by 4.3% in 2020 is forecast to grow by 4% next year if "an initial Covid-19 vaccine rollout becomes widespread throughout the year", the report said

- The 2014 verdict was historic for two reasons. First, after 3 decades, a contesting political party received a decisive mandate instead of a fractured one," he wrote
- Secondly, the BJP emerged with a simple majority on its own in the LS for the first time

ICC TEST RANKINGS: NEW ZEALAND BECOME NO 1 FOR THE FIRST TIME



SPORTS

New Zealand grabbed the number one position in the ICC Test rankings for the first time in history, after decimating Pakistan by an innings and 176 runs in the second Test in Christchurch recently. The comfortable series-clinching victory, shaped by captain Kane Williamson's double century, pushed the Kiwis to the top of the heap as they became the sixth country in the past 10 years to be ranked number one in Test cricket.

► Overall, they are the seventh side in the world to hold the number one spot. New Zealand came close to reaching the summit in the last couple of years but stayed second on the table

- They now have 118 points, two more than Australia and four clear of third-placed India
- England (106) and South Africa (96) complete the top-five

2023 ASIAN CUP TO RUN FROM JUNE 16-JULY 16

The 18th edition of the Asian Cup, the region's flagship national team competition, will take place in China on June 16-July 16, 2023, the Asian Football Confederation (AFC) said on Thursday. Ten cities across China will host the 24-team tournament, which will be held for over 31 days, three days more than the 28-day showpiece in the United Arab Emirates (UAE) in 2019.



The 2019 edition of the quadrennial event was the first to be expanded from 16 to 24 teams. Qatar are the defending champions after winning their maiden title in the UAE

FACTOID

₹ 20,500 CRORE

That's the cost the country had to bear, courtesy the internet shutdown in various regions of the nation in 2020. According to a report by Top 10 VPN, India had massively-restricted the internet access for the users, compared to the other nations in the year 2020 — a whopping 8,927 hours. The cost of the internet blackouts was calculated through the indicators from the World Bank, International Telecommunication Union and the Software Freedom Law Centre

A TOTAL OF 27,165 HOURS OF THE MAJOR INTERNET DISRUPTIONS WERE EXPERIENCED BY THE WORLD IN 2020, 49 PER CENT HIGHER THAN IN 2019. THIS RESULTED IN A TOTAL LOSS OF \$4.01 BILLION, AND NEARLY THREE-FOURTH OF THESE LOSSES CAME FROM INDIA

Lose WhatsApp account if you don't accept new changes by Feb 8



TECH BUZZ

Millions of Indian users received an in-app notification from the WhatsApp

as part of an upcoming global roll-out for over 2 billion users, asking them to either accept the

changes in its terms of service and privacy policy by February 8 or their accounts will be deleted.

1 The in-app notification did not elicit much details but clicking on the links clearly mentioned the key changes in how the WhatsApp will collect and process the users' information while going forward with its partnership with the Facebook, its parent company, as part of a larger unification drive between the family of apps

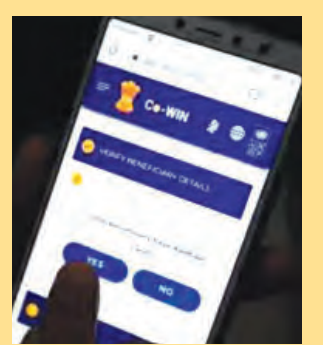
2 The WhatsApp's new terms of service and privacy policy will come into effect from February 8

3 The mobile-messaging platform said that it is working with the third-party service providers and "other Facebook Companies" to help it operate, provide, improve, understand, customise, support, and market its services

4 In a bid to allow cross-messaging among its family of apps, FB has reportedly started merging the Instagram and Messenger chats.

'CoWIN' apps fake, warns health ministry

The Union health ministry has asked people not to download or register on several fraudulent applications named 'CoWIN', which are available on app-stores. "Some apps named 'CoWIN' apparently created by unscrupulous elements to sound similar to the upcoming official platform of the government are on the app-stores," the health ministry alerted. "Do not download or share personal information on these. The MoHFW official platform will be adequately publicised on its launch," the ministry added.



- Short for 'Covid Vaccine Intelligence Network' application, the CoWIN app will be used to manage and scale up the massive vaccination drive, which is soon to be rolled out in the country
- The application will not only help the government coordinate the massive inoculation process, but also come to the aid of the health authorities monitor coronavirus vaccines in real-time
- It is slated to be launched for the public soon. The beneficiaries would be able to register themselves after uploading the identification documents, such as the Aadhaar card, driving license, PAN and bank passbook, among others

GET POSITIVELY CHARGED TO TACKLE CHEMISTRY



CLASS: IX - 2020-21

SUBJECT:
CHEMISTRY (ICSE)
Time Allowed: 2 Hours
Maximum Marks: 80

GENERAL INSTRUCTIONS

- Section I is compulsory.
- Attempt any four questions from section II

SECTION-I

QUESTION-1

a) Choose the correct answer from the options given below: [5]

- The type of bond formed between atoms of element, X (11) and Y (17)
A) Electrovalent B) Covalent
C) Metallic D) Dative

- A metal exhibiting valency +2 and +3
A) Copper B) Iron
C) Calcium D) Nitrogen

- An element which will not lose, gain or share electrons and has two electrons in its valence shell.
A) Neon B) Calcium
C) Helium D) Magnesium

- The law which states that the product of the volume and pressure of a given mass of a dry gas is constant provided temperature remains constant.
A) Charles's law B) Avogadro's law
C) Dalton's law D) Boyle's law

- A salt that undergoes photochemical reaction
A) Silver (I) chloride
B) Ferric chloride
C) Carbon dioxide
D) Zinc carbonate

- b) Fill in the blanks with choices given in the brackets: [5]
- A molecule of _____ contains a triple bond (ammonia, nitrogen)

- If an element has one electron in its outermost energy level then it is likely to be _____ (metallic, nonmetallic)

- Direct combination reaction of sulphur dioxide with water gives _____. (sulphuric acid, sulphurous acid)

- Formation of hydrogen chloride from hydrogen and chlorine in presence of diffused sunlight is an example of _____. (photochemical reaction, electrochemical reaction)

- Variable valency is exhibited, since electrons are lost from an element from the _____ shell. (valence, penultimate)

c) Write a balanced chemical equation for each of the following reactions. [5]

- Steam is passed over heated coke.
- Magnesium reacts with dil. HCl.
- Zinc reacts with conc. NaOH.
- Potassium reacts with cold water.
- Magnesium reacts with boiling water.

- d) Solve: [2+3]
- Calculate the relative molecular mass of copper sulphate penta hydrate (Cu = 63, S = 32, O = 16, and H = 1)

- Calculate the percentage composition of KCl (K = 39 and Cl = 35.5)

e) State one observation for each of the following. [5]

- Sulphur dioxide is passed through lime water.
- Hydrogen sulphide gas is passed through acidified potassium permanganate solution.
- Copper carbonate is heated.
- Conc. HCl is brought near ammonia gas.
- Sodium metal is dropped in cold water.

f) Name or state the following. [5]

- The salt formed when zinc reacts with caustic potash.
- The gas released when ammonium dichromate undergoes thermal decomposition.
- The valency of calcium in calcium chloride.
- The period which contains 8 elements including the nonmetal sulphur.
- A heptahydrate salt containing iron.

g) Give the appropriate term defined by the statements given below [5]

- The number of hydrogen atoms which can combine with or displace one atom of the element or radical so as to form a compound.
- The number of times one atom of an element is heavier than 1/12 the mass of an atom of carbon.
- A chemical reaction in which two or more elements or compounds react to form one new compound.

Paper set by: Sunitha Pai, teacher, St Joseph's Boys' High School, Bengaluru



- A chemical reaction which proceeds with absorption of electrical energy.
- Water soluble salts which on exposure to the atmosphere absorb moisture from the atmosphere and dissolve in the absorbed moisture.

h) Give the molecular formula for the following. [5]

- Nitric acid
- Potassium nitrate
- Ammonium sulphate
- Iron (II) chloride
- Magnesium nitride.

SECTION-II

QUESTION-2

Draw atomic orbit diagram for the following [10]

- Nitrogen molecule
- Ammonia
- Methane
- Calcium oxide
- Magnesium chloride

(N=7, H=1, C=6, Ca=20, Mg=12, O=8, Cl=17)

QUESTION-3 [5+5]

- a) Solve:
- A gas 'X' at a pressure of 750 mm. of Hg and temperature of 38°C has a volume of 2.57 litres. Find the volume of the

- A positively charged radical with no metal in it.
- A colourless gas with rotten egg smell.
- The colour imparted by calcium ions during flame test.
- The gas evolved when sodium carbonate reacts with dil. Sulphuric acid.
- A gas which turns alkaline solution of pyrogallol brown.

b) Name the following:

- A positively charged radical with no metal in it.
- A colourless gas with rotten egg smell.
- The colour imparted by calcium ions during flame test.
- The gas evolved when sodium carbonate reacts with dil. Sulphuric acid.
- A gas which turns alkaline solution of pyrogallol brown.

QUESTION-4 [5+5]

a) In the laboratory preparation of hydrogen from zinc and dilute acid, give reasons for the following:

- The complete apparatus is air tight.
- Dilute nitric acid is not preferred as the reactant acid.
- The lower end of thistle funnel should dip below the level of the acid in the flask.
- Granulated zinc is preferred in the preparation of hydrogen.
- What is the purpose of silver nitrate solution in washer bottle-1?

b) State or name the following:

- The group to which the element with electronic configuration 2,8,2 belongs.
- The group which contains highly reactive electro negative nonmetals including chlorine.
- An alkaline earth metal in period 3.
- A covalent compound formed between an element of period 1 and a halogen.
- A metal in period 3 having valency 3

QUESTION-5 [3+3+4]

a) Write balanced equations for the following word equations

- Calcium+water → calcium hydroxide+hydrogen.
- Lead dioxide+lead monoxide+oxygen.
- Potassium bicarbonate + potassium carbonate+water+carbon dioxide.

b) XC1_2 is the chloride of a metal. State the formula of the sulphate, hydroxide and nitride of the metal X.

c) Differentiate between

- Decomposition reaction and double decomposition reaction.
- Synthesis and substitution reaction.

QUESTION-6 [5+5]

a) Name or state the following

- Two elements having same number of protons and electrons but different number of neutrons.
- Maximum capacity of the M shell.
- An efflorescent decahydrate salt.
- A deliquescent salt of a trivalent metal.
- A salt whose solubility decreases with rise in temperature of the solvent water.

b) Identify the following:

- Gas which turns moist blue litmus red and then bleaches it.
- Gas that burns with a pale blue flame producing a 'pop' sound.
- Gas which gives a curdy white precipitate when passed through silver nitrate solution.
- The gas which turns moist lead acetate paper silvery black.
- The yellow coloured residue obtained when lead nitrate is heated.

Physics: May the force be with you!

GENERAL INSTRUCTIONS

- The time given at the head of this paper is the time allowed for writing the answers.
- The intended marks for questions or parts of questions are given in brackets [].

SECTION-A

(Attempt all questions-40marks)

QUESTION-1 [2 x 5 = 10]

- Name the force required for uniform circular motion?
- A body is thrown vertically upwards. Its velocity keeps on decreasing. What happens to its kinetic energy as its velocity becomes zero.
- The refractive index of glass with respect to air $3/2$. What is the refractive index of air with respect of glass.
- State the C.G.S. unit of work. How is it related to its S.I. unit?
- What is the energy conversion when an electric current passes through a metallic wire?

QUESTION-2 [2 x 5=10]

- How does the angle of deviation produced by a prism depends on the angle of incidence of light at the prism surface.? Draw a graph to illustrate your answer.
- Give two reasons, why the efficiency of a single movable pulley system is not 100%.
- Can the C.G. be situated outside the material of the body. Give an example.
- The velocity of light in diamond is 121000km s^{-1} . What is the refractive index.
- What is the path of the ray after refraction that passes through the first focus of the lens.

QUESTION-3 [2 x 5=10]

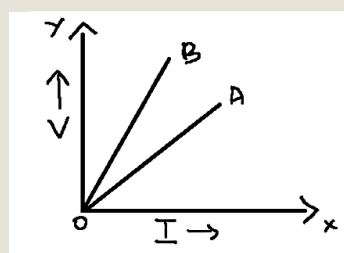
- Draw a displacement time graph to illustrate damped vibrations.

b) State the necessary conditions for an object to be in

- Static equilibrium
 - dynamic equilibrium
- A cell of e.m.f. 1.5V and internal resistance 5 ohm is connected to a resistor of 50 ohm. What is the current flowing in the circuit?
 - A certain nucleus has a mass number 20 and atomic number 9. Find the current flowing in the circuit?
 - An observer stands at a distance of 850m from a cliff and fires a gun. After what time gap will he hear the echo, if the sound travels at a speed of 350m/s in air.

QUESTION-4 [2 x 5=10]

- What changes in energy occur in an
 - electric bulb
 - electric heater
- Which contains more heat: 1g water at 0°C or 1g ice at 0°C? Give reason.
- The V-I graph for a series combination and of a parallel combination of two resistors is shown in given below. Which of the two, A or B, represents the parallel combination? Give a reason for your answer.



- Draw a diagram representing a wave of amplitude 4cm and wavelength 2m. If the frequency of wave is 150Hz. Calculate its velocity.
- State the principle of calorimetry.

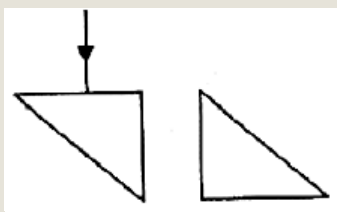
SECTION-B

(Attempt any four questions from this section) (40marks)

QUESTION-5

- A bullet of mass 0.05kg strikes a wooden target 0.2m thick, with a velocity of 300ms^{-1} , and emerges out with a velocity of 100ms^{-1} . Calculate the
 - loss in kinetic energy.
 - State the S.I. unit of the power.
- The main gate of a building is 2.6m broad. It can be opened by applying a force of 80N at the middle of the gate.
 - Calculate the least force which can open the gate.
 - Name the physical quantity obtained by the formula $2K/v^2$ where K= kinetic energy

- Two isosceles right angled glass prisms are placed as shown in the diagram. Complete the path of the light ray entering 1^{st} isosceles prism till it emerges from the second identical prism.



QUESTION-6

- A uniform metre rule is balanced horizontally at 60cm mark when a weight of 10gf is suspended from one end.
 - At which end must this weight be suspended.
 - What is the weight of the rule.
- Derive a relationship between S.I. unit and C.G.S. unit of work.
 - How is horse power related to the S.I. unit of power.

- A block and tackle system of pulleys has a velocity ratio 4.
 - Draw a labelled diagram of the system indicating directions of the load, effort and tension in the string.
 - What is the mechanical advantage of the given pulley system if it is an ideal pulley system.

QUESTION-7

- Name the radiations used for detection of fracture in bones
- A coin placed at the bottom of a beaker appears to be raised by 4.0cm. If the refractive index of water is $4/3$. Find the depth of the water in the beaker.
- What is meant by earthing of an electrical appliance? Why is it essential?
- An erect, magnified and virtual image is formed, when an object is placed between the optical centre and principal focus of the lens.
 - Name the lens
 - Draw a diagram to show the formation of the image with the above stated characteristics.

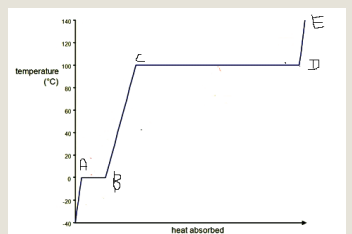
QUESTION-8

- A man standing between two cliffs produces a sound and hears two successive echoes at intervals of 3seconds and 4seconds respectively. Calculate the distance between the two cliffs. The speed of the sound in air is 330ms^{-1}
- Name the unit used for measuring the sound level
 - What is SONAR? What is the principle of sonar?
 - Two waves of the same pitch have amplitudes in the ratio 2:3.

- What will be the ratio of their loudness?
- What will be the ratio of their frequencies?
- A metallic blade is made to vibrate at its one end by keeping its other end clamped. The vibrations of the blade die away after some time.
 - Give reason.
 - How you lower the frequency of the vibration of the blade?

QUESTION-9

a) The diagram below shows the change of phases of a substance on a temperature vs time graph on heating the substance at a constant rate.



- Label the two phase changes in your graph.
- What conclusion can you draw regarding the nature of ice from the above graph?
- Label the graph BC and DE.
- Rishi is surprised when he sees water boiling at 115°C in a container. Give reason as to why water can boil at the above temperature.
- 50g of metal piece at 27°C requires 2400J of heat energy so as to attain a temperature of 327°C . Calculate the specific heat capacity of the metal.

- Give one use of the electromagnetic radiations given below:
 - Microwaves
 - Ultraviolet radiations
 - Infrared radiation

QUESTION-10

- One of the radioactive radiations is similar to X-ray in nature. Name it and give its properties.
- Compare the penetrating powers of α , β and γ radiations.
- An element ${}_{82}^{208}\text{Pb}$ loses one α particle and one β particle to get the final nucleus ${}_{82}^{208}\text{Pb}$.
 - Write down the values of 'a' and 'b'.
- What are the harmful effects of the radioactive radiations.
 - From α , β , γ rays, name the one which travels with the speed of light.

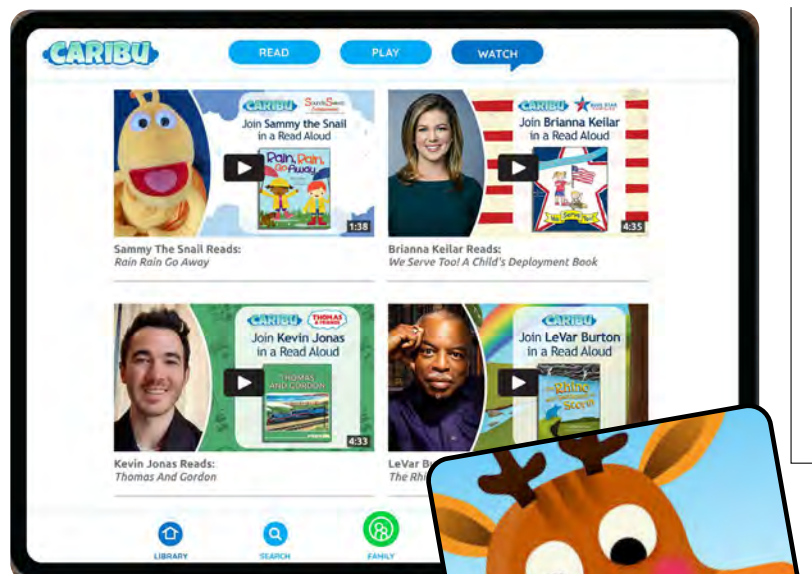
FOR US TO DO...

Enhance your family video calls with an Online Game

At their best, good video calls are a mediocre substitute for real interaction. And when they're bad? They can be really bad. If your family video calls devolved into melting-down toddlers and bored teenagers, maybe it's time to consider adding a little friendly competition to the mix.

Online games allow those near and far to engage over a common goal, which in turn sparks a feeling of togetherness — a feeling that everyone wants to have these days.

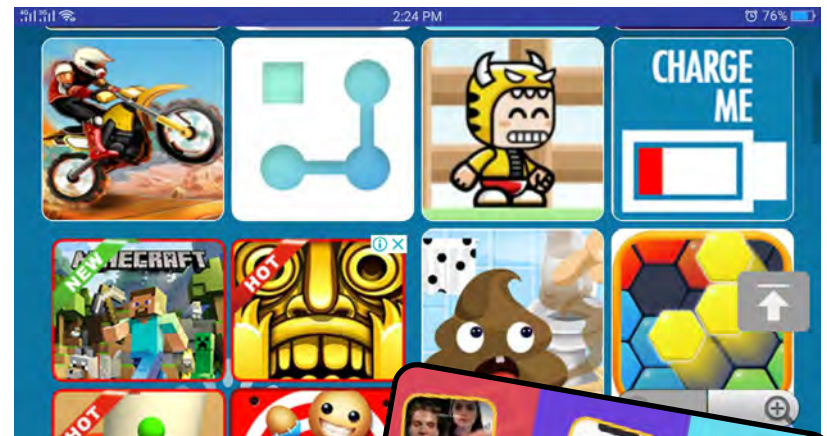
Here's a selection of digital games and apps that players of all ages can enjoy.



Caribu

A boring video call is even more boring for kids," said Max Tuchman, chief executive and co-founder of Caribu, a video-call app specifically built for children. During the call, kids and adults can interact on-screen with games like tic-tac-toe, word searches, memory-matching cards and math challenges. Caribu also has a library of books that will open on your screen, and adults and kids can read together. The unlimited offer is a family plan, which means far-flung cousins and grandparents can interact on a single membership.

For families that are not particularly computer savvy, a hosted Zoom game, where a game master leads and officiates, can be a good option. Since March, Michael Wade, a recent MBA graduate based in Richmond, Virginia, has been building and hosting Trivia Throwdown Online, a Zoom-based trivia game that breaks families into teams for a "Family Feud" meets "Jeopardy"-style match.



Bunch

If your family already has a deep lineup of online games, consider downloading Bunch, too. This free app overlays video chat windows onto existing games, so you can talk trash as you play Uno, Minecraft or Scrabble.

Hosted Zoom Games



"It's built on the idea of, how do we get people to engage with each other and work together," he said. Wade writes questions specific to age ranges, which means grandma and your tween niece will have an equal chance at getting a pop-culture question right. Rates differ for families, nonprofit and corporate events, but the average event with up to 30 people costs around \$300.

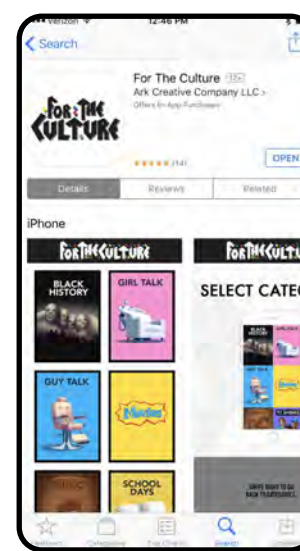


Jackbox Party Packs

If some of your crew have gaming consoles and others use computers, consider a Jackbox Party Pack, which allows play among eight players on a range of devices. Only one family member needs to purchase the party pack, which ranges from ₹1000 to ₹1800. Packs have five games that you can play an unlimited number of times.



For The Culture and For La Cultura



While playing trivia games with his family, Teddy Phillips realised that most had a severe lack of representation. "All the classic BET movies, none of them were ever in those categories," he said. So Phillips, 32, who lives in Seattle and works as a cybersecurity engineer, made For The Culture, a game highlighting Black culture and history. It's built to be played in person but also works well over video chat. Phillips also released For La Cultura, which showcases Hispanic culture and history. Because the culture is so diverse, Phillips brought in help from Puerto Rican, Mexican and Central American friends to ensure the game showcased everyone's history.

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Ways to parent a preteen in pandemic



The pandemic has drastically altered relationships between people, especially between parents and preteens as they struggle to find a middle ground. Still dependent on parents, controlled gadget behaviour and isolation from school and friends have majorly exposed preteens to stress and struggle with their unexplained emotions. Parents also struggle to understand their preteen's issues. Here are some steps to comfort your child.

fort and reassure them that everything will be alright. During such anxious moments, it is the responsibility of the parents to reassure that difficult times are often greeted with a ray of sunshine next. So the distress they are feeling now, will soon go away as they learn to adapt rapidly.

Massive breaks in routine

Children have been following a schedule ever since they started schooling. Experiencing a sudden, long break in their usual routine can thoroughly confuse the child. As a result, they will end up gaining weight by late midnight snacking or have sleep deprivation by binge-watching cartoons and shows. Build a proper

schedule once again and make them follow it.

Praise them

Instead of constantly scolding or correcting their mistakes, try praising them once a while. Constant criticism weighs heavily on children, especially during this gloomy time. Make sure to be flexible while you are with your child. Instead of being in a strict environment always, allow an extra scoop of ice cream or an extra half an hour of TV if the child wants it.

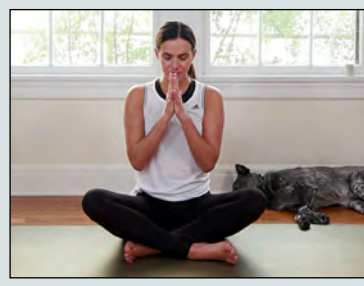
Be with them

This is the ideal time to have some quality family togetherness. Spend time with your child, play board games, watch TV with them or even bake one or two cakes. Share a joke, laugh together and hug them; all this will help preteens stay happy.

Understand calmly
The key to understanding your preteen is to listen, com-

Pick an App to Keep Moving

It's a hibernation season like no other. It's colder and darker, and you're still inside. Which makes it all the more important (and all the harder) to keep yourself moving. As 2021 begins, here are some ideas to get you out of the house, or at least off the couch for a bit.



Yoga With Adriene

If you are looking for a no-frills yoga class that feels like it's tailored to you, look no further than Yoga with Adriene, from Adriene Mishler, who The New York Times Magazine called "the reigning queen of pandemic yoga." On YouTube, Mishler has created free yoga for writers and yoga for chefs, yoga for runners, etc.

Running Audio Guides

A massive running boom began in the spring as many people returned to the simplest exercise: one foot in front of the other until you've spent an adequate amount of time away from your seemingly shrinking home. If you need a new boost to get back outside, or back on the treadmill, try an app like Nike.

Boutique Classes

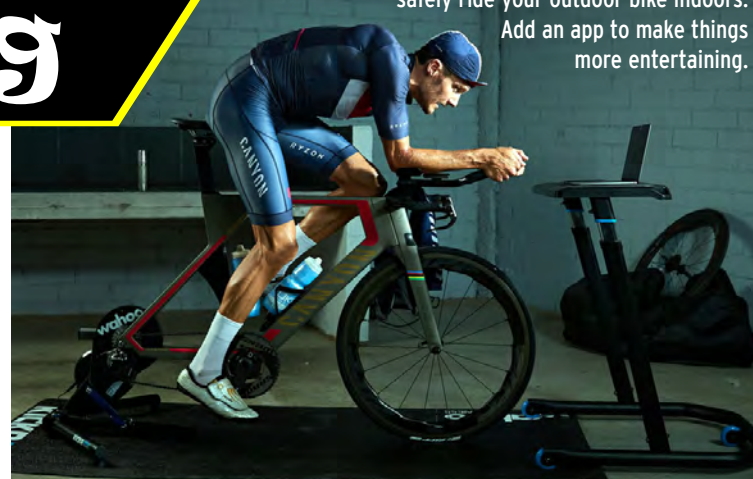
Miss being able to sample boutique fitness classes? The Obé Fitness app has numerous classes available on demand, but one of its greatest strengths is the diversity of live classes, filmed in pastel studios that resemble squares of an Instagram page. On any given day, there's some combination of Pilates classes and dance classes, cardio boxing, yoga sculpt, etc.

Have a Workout Type in Mind? Turn to YouTube

If you have an idea of what you are looking for — be it a 10-minute core workout, a 15-minute prenatal stretching routine or a 30-minute body-weight class — many of your best options can be found for free on YouTube. Be prepared to find thousands of results that could prove effective.

Running Audio Guides

Miss biking outdoors and not looking to buy a stationary bike? You can purchase bike rollers or an indoor bike trainer, allowing you to safely ride your outdoor bike indoors. Add an app to make things more entertaining.



Peloton — With or Without Equipment

Sure, you've heard of Peloton's bike and treadmill. But the company also has a slate of classes and programs on its app for those looking to stay in shape at home without a big investment in hardware. You can sort through strength programs for those that require specific equipment (classes that use resistance bands, for example) or choose ones that don't require any equipment whatsoever. The app offers a ₹1000 monthly digital membership.



THE MONTH OF JANUS

January is named after Janus, the ancient Roman god of beginnings. He has two faces, one looking forward and the other behind. Take this quiz on January... Choose correctly!

- How many months, including January, have 31 days?
A. Five B. Six C. Seven D. Eight
- Which country's National Day is January 26?
A. Austria B. Australia C. Belgium D. Brunei
- Who is annually commemorated in America on the 3rd Monday of January?
A. Benjamin Franklin B. Elvis Presley C. Joe Frazier D. Martin Luther King Jr
- Which is a January zodiac sign?
A. Aquarius B. Aries

SURYAKUMARI DENNISON, teacher, Aavishkar Academy, Bengaluru

Answers: 1) C. Seven 2) B. Australia 3) D. Martin Luther King Jr 4) A. Aquarius 5) D. 7



IDENTIFY THE PERSONALITY

This Australian cricketer, who re-joined the team after a ban, scored an unbeaten 89 and 91 against New Zealand in two warm-up games.



Answer: Steve Smith

INDIA'S TALISMANIC ALL-ROUNDER

Since 2016, Ravindra Jadeja has the highest batting average (46.29), and bowling average (24.97) among the top Test all-rounders. England's Ben Stokes (42.34 and 27.59) and former Bangladesh captain Shakib Al Hasan (38.48 and 26.03) are behind him on the list

Jadeja has been an integral part of the Virat Kohli-led Team India side across all formats. He has scored 1926 runs in 50 Tests at a decent average of 35.66 and has bagged 216 wickets at an impressive average of 24.48

JADEJA IS A QUALITY ALL-ROUNDER FOR ALL CONDITIONS

I believe Ravindra Jadeja is a Test-quality all-rounder for all conditions. He has played 50 Test matches and has had 33 of those at home and only 17 away. I feel that he is ready to embark on a new chapter in his career where he can be played as a pure bowler and a pure top-order batsman. It gives the Indian team a wonderful balance.

And I think that he's a spinner who doesn't necessarily rely on turn either so if you've got a wicket with a little bit of grass, that's not offering turn, he still will be able to build pressure and create opportunity for the Indian team to have a successful series, home or away.

Tom Moody, former Australia cricketer

NOT SURE WHETHER JADEJA CAN BAT IN THE TOP SIX

I am a big fan of Jadeja of course and I do think his batting has improved immeasurably over the last few years. He is batting with a lot of confidence, a lot more consistency. I would still have a question mark whether you could pick him in the top six for a Test match.

I think he is perfectly placed at No.7, where he can come in and make those handy runs at length in the batting order. But if you are going to rely on him in the top six to be making hundreds and big hundreds for your country to set up Test matches, I am not sure he is quite there yet.

Michael Hussey, former Australian cricketer

RAVINDRA JADEJA IN THE SAME BRACKET AS BEN STOKES

As of now the way he's batting he definitely is (in the same bracket as Ben Stokes). Even during the IPL, I actually said why not him at No. 4 for CSK. He's got a couple of triple hundreds in domestic cricket, getting runs there is not easy.

For Saurashtra, he bats at No. 4 but for India, he comes in at 7 or 8. Somehow I felt that he never took his batting seriously enough. In 2017, he was dropped from the side but I think what kind of prompted him was the fact that he wanted to make himself more useful to the team, not just with the ball but with the bat as well.

He always had the skill set with the bat but earlier on, he would play terrible shots and get out. But now he's putting a price to his wicket, he's thinking and batting like a batsman and that I think has changed in his batting in the last few years.

Deep Dasgupta, former India wicket-keeper batsman

HE HAS IMPROVED A LOT AS A BATSMAN

As a batsman Ravindra Jadeja has improved a lot and that is a massive point from a team's perspective. When you know that your number seven can contribute with the bat, that becomes really easy for you to actually get that (decent) total and obviously in the field, you have seen him taking some brilliant catches. So yes, his addition in the team helped us a lot and he has been really fantastic and it is really great for us.

Ajinkya Rahane, stand-in Test skipper

DROPPED AND DROPPED AGAIN!

India wicketkeeper Rishabh Pant dropped Will Pucovski twice as the opener rode his luck to score a half-century on debut and guide Australia to 166 for two at the end of the rain-disrupted first day of the third test at the Sydney Cricket Ground

QUESTIONS RAISED OVER WRIDDHIMAN SAHA'S OMISSION

■ Young Indian wicket-keeper batsman, Rishabh Pant, continues to endure a difficult time behind the stumps. Preferred over Wriddhiman Saha for the second match in a row, Pant did his reputation no good as he dropped Australian youngster Will Pucovski twice in a span of three overs.

■ The wicket-keeping position in the Indian Test team has been talked about a lot over the last year or so. While Saha remains the undisputed No. 1 for the role in the sub-continent, he is often shuffled with Pant overseas. After getting the nod in the Adelaide Test, Saha was dropped in favour of Pant for the second and the third Test.

■ Pant had a few hiccups behind the stumps in the Boxing Day Test, especially when keeping spinners Ravichandran Ashwin and Ravindra Jadeja. Hoping to do better in the third Test, Pant incurred similar difficulties on Day 1 at Sydney as he dropped Pucovski twice, once off Ashwin and the second time on Mohammed Siraj's bowling.

■ The two dropped catches gave Pucovski two lifelines, which he later converted into a half-century, while leading to frustration for both the bowlers and the stand-in skipper Ajinkya Rahane at the same time.

I WAS LOOKING TO PUT ASHWIN UNDER PRESSURE: SMITH

Australian batting mainstay Steve Smith said he was looking to put Ravichandran Ashwin under pressure after being at the receiving end of the India off-spinner's guile in the first two Tests. Breaking his run of poor scores, Smith played some attacking shots and marched to an unbeaten 31 by the close of play. "I'm good, nice to spend a bit of time out there, nice to stitch in a partnership with Marnus. I wanted to put him (Ashwin) under a little bit of pressure which I haven't done this series," Smith said at the end of the day's play.

City win battle of Manchester to reach League Cup

Mourinho was United boss the last time they lifted a trophy in 2017 and the Red Devils' wait for silverware under Ole Gunnar Solskjaer goes on as they lost a fourth semi-final in the past two seasons

Manchester City reached the League Cup final for the fourth consecutive season as they inflicted more semi-final pain on Manchester United with a 2-0 win at Old Trafford. John Stones and Fernandinho were the unlikely goalscorers for Pep Guardiola's men, who will face Jose Mourinho's Tottenham in the final at Wembley on April 25. The match had seen three goals ruled out for offside in the first half with Kevin De Bruyne also hitting the post.



When a team has the mentality to do it, we achieve something incredible. I know the Carabao Cup is not the Champions League but reaching the final four times in a row is incredible! I'm so impressed by the quality of this team.

Pep Guardiola, manager Man City

QUIZ TIME!

Q1: In the year 2019, Rafael Nadal won two Grand Slam titles. Which other tennis player also won two grand slams?

- a) Kevin Anderson ☐ b) Dominic Thiem ☐
c) Roger Federer ☐ d) Novak Djokovic ☐

Q2: Robert Lewandowski is the top scorer of UEFA Champions League - 2019-20. How many total goals he has to his name?

- a) Twelve ☐ b) Fifteen ☐
c) Seventeen ☐ d) Twenty ☐

Q3: Which of the following players have received most player-

of-the-match awards in Test cricket?

- a) Shane Warne ☐ b) Wasim Akram ☐
c) Jacques Kallis ☐ d) Muttiah Muralitharan ☐

Q4: The player who has been captain most number of times in Women's T20 Internationals is

- a) Charlotte Edwards ☐ b) Harmanpreet Kaur ☐
c) Salma Khatun ☐ d) Meg Lanning ☐

Q5: Who won the 2018 Women's Wimbledon singles title?

- a) Serena Williams ☐ b) Angelique Kerber ☐
c) Simona Halep ☐ d) Naomi Osaka ☐

Q6: Name the player who became the youngest captain to lead a team in Test cricket.

- a) Rashid Khan ☐ b) Tatenda Taibu ☐
c) Mansoor Ali Khan Pataudi ☐ d) Waqar Younis ☐

Q7: Bianca Andreescu won the 2019 US Open title. Who was the runner-up?

- a) Serena Williams ☐ b) Angelique Kerber ☐
c) Simona Halep ☐ d) Naomi Osaka ☐



Q8: Who was the first athlete ever to be both a boxing World Champion and an MMA (Mixed Martial Arts) World Champion?

- a) Holly Holm ☐ b) Melvin Manhoef ☐
c) Miesha Tate ☐ d) Evangelista Santos ☐

Q9: He has won the most number of Player-of-the-Series awards in One Day Internationals. He is

- a) Shaun Pollock ☐ b) Virat Kohli ☐
c) Sanath Jayasuriya ☐ d) Sachin Tendulkar ☐

Q10: Which player has made the most appearances in UEFA Champions League?

- a) Iker Casillas ☐ b) Cristiano Ronaldo ☐
c) Xavi Hernández ☐ d) Raúl González ☐

Q11: Which Barcelona player is the second-highest goal scorer in Spanish La Liga - 2016-17?

- a) Jordi Alba ☐ b) Luis Suárez ☐
c) Neymar ☐ d) Ivan Rakitic ☐

Q12: Which of these cricketers has captained the most matches in One Day Internationals?

- a) Arjuna Ranatunga ☐ b) Ricky Ponting ☐
c) Stephen Fleming ☐ d) MS Dhoni ☐

ANSWERS: 1- d) Novak Djokovic 2- b) Fifteen
3- c) Jacques Kallis 4- a) Charlotte Edwards
5- b) Angelique Kerber 6- a) Rashid Khan
7- a) Serena Williams 8- a) Holly Holm
9- d) Sachin Tendulkar 10- a) Iker Casillas
11- b) Luis Suárez 12- b) Ricky Ponting