



THE TIMES OF INDIA

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TODAY'S EDITION

► What are the various factors that should be taken into consideration before choosing a career? Let's find out...
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► Benzema hatrick gives Real Madrid a win on home ground
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STUDENT EDITION
TUESDAY, SEPTEMBER 14, 2021

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Spotlight

Rohit Sharma

WHITE-BALL SKIPPER AFTER T20 WORLD CUP?

RUMOURS RIFE OF A CHANGE OF GUARD THOUGH BCCI DENIES REPORT



The script for Team India's white-ball story is set to undergo a huge change in the coming months, says reports. Though still a developing story, and much can change within 24 hours; as of now, reports suggest that current captain Virat Kohli is likely to step down as the white-ball captain after the T20 World Cup in October-November, paving the way for Rohit Sharma to take up the responsibility. Kohli (32) currently leads the team across all formats and is India's most successful captain.

There are reports doing the rounds that Kohli might lose his white-ball captaincy and Rohit Sharma could be asked to lead the limited-overs side if the team fails to win the ICC T20 World Cup to be held in the UAE and Oman in October-November this year

SPACEX ALL SET TO LAUNCH FIRST ALL-CIVILIAN CREW TO ORBIT

LET'S GO TO SPACE NEXT SUMMER



FACTOID
\$125,000
That's the cost of the tickets of Space Perspective. Its capsule, hoisted by a space balloon the size of a football stadium, offers a view of the Earth's curvature. But the balloon ascends only 30 km, which means passengers won't experience weightlessness

Yet another billionaire entrepreneur is set to ride into space this week. Strapped inside the capsule of a SpaceX rocketship, an astro-tourist team is poised to make history as the first all-civilian crew launched into Earth's orbit. With its launch set for Wednesday, Elon Musk's company enters the space tourism fray that has seen a lot of exciting developments in the last few months. A short hop above the Earth's atmosphere or a journey to the moon and back... the era of space tourism is upon us, and — for those who can pay — it comes with many options. This year has been an important one for the up-and-coming sector, with a slew of new missions announced.

THE MISSIONS



INSPIRATION4
Musk's company is set this week to send four passengers to space, for a total of three days. They blast off from the Kennedy Space Center, in Florida, aboard a

SpaceX Crew Dragon mounted on a Falcon 9 rocket. It'll be the first orbital mission involving four non-professional astronauts. The 'Inspiration4' mission is chartered by American billionaire and pilot Jared Isaacman and will fly beyond the altitude of the International Space Station (ISS).
AX-1
In January 2022, three businessmen will visit the ISS, alongside an experienced former NASA astronaut. The mission, which is

to last 10 days in total and named Ax-1, is being organised by the company Axiom Space, which has signed up for three more future flights with SpaceX. They will operate in the American segment of the ISS, where they will conduct scientific experiments.
SPACE ADVENTURE
SpaceX also has plans for another orbital voyage for four paying clients, organised by Space Adventures.



DEARMOON
Japanese billionaire Yusaku Maezawa is due to take a trip around the moon, presumably in 2023, aboard a Starship rocket under development by SpaceX. The mission is called 'DearMoon.'

IN OTHER NEWS

Over 95 pc registered candidates appeared for NEET; Exam was easy for many medical aspirants

Over 95 per cent registered candidates appeared for the medical entrance exam, NEET, at over 3,800 centres across the country on Sunday, according to officials. A record 16.14 lakh candidates had registered for the National Eligibility-cum-Entrance Test (NEET) this year. NEET-UG 2021 was conducted in pen and paper mode, in 13 languages. Through this entrance test, candidates can get admission to undergraduate medical courses including MBBS, BDS in approved/recognised medical/dental and other colleges in India. As per the initial reactions from the candidates, who appeared for



Education

the examination, the exam was easy. Rahul Singh, who appeared from Rohini, New Delhi, said, "Overall, the paper was easy." He found the physics part of the paper bit difficult while biology was easy for him.

Instagram 'Favourites' will allow users to prioritise accounts in their feed

Facebook-owned Instagram is working on a feature — Favourites — for its iOS app, which will allow users to set a priority to accounts that will appear further up the feed, making them more likely to be seen. Currently, Instagram users rely on Facebook's algorithm to determine



which images are seen first, reports AppleInsider. While the algorithm relies on many factors, including how popular a post is in

general and how often the user interacts with a particular account, this can potentially lead to users missing out on must-see content on accounts they rarely check. Any accounts set as a favourite will appear higher in the feed, regardless of their popularity or other signals used by the algorithm.

MAKING A DENT IN EMISSIONS

The world's largest plant — designed to suck carbon dioxide out of the air and turn it into rock — started running recently in Iceland. Named Orca, this plant consists of four units — each made up of two metal boxes. Built by Switzerland's Climeworks and Iceland's Carbfix, the plant when operating at full capacity will draw 4,000 tonnes of carbon dioxide out of the air every year, which is equal to the emissions from about 870 cars!



BJP picks first-time MLA, Bhupendra Patel, as Gujarat CM

PM Narendra Modi sprang one of his biggest surprises when the soft-spoken, first-time MLA Bhupendra Patel was anointed as the successor of outgoing Gujarat chief minister Vijay Rupani on Sunday. Following the script penned in New Delhi, Rupani proposed Bhpendra's name, which was seconded by deputy chief minister Nitin Patel in the presence of central party observers. Patel was sworn in as the CM on Monday.

POLITICS



ago. Similar to Modi, he's also a first time MLA.

Patel has never held a ministerial post, just like Prime Minister Narendra Modi, when he became Gujarat CM 20 years



Indians may soon get green cards by paying a 'super-fee'

The Indian diaspora can now jump the green card backlog queue on payment of a supplemental fee (commonly referred to as a 'super-fee') and obtain their permanent visas. Similarly, legal dreamers (children of H-1B holders who have aged out or will age out, and who have turned 21) will also get a chance to obtain permanent residency and citizenship.

IMMIGRATION

Indians will finally have their size chart!

If you have struggled to find your right size while buying clothes because of the lack of a standard Indian size chart, there's some good news for you...

TIME FOR 'INDIAN SIZE'

The ministry of textiles, in collaboration with National Institute of Design (NID), has begun the INDIA size survey. It's an extensive anthropometric research study to develop a comprehensive body size chart for the Indian population. The idea behind this initiative is to develop a standardised size chart for India, in the absence of which Indians have long suffered by often finding ill-fitted clothes at leading labels.

INDIAN DESIGNERS WELCOME THE MOVE

The Indian design fraternity has hailed the move. Leading fashion designer Leena Singh of Ashima Leena, says, "While USA and UK have had their own size charts for decades, our country did not have one despite our design industry being formalised in the last two decades. This move will help us in our businesses, especially to complete orders for NRI clients and also for e-commerce orders."



"The National Sizing Survey will cost ₹ 30 crore and entail studying a population, aged 15-65 across six cities, with men and women in equal numbers,"
UP Singh, secretary, textiles

"Anthropometric data will be collected to create a database of measurements that will culminate in a standardised size chart, representative of Indians"
Noopur Anand, professor NIFT-Delhi

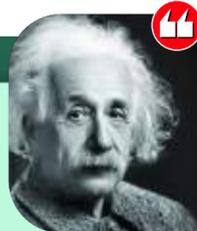
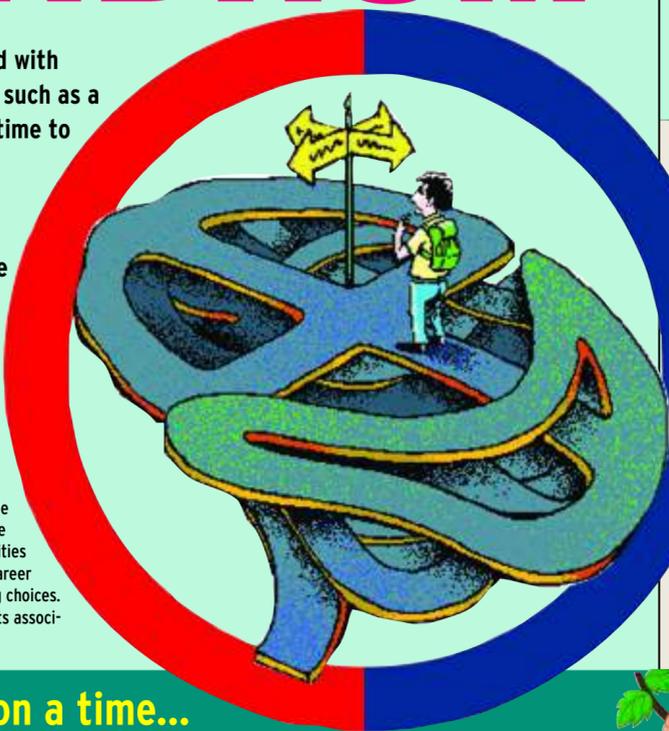
THE CAREER CONUNDRUM

Class X and Class XII students are often bombarded with questions on their career choice. There is no thing such as a perfect career. The important thing is to take out time to analyse your personality, your innate abilities and consider your interests as well as ask yourself questions like what kind of work will you enjoy and what kind of lifestyle, job-setting you will like. Here are some tips that may help you in this path...

In ways similar to the fish in the story (see box below), many students make wrong career choices after school without considering their capacities and abilities they possess. And, despite putting in their best efforts, these students experience failure and disappointment.

Class X students are bombarded with questions on their career choices. Many elders give their pieces of advice about the best career options. There are attractive advertisements about the opportunities and benefits of specific career options. And then, there are opinions of friends.

The flood of suggestions, advice by significant people, and attractive advertisements create massive confusion and chaos in the minds of these teenagers about which career option to choose after classes X and XII. In the midst of this whole chaos, most students do not take time to analyse their innate abilities and potential before making a career choice and end up making wrong choices. There are certain myths and facts associated with career choice.



EVERYBODY IS A GENIUS. BUT IF YOU JUDGE A FISH BY ITS ABILITY TO CLIMB A TREE, IT WILL LIVE ITS WHOLE LIFE BELIEVING THAT IT IS STUPID.

- ALBERT EINSTEIN

FACTORS TO CONSIDER

APTITUDE

Aptitude is your potential and the special abilities you are born with which help you to acquire related skills after some training. There are different types of aptitude like linguistic aptitude, mechanical aptitude, numerical aptitude, etc. Choosing career options suitable to your aptitude increases your chances of being successful in your chosen career. Aptitude tests help you to become aware of your aptitudes.

PERSONALITY

Personality includes your traits, unique ways of thinking, behaving, preferences, strengths and weaknesses. Personality is important to become successful in a career because every job profile requires a suitable personality. For instance - to work in people-oriented fields you need to be sociable and talkative.

INTERESTS & VALUES

You need to consider your interests and values by asking yourself questions like what kind of work you enjoy, what kind of people you would like to work with, what kind of job-setting you would like, what type of life-style you like. For example, a person who does not love travelling, would not enjoy careers with travelling needs. Interests and values play pivotal roles in achieving satisfaction and happiness in your career.

EDUCATION AND AVAILABILITY

You need to know about the type of education required, duration of education, availability of courses in the country or outside country and funds requirement of the course in order to pursue a career in your desired fields.

JOB AVAILABILITY

You need to check on the jobs available, the number of job openings in the desired career options.

FINANCIAL STATUS

Before making a career choice, you need to consider the financial status of your family. You need to think about the ways in which you can arrange funds for your education, affordability of education in desired career option. For example, if you cannot afford expensive education courses, you can go for lesser expensive education courses in desired career options.

MONETARY GAINS

Monetary gain should not be the key factor in choosing career options, but it helps to be aware of salary structures. Every career option has different levels of salary structure. You need to understand whether the salary you will earn in your desired career option will be enough to maintain the lifestyle you wish to have.



SUMITA CHAVARE, Psychologist, Air Force School 9BRD, Chandan Nagar, Pune

MYTHS & FACTS

1 MYTH: There is scope only in specific streams /fields.

FACT: There is ample scope in careers in all three streams and elsewhere too: Humanities, Science and Commerce for those who are at their best.

2 MYTH: Deciding a career is very simple.

FACT: It is very important to choose a career thoughtfully because it has significant impact on our future and on our mental health.

3 MYTH: Some careers are the best.

FACT: There is no such thing as the 'best career'. But there are suitable careers for every one of us, at any age.

An informed career choice is not a hasty decision but a process. To understand suitable career options, you need to consider a few factors...

Once upon a time...

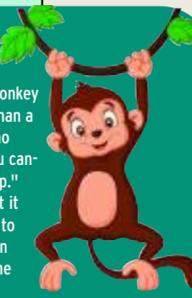
There was a little fish and monkey who were good friends. This little fish always admired the way the monkey climbed trees to get a panoramic view of nature.

One day, the fish decided to learn to reach the top of the tree. The fish practiced very hard to jump high but no matter how hard the fish made efforts to reach the top, the fish was

not able to jump high.

Looking at its misery, an old fish said, "Why are you making efforts to become what you were not born for? You are born to swim in big oceans and explore the beauty beneath the water. Your friend monkey is born with the

ability to climb big trees. The monkey cannot stay in water for more than a few minutes. In the same way, no matter how hard you work, you cannot jump and reach the treetop." The little fish realized that it should make efforts to learn to swim in big oceans rather than trying to jump high to reach the treetop.



Take the standardized aptitude and personality tests under the guidance of qualified psychologists and counsellors.

Find out different types of career options.

Find out the information about shortlisted career options through websites, by reading books, etc.

Conduct informational interviews of people who are already working in those fields and understand job profile, potential

challenges in those careers.

Take first-hand experience in the desired career options through internships.

Having healthy discussions between parents and children about their career options.

Take professional help from a qualified counsellors and psychologists.

Things to do



It is very important to choose career options wisely by considering all the above given factors since the consequences of making the wrong career choice can be disastrous - like repeated failures in academics, lack of interest and motivation in studies, low confidence, feeling confused, losing precious years of life and even depression.

Of Equations & Reactions

QUESTIONS SET BY A. HARIKIRAN, SISTER NIVEDITA SCHOOL, HYDERABAD



TOPIC:

- Chemical reactions and equations
- Acids, bases and salts



MOCK PAPER
SUBJECT:
CHEMISTRY,
CBSE CLASS X

Q1. A white solid when dropped in water produces a hissing sound. What the solid may be? Give the chemical reaction for the above. Name the product formed.

ANSWER:

White solid is quicklime CaO
Chemical reaction involved with the name of products is
 $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2(\text{aq}) + \text{Heat}(\text{aq})$
Quick lime Slaked lime

Q2. Write the balanced chemical equation to represent the following reaction: Carbon monoxide reacts with hydrogen gas at 340 atm. to form methyl alcohol.

ANS:



Q3. What is observed when carbon dioxide gas is passed through lime water.

(i) For a short duration

(ii) For long duration? Also, write the chemical equations for the reaction involved.

ANS:

(i) For short duration :
Limewater turns milky due to the formation of CaCO_3 .
 $\text{Ca(OH)}_2(\text{aq}) + \text{CO}_2(\text{g}) \rightarrow \text{CaCO}_3(\text{s}) + \text{H}_2\text{O}(\text{l})$
Lime Water White ppt.

(ii) For Long duration :
A clear solution is obtained due to the formation of calcium bicarbonate.
 $\text{Ca(HCO}_3)_2$ which is soluble in water
 $\text{Ca(OH)}_2(\text{s}) + \text{H}_2\text{O}(\text{l}) \rightarrow \text{Ca(HCO}_3)_2(\text{aq})$

Q4. Classify each of the following substance as a weak acid, strong acid, weak base, strong base, both a weak acid and a weak base, or neither an acid nor a base :



ANS:

H_2CO_3 : Weak Acid
 HClO_4 : Strong Acid
 NaClO_4 : neither
 CH_3OH : neither

Q5. Write the formulas of the acid and the base that formed the following salts.



ANS:

CH_3COONa : CH_3COOH and NaOH
 CuSO_4 : H_2SO_4 and Cu(OH)_2
 KClO_3 : HClO_3 and KOH
 $\text{Al}_2(\text{SO}_4)_3$: Al(OH)_3 and H_2SO_4
 NH_4Cl : NH_4OH and HCl
 $\text{Ba(NO}_3)_2$: Ba(OH)_2 and HNO_3
 NH_4NO_3 : NH_3 and HNO_3

Q6. (a) Why does acidic solution conduct electricity?
(b) Can basic solution conduct electricity?

(c) Can separation of H^+ ions in acids take place when HCl is added to a non-aqueous solution?

ANS:

Both acidic and basic solutions in water conduct electricity. Acids, when dissolved in water release the H^+ and bases when dissolved in water release the OH^- ions. These ions are charged species and so act as charge carriers. In other words the conductivity of these solutions is due to the movement of these ions.

Q7. Write one equation each for decomposition reactions where energy is supplied in the form of heat, light or electricity.

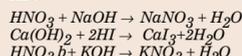
ANS:

When Calcium Carbonate is heated, it decomposes to give calcium oxide and carbon dioxide :-
 $\text{CaCO}_3(\text{s}) \xrightarrow{\text{Heat}} \text{CaO}(\text{s}) + \text{CO}_2(\text{g})$
When electric current is passed through H_2O , it decomposes to give H_2 and O_2 :-
 $2\text{H}_2\text{O}(\text{l}) \xrightarrow{\text{Electricity}} 2\text{H}_2(\text{g}) + \text{O}_2(\text{g})$

When silver chloride is exposed to light, it decomposes to form silver metal and chlorine gas:-
 $2\text{AgCl}(\text{s}) \xrightarrow{\text{Light}} 2\text{Ag}(\text{s}) + \text{Cl}_2(\text{g})$

Q8. Write the balanced molecular equations showing the complete neutralizations of the following.
 HNO_3 by NaOH
 Ca(OH)_2 by HI
 HNO_3 by KOH

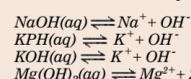
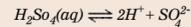
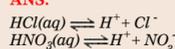
ANS:



Q9. How the following substances will dissociate to produce ions in their solution?

- Hydrochloric acid
- Nitric acid
- Sulphuric acid
- Sodium hydroxide
- Potassium hydroxide
- Magnesium hydroxide

ANS:



Q10. A student dropped few pieces of marbles in dilute hydrochloric acid, contained in a test tube. The evolved gas was then passed through lime water. What change would be observed in lime water? What will happen if excess of gas is passed through lime water? Write balanced chemical equations for all the changes observed.

ANS:

Marble is nothing but calcium carbonate $\text{CaCO}_3 + \text{HCl} \rightarrow \text{CaCl}_2 + \text{H}_2\text{O} + \text{CO}_2$
When CO_2 is passed through lime water, the first reaction produces CaCO_3 which is insoluble in water and hence the solution turns milky.
 $\text{Ca(OH)}_2(\text{lime water}) + \text{CO}_2 \rightarrow \text{CaCO}_3 + \text{H}_2\text{O}$
If further CO_2 is passed, the CaCO_3 reacts with the CO_2 to form $\text{Ca(HCO}_3)_2$ which is soluble in water and hence the solution becomes colourless.