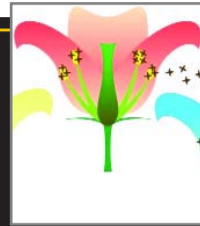




# THE TIMES OF INDIA

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**TODAY'S  
EDITION**

► Find out more on the life process of plants and how they grow and multiply

**PAGE 2**


► Learn how gamification can be utilised in learning to achieve better student outcomes

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► Luis Diaz goal helps Liverpool draw 1-1 with Crystal Palace in EPL

**PAGE 6**

**STUDENT EDITION**

WEDNESDAY, AUGUST 17, 2022



Recent achievements— the rapid spread of digitisation, financial inclusion and a successful mass vaccination programme have won global acclaim

## COUNTDOWN 2047

# How will INDIA look like @ 100

In his 76th Independence Day address, PM Narendra Modi listed five pledges to make India a developed nation in 2047. In these 75 years, we have accomplished much. In terms of purchasing power parity, India is the world's third-largest economy. Using market prices, we are the sixth largest, and should overtake the UK, the old colonial power, in the near future. By 2048, according to OECD's calculations, we could be larger than the US economy using purchasing power parity, and at current prices, about 50% of the superpower's GDP. What will the Indian

**As per the seminal research by Angus Maddison, India was the world's largest economy between 1 and 1000 AD and again in 1700, before the industrial revolution took hold in the west**

economy look like in 2047, the 100th anniversary of Independence? How India can take immense strides and awaken to its true potential in the next 25 years, we find out...

### How India's growing population can be a boom

The world is rapidly ageing, but India is still young. In the next few decades, India will be a talent powerhouse and the largest contributor to the global workforce. There is no denying the extraordinary opportunity. According to a CII report, if India's demographic dividend is productively employed, growth prospects will brighten, helping it to leapfrog its GDP from the current \$3 trillion to \$9 trillion by 2030 and \$40 trillion by 2047. India is projected to surpass China as the world's most populous country in 2023, according to the UN World Population Prospects 2022 report.


**THE  
ROAD  
AHEAD**

Experts have long advocated a skills strategy based on the three Es—education, employment and employability. Unless enough jobs are created and there are workers equipped with the skills for them, the demographic dividend risks become a liability

### Will urban infra, roads, sanitation, public spaces finally become on par with developed economies?

India's urban population has grown massively over the past few decades to reach nearly 36% of the total and this is expected to hit 50% in the next 25 years. This steady growth is driven not only by migration but also the expansion of cities, as they absorb peripheral areas. In line with rapid urbanisation, the Indian economy is also expected to grow to \$20 trillion by 2047 to be among the top three in the world. To handle such enormous growth, the government is aiming for better infrastructure, smart cities, housing for all, mass transit and connectivity in every nook and corner of the country.

India's commitment to infrastructure development needs flexible policies and the ability to manage timely execution in a significant manner. As the government works to make projects commercially viable, the private sector must also contribute by investing in infrastructure development


**THE  
ROAD  
AHEAD**


### Will India finally be a pleasant, healthy and safe climatic territory to live in?

India is among the most-polluted countries in the world. Nearly 60% of its energy demand is met through coal and fossil fuel, groundwater levels are depleting, and the need to fulfil the aspirations of a billion people often requires making way for roads, housing and industry, even in pristine areas. And yet, 25 years from now, India holds a clear promise of transformation, simply because the ball has been set rolling by the global urgency and consensus on climate change, its tangible impact on our lives and new market demands dictating a green shift. India has one key advantage — the bulk of its future infrastructure and industry is yet to be built. The shifts are happening slowly but steadily. The largest railway network in the world is racing to go net zero by the end of this decade.


**THE  
ROAD  
AHEAD**

India has banned 19 categories of single-use plastics. Much more will need to be done to achieve all round transformation by 2047, but the gears have shifted to clean and green



### Will India go from potential worldbeaters to global champs in sports?

Sports, as the Chinese well know (and much before them the American and Soviets knew during the Cold War), is a barometer of a country's power on the global stage. Over the last decade or so, India has certainly made strides, and is being noticed on the most level of playing fields — the sports field — and that, too, outside the cricketing boundary. The Commonwealth Games and the Chess Olympiad being recent examples. That is because India has been finally putting its money where its aspirational mouth is. GoI increased its sports budget for FY22 by ₹305.58 crore to ₹ 3,062.60 crore.


**THE  
ROAD  
AHEAD**

A lasting and organic boost to India as a permanent member of great sporting nations will be to have athletics and sports hard-wired into the school and college system as has been the practice in developed countries

## Elon Musk envisions a self-sustaining city on Mars in 20 years

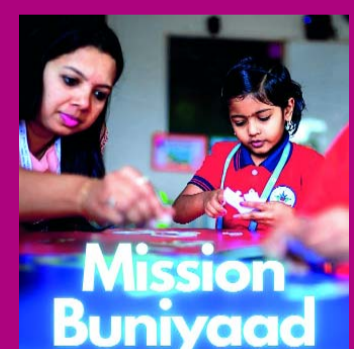


Tesla and SpaceX CEO Elon Musk on Sunday said that he hopes for a self-sustaining city on the Red Planet in 20 years' time, as his space company prepares Starship to take people and cargo to the Moon, Mars and beyond. Musk said in a tweet: "I hope there is a self-sustaining city on Mars in 20 years!" Last month, the world's richest man said he was optimistic that "humanity will reach Mars in your lifetime". "Without a common goal, humanity will fight itself. The Moon brought us together in 1969, Mars can do that in the future," Musk had said. The Tesla CEO had stated that making life multi-planetary will help back up the ecosystems on Earth and added that apart from humans no other species can transport life to Mars. Referring to Biblical patriarch Noah, who built an Ark that survived the great flood on Earth, Musk said his Starship models will be "modern Noah's Arks", that can save "life from a calamity on Earth".

## DELHI: MISSION BUNIYAAD FOR CLASS IX STUDENTS TO CONTINUE TILL AUGUST 31

Mission Buniyaad programme will continue till August 31 for Delhi government school students of class IX who are yet to reach class-appropriate learning levels. The Delhi government's programme had resumed after children returned to the schools post Covid-induced closure. It is to help the improvement of the learning levels of children as per their class and age. The scheme was extended to the students of class IX this year itself. This year, the Delhi government had directed even the government-aided schools to conduct classes under Mission Buniyaad to address the learning gaps caused because of the pandemic-induced school closures.

The Directorate of Education (DoE) has ordered school heads to ensure that two to three periods are allocated everyday for strengthening the reading, writing comprehension and subject-specific vocabulary of those students who are lagging. It will cover various subjects, including mathematics and science, and chapters covered in classes VI to VIII. For those who have achieved grade-appropriate learning, the school can continue with the syllabus provided by the DoE.

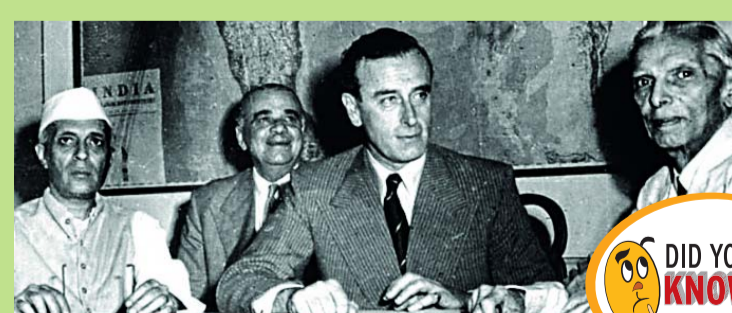


**THIS DAY  
THAT YEAR**  
**AUGUST  
17, 1947**

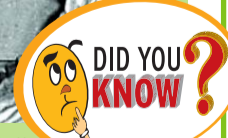
## The Radcliffe Line, the border between Union of India and Dominion of Pakistan is revealed

August 17, is an extremely important date in the history of India, as on this day, the Radcliffe Line, which had marked the bifurcation of British India into two separate and independent dominions—India and Pakistan were declared the boundary between India and Pakistan. ■ It was named after its architect, Sir Cyril Radcliffe, who, as chairman of the Border Commissions, was charged with equitably dividing 175,000 square miles of territory with 88 million people. ■ The line separates India and Pakistan from the Rann of Kutch in Gujarat till the international border in Jammu in Jammu & Kashmir.

■ The Radcliffe Line had divided British India into three parts— West Pakistan, India and East Pakistan. But in 1971, the Bengali people in East Pakistan rebelled against their West Pakistani rulers. As a result, a new country came into being and is known as Bangladesh. ■ Sir Cyril Radcliffe, a lawyer by profession, had never been to India and it was very difficult for him to divide a country he didn't know much about and had never been to. ■ The line he drew is often designated as 'Bloody Line' and Radcliffe himself is said to have reservations about drawing the line in such a haste, a fact he admitted years later during an interview with journalist Kuldeep Nayar.



Lahore is perhaps the most-written about city, when we talk about the Partition. It could have been India's if Radcliffe hadn't decided to give it to Pakistan. Once again mentioned in Kuldeep Nayar's book 'Scoop! : Inside Stories From The Partition To the Present', Radcliffe had told Nayar that he wanted to give Lahore to India but if he had done so, Pakistan wouldn't have got any big city because he had already given Kolkata to India



Quote  
unquote

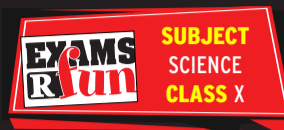


Our Constitution is the fundamental document, which regulates the relationship between the citizens and the government. While it has granted us inalienable rights, it places upon us certain fundamental duties. The fundamental duties are not merely pedantic or technical. They were incorporated as the key to social transformation. Our framers imagined a nation, where citizens are aware, alert and able to make the right decisions. It is imperative for the people to understand the system and its nuances, the powers and the limitations

NV Ramana, CJI



# LIFE PROCESS

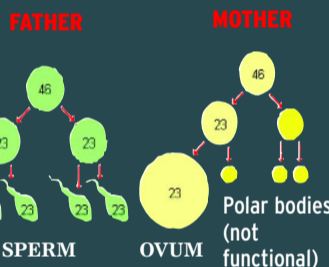


## HOW DO PLANTS MULTIPLY?

The formation of new organisms of the same species by an earlier existing organism is called reproduction. The process of sexual reproduction in plants requires two germ cells, male and female gamete. There are two processes involved in this method of reproduction:

### 1 GAMETE FORMATION

The gametes are formed by meiosis. By this type of cell division, the chromosomes' number reduces to half, hence the gametes are haploid.

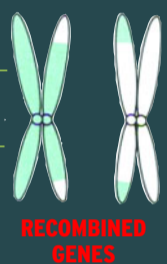


### 2 FERTILISATION

When the haploid gametes fuse together it becomes a diploid zygote. The zygote divides by mitosis and an embryo is formed. Thus, a new organism is formed.

#### THE NEW ORGANISM HAS THE FOLLOWING CHARACTERISTICS

- Recombined genes of both the parents
  - Similarities with parents in some characters
  - Differences with parents in some other characters.
- This diversity occurs due to genetic variation as two parents or two different organisms are involved. Variation helps in adaptation to changing environments and survival.

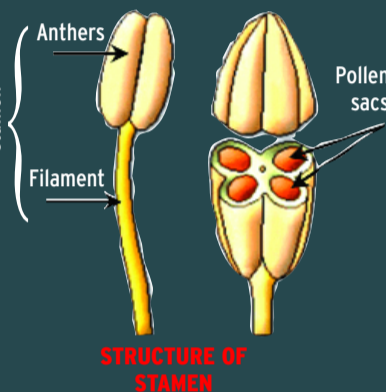
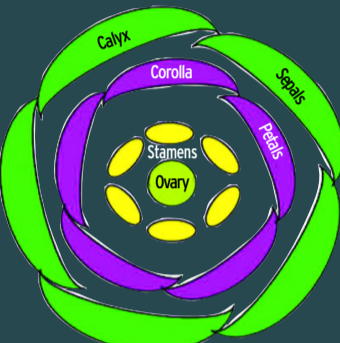


#### SEXUAL REPRODUCTION IN PLANTS

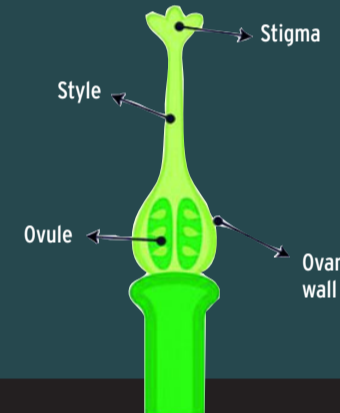
The flower is the structural unit of sexual reproduction in plants. It has four whorls...

NAME	TYPE OF WHORL	FUNCTION
1. Calyx or Sepal	Accessory	Protection of inner whorls
2. Corolla or Petal	Accessory	Protection of inner whorls
3. Androecium or Stamen	Essential	Male whorl
4. Gynoecium or Carpel	Essential	Female whorl

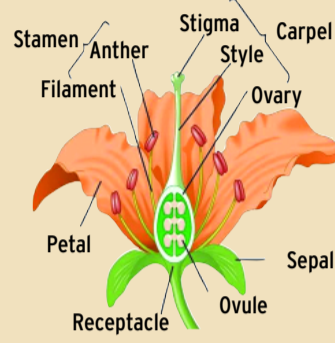
#### ARRANGEMENT OF FLORAL WHORLS



#### STRUCTURE OF CARPEL



#### STRUCTURE OF FLOWER



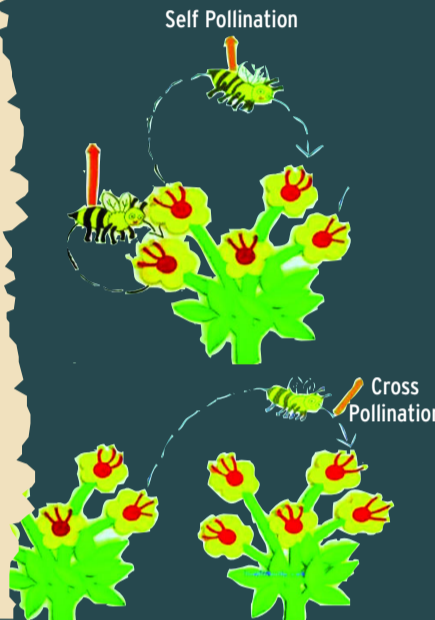
#### IMPORTANT TERMS RELATED TO THE PARTS OF A FLOWER

- Calyx**, which is also called sepal, is green in colour
- Corolla**, which is also known as petal, is brightly coloured to attract insects
- The male part of the flower, androecium, also called a stamen, has a stalk-like structure called filament and a bilobed anther that contains pollen grains
- The female part of gynoecium also known as the carpel has a sticky part called the stigma, a stalk-like style, and a bulgy part, the ovary

#### THE PROCESS OF REPRODUCTION

Pollen grains from anther are transferred to the stigma. This process is called pollination. It occurs with the help of abiotic (wind, water) and biotic (insects and animals) factors. The stigma is sticky to trap the pollens.

##### TYPES OF POLLINATION IN PLANTS



#### SEED GERMINATION

The zygote develops with the help of food stored in the endosperm. The ovule changes into seed and the ovary into fruit after fertilisation. The seeds germinate in the soil under favourable conditions and a new plant is formed.



SUNANDA K NAIR, St Therese Convent High School, Dombivli, Mumbai

## 'PASSAGE' TO PROGRESS



CLASS: X  
SUBJECT:  
ENGLISH (CBSE)  
MARKS: 80

SAMPLE PAPER SET BY GAYATRI, ENGLISH DEPARTMENT, CHITTURI HIGH SCHOOL, VIJAYAWADA

### SECTION-A

Q1: Read the passage given below carefully: (1M x 10= 10M)

**1** We have but one method of acquiring knowledge. From the lowest man to the highest yogi, all have to use the same method called concentration. The chemist who works in his laboratory concentrates all the powers of his mind, brings them into one focus and throws them on the elements, and the elements stand analysed, and thus his knowledge comes. The astronomer also concentrates the powers of his mind and brings them into one focus and then throws them on to objects through his telescope and stars and systems roll forward and give up their secrets to him. So it is in every case-with the professor in his chair, the students and his books-with every man who is working to know.

**2** The more this power of concentration is, the more is the knowledge acquired, because this is the one and the only method of acquiring it. Even the lowest shoeblack, if he pays more concentration, will polish shoes better, the cook with his concentration will focus all his attention on the work in hand and will cook a better meal. In making money or in worshipping God, or in doing anything, the stronger the power of concentration, the better will be that work done.

**3** Even though concentration is the key to acquiring knowledge-Concentration itself is not easy to attain. It is a skill that can be developed only through a lot of patience and practice. He who masters it is real 'yogi'. To control our senses and to gather all our awareness into one focus is by no means an easy task. Life itself is complex and there are invariably several issues vying for our attention which makes it even more difficult to focus on only one thing. Even if we try to concentrate fully on the work in hand, our subconscious mind is scattered in varied directions and soon drags our conscious



mind along, without even our realising it. It therefore requires a lot of discipline, will power and self-control to focus or concentrate.

**4** However, the effort is worth it and pays rich dividends in the form of accomplishment of our goals. This is the one call, the one knock which opens the gate of nature, and lets out floods of light.

On the basis of your understanding of the above passage, answer any 10 of the following questions by choosing the most appropriate option.

- What is the pre-requisite for acquiring knowledge?  
a) concentration  
b) complete focus on the task  
c) positive attitude  
d) both a and b
- What examples of professionals, who use their powers of concentration, are cited in the passage?  
a) chemist, astronomer  
b) astronomer, doctor  
c) doctor, clerk  
d) clerk, teacher
- In your opinion, how does concentration help to acquire knowledge?  
a) it enables the individual to use his mind to its fullest potential  
b) it forbids the individual to use his mind to its fullest potential  
c) it enables the individual to use his mind to its fullest potential  
d) it forbids the individual to use his

- mind to its fullest potential
- Concentration is so difficult to attain because.....  
a) there are no distractions  
b) there are few attractions  
c) there are numerous distractions  
d) none of the above
  - Some qualities essential to attain concentration are.....  
a) a lot of patience and practice, discipline  
b) will power and self-control to focus  
c) only a  
d) both a and b
  - ..... is scattered in different directions.  
a) synthesizing mind  
b) conscious mind  
c) subconscious mind  
d) cognitive mind
  - Which word in the passage means 'unchangingly'?  
a) invariably  
b) varied  
c) vying  
d) various
  - Find from the passage the antonym of 'gathered':  
a) directions  
b) concentrate  
c) focus  
d) scattered
  - What is a person who performs yoga called?  
a) yogi  
b) ascetic  
c) hermit  
d) meditator
  - The passage deals with methods of:  
a) acquiring knowledge  
b) being a yogi  
c) meditation  
d) concentration
  - Which of the following is not correct?  
a) concentration is the key to acquiring knowledge

- b) concentration is easy to attain  
c) concentration helps in reaching goals  
d) concentration requires discipline
- (12) Find from the para 3 antonym of 'simplistic'  
a) complex  
b) discipline  
c) invariably  
d) scattered

Q11: Read the passage given below carefully: (1M x 10= 10M)

**1** If NSYNC singer Lance Bass can't afford the \$20 million price tag for a ride into space now, he should try again in, say, a decade. But within a decade or so, even some of Bass's fans could afford a quick and safe trip to the suborbital edge of space - roughly 50-60 miles above earth, says Frank Seitzen, president of the Space Transport Association.

**2** "I think you're maybe 10 or 12 years away from having companies that are reliable and that can go through that process for \$5,000 or \$10,000," Seitzen said. There's a hungry demand from would-be space tourists and a \$10 million prize is inspiring designers. The X Prize, created in 1994 to spur the development of new space travel technologies, has attracted at least 21 space vehicle designs from people in five countries. The non-profit X Prize Foundation, founded by a group of donors inspired by the \$25,000 Orteig Prize that Charles Lindbergh won in 1927, will give the prize.

**3** Each design team is hoping to develop the first reusable rocket capable of blasting a pilot and two to five passengers to a height of 62 miles. NASA awards astronaut status for flights above 50 miles. Some design contestants boast that such trips will be available by 2005, although the first few travellers will face \$100,000 bills until the market matures.

**4** Despite steep prices and lagging technology, Seitzen and others are convinced that a lucrative travel business awaits. Space Adventures, a travel agency that helped coordinate

the first tourist trip to the International Space Station last year by US businessman Dennis Tito, claims it has collected \$2 million in deposits from more than 120 would-be sub-orbital tourists. For client Wally Funk, who has paid her deposit, sub-orbital travel is a disappointing, yet feasible, alternative to decades of trying to reach space. Funk, a retired aviation safety investigator says, "I would do (a space station trip) in a heartbeat, but I can't because I'm not a millionaire."

**5** Compared to Tito's groundbreaking effort last year, future sub-orbital flights look easy. Tito was subjected to rigid medical requirements and a gruelling six-month training course in Russia. But sub-orbital travellers will need only a few days of training and, pending FAA approval, would have to pass a much lower bar for medical standards. "We always say that if you can safely ride a rollercoaster, then you are fit for a sub-orbital flight," says Space Adventures spokeswoman Tereza PreDESCU.

Four commercial spaceports, which launch rockets like airports launch planes, are already licensed to operate by the FAA in Virginia, California, Alaska and Florida. They are eager to welcome extra business from space tourists, negating the need to catch a ride to Russia.

On the basis of your understanding of the passage, answer any 10 of the following questions by choosing the most appropriate option.

- Space adventure claims.....  
a) it is a lucrative business  
b) it is a business of less profit  
c) people don't want to go to space  
d) none of the above
- Some design contestants feel convinced that....  
a) space trips will never be made available  
b) space trips are not feasible  
c) space trips are disappointing  
d) space trips will soon be made available
- Tito.....  
a) underwent rigid medical checkups

- b) attended a six month training course  
c) both (i) and (ii)  
d) none of the above
- (4) Suborbital travellers will need  
a) two years training course  
b) they do not need proper training  
c) a little money  
d) none of these
- (5) Name the first tourist to the International Space Station  
a) Lance Bass  
b) Frank Seitzen  
c) Charles Lindbergh  
d) Dennis Tito
- (6) What are the prerequisites for space travelling?  
a) travellers should be medically fit  
b) they do not need proper training  
c) they should have lots of money  
d) both b and c
- (7) Space Adventures, a travel agency has collected ..... from the suborbital tourist  
a) \$10,000  
b) \$100,000  
c) \$2 million  
d) \$1 billion
- (8) In para 4 the synonym of 'profitable' is  
a) lucrative  
b) convinced  
c) steep  
d) feasible
- (9) In para 5 the synonym of 'severe, exhausting'  
a) alternative  
b) trying  
c) gruelling  
d) approval
- (10) In para 2 the antonym of 'untrustworthy' is  
a) spur  
b) reliable  
c) attracted  
d) lagging
- (11) Commercial spaceport licensed to launch rockets is not present in  
a) Florida  
b) Alaska  
c) California  
d) New York
- (12) Which statements is not true for suborbital travel?  
a) Suborbital travel is a lucrative business  
b) Suborbital travel is cheap  
c) Suborbital travel has a good demand  
d) None of the above

To be continued....The rest of the question paper will appear next Wednesday

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.