



THE TIMES OF INDIA

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TODAY'S EDITION

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STUDENT EDITION
TUESDAY, OCTOBER 5, 2021

Quote unquote

The key to successfully tackling the pandemic is to ensure that every eligible person receives both doses of the Covid-19 vaccine. We have to go far ahead of 100 crores and have to make everybody double vaccinated. So, this is our aim and we are moving ahead, but we have to move faster and ensure that everybody gets the second dose as well. That is how we are going to win this war. It is not an easy war still, we cannot be over-confident, we have to be a little under-confident so that we don't lower our guard and take all precautions. It is not easy. Many countries are still fighting battles. So, we have to be very cautious as this can come back with a vengeance
Dr Naveet Wig, chairperson, Covid-19 task force, AIIMS

CLICK HERE: PAGE 1 AND 2

NOBEL SEASON BEGINS

Heat and touch work win Nobel for Medicine

The Nobel Prize in the field of physiology or medicine has been awarded to US scientists David Julius and Ardem Patapoutian. They were cited for their discovery of receptors for temperature and touch. While Julius is a professor at the University of California in San Francisco, Patapoutian is a professor at Scripps Research in California. "The groundbreaking discoveries... by this year's Nobel Prize laureates have allowed us to understand how heat, cold and mechanical force can initiate the nerve impulses that allow us to perceive and adapt to the world," the Nobel jury said.



Julius used capsaicin, the active component in chili peppers, to identify the nerve sensors that allow the skin to respond to heat

Patapoutian found separate pressure-sensitive sensors in cells that respond to mechanical stimulation



- 1 Six Nobel Prizes are awarded every year, each recognising an individual's or organisation's groundbreaking contribution in a specific field
- 2 Prizes are given for physiology or medicine, physics, chemistry, economic science, literature and peace work, which often draws the most attention because of the calibre of people and groups nominated
- 3 Nobel Prize laureates receive a Nobel Prize diploma, a Nobel Prize medal and a document detailing the Nobel Prize amount, which last year rose to 10 million Swedish krona, or about \$1.1 million in current exchange rates
- 4 Since 2001, 28 women have been awarded all prizes combined, almost three times as many as in the previous two decades
- 5 In 2009, five women received a Nobel prize, including the first female laureate in economics, American Elinor Ostrom – a record that has yet to be equalled.
- 6 The first person to win the Nobel prize twice was Marie Curie, in 1903 in physics and in 1911 in chemistry

Astronaut Barbie jets off on zero gravity flight



Barbie doll version of Italian astronaut Samantha Cristoforetti has jetted off on a zero-gravity flight with the aim of inspiring young girls to consider a career in space and science, technology, maths and engineering (STEM). Marking the Oct 4-10 World Space Week, which this year celebrates women in space, toy maker Mattel Inc has teamed up with the European Space Agency (ESA) and Cristoforetti, who is currently in training for her next mission to the International Space Station next April.



- As part of the project, Cristoforetti's look-alike doll mirrored the preparation an astronaut needs to do before heading off to space, by travelling and floating on a zero-gravity flight from an ESA base in Germany
- As part of the project, Barbie is sharing educational resources on space on its website and the proceeds from the new Samantha Cristoforetti Barbie doll, previously a one-of-a-kind toy, will be donated to the Women In Aerospace organisation towards a PhD student bursary

Mars's surface got shaped by furious floods from overflowing craters: Study

Massive floods from overflowing crater lakes had an outsized role in shaping the Martian surface, carving deep chasms and moving vast amounts of sediment, suggest a recent study. The study found that the floods, which probably lasted mere weeks, eroded more than enough sediment to completely fill Lake Superior and Lake Ontario. The study demonstrated that lake breach river valleys played an important role in shaping the Martian surface. This is the first study to investigate how the 262 breached lakes across the Red Planet shaped the Martian surface as a whole.



Crater lakes were common on Mars billions of years ago when the Red Planet had liquid water on its surface. Some craters could hold a small sea's worth of water. But when the water became too much to hold, it would breach the edge of the crater, causing catastrophic flooding that carved river valleys in its wake

FACTOID

2 MILLION

The number of accounts banned by WhatsApp in the month of August to reduce harmful content on the platform, according to its transparency report. The report revealed that WhatsApp banned a total of 20,70,000 accounts in one month. The report also reveals that 222 ban appeals were made by users and the India Grievance Officer during the month of August. This is the third transparency report from WhatsApp.

CLOUD HACKING: India now 2nd most-targeted nation after US

India now ranks second only to the US in most security threats on Cloud, followed by Australia, Canada and Brazil, and malware was the technique used most often in reported incidents, a new report showed on Monday. With the shift to a more flexible pandemic workforce, cyber criminals have introduced new and updated threats and tactics in campaigns targeting prominent sectors, such as government, financial services and entertainment.

- The government was the most targeted sector in Q2 of 2021 with a 64 per cent increase in publicly reported cyber incidents, according to the 'Advanced Threat Research Report: October 2021' by McAfee Enterprise.
- It was followed by telecom, energy, and media and communications

Chacha Chaudhary is the mascot for Namami Gange programme

Comic book character Chacha Chaudhary has been declared as the mascot of the government's Namami Gange Programme with an aim of bringing behavioural change among children towards the Ganga and other rivers. The National Mission for Clean Ganga (NMCG), which has been focusing on the youth as part of its outreach and public communications efforts as they are the impellers of change, has tied-up with Diamond Toons to develop and distribute comics, e-comics and animated videos.



Shakespeare is not only the most widely read English dramatist to date but he is also one of the key revolutionary writers of English literature. His influence on the English language and its usage can't be denied and many consider him as someone who made the English language rich and worth reading. We remember him as the greatest playwright that English literature ever witnessed.

Here are some of the finest villains that were created by Shakespeare, and their grand dialogues. They are not only lines but word-gems that have illuminated the entire universe of English literature.

His villains enjoy celebrity status and have garnered plenty of praise from the pens of critics. It is interesting to see how Shakespeare unmasks their personalities by some of the most meaningful lines. These characters are not only interesting from the literary point of view but they also provide psychological insight into the minds of people.



SHAKESPEARE'S Dark Villains

THE BARD'S VILLAINS SPEAK DIALOGUES THAT ARE NOT MERE LINES BUT WORD-GEMS THAT HAVE ILLUMINATED THE ENTIRE UNIVERSE OF ENGLISH LITERATURE.

Lady Macbeth

It is not said without reason that the character of Lady Macbeth is one of the most powerful female characters ever created by William Shakespeare. She presents herself as someone who has the nerve to take risks and turns the tide in her favour. When she speaks...

"Things without all remedy should be without regard: What's done is done." (Act 3, Scene 2)

SHE TRIES to convince Macbeth, her husband, that the action has been already taken and now there is no turning back. She shows her resolute side and conveys strongly that what has been done can't be undone and one should not cry over the past. This dialogue is still used to express ideas similar to this. She has everything that the character of Macbeth lacks as the hero of the play.

Shylock

Shylock is the most interesting villain who generates pity for himself in the eyes of the readers and speaks the lines that are highly poetic and therefore the most meaningful. In the lines:

"I am a Jew. Hath not a Jew eyes?"

Hath not a Jew hands, organs, dimensions, senses, affections, passions? Fed with the same food, hurt with the same weapons, subject to the same diseases, healed by the same means, warmed and cooled by the same winter and summer as a Christian is?" (Act 3; Scene 1)

WE NOTICE his grief over ill-treatment received at the hands of Christian but more than that what is more important is that the lines are still impactful and pinching. There is a hint of racial discrimination in the words and our society is not out of its clutches even today. Society still has a certain class of people who would surely identify with the feelings expressed in the above lines. As readers, we even salute the bard who put such perpetual dialogues in Shylock's mouth.

Iago

The most fascinating and dangerous character of Iago in Othello is simply unmissable. He is a masterpiece. He not only comes across as the most evil-hearted villain but he is also the most manipulative of the lot. In the dialogue...

"But I will wear my heart upon my sleeve for daws to peck at;

I am not what I am." (Act 1, Scene 1)

HE TRIES to display his character but reveals later that his intentions were completely wicked. Iago plays psychological tricks with the readers' minds and shocks them with his ill motives. He is the greatest personification of what is expressed in the line - Appearances are Deceptive. Through this character, Shakespeare masterfully displays that sweet tongues may have the sharpest fangs.

Cassius

The villainy of Cassius is exhibited by Shakespeare in the most unique manner. He plays the role of a friend who misguides Brutus to take revenge on Julius Caesar. While persuading Brutus to act against Julius Caesar, he utters the lines...

"The fault, dear Brutus, is not in our stars,

But in ourselves,

That we are underlings." (Act 1, Scene 2)

BY THESE lines, Cassius tries to convey how people are themselves responsible for their own problems and misfortune. Here, we understand that destiny is not all-powerful and it is an individual who has the ability to transform the future.

As humans, we must hold the reins of our life and act responsibly to achieve our goals. In mere two lines, Shakespeare has provided a very strong message.

Claudius

King Claudius who is Hamlet's uncle in Hamlet speaks the lines below in connection to his prayers...

"My words fly up my thoughts remain below: Words without thoughts never to heaven go." (Act 3, Scene 3)

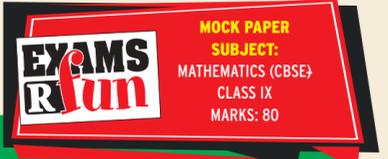
BY THESE lines, he reveals that words uttered in the form of prayer are devoid of any feelings of regret and will surely not reach God. They will never rise beyond the earth. We get the idea that the words spoken must come from the heart and be full of genuine emotions. Without sincerity, no meaning comes out of the words.

Sagar Pandya, English Literature and Language Educator, SGVP International School, Ahmedabad



EVALUATE YOUR PLUSES IN MATHS

Paper set by Dhanya Nair, TGT (Maths), Udgam School For Children, Ahmedabad



GENERAL INSTRUCTIONS

- This question paper contains two parts A and B.
- Part A consists of two sections - I and II.
- Section I has 16 questions of 1 mark each.
- Section II has 4 questions on case study. Each case study has 4 case-based sub-parts of 1 mark each.
- Part B consists of three sections - III, IV and V.
- Section III has 6 questions of 2 marks each.
- Section IV has 7 questions of 3 marks each.
- Section V has 3 questions of 5 marks each.
- Use of calculator is not permitted.

PART-A, SECTION-I

Questions 1 to 16 carry 1 mark each

- Find the angle which is half of its complement.
- Find the value of 'y', if two opposite angles of a parallelogram are $(2y+6)^\circ$ and $(96-y)^\circ$.
- Evaluate: Square of 4 divided by square root of 4
- Write the coordinates of a point on the negative part of x axis, which is three units away from the y axis.
- Find the zero of $p(x) = 5x$
- Find the supplement of a right angle.
- Write a solution for the linear equation $3x + y = 5$
- Find the value of $5x - 4x^2 + 3$ at $x = -1$
- In $\triangle ABC$, $\angle C = \angle A$, $BC = 4$ cm and $AC = 5$ cm. Find the length of AB.
- Find the measure of

an exterior angle of an equilateral triangle.

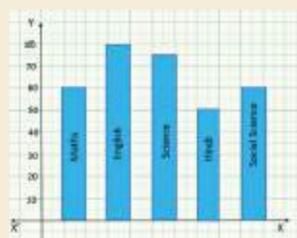
- Find the mid value of the class 13 - 19.
- Write the coefficient of x^3 in $p(x) = 7x^2 - 3x - x^3 + 4$
- In parallelogram ABCD, $\angle A = 100^\circ$. Find $\angle B$
- Find the height of an equilateral triangle of side $2\sqrt{3}$ units.
- $\triangle ABC \cong \triangle EFG$, $AB = 15$ cm, $BC = 20$ cm, $AC = 25$ cm and $FG = 3x - 7$, then find x.
- Simplify $\sqrt{9} \times \sqrt[3]{27}$

SECTION-II

Questions 17 to 20 carry 4 marks each

Q17. Case Study based - 1

The following bar graph shows the marks of a student (out of 100) in five subjects

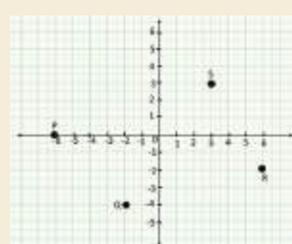


- In which subject he scored maximum marks? (a) Maths (b) English (c) Science (d) Hindi
- The range of his marks is : (a) 20 (b) 30 (c) 40 (d) 50
- His mean mark is: (a) 45 (b) 55 (c) 65 (d) 75
- In how many subjects he scored more than 50%? (a) 5 (b) 4 (c) 3 (d) 2

Q18. Case Study based - 2

Point P, Q, R and S are the points on a cartesian plane.

- The perimeter of the board is (a) 15cm (b) 25cm (c) 40cm (d) 50cm
- The sign board is definitely (a) a right triangle (b) a scalene triangle (c) an isosceles triangle (d) an equilateral triangle
- Which of the following can be the measures of angles of the sign board? (a) 600, 600, 600 (b) 300, 600, 450 (c) 750, 750, 800 (d) 500, 800, 500
- The perpendicular to side with 20cm from the opposite vertex measures 72 cm, the area of the sign board is (a) $\sqrt{2}$ cm² (b) $6\sqrt{2}$ cm² (c) $10\sqrt{2}$ cm² (d) $12\sqrt{2}$ cm²



- Which point lies in the first quadrant? (a) P (b) Q (c) R (d) S
- A point whose ordinate is zero (a) P (b) Q (c) R (d) S
- Abscissa of 'R' + abscissa of 'S' (a) 6 (b) 9 (c) 3 (d) 10
- The distance of 'Q' from y axis (a) 3 units (b) 1 unit (c) 2 units (d) 4 units

Q19. Case Study based - 3

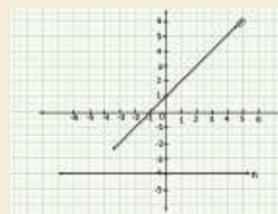
The figure shows a triangular sign board with sides 15cm, 20cm and 15cm



- The perimeter of the board is (a) 15cm (b) 25cm (c) 40cm (d) 50cm
- The sign board is definitely (a) a right triangle (b) a scalene triangle (c) an isosceles triangle (d) an equilateral triangle
- Which of the following can be the measures of angles of the sign board? (a) 600, 600, 600 (b) 300, 600, 450 (c) 750, 750, 800 (d) 500, 800, 500
- The perpendicular to side with 20cm from the opposite vertex measures 72 cm, the area of the sign board is (a) $\sqrt{2}$ cm² (b) $6\sqrt{2}$ cm² (c) $10\sqrt{2}$ cm² (d) $12\sqrt{2}$ cm²

Q20. Case Study based - 4

The graphs of two equations are drawn on the cartesian plane.



- The equation of line 'm' (a) $x+y=1$ (b) $x-y=1$ (c) $y-x=1$ (d) $x+y=0$
- The equation of line 'n' (a) $x=-4$ (b) $y=-4$ (c) $x=4$ (d) $y=4$
- Number of solutions of the equation representing line 'm' (a) 1 (b) Infinite (c) No solution (d) 3
- The lines 'm' and 'n': (a) Intersect at one point (b) Are parallel (c) Intersect at the origin (d) Intersect at more than one point

PART-B, SECTION-III

Questions 21 to 26 carry 2 marks each

- Evaluate 98×102 using identity.
- $\angle A$ and $\angle B$ form a linear pair. Find $\angle A$ and $\angle B$ if $\angle A = 2\angle B$.
- Find the area of a triangle with height 3 cm and base 4cm.
- Determine whether $x+1$ is a factor of $p(x) = 2x^3 + x^2 - 2x - 1$, using the factor theorem.
- Find the angles of a triangle if the angles are in the ratio 5 : 5 : 2.
- Express 1.67 as a rational number.

SECTION - IV

Questions 27 to 33 carry 3 marks each

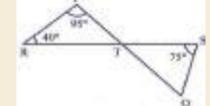
- $\triangle ABC$ is an isosceles triangle in which $AB=AC$. Side BA is produced to D such that $AD=AB$. Show that $\angle BCD$ is a right angle.
- ABCD is a quadrilateral in which P, Q, R and S are mid-points of the sides AB, BC, CD and DA. AC is a diagonal. Prove that PQRS is a parallelogram.
- Sides of a triangle are in the ratio of 12:

17 : 25 and its perimeter is 540 cm. Find its area.

Q30. Find the mean, median and mode of the following data 14, 16, 8, 12, 14, 10, 16, 12, 11, 14

Q31. In the figure, if lines PQ and RS intersect at point T, find $\angle SQT$ and $\angle RTQ$.

Q32. Evaluate: $\left[5 \left[8 \frac{1}{3} + 27 \frac{1}{3} \right] \right]^{\frac{1}{4}}$



Q33. Give the possible expressions for the dimensions of the cuboids whose volume is $12ky^2 + 8ky - 20k$.

SECTION-V

Questions 34 to 36 carry 5 marks each

- The line segment joining the mid-points M and N of parallel sides AB and DC respectively of a trapezium ABCD is perpendicular to both the sides AB and DC. Prove that $AD=BC$.
- State and prove the midpoint theorem.
- The marks of 60 students in an examination are as follows. Construct a histogram for the data. How many students scored less than 30 percentage?

Marks	Number of students	Marks	Number of students
10-20	3	60-70	7
20-30	6	70-80	11
30-40	3	80-90	12
40-50	4	90-100	8
50-60	6		

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.