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OAJATVA
ઓજત્વ

A Magazine by OAJ EDUCATION SYSTEM

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INSTITUTE OF SCIENCE

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OAJATVA

ઓજત્વ

A Magazine by OAJ EDUCATION SYSTEM

Dedicated to Almighty God

OAJ INSTITUTE OF SCIENCE

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OAJATVA
ઓજત્વ
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Jignasha Mehta

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Unknown Freedom Fighter :	*Dhruvit Sir*
Life Value :	*Omkar Sir*

INDEX

પ્રિય વાચક મિત્રો,
નમસ્કાર,

વ્હાલા વિદ્યાર્થી મિત્રો,

નવા ઉત્સાહ અને અમાપ સાહસ સાથે આ વર્ષના બીજા સત્રની શરૂઆત થઈ રહી છે. આમ તો બીજુ સત્ર એટલે પરીક્ષાઓનું સત્ર પરંતુ મિત્રો ઓજમાં તો રોજ પરીક્ષાની મોસમ ખીલેલી જ હોય છે.

ચાલો મિત્રો સૌ સાથે મળી આ બીજા સત્રને કંઈક નવીનતમ બનાવીએ. હાલમાં આપ સર્વે Olympiad Exam માટે તનતોડ મહેનત કરી રહ્યા છો. NSO અને IMO પુર્ણ થતાં જ આપણે સૌ 15/12/2023 થી 24/12/2023 દરમિયાન Bagless સપ્તાહ ઉજવી રહ્યા છીએ. જેમાં આપણે જુદી જુદી પ્રવૃતિઓ દ્વારા આપણા વ્યકિતત્ત્વને નવી દિશા આપવા જઈ રહ્યા છીએ. વળી આ સપ્તાહના છેલ્લા બે દિવસોને કેમ ભૂલી શકાય? **સ્પંદન-2023 (23/24 December - 2023)**

NSO અને IMO માટે ખૂબ જ સારી તૈયારી કરો, અત્યંત સારી International Rank લાવો તેવી શુભેચ્છાઓ આપને પાઠવું છું, અને સ્પંદન-2023-24 અને Bagless Week માં જલ્દી-જલ્દી, વ્હેલાં-વ્હેલાં આવો તેવી અભ્યર્થના સહ.

આપનો,
નિરવ દવે
ચેરમેન & ફાઉન્ડર,
ઓજ ઈન્સ્ટિટ્યૂટ ઓફ સાયન્સ

Tech bar

Carbon Nano florets

IIT Bombay have created **carbon nanoflorets** capable of converting **sunlight into heat** with unmatched efficiency.

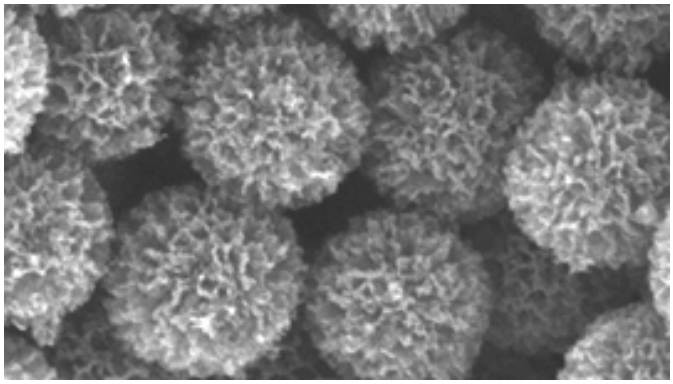
This innovative development holds the potential to revolutionize sustainable heating solutions while minimizing the **carbon footprint.**

◈ About:

- The carbon nanoflorets, developed by researchers from IIT Bombay, demonstrate an impressive **light absorption efficiency of 87%.**
- They can absorb multiple frequencies of sunlight, including infrared, visible light, and ultraviolet, in stark contrast to **traditional solar-thermal materials** that typically **absorb only visible and ultraviolet light.**

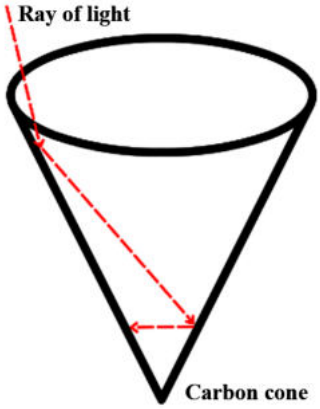
◈ Designing Process of Carbon nanoflorets:

- A special form of silicon dust called DFNS (dendritic fibrous nanosilica) is heated in a furnace.
- Introduction of Acetylene gas in the chamber facilitates carbon deposition, turning it black.
- Then the black powder is collected and treated with a strong chemical that dissolves the DFNS away, leaving carbon particles behind, resulting in **spherical carbon beads with cone-shaped pits,** forming the carbon nanoflorets, resembling **marigold flowers** when observed under a microscope.



◈ The Role of Unique Structure:

- The structure of the nanoflorets, composed of carbon cones, **minimizes light reflection and ensures maximum internal absorption.**
- This distinctive design captures and **retains sunlight, converting it into thermal energy.**



◈ Minimal Heat Dissipation:

- The long-range disorder in the nanoflorets' structure ensures that heat generated within the material is **not carried over long distances.**
- This characteristic reduces the dissipation of heat into the environment, allowing the nanoflorets to retain and utilize the generated thermal energy effectively.

What are the Applications and Commercial Potential of Carbon Nanoflorets?

◈ Heating Water Efficiently:

- A one-square-meter coating of carbon nanoflorets can vaporize approximately five litres of water within an hour, surpassing the performance of **commercial solar stills.**
- Carbon nanoflorets are ideal for water heating applications, offering a **sustainable and cost-effective solution** that reduces reliance on **fossil fuels**.
- Nanoflorets can be applied to diverse surfaces, such as paper, metal, and terracotta clay, making them versatile for various applications.

◈ Eco-Friendly Heating:

- By utilizing nanofloret coatings, users can harness **solar energy** for heating their homes in an environmentally friendly manner, thereby reducing their carbon footprint.

◈ Stability and Longevity:

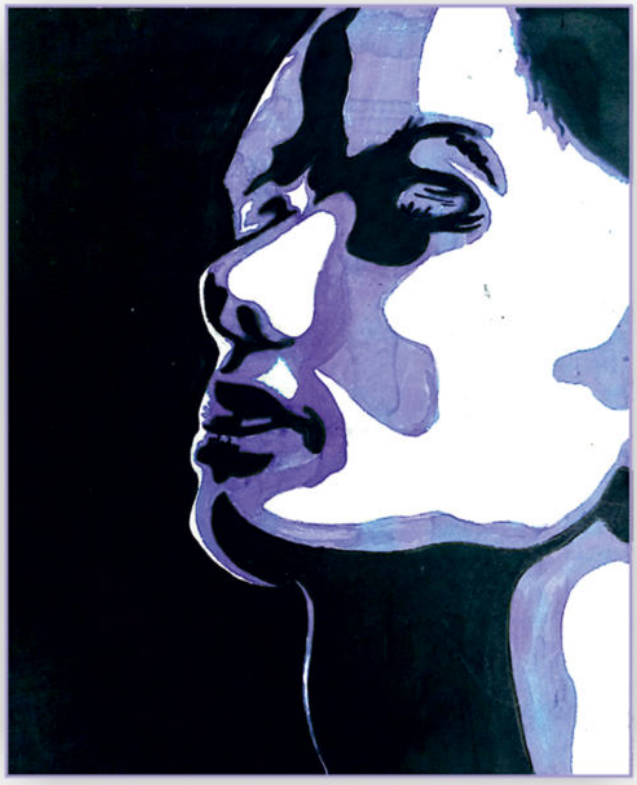
- Coated nanoflorets exhibit exceptional stability with a minimum **lifetime of eight years.**
- Researchers are continuing to assess their durability under various environmental conditions.

- By Hiya Jambukiya
(8th - E)

Art Corner

- By Mira Kanada
(9th - E)

- By Vignaba Bhandari
(10th - E)



- By Vignaba Bhandari
(10th - E)

Expert's Column

"ટેકનોલોજીનો ઉપયોગ"

કૃતાર્થ અને કૃતજ્ઞા આજે મુખ્યમંત્રીનાં હસ્તે એવોર્ડ લઈ રહ્યા હતા. એવોર્ડ હતો youngest programar આ બંને જોડકાં ભાઈ-બહેને Hackothon (જેમાં computer coding દ્વારા જુદા-જુદા Rotos design કરવામાં આવે છે.) માં ભાગ લીધો હતો. આ Competition college students જ ભાગ લે છે. પરંતુ આ ભાઈ-બહેને School Level (Std-11th & 12th) માંથી આ Competition માં ભાગ લીધો હતો.

કૃતાર્થ અને કૃતજ્ઞાનું જયારે school માં સન્માન કરવામાં આવ્યું અને પોતાનું વકતવ્ય આપવા કહ્યું ત્યારે તેઓએ પોતાનો ભૂતકાળ વાગોળતા જણાવ્યું.

"લગભગ પાંચ વર્ષ પહેલાની વાત છે અને std-6th - 7th માં ભણતાં હતા. આ સમયે મમ્મી અને પપ્પાનો મોબાઈલ જાણે અમારો જ હોય એ રીતે અમે કબજે કરી લેતા, પોતાને ગમતી ગેમ્સ, youtube shorts બસ એ જ અમારી દુનિયા હતી, જેવા પડયા કે હાથમાં મોબાઈલ અને કાનમાં Handsfree..... ઘરમાં કોઈ મહેમાન આવે કે જાય ફકત એમને smile આપી અમે અમારા રૂમમાં મોબાઈલની દુનિયામાં ખોવાઈ જતા. મમ્મી-પપ્પાનાં સમજાવા છતાં અને સમજી ન શકયા અને std-8th માં અને બંને 2-2 વિષયમાં નાપાસ થયા. પ્રિન્સીપાલ મેડમે અમને વાલી સાથે બોલાવ્યાં અને કહ્યું નિયમ પ્રમાણે આગળનાં ધોરણમાં અમને બઢતી તો આપશે પરંતુ Retest લેવામાં આવશે. આ જ સમય દરમ્યાન અમારા દાદાજી ઘરે આવેલા હતા.

દાદાજીએ રાત્રે અમને રૂમમાં બોલાવ્યાં. અમે જેવા રૂમમાં દાખલ થયાં તરત જ દાદાજીએ બે ચોકલેટસનાં ડબ્બા ધર્યા અને કહ્યું "આમાથી ચોકલેટસ લઈ લો. હા પણ ડાબી બાજુના ડબ્બામાંથી લેશો તો તમને નુકશાન કરશે અને તમે બિમાર પડશો અને જમણી બાજુના ડબ્બામાંથી લેશો તો Healthy રહેશો, Choice is yours." અમે બંનેએ જમણી બાજુનાં ડબ્બામાંથી ચોકલેટસ લીધી અને અમે તરત જ દાદાજીનો ઈશારો સમજી ગયા. એમણે ફકત એટલું જ કહ્યું, "ગેજેટસ બધા પાસે છે પરંતુ કોણ તેનો ઉપયોગ શેના માટે કરે છે એ બાબત પર તેની પ્રગતિ નિર્ભર છે."

અને પછી અમે Mobile/Laptop નો ઉપયોગ ખૂબ જ Sytematically કરવા લાગ્યા અને અમારા intrest ના વિષયો પર research કરી અમે આ Level સુધી પહોંચ્યા.

વિદ્યાર્થીમિત્રો, Technology શ્રાપ અને વરદાન બંને સાબિત કરે છે, આપણે તેને કઈ રીતે ઉપયોગમાં લેવી તેનાં આધારે આપણું સારૂ નરસું ભવિષ્ય નિર્ભર કરે છે.

- By Jignasha Mehta
Tattvam Principal

Ramanujan's Corner

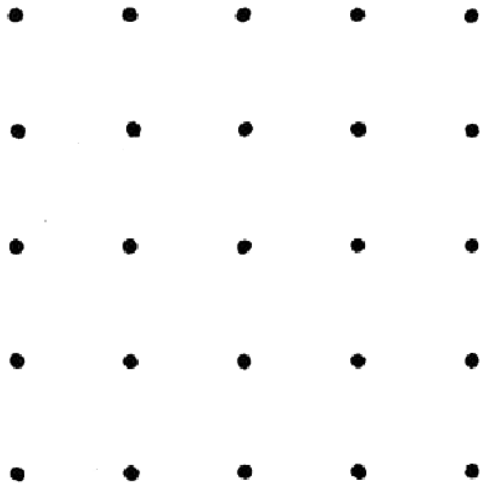
A girl meets a lion and unicorn in the forest. The lion lies every Monday, Tuesday and Wednesday and the other days he speaks the truth. The unicorn lies on Thursdays, Fridays and Saturdays, and the other days of the week he speaks the truth. "Yesterday I was lying," the lion told the girl. "So was I," said the unicorn. What day is it?

- By Kishan Parmar
(Mathematics Faculty)

Puzzle Time

THE DOTTED SQUARE

Twenty-five dots are arranged in a square formation in 5 rows of 5, as shown in the sketch:

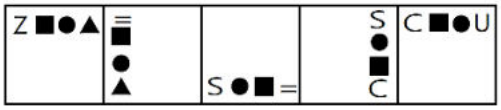


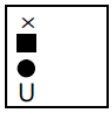
Can you connect 12 of these dots with straight lines to form a perfect cross which has five dots inside it and 8 dots outside?

FOUNDATION – CORNER

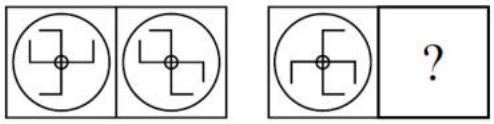
1. Select a figure from the options which will continue the series as established by the five Problem Figures.

Problem Figures

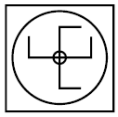


(1)  (2)  (3)  (4) 

2. There is a certain relationship between figures (1) and (2). Establish the same relationship between figures (3) and (4) by selecting a suitable figure from the options which will replace the (?) in figure (4).

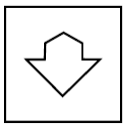
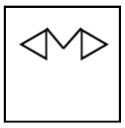


(1) (2) (3) (4)

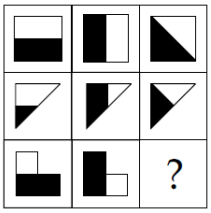
(1)  (2)  (3)  (4) 

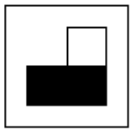
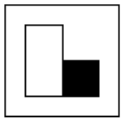
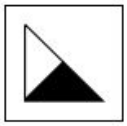
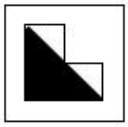
3. Select a figure from the options which is exactly embedded in Fig. (X) as one of its part.

Fig. (X)

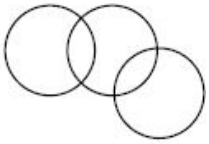
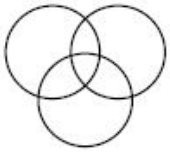
(1)  (2)  (3)  (4) 

4. Select a figure from the options which completes the figure matrix.
In what direction should the driver take the car to pick up Mini to bring her back?



(1)  (2)  (3)  (4) 

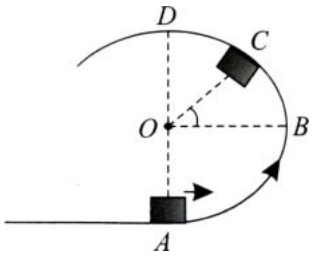
5. Select a Venn diagram from the options which best illustrates the relationship amongst "Metal, Copper, Wood".

(1)  (2)  (3)  (4) 

JEE -NEET CORNER

STD-11 - (PHYSICS)

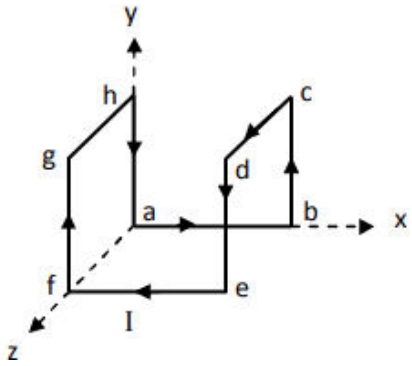
A small block of mass m is pushed on a smooth track from position A with a velocity times the minimum velocity $\frac{2}{\sqrt{5}}$ required to reach point D. The block will leave the contact with track at the point where normal force between them becomes zero.



1. At what angle θ with horizontal does the block gets separated from the track?
   (1) $\sin^{-1}(1/3)$
   (2) $\sin^{-1}(3/4)$
   (3) $\sin^{-1}(2/3)$
   (4) never leaves contact with the track
2. When the block reaches the point B, what is the direction (in terms of angle with horizontal) of acceleration of the block?
   (1) $\tan^{-1}(1/2)$
   (2) $\tan^{-1}(2)$
   (3) $\sin^{-1}(2/3)$
   (4) the block never reaches point B.
3. Find where the maximum contact force occurs between the block and the track.
   (1) at B
   (2) at C
   (3) somewhere between A and B
   (4) at A

STD-12 - (PHYSICS)

A current I amperes flows through a loop *abcdefgha* along the edge of a cube of width *l* metres as shown in figure. One corner 'a' of the loop lies at origin.



1. This current path (*abcdefgha*) can be treated as a superposition of three square loops carrying current I. Choose the correct option?
   (1) *fghaf*, *fabef*, *ebcde*
   (2) *fghaf*, *abcha*, *ebcde*
   (3) *fghaf*, *fabef*, *fgdef*
   (4) *fgdef*, *fabef*, *ebcde*
2. The unit vector in the direction of magnetic field at the centre of cube *abcdefgh* of width *l* is given by
   (1) $\hat{i}$ (2) $-\hat{j}$
   (3) $\frac{2\hat{i}-\hat{j}}{\sqrt{5}}$ (4) $\hat{k}$
3. Now if a uniform external magnetic field is $\vec{B}=B_0\hat{j}$ is switched on, then the unit vector in the direction of torque due to external magnetic field $(\vec{B})$ acting on the current carrying loop (*abcdefgha*) is
   (1) $\hat{k}$ (2) $-\hat{i}$
   (3) $\frac{2\hat{i}-\hat{j}}{\sqrt{5}}$ (4) None of these

STD-11 - (CHEMISTRY)

1. The chief ore of Zn is the sulphide, ZnS. The ore is concentrated by froth floatation process and then heated in air to convert ZnS to ZnO.

$$2ZnS + 3O_2 \xrightarrow{80\%} 2ZnO + 2SO_2$$

$$ZnO + H_2SO_4 \xrightarrow{100\%} ZnSO_4 + H_2O$$

$$ZnSO_4 + 2H_2O \xrightarrow{80\%} 2Zn + 2H_2SO_4 + O_2$$

The number of moles of ZnS required for producing 2 moles of Zn will be:
(1) 3.125 (2) 2
(3) 2.125 (4) 4

2. $KMnO_4$ reacts with oxalic acid according to the equation

$$2MnO_4^- + 5C_2O_4^{2-} + 16H^+ \longrightarrow 2Mn^{2+} + 10CO_2 + 8H_2O$$

Here, 20 mL of 0.1 M $KMnO_4$ is equivalent to:
(1) 120 mL of 0.25 M $H_2C_2O_4$
(2) 150 mL of 0.10 M $H_2C_2O_4$
(3) 25 mL of 0.20 M $H_2C_2O_4$
(4) 50 mL of 0.20 M $H_2C_2O_4$

3. The work done in adiabatic compression of 2 mole of an ideal monoatomic gas against constant external pressure of 2 atm starting from initial pressure of 1 atm and initial temperature of 300 K (R = 2 cal/mol-degree)
(1) 360 cal (2) 720 cal
(3) 800 cal (4) 1000 cal

STD-12 - (CHEMISTRY)

1. For a first order homogeneous gaseous reaction, A $\longrightarrow$ 2B+C
then initial pressure was P_i while total pressure after time 't' was P_t. The right expression for the rate constants k in terms of P_i, P_t and t is:

(1) $k = \frac{2.303}{t}\log\left(\frac{2P_i}{3P_i - P_t}\right)$

(2) $k = \frac{2.303}{t}\log\left(\frac{2P_i}{2P_t - P_i}\right)$

(3) $k = \frac{2.303}{t}\log\left(\frac{P_i}{P_i - P_t}\right)$

(4) None of these

2. If 0.1 M $H_2SO_{4(aq.)}$ solution shows freezing point –0.3906°C then what is the K_{a_2} for H_2SO_4?
(Assume m = M and $K_f(H_2O)$ = 1.86 K kg mol^{-1})
(1) 0.122 (2) 0.0122
(3) 1.11×10^{-3} (4) None of these

3. Select right expression for determining packing fraction (P. F.) of NaCl unit cell (assume ideal), if ions along an edge diagonal are absent:

(1) $\text{P.F.} = \frac{\frac{4}{3}\pi(r_+^3 + r_-^3)}{16\sqrt{2}\,r_-^3}$

(2) $\text{P.F.} = \frac{\frac{4}{3}\pi\left(\frac{5}{2}r_+^3 + 4r_-^3\right)}{16\sqrt{2}\,r_-^3}$

(3) $\text{P.F.} = \frac{\frac{4}{3}\pi\left(\frac{5}{2}r_+^3 + r_-^3\right)}{16\sqrt{2}\,r_-^3}$

(4) $\text{P.F.} = \frac{\frac{4}{3}\pi\left(\frac{7}{2}r_+^3 + r_-^3\right)}{16\sqrt{2}\,r_-^3}$

ANSWER KEY

05/11/2023 – FOUNDATION SECTION

1-(2), 2-(1), 3-(3), 4-(4), 5-(4)

05/11/2023 – JEE-NEET SECTION

Std – 11 (Maths)	Std – 12 (Maths)
1-(1), 2-(3), 3-(4)	1-(3), 2-(1), 3-(3)
Std – 11 (Biology)	**Std – 12 (Biology)**
1-(4), 2-(2), 3-(3)	1-(2), 2-(3), 3-(2)
Std – 11 (Physics)	**Std – 12 (Physics)**
1-(2), 2-(3), 3-(1)	1-(2), 2-(1), 3-(4)
Std – 11 (Chemistry)	**Std – 12 (Chemistry)**
1-(4), 2-(2), 3-(4)	1-(2), 2-(2), 3-(2)

STD-11 - (BIOLOGY)

1. Unicellular organisms grow by
   (1) cell elongation
   (2) cell division
   (3) accumulation of material on the surface
   (4) none of these
2. Mountains, boulders and sand mounds also grow, but they are not considered as living organisms because they grow by
   (1) Accumulation of material on their inner surface.
   (2) the division of their particles.
   (3) accumulation of material on their outer surface.
   (4) both (1) and (2)
3. Choose the correct statement about growth in plants.
   (1) Growth occurs continuously throughout their lifespan by cell division.
   (2) The growth is seen only upto a certain age.
   (3) Growth occurs by the accumulation of material on the upper surface of their cells.
   (4) Growth occurs only in certain cells.

STD-11 - (MATHS)

1. The value of $\sum_{r=16}^{30}(r+2)(r-3)$ is equal to
   (1) 7785 (2) 7780
   (3) 7775 (4) 7770

2. The sum of the series $\frac{1}{1\cdot 2}-\frac{1}{2\cdot 3}+\frac{1}{3\cdot 4}-\ldots$ upto ∞ is equal to
   (1) $\log_e 2-1$ (2) $\log_e 2$
   (3) $\log_e(4/e)$ (4) $2\log_e 2$

3. $\frac{1}{3^2-1}+\frac{1}{5^2-1}+\frac{1}{7^2-1}+\ldots+\frac{1}{(201)^2-1}=$ .....
   (1) $\frac{101}{104}$ (2) $\frac{25}{101}$
   (3) $\frac{101}{408}$ (4) $\frac{99}{400}$

STD-12 - (BIOLOGY)

1. A typical angiosperm anther is ____ with each lobe having ___ theca i.e. they are ____ .
   (1) Bilobed, two, dithecous
   (2) Dithecous, two, bilobed
   (3) Bilobed , four, dithecous
   (4) Dithecous, four, bilobed
2. Arrange microsporangial wall in sequence of outside to inside
   (1) Epidermis, middle layer, endothecium, tapetum
   (2) Epidermis, endothecium, middle layer, tapetum
   (3) Epidermis, middle layer, tapetum, endothecium
   (4) Endothecium, middle layer, tapetum, epidermis
3. Which of the following undergo meiotic division to form microspore tetrad
   (1) Sporogenous tissue
   (2) Epithelium tissue
   (3) Microspore
   (4) both (1) & (2)

STD-12 - (MATHS)

1. $\lim_{x\to\infty}\frac{\left(\sqrt{3x+1}+\sqrt{3x-1}\right)^6+\left(\sqrt{3x+1}-\sqrt{3x-1}\right)^6}{\left(x+\sqrt{x^2-1}\right)^6+\left(x-\sqrt{x^2-1}\right)^6}$
   (1) is equal to $\frac{27}{2}$ (2) is equal to 9
   (3) does not exist (4) is equal to 27
2. $\lim_{x\to\frac{1}{\sqrt{2}}}\frac{\sin(\cos^{-1}x)-x}{1-\tan(\cos^{-1}x)}$ is equal to
   (1) $\sqrt{2}$ (2) $-\sqrt{2}$
   (3) $\frac{1}{\sqrt{2}}$ (4) $-\frac{1}{\sqrt{2}}$
3. Let $f:\mathrm{R}\to\mathrm{R}$ be a continuous function. Then $\lim_{x\to\frac{\pi}{4}}\frac{\int_{2}^{\sec^2 x}f(x)\,dx}{x^2-\frac{\pi^2}{16}}$ is equal to
   (1) $f(2)$ (2) $2f(\sqrt{2})$
   (3) $2f(2)$ (4) $4f(2)$

ओजस्वीनी कलम

वृक्ष

लकड़ी छाया देने वाले
वृक्षों को क्यों काटते है हम ?
इन जैसे सच्चे मित्रो को
क्यों दुःखी करते है हम ?

फल फूल देने से लेकर
जल चक्र में अपना योगदान दिया।
फिर भी ओ मनुष्य !
तुमने इन वृक्षों को क्यों काट दिया ?

वृक्षारोपण को बढ़ना है।
धरती को स्वर्ग बनाना है।
इसका गीत गाना है।
लोगो को सुनाना है।

आओ, हम सब मिलकर पेड़ लगाए
धरती को सुंदर बनाए
जिसको बात यह लगती व्यर्थ
उसे पेड़ का महत्त्व समझाए।

- By Prisha Gohil
(8th - E)

અજમાવી જુઓ

તું કુદરત સાથે તારું મન જોડીને તો જો,

તારા દુઃખડા હરશે તે, એ તો જો.

તું વાણીમાં મધુરતા રાખીને તો જો,

તારા દુશ્મનો બધા દૂર થઈ દોસ્ત બનશે એ તો જો.

તું એક વખત હિંમત કરી ને તો જો,

તારો ડર દૂર થાશે એ તું જો.

તું મહેનત કરીને તો જો,

તારો સફળતાનો દાદરો આગળ વધ્યો એ તો જો.

તું હિંસા અને અપશબ્દો છોડી ને તો જો,

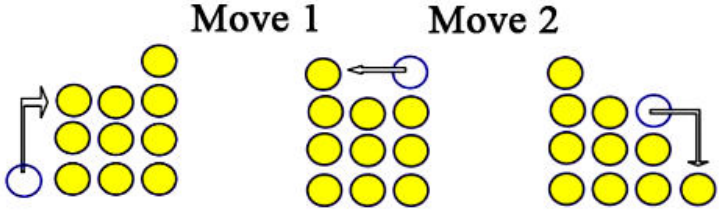
તારામાં તને ભગવાન દેખાશે એ પણ જો.

- By Janvi Vyas
(9th - E)

Answer Key (05-11-2023)
Ramanujan Corner

Riddle :
Eleven. Because Lisa lost three games to Susan, she had lost ₹ 3 (₹ 1 per game). So, she had to win back that ₹ 3 with three more games, then win another five games to win ₹ 5.

Puzzle Game :



The Daring Detective

Once upon a time, a detective named Vikrant used to live in a town. He was a famous detective in his field. There was not a single mystery he could not solve. One day his friend came to his office to investigate his uncle's death.

He came and said, "Hello Vikrant. How are you?"
Vikrant said, "Hey Ravi, long time no see!"
"I am here to ask you for your help in regards to my uncle's death."
"What do you want to say? Explain to me clearly", said Vikrant.
To which Ravi said, " I was out of town for a wedding and my uncle was at home. He was sleeping. Suddenly a man eater attacked him. He killed my uncle."
"how could you say that? Do you realise what you are saying? Does it make any sense?"
Upon hearing this, Ravi showed the forensic report to Vikrant.
Also, he had some photographs from the crime scene.
Vikrant saw that everywhere in the room as well as on the body there were pieces of rusted iron and the marks on the body were not of any animal. He decided to go with him.

When he went to the crime scene, he was stunned to see Ravi's home. Home was not a suitable word for it. You can call it a mansion. Upon reaching the room where the death took place Vikrant was able to see some pieces of iron still there and blood everywhere splashed on the wall.

When they were investigating the room, the old housekeeper Shambhu said, "This is the work of the land's demon."
"What, demon?", asked Vikrant. Shambhu replied, " A long time ago on land near the bungalow a man lived there. He was the owner of the land but some businessman wanted to build a resort there. Tro which the man denied. When the businessman could not do what he wanted, he killed the owner of the land. After killing him, he buried him under that land and after a few years the owner of the land returned in the form of a demon. This demon killed many people who all wanted to take away his land. He savoured them. Shambhu further added that if he sees any businessman on this land, he comes back and kills them.
Further he said, "As Mr. Rao wanted a five-star resort to be built on this land; the demon killed him also."

"Oh come on chacha. Give me a break. There is nothing like demons or spirits in the present time of science. Who will believe all this nonsense blabbering?" said Vikrant.

After that he checked everybody's rooms from the gardener's room to even Ravi's. He also checked the Shambhu chacha's room. After all these inspections he found nothing which could lead him towards the truth.

"Who is there in my room?" A voice came from the passage. There standing was a man behind the door. He was Ravi's elder brother Prakash. Prakash was a blind man. When Vikrant was trying to find evidence, he saw a painting made by Prakash in one of the rooms. Vikrant was confused and probably amazed. He thought it must have taken a great effort for a blind man to make such a painting. When he asked Ravi about that, Ravi also said that his brother was very talented which impressed everyone.

Vikram decided to stay for a night at Ravi's home. Next day, early in the morning when they went for a jog, they experienced something unbelievable. They were attacked by a demon. This so-called demon attacked them. He pushed Ravi and also tried to injure Vikrant. Vikrant was a man who believed in science and logic. He wasn't going to give in very easily. He tried to fight against the demon. The so-called demon ran away.
Vikrant told Ravi, "For now, the best thing is that we escape from here because we are not prepared to face the attack by anyone. We should hurry back to your home. I'm not sure what is happening with us."
Ravi said, "You are absolutely right. Let's go back fast."

After returning back, they shared the story with everyone at home. Shambhu chacha was very frightened and he started saying, "oh my god! the curse is becoming true. The demon has started showing his effect everywhere. He must be back because he wants to kill the land grabber." "Chacha please, what are you saying? There is nothing like that." said Ravi angrily.

For further investigation, Vikrant decided to check everybody's rooms one again. His detective mind was not convinced. He was rentless. After one by one, he went to all the rooms and tried his best in his detective mode to find any evidence that he could. He found nothing. He was getting more and more confused. Instead of finding a way out, he was probably getting involved in all these things and was not able to find any solution.

While going through different things, Vikrant found a medical report and the bill for the hospital. Vikrant had finally succeeded in finding the real killer but he wanted to catch

him red-handed. So he waited and made a plan that he was going to execute in his detective style.

A dinner table, very normally Vikrant talked with Ravi about their next day plan. It seemed that Ravi and Vikrant were planning to visit the construction site early in the morning the next day. Only they knew that they were inviting this so-called demon to capture him. As per Vikrant's prediction, the demon attacked Ravi when they were at the construction site. The demon was trying to chase them away. Everything was going as per Vikrant's plan. He knew that this demon was going to come at the construction site. He had already made arrangements to capture the man in action.

Upon seeing the man dressed up as demon, Vikram immediately said, "Prakash, stop pretending. We know it is you. You can leave behind all your drama and surrender yourself." The criminal was utterly shocked. He was caught in this suddenly. He tried to run away but he was not successful.

When Vikrant removed the mask of the demon, Ravi was utterly shocked to know that the killer was none other but his brother. He couldn't believe what he saw in front of him. He wanted Prakash to make him understand the situation.

Finally Prakash understood that there was no way out of this. He accepted that he had been doing this for quite some time. Under the pretence of being blind, he had killed two other people also because he wanted the property that belonged to their uncle. He also said that he had planned everything for many years and was already successful the previous two times. He said that the story of the demon was also his doing. He convinced everyone with great efforts to believe it. Only if Vikrant would not have involved himself in this, then probably he would have never been caught.

Upon seeing all these dramas, Shambhu chahcha asked, "How is it possible that Prakash is the killer? Because when you people were attacked, Prakash was in his room, doing painting." To which Vikrant revealed that it was very simple. Prakash was trying to take advantage of fearful people. He knew that most people in his surrounding were already convinced that this was something related to spirits and the demon. So he could go away after committing a crime. He had prepared a costume for himself that gave him the outlook of a demon and whenever he was going to attack people, he used to dress up and pass from a secret passage that he had built in his room. With these Vikrant finally removed the painting from the wall of Prakash's room. To everyone's surprise, it wasn't

just a simple painting but behind that there was a door. A door that led to many other crime scenes.

Ravi was feeling very regretful. If only he knew that Prakash was involved in all these things because of the property, he would have given up on it very easily. He felt responsible for all these things and what about the loss of lives everybody had experienced?

Vikrant handed over Prakash to police and Prakash finally confessed all his crimes. Now he was under the care of jurisdiction.

Ravi thanked Vikrant for helping him solve the mystery and also Shambu chacha thanked Vikrant for making him understand the negative impact superstitions had brought in his life. He told Vikrant, "Saheb, from now onwards I am also going to look for logic and facts in everything I see in front of me."

Vikrant said, "this was of course my job to help my friend and I am relieved that we prevented Prakash from committing any more such crimes."

- By Parth Parmar
(9th - E)

Achievement

તત્ત્વમનાં બે ખેલાડીઓ પ્રથમ વખત નેશનલ કક્ષાએ રમવા જશે.

અભ્યાસમાં અને બાહ્ય પરીક્ષાઓમાં ખૂબ સારી સફળતા હાંસલ કરનાર તત્ત્વમનાં વિદ્યાર્થીઓ હવે રમત-ગમત ક્ષેત્રમાં પણ સફળતા મેળવવા લાગ્યા છે. આ વર્ષે આપણાં -18 વિદ્યાર્થી ભાઈ-બહેનો જુદી જુદી રમતોમાં રાજ્ય કક્ષાએ રમવા માટે પસંદગી પામ્યા છે અને 3 વિદ્યાર્થી ભાઈ-બહેનો ડ્રોઈંગમાં રાજ્યકક્ષાએ સિદ્ધિ મેળવી ચૂક્યા છે. જેઓને સરકારશ્રી તરફથી Rs. 1500/- નાં રોકડ પુરસ્કાર પણ મળ્યાં છે.

હવે આપણાં વિદ્યાર્થીઓએ નેશનલ કક્ષાની સ્પર્ધાઓ માટે આગે કૂચ કરી છે. પ્રથમ વખત આપણાં બે ખેલાડીઓ (1) યાહવી ઋત્વા લંગાળિયા (8/C) એ ભાવનગર ખાતે યોજાયેલ રાજ્યકક્ષાની કુરાશ રમતમાં પ્રથમ નંબર પ્રાપ્ત કરીને આગામી દિવસોમાં દિલ્હી ખાતે નેશનલ કક્ષાએ રમવા જશે. (2) એવી જ રીતે હાર્દ નિરવભાઈ ઉપાધ્યાય (9/D) જેઓએ સુરત ખાતે રમાયેલ રાજ્યકક્ષાની સ્કેટીંગ સ્પર્ધામાં પ્રથમ નંબર મેળવીને ચેન્નઈ ખાતે યોજનાર નેશનલ કક્ષાની સ્પર્ધા રમવા માટે જશે. આમ આપણાં આ ખેલાડીઓ એક પછી એક ક્ષેત્રમાં સફળતાની સિદ્ધિ પ્રાપ્ત કરી શાળાનું ગૌરવ વધારી રહ્યા છે. ત્યારે શાળા પરિવારે તમામ ખેલાડીઓને ખૂબ ખૂબ શુભેચ્છાઓ પાઠવી છે.

- Yahvi Langaliya
(8th - E)

- Hard Upadhyay
(9th - G)

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ઓજ

વ્હાલા વિદ્યાર્થીઓ તથા આદરણીય વાલીશ્રી,

ઓજ ઈન્સ્ટિટ્યૂટ પ્રત્યેનો આપ સર્વેનો વિશ્વાસ, આપનો ઓજ પ્રત્યેનો પ્રેમ, ઓજ પરિવાર માટે પ્રેરણા સ્ત્રોત છે. આપના આ વિશ્વાસને નિભાવવા ઓજ પરિવાર સતત કર્મશીલ રહે છે અને સમાજને સુસજ્જ વિદ્યાર્થીઓ આપવાની જવાબદારી સુપેરે નિભાવે છે.

ઓજ ટીમના VISIONARY અભ્યાસકમો અને આ અભ્યાસકમોને સંપૂર્ણપણે નિભાવવાની ઓજ ટીમની ક્ષમતાનો વર્ષ 2023-2024 ના પરિણામો દ્વારા શુભારંભ કરી રહ્યા છીએ. આવો સૌ સાથે મળી International English Olympiad ના Resultને વધાવીએ...

– ઓજ પરિવાર

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Zonal Rank 04
Regional Rank 16

2 AYAN PAREKH
48th International Rank
Obtained Marks 55/60
Zonal Rank 07
Regional Rank 28

3 DHYAN SHAH
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Std.9th 164 Shlok Rai (Qual. for Level 2)	Std.11th 185 Veera Shukla (Qual. for Level 2)	Std.12th 213 Tapan Sanghani (Qual. for Level 2)	Std.11th 216 Keya Gohel	Std.10th 230 Shambhavi Dave (Qual. for Level 2)	Std.11th 264 Twisha Desai	Std.9th 323 Harshil Patel	Std.9th 323 Khushi Popat	Std.11th 338 Tirth Pansariya	Std.7th 368 Keshav Popat (Qual. for Level 2)	Std.11th 514 Kahan Shah	Std.12th 538 Mishti Bhadiyadra	Std.9th 552 Manan Chandarana
Std.12th 579 Karan Patel	Std.10th 584 Vidhishaba Chudasama	Std.7th 605 Bansi Modi	Std.10th 607 Vidhiba Gohil	Std.6th 618 Charmi Andhariya (Qual. for Level 2)	Std.8th 667 Krisha Kukadia (Qual. for Level 2)	Std.9th 669 Vansh Vitthalpura	Std.10th 790 Rishi Marvaniya	Std.9th 794 Kavya Shah	Std.10th 798 Nidhish Patel	Std.8th 801 Jinal Kapashi	Std.10th 817 Vaibhav Sachdevani	Std.10th 824 Ruchita Trivedi
Std.9th 870 Amatullah Kapasi	Std.9th 876 Krishnkumar Rathod	Std.9th 900 Vraj Roy	Std.9th 944 Parth Parmar	Std.9th 954 Janviben Vyas	Std.9th 966 Ronit Shah	Std.9th 998 Rajvi Sheth	Std.9th 1001 Pruthviraj Barad	Std.9th 1025 Kosha Gohil	Std.9th 1026 Anay Parekh	Std.8th 1039 Preksha Dattary	Std.9th 1117 Lubna Kureshi	Std.8th 1121 Jatin Dharkar
Std.9th 1123 Rudri Shukla	Std.8th 1125 Krisha Gohil	Std.8th 1383 Yashvi Patel	Std.8th 1395 Krupali Baraiya	Std.8th 1417 Sonaxi Gohel	Std.6th 1421 Sneh Bhadiyadra	Std.8th 1429 Pushan Chavda	Std.8th 1445 Navya Shah	Std.8th 1571 Hasti Shah	Std.6th 1572 Purvang Dave	Std.8th 1691 Jainil Andharia	Std.8th 1712 Pranjal Pandya	Std.7th 2242 Kenit Maniar

ઓજ એટલે શું ?

- વિદ્યાર્થીના ઓજત્વને, વિદ્યાર્થીના વ્યક્તિત્વને સંપૂર્ણ નીખાર આપતી Education System એટલે ઓજ
- આપનામાં રહેલી અમાપ શક્તિને બહાર લાવવાનું એકમાત્ર સાત્વિક સ્થળ એટલે ઓજ
- ચાલો ઓજ સાથે જોડાઇએ અને વિદ્યાર્થી જીવનને માણીએ

OAJ તા. 15/12/2023 થી 24/12/2023 દરમિયાન Std. 6th, 7th, 8th, 9th ના વિદ્યાર્થીઓ માટે

Bagless Week (દફ્તર વગરનું સપ્તાહ) ઉજવવા જઈ રહ્યું છે

ઓજના ઓજસ્વી વિદ્યાર્થીઓની સંપૂર્ણતાનું પ્રાગટીકરણ એટલે

સ્પંદન 2023
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IEO (International English Olympiad)-2023

CELEBRATION

Unknown Freedom Fighters

Matangini Hazra

Matangini Hazra, often called "Gandhi Buri" (Old Gandhi), was a courageous freedom fighter whose unwavering determination and sacrifice became an emblem of India's struggle for independence. Born in a small village in West Bengal in 1870, Matangini's life story epitomizes resilience, bravery, and dedication to the cause of liberation from colonial rule.

Growing up in a modest family, Matangini didn't receive a formal education. Despite this, she imbibed a deep sense of patriotism and justice. She was married young but faced widowhood at an early age, which propelled her towards social work and activism.

Matangini was deeply inspired by Mahatma Gandhi's philosophy of non-violence and civil disobedience. She actively participated in the Indian freedom movement, organizing peaceful protests, marches, and advocating for Swadeshi, the boycott of foreign goods.

One of the defining moments in Matangini's life was her participation in the Salt Satyagraha in 1930. She joined Gandhi's call to protest against the salt tax imposed by the British. Matangini led a group of women, chanting slogans and carrying the tricolor flag, symbolizing India's struggle for freedom. Despite facing severe police repression, she fearlessly marched ahead, symbolizing the indomitable spirit of the Indian populace.

But it was during the Quit India Movement in 1942 that Matangini's bravery reached its pinnacle. She became a prominent figure, rallying people in her village and neighboring areas to join the movement. Matangini led processions and hoisted the national flag, demanding complete independence from British rule.

Her most iconic moment came on September 29, 1942. Carrying the national flag and chanting patriotic slogans, Matangini led a procession towards the Tamluk police station in Bengal to hoist the flag. Despite being warned by the police to disperse, she fearlessly marched forward, singing 'Vande Mataram' and 'Bande Mataram'. The police opened fire, fatally injuring her. In a display of unmatched courage and commitment, Matangini, despite being shot multiple times, held the flag high until her last breath, becoming a symbol of unwavering determination for India's freedom.

Matangini Hazra's sacrifice and fearlessness reverberated across the nation, inspiring countless others to join the struggle for independence. Her legacy continues to inspire generations, reminding us of the immense sacrifices made by individuals like her in securing India's freedom.

Even today, Matangini Hazra remains an icon of courage, a testament to the power of determination in the face of adversity. Her life story teaches us that the spirit of sacrifice and commitment to a noble cause can ignite significant change and shape the destiny of a nation. Matangini Hazra's name will forever be etched in the annals of India's freedom movement as a beacon of hope and courage.

- By Paras Makwana
(Social Science faculty)

Think-A-Thon

The grandmaster Praggnanandhaa

Rameshbabu Praggnanandhaa is an Indian chess grandmaster.

A chess prodigy, he became an international master at the age of 10, the youngest at the time to do so, and a grandmaster at the age of 12, the second-youngest at the time to do so.

On 22 February 2022, at the age of 16, he became the youngest player to defeat the-world champion Magnus Carlsen, when he beat Carlsen in a rapid game at the Airthings Masters Rapid Chess Tournament.

Praggnanandhaa was born in Chennai, Tamil Nadu, on 10 August 2005. His father, Rameshbabu, works as a branch manager at TNSC Bank. His mother, Nagalakshmi, is a homemaker who often accompanies him at national and international competitions. He attended Velammal Main Campus in Chennai. His elder sister R Vaishali is a Woman Grandmaster and an International Master.

So when we look at the reason behind the success of this sibling duo, we realise that Praggnanandhaa has a very simple upbringing and all credit goes to his mother. The siblings have a traditional lifestyle. Praggnanandhaa prays before making his first move. The siblings prefer having homemade food and not junk food. The siblings engage in playing chess for 5-6 hours.

It was said by ISRO Chief that chess grandmaster R Praggnanandhaa would be working with the nation's space agency to promote science and technology among the young people. He will be working with ISRO to inspire young people to take science, engineering, and technology to make India a very proud and powerful nation.

- By Swara Pandya
(9th - G)

માહિતીનો મહાસાગર

SIM CARDS

In contemporary times, the usage of smartphones have outgrown other electronic devices so much that an important component of smartphones, i.e. **Subscriber Identification Module (SIM)** Cards need apt description.

◈ About:

- A SIM card is a tiny **integrated circuit or microchip** that plays **a vital role in identifying subscribers on a cellular network.** It can be thought of as an individual's ID card within the vast city of a cellular network.
- This ID card carries a unique identification number known as the **international mobile subscriber identity (IMSI)**, which is used to locate and confirm the identity of the subscriber when others try to reach them on the network.

◈ Essential Role in Network Access:

- When it comes to connecting a mobile phone to a cellular network adhering to the **Global System for Mobile Communications (GSM)** standard, a SIM card is mandatory. This connection relies on a **special authentication key (SAK)** that serves as a digital lock and key mechanism.
- Each SIM card stores SAK, but **it's inaccessible through the user's phone.** Instead, when the phone communicates with the network, it 'signs' the signals using this key, allowing the network to verify the legitimacy of the connection.
- It's important to note that **duplicating a SIM card is feasible by accessing and copying this authentication key** onto multiple cards.

◈ Information Storage:

- Beyond its primary role in network access, a **SIM card also serves as a storage unit for various data.** It stores **not only the IMSI but also the integrated circuit card identifier,** the subscriber's location area identity, and a list of preferred networks for roaming.
- Additionally, **SIM cards can contain essential emergency contact numbers, and, space permitting, store the subscriber's contacts and SMS messages.**
- This compact chip plays a pivotal role in the **functionality and security of mobile communication on GSM-based networks.**

How Does a SIM Card Work?

◈ SIM Card Standard:

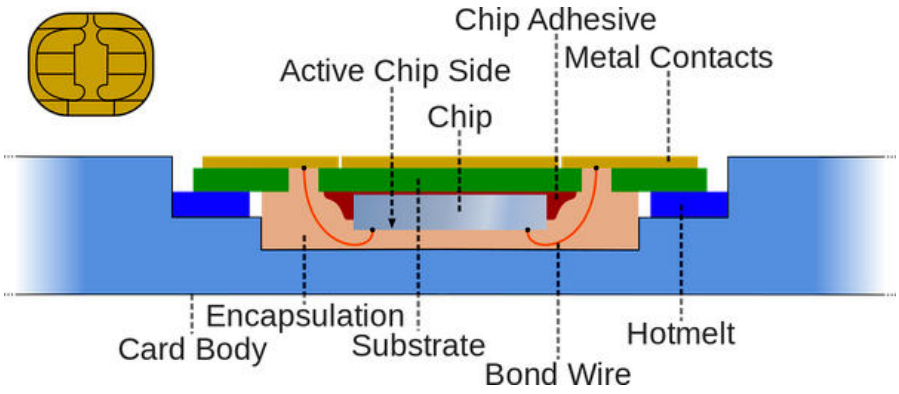
- SIM cards adhere to the **ISO/IEC 7816** international standard, which is **overseen by the International Organisation for Standardisation and the International Electrotechnical Commission.**

◈ Pin Functions and Standards:

- The metal contacts on a **SIM card are segmented into pins, each serving a specific purpose.** These **roles for each pin are defined by the ISO/IEC 7816-2 standard.**
- In fact, there are **15 pins in total**, each specifying various functions of the SIM card.

◈ SIM Card's Network Role:

- When a subscriber dials a recipient's number**, the phone sends data through the network, authenticated by the key on the SIM card.**
- This data is then sent to a telephone exchange. If the recipient is connected to the same exchange, their identity is confirmed, and the call is directed to them.



How have SIM cards changed?

◈ Evolution of Smart Cards:

- The history of smart cards, which include SIM cards, traces back to the late 1960s. Over the years, these smart cards underwent significant changes in size and architecture, spurred by the advancements in technology **described by Moore's law.**
- **Moore's law** is the observation that the **number of transistors in an integrated circuit (IC) doubles about every two years, making computers faster and cheaper over time.**

◈ SIM Card Standards and Development:

- The European Telecommunications Standards Institute **(ETSI) played a pivotal role by formulating the GSM Technical Specification for SIM cards.**
- It covered aspects ranging from **physical features like operating temperature and contact pressure to authentication and data access** characteristics.

◈ Transition and Compatibility:

- The term 'SIM card' once referred to both the hardware and software, up until the 2G networks. However, **with the arrival of the Universal Mobile Telecommunications System and 3G networks, a shift occurred.**
- 'SIM' came to represent only the software, while the hardware was labeled the Universal Integrated Circuit Card (UICC).

What is an eSIM?

◈ Evolution of SIM Cards: From Physical to eSIM:

- Unlike its physical predecessors, the **eSIM's software is loaded onto a permanent, non-removable UICC in the mobile device during the manufacturing process**.
- Notable devices, like **Google Pixel 2, 3, 4, and the iPhone 14 series, support eSIM functionality.**
- With eSIM**, users no longer need to physically replace SIM cards when switching or joining networks.** Instead, network operators can remotely reprogram the eSIM.

◈ Different Benefits of eSIM Technology:

- eSIM technology offers several advantages. Firstly, **it's considered environmentally friendly because it eliminates the need for additional plastic** and metal for physical SIM cards, due to its reprogrammable nature.
- Secondly, eSIMs enhance security **by preventing separate access to the SIM application and making duplication more challenging** for potential malicious actors.

- By Krupali Baraiya
(8th - G)

Life Values

I always think why I am here? Just to complete goals or just to do work? The way people do their work for money is just very hard. But they only see money, they don't see their health. I say that people should do their work but in a proper time and proper manner. You will see this pattern incase of many wealthy celebrities, bankers, CEOs etc. The thing is that, while accumulating a lot of money, you will arrive to a point when you will ask yourself "What now? People often think that money is route for happiness but it is only in a partial and temporary way so start running after peace, happiness and love. So, find something to hope for, find someone to love and find something to do. I am not saying that people should not do work for money but they should also focus on friends, family and children. They should enjoy their time with them. Don't do work all the time, instead give a particular time to do work. Or else you will be depressed and can face many adverse health effects. Because of the body, mind and ego, we human beings forget who we truly are. Not only do we ignore our heath which is more important than wealth, we ignore attaining that ultimate goal of realizing that we are the divine soul.

We are just chasing the peak, we are just climbing the peak of achievement without living a life of contentment and fulfilment and not even realizing that the ultimate peak is enlightenment. We should stop, we should contemplate, we should realize the truth to be truly happy in our life. When we buy the illusion that we have unlimited tomorrows, then we operate on a Alfred living plan, believing we'll begin our better life later. But this notion of having all the time in the world is a seductive lie. For when we take our life for granted, it loses its fullness and zest.

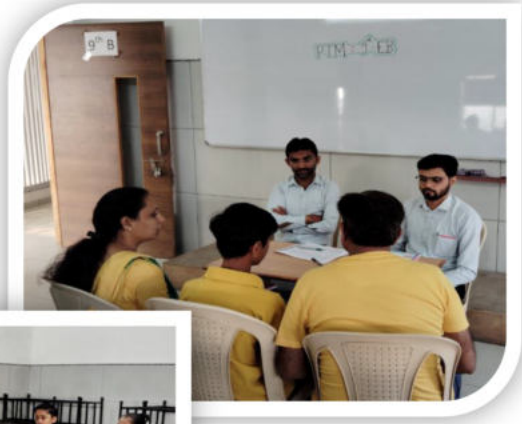
Don't run after money, instead be a financial magnet which attracts money and ensures that it always sticks around with you.

- By Vaidehi Vaghamshi
(8th - E)

સંભારણું

Sneh Milan - 2023

Parents Meeting



વ્હાલા વિદ્યાર્થી મિત્રો તેમજ વાલીગણ
નમસ્કાર,

OAJ Institute of Science હવેથી દર મહિનાની 5 મી તારીખથી Monthly Magazine પ્રકાશિત કરવા જઈ રહ્યું છે જેનું નામ છે ''ઓજત્ત્વ''. આ Magazine (ઓજત્ત્વ) ના માધ્યમથી મારો નાનો એવો એક પ્રયત્ન એ છે કે વિદ્યાર્થી જીવનમાં પડતી મુશ્કેલીઓનો સામનો વિદ્યાર્થી કેવી રીતે કરી શકે તેવી પ્રેરણા મળે. અને તે માટેની પ્રેરણાત્મક નાની-મોટી વાતો આ Column ની અંદર હું લખીશ. તેમજ પરમાત્માને પ્રાર્થના કે આપ દરેક વિદ્યાર્થી ખુબ જ ઓજસ્વી બનતા રહો.

આપનો,
ધિરેન સોની
Managing Director
OAJ Institute of Science

''બાજ ક્યારેય પતંગિયા સાથે ન ઉડે''

એક જંગલમાં એક વિશાળ બાજ રહેતું હતું. એ જ જંગલમાં એક સૌથી ઊંચું ઝાડ પણ હતું .આ જ ઝાડ પર એક સૌથી મોટો માળો હતો. આ જ માળામાં બાજ રહેતું હતું. બાજ એ આ માળામાં એક ઈંડું મુકેલું હતું. પરંતુ આ ઈંડામાંથી હજુ બચ્ચું બહાર આવવામાં વાર હતી.

બચ્ચું બહાર આવવાની રાહ જોતા જોતા ઘણા દિવસો વિતી ગયા. પછી અચાનક એક દિવસ વાતાવરણમાં પરિવર્તન આવતા જંગલમાં ખૂબ મોટું વાવાઝોડું આવી જાય છે. આ વાવઝોડું એટલું મોટું હતું કે તે ગમે તેને પોતાની સામેથી ઉખાડીને ફેંકી દે...

વાવાઝોડાને જોઈને બાજને ખૂબ બીક લાગી જાય છે તે પોતાના ઈંડા તે વાવાઝોડામાં ખોવા નહોતી માંગતી. વાવઝોડાનું જોર વધતા બાજ પોતાના અણીદાર પંજાનો ઉપયોગ કરી માળાને બરાબર રીતે પકડીને ઝાડ ઉપરથી ઉડી જાય છે કે જેથી તે માળામાં રહેલ ઈંડાને કયાંક સુરક્ષીત સ્થાન સુધી પહોંચાડી શકે, પરંતુ થોડીકવાર ઉડ્યા પછી પવનના કારણે ઈંડું જંગલમાં નીચે કયાંક ખોવાય જાય છે અને બાજ ખૂબ દુ:ખી થઈ જાય છે. પોતાના ઈંડાને ગોતવા માટે બાજ ખૂબ પ્રયત્ન કરે છે પણ કયાંય મળતું નથી અને પછી તે માની બેઠે છે કે હવે તેને ઈંડું કયાંય નહી મળે. કેમ કે આટલી ઊંચાઈએથી પડવાથી ઈંડું ખરાબ થઈ ગયું હશે પછી બાજ ત્યારે ઉદાસ મન લઈને ત્યાંથી ચાલ્યું જાય છે.

પરંતુ એને ખબર જ નથી હોતી કે તેનું ઈંડું હજુ સુરક્ષીત છે કારણ કે એનું ઈંડું જંગલમાં ઘાસ ઉપર ફસાય જાય છે અને નીચે પડવાથી બચી જાય છે માટે તે તુટતું નથી અને થોડાક જ દિવસો પછી આ ઈંડામાંથી નાનું બાજ બહાર આવે છે. નાના બચ્ચાંની આંખ ખૂલે છે અને તે બધુ જોતો ને જોતો જ રહી જાય છે. કેમ કે એ વિસ્તારમાં તેની આંખ ખૂલી હતી તે વિસ્તારમાં પતંગિયાનો હતો. આજુબાજુમાં રંગબેરંગી પતંગિયાના ઝુંડ હતા.

એને બધે પતંગિયા દેખાતા હતા. કંઈ જ સમજમાં નહોતું આવતું. ત્યારે અમુક પતંગિયાનો સમૂહ આ બાજના નાના બચ્ચાંને જોઈ લે છે અને નાના બચ્ચાંથી તેઓ ડરવા લાગે છે કે બાજનું બચ્ચું અહી કેવી રીતે આવ્યું અને જો આ બચ્ચાંની માં અહીં આવી જશે તો બધા પતંગિયા તેનું ભોજન બની જશે અને આમ બધા પતંગિયા તેનાથી ડરી જાય છે અને તેનાથી અંતર બનાવી લે છે.

ધીરે ધીરે સમય વિતતો જાય છે અને એની માં હજુ સુધી બચ્ચાં પાસે નથી આવી. આ બધુ જોઈને પતંગિયા સમજી જાય છે કે બચ્ચું ભટકી ગયું છે અને બધા પતંગિયા તેના પાસે જાય છે અને તેને પોતાના ગ્રુપમાં સામેલ કરી લે છે. આ બાજનું બચ્ચું પતંગિયા ભેગુ જ રહેવાથી તેના રહન-સહન અપનાવી લે છે. ધીમે ધીમે બચ્ચું પતંગિયાની સાથે દિવસો પસાર કરતું જાય છે. અને એને એમ જ લાગે છે કે તે પતંગિયાનું બચ્ચું છે આ બચ્ચાંને નતો શિકાર કરતાં આવડતું કે નતો ઊંચે ઊંચે ઉડતાં આવડતું. પતંગિયાની જેમ જ બીજા પ્રાણીઓથી ખૂબ જ ડરવા લાગ્યું કે કોઈક તેનો શિકાર ન કરી લે આ બચ્ચાંને પોતાની શક્તિનો અહેસાસ નહતો કે તે શું છે અને તે શું કરી શકે તેમ છે.

એક દિવસ તેની માં તેના શિકાર નો પીછો કરતા કરતા જ્યાં બચ્ચુ હતું ત્યાં આવી પહોંચે છે અને બધા પતંગિયા આ બાજ ને જોઈ ને ડરીને ભાગવા લાગે છે. બધા પતંગિયા ને ભાગતા જોઈ ને બાજ નું બચ્ચુ પણ ડરીને ભાગવા લાગે છે. આ દરમિયાન બાજ એક પતંગિયા ને પકડી લે છે. અને આ દરમિયાન તેની નજર પેલા બચ્ચા પર જાય છે અને તે પતંગિયા ને કહે છે કે આ બાજ નું બચ્ચુ અહી શું કરે છે? તું સાચું કહીશ તો તને છોડી દઈશ.

પતંગિયું પોતાનો જીવ બચાવવા માટે બધું સાચું કહી દે છે કે તે અહી જ રહે છે. થોડા મહિના પહેલા અહી તેનો જન્મ થયેલો અને ત્યારથી તે અહી જ અમારી સાથે રહે છે. બાજ ને બધું યાદ આવ્યું કે તેનું ઈંડુ અહી જ કયાંક પડેલું હતું તો આતો તેનું જ બચ્ચુ છે

ત્યારે એની માં પતંગિયાને કહે છે કે આતો એનું જ બચ્ચુ છે. થોડોક સમય પછી તેની માં બચ્ચાંને લઈને માળામાં પાછી આવી જાય છે પરંતુ તેનો સ્વભાવ જોઈને તેની માં હેરાન થઈ ગઈ. કેમ કે તેનો સ્વભાવ અને વ્યવહાર બાજની જેમ જરાક પણ નહતો. એને એવું જ્ઞાન જ નહોતું કે તે બધા પક્ષીઓનો રાજા છે.

હવે ન તો તેને શિકાર કરતા આવડતું હતુ કે ન તો ઉચ્ચી ઉડાન ભરતા. તે એક ડરપોક પક્ષી બની ગયુ હતુ. આ પરિસ્થિતિમાં તેની માં ચિંતામા પડી જાય છે અને એની માં શિકાર કરતા અને ઉચ્ચી ઉડાન ભરતા શિખવે છે. થોડાક મહિનાની Training માં શીખી જાય છે અને થોડાક જ મહિનામાં પાછું ખતરનાક પક્ષી બની જાય છે....

> ''જ્યાં સુધી પતંગિયાનો સાથ નહિ છોડો ત્યાં સુધી ઊંચે ઉડાન નહી ભરી શકો. અહીં પંતગિયા એટલે તમારી આળસ, તમારી કોઈ કુટેવ તમારી કામ પ્રત્યેની ઢીલાશ વગેરે છે. માટે જો તમારે જીવનમાં બાજની જેમ ઊંચું ઉડવું હોય તો આવા પંતગિયાનો સાથ છોડવો પડશે .....''

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