

Technothlon

the international school championship

.....Inspiring Young minds!

PAPER THEME



HAUTS SQUAD

Team Details

Name of the participants

Time: **2hrs 30min**
Maximum marks: **+123**
Minimum marks: **-25**

1. _____

2. _____

Roll No.: _____

School Name: _____

Instructions

(Please read the instructions carefully)

General Instructions

1. Fill the Team Details in the space provided, before attempting the paper.
2. Verify that the question paper contains 20 pages and 22 Questions.
3. All the answers must be marked in the OMR provided separately which has to be submitted at the end of 2hr 30 min from the start of the examination.
4. The question paper can be taken back home.
5. All answers must be clear and legible. In case of any ambiguity, the decision of evaluator is final.
6. No queries regarding the correctness of the questions shall be entertained.
7. Blank papers, clipboards, log tables, slide rulers, calculators, cellular phones, pagers and any other electronic gadgets are not allowed.
8. No additional sheets will be provided for rough work.

Selection Criteria and Result

1. The ranking will be based on the total marks obtained in all the sections.
2. The result will be declared on or before August 8th, 2019 on our website technothlon.techniche.org. To check your result, login with Roll number and password provided in your admit card.
3. The top 50 teams will be invited to IIT Guwahati for the Mains and will be awarded Gold certificates. The next 200 will be awarded Silver certificates. The city toppers will be awarded with medals.

OMR Instructions

1. DO NOT TAMPER WITH THE OMR.
2. Darken the bubbles properly with BLACK ball point pen only.
3. Fill all the details in the OMR sheet properly.
4. Follow the correct method as shown in the figure to fill in the OMR Sheet.

Wrong				
1.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Correct				
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Instructions for Integer Type Questions

For integer type questions, write the answer in the boxes provided and darken the corresponding boxes. For example, if the answer is 27, shade 2 in the first column, and 7 in the second column. If you get a single digit answer, darken 0 in the first column and your answer in the second column. For example, if the answer is 7, darken 0 in the first column and 7 in the second column.

Note: If your answer exceeds 99, take the remainder with 100 and fill in OMR.

Marking Scheme

(PLEASE READ THIS SECTION CAREFULLY)

- **Power Scheme:**

- For consecutive correct answers, you will be awarded $2^0, 2^1, 2^2, 2^3$ and so on. However, if you give a wrong answer, the sequence is broken and you will start from 2^0 again on the next correct answer along with -1. If unattempted, the sequence repeats from the previously scored value.
- Example :
 - For 5 correct: $1 + 2 + 4 + 8 + 16 = 31$
 - For RRWRR: $1 + 2 - 1 + 1 + 2 = 5$
 - For RRURR: $1 + 2 + 0 + 2 + 4 = 9$

(R => Right answer, W => Wrong answer, U => Unattempted)

- **Fibonacci Sequence:**

- A Fibonacci Series is a series of numbers in which the n^{th} term is the sum of the $(n-1)^{th}$ and $(n-2)^{th}$ terms. The series goes like 1, 1, 2, 3, 5, 8 ...
- For correct answers, the sequence starts from 2 and increases according to the sequence. For example, for 3 consecutive questions correctly, the marks you will get for the first question is 2, the second question is 3 and the third question is 5. However, if you leave a question or answer a question wrong, the sequence is broken, and you will start again from 2.
- Wrong answers have negative marks and the sequence starts from the first term. If you get four wrong answers consecutively, you get -1, -1, -2 and -3 respectively.

- **Proximity:**

- For the correct answer, you get 3 marks and if your response differs by 1, then you get 1 mark. For any other answer, you get -1 marks.
- Example: If the Correct answer to a question is "15",

Your response	<=13	14	15	16	>=17
Marks obtained	-1	+1	+3	+1	-1

- **All or Nothing:**

- If you select all the correct options of the question, you will be awarded 4 marks. Otherwise, you get zero.

There are two BONUS questions in the Question Paper. Answering those questions correctly earns you a better marking scheme for that section.

Section A: The Invasion

Type of Questions: **Single Correct Answer**

Max Marks: +31

Marking Scheme: **Fibonacci Sequence**

Min Marks: -12

Welcome to the planet Earth, not just ours, where the Universe's mightiest and strongest heroes live. On a normal day, there happens a sudden blast in the sky and Loki tries to invade Earth with an army of cybernetic alien race gifted by Thanos. Join the journey of your heroes and help them take down their enemies.



Question 1:

Black widow and Hawkeye have teamed up and are having a good time in beating up Loki's army using their weapons. Black widow has n metallic charged spherical stones numbered from 1 to n . The charge on the i -th stone is equal to C_i . When she selects an inner stone(stone with index i , where $2 \leq i \leq n-1$) the charge of the chosen stone, the charge of the chosen stone C_i changes to $C'_i = C_{i+1} + C_{i-1} - C_i$. This process is called Synchronization operation.

Hawkeye also has n charged arrows with charge T_i . Below given are the charges of the stones and arrows. If there exists a sequence of some synchronization operations, which transforms charges on Black widow's stones equal to charges of corresponding Hawkeye's arrows (that is, changes C_i into T_i for all i), they can together cause a big blast and kill the enemies. What is the value of x ?

Charges on Black widow's stones: 4 5 7 2 5 11 8 6

Charges on Hawkeye's arrows: 4 10 12 x 10 5 3 6

- A. 10
- B. 7
- C. 1
- D. 9

Question 2:

Loki, the god of mischief has brought with him a gigantic alien dragon, which has n number of heads. Thor, the God of Thunder is here to fight with it. Thor can only strike down 22, 67, 1 or 62 heads with a single blow of his hammer Mjolnir. After each strike 15, 25, 15, or 34 heads grow on its shoulders respectively. If Thor is able to blow off all the heads, the dragon dies. For the following values of n , find if Thor can kill(Yes) or cannot kill the dragon.

88 ; 135 ; 192 ; 152

- A. Yes; No; No
- B. Yes; No; Yes; No
- C. Yes; Yes; Yes; No
- D. No; No; No; No

For Questions 3 & 4:

With their lives on the line and to protect the city, Iron Man and Jarvis are working on to build an impenetrable and unbreachable wall around the opening so that no more enemies can show up. Tony has completed a part of the wall and has left Jarvis to do the rest. Jarvis is only permitted to use the blocks of dimensions 2×1 and 1×2 (length*height) but he has an infinite number of these blocks.

- A wall is said to be completed if it is in the form of a complete cuboid with no holes in between.
- In each case, the first number is the length of the wall say n and, n integers are the initial heights of the wall (made by Tony) each of unit length.

	Length	Initial heights of the wall in order
Case 1	9	87, 451, 91, 34, 234, 127, 56, 9, 67
Case 2	8	1002, 1256, 21, 1, 59, 10, 46, 10

Question 3:

How many minimum numbers of blocks should Jarvis use in order to complete the wall in Case 1?

- A. 3822
- B. 358
- C. 1456
- D. Infinite

Question 4:

What is the minimum number of blocks required in Case 2?

- A. 1451
- B. 355
- C. 1456
- D. Infinity

Question 5:

Tony and Jarvis have successfully stopped the invasion by closing the portal, but the buildings that are still standing are crumbling and can fall anytime soon. To get the city back to its place, four major organizations have taken an initiative of providing relief fund by selling a product where all the profit will be used for relief measures. Each of the four organizations has bought 500 units of the product each costing \$0.03 (this cost must be deducted before any profit is made). Each company was allowed to charge any amount for their product.

Using the clues given below, find out which company would make most of the profit.

1. The least amount of profit made was \$ 11.30 less than the maximum profit amount
2. SHIELD made \$3.80 more in profit than the company that sold its products at \$0.075
3. The company that sold 219 products was not SHIELD.
4. Hammer Industries sold its products for \$0.07 more per product than Stark Industries.

Hint: Remember to deduct the original cost of the products from profits when it is calculated.

	No. of Products Sold		Selling Price						
	219	375	413	500	\$0.080	\$0.075	\$0.100	\$0.150	\$ Profit
SHIELD									
Oscorp									
Stark									
Hammer									

A. SHIELD
B. Oscorp

C. Stark
D. Hammer

Space for Rough Work

Section B: A Day off from Training

Type of Questions: **Integer**

Max Marks: **+12**

Marking Scheme: **Proximity**

Min Marks: **- 4**

After saving the world from Loki's attack, Avengers are chilling in the Stark Tower. They have taken a day off from their training and are planning to do something different rather than their regular schedule.



Question 6:

Thor, being one of the strongest Avenger is getting jealous of Tony's intelligence and has a strong desire to beat Tony in his own department. Both of them decide to play a game of chess.

The chess that they are going to play is a bit different from the traditional one. It uses a 79×32 chessboard. A cell on the intersection of the r -th row and c -th column is denoted as (r, c) . The square $(1, 1)$ contains the white queen and the square $(1, 32)$ contains the black queen. All other squares contain green pawns that don't belong to anyone. The players move in turns. The player that moves first plays for the white queen, his opponent plays for the black queen. On each move, the player has to capture some piece with his queen (that is, move to a square that contains either a green pawn or the enemy queen). The player loses if either he cannot capture any piece during his move or the opponent took his queen during the previous move. Both Tony and Thor play optimally, with Tony starting with the white queen, find the number of total moves in which the game ends. Fill the sum of the digits as the answer in OMR.

For Questions 7 & 8:

Peter Parker aka Spider-Man is having a Mental Ability test at his Midtown High School. Peter can't afford to lose marks in the test. The test started and he attempted a good number of questions but he got stuck on two chess related problems.

Question 7:

The first problem says that you have to use the 'Knight' of chess and have to pass through all the squares of a 4^*N grid exactly once and return to the initial square. For how many values of N is this complete closed tour of Knight possible? ($N < 100$)

Question 8:

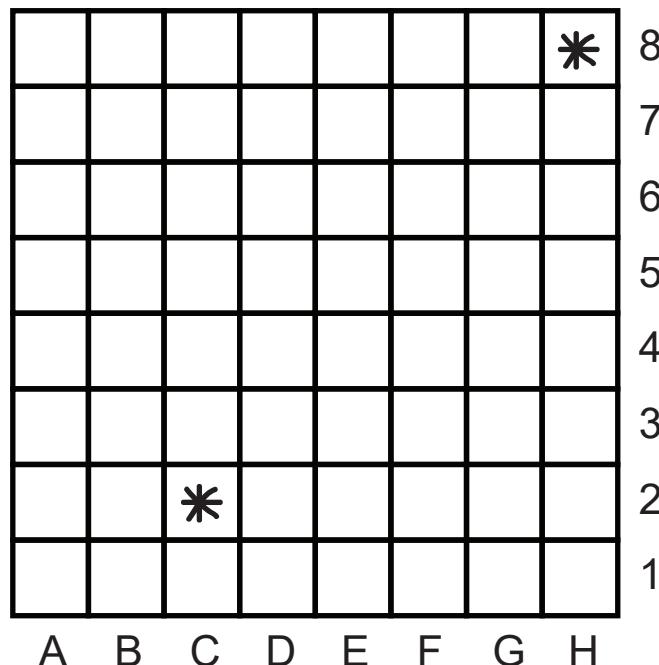
According to the other problem, 2500 king pieces of chess have to be placed on a 100^*100 chessboard so that

1. No king can capture any other one (i.e. no two kings are placed in two squares sharing a common vertex)
2. Each row and each column contains exactly 25 kings

Find the number of such arrangements. (Two arrangements differing by rotation or symmetry are supposed to be different.)

Question 9:

Black Widow and Hawkeye decide to have a pizza and call the pizza house to order. The pizza house is at the apartment number C2 and the Stark Tower is at H8 as shown in the figure. The pizza delivery boy is on the call with Black Widow and Hawkeye who are helping him to get to the tower. Both of them give instructions to the delivery boy alternatively (turn-wise), with each instruction being to cross some number of apartments horizontally, vertically or diagonally. Whoever gives the final instruction to the delivery person to reach the tower wins. If Black Widow gets the chance to give the first instruction, find out how many different first move choices does she have to win the game.



[Note: Two squares are neighbours if they have a common boundary.]

Space for Rough Work

Section C: A New Enemy

Type of Questions: **Single Correct Answer**

Max Marks: **40**

Marking Scheme: **Power Scheme**

Min Marks: **- 5**

After a long break Avengers have returned to their home but they are unaware that a new enemy, the Mad Titan - Thanos himself has started his journey to collect the infinity stones. With Power stone and Space stone in his hand, he is getting nearer to his goal of obtaining all the stones.



For Questions 10 & 11:

Ebony Maw, being one of the faithful servants of Thanos comes to Earth. During his search for the time stone, he gets himself engaged in a fight with the master of magic Dr. Strange and Wong. Maw is going to throw n number of spikes made of stone at them. Both the magicians can break 1, 3 or 4 spikes with their one magic spell. This attack by spikes being very easy to defend, both the magicians decide to compete while destroying the spikes. They decide to break the spikes turnwise with Strange starting first (i.e. 1st magician breaks either 1, 3, or 4 spikes and then 2nd magician breaks 1, 3, 4 in the remaining and then again 1st magician takes the turn). The last magician to destroy the spikes completely wins. Strange and Wong being very intelligent, play optimally.

Question 10:

If Maw throws 31 spikes at them, find out who ends the attack of the spikes (i.e. wins) and how many should he break in his first spell?

- | | |
|---|---|
| A. Strange, 4 spikes in his first spell | C. Strange 1 or 3 spikes in his first spell |
| B. Wong, 3 or 4 spikes in his first spell | D. Wong, 3 spikes in his first spell |

Question 11:

What is the maximum number of spikes ($n < 50$) for which Wong always wins?

- | | | | |
|-------|-------|-------|-------|
| A. 49 | B. 47 | C. 45 | D. 43 |
|-------|-------|-------|-------|

Question 12:

With the magicians defending the time stone on earth, the Guardians of the Galaxy squad are traveling to take Reality stone from the place called Knowhere. During their journey, Rocket and Star-Lord are playing a game.

The game starts with a number n and Rocket makes the first move. In each turn, if the number is even then the current player must divide the number by 2 otherwise the current player must increase or decrease the number by 1. If n becomes 0 then the current player (the player who made n equals to 0) wins the game. For how many values of n less than equal to 234 Rocket wins the game.

- | | |
|--------|--------|
| A. 196 | C. 186 |
| B. 152 | D. 166 |

Question 13:

During their search for the reality stone on the planet Knowhere, all the members decide to divide and search individually for the stone. After traveling for some distance, Star-Lord suddenly spots three of his friends: Gamora, Drax and Rocket pointing their guns at each other. Mantis explains to him that Thanos has obtained the stone and has changed the reality by disguising himself as one of them and the other two being his friends. Mantis says that the three of them decided for shooting truel (duel with 3 members). They will decide who goes first by lottery method and each person is to wait for their turn before firing at either of the other people. After the first round of shots fired, they will proceed in the same order until there is one person standing. Mantis further says that they know that Rocket is 100% accurate, Gamora is 80% accurate, and Drax is 50% accurate in his/her shooting. On each person's turn, he can choose either of the two others to shoot or just skip his turn if required. Assuming that all three of them are intelligent and logical thinkers, Thanos would have chosen the best form as a disguise who has the highest chance of survival. Mantis hands Star-Lord a gun and asks him to kill Thanos. Can you help Star-Lord in deciding whom he has to target in order to kill Thanos?

- A. Gamora
- B. Drax
- C. Rocket
- D. Better Kill Himself

Question 14: [BONUS QUESTION : THE REALITY]

What is the probability of Thanos survival in their shooting truel (Note: Consider the lottery method probabilities in deciding the turns also)?

- A. 41/70
- B. 47/90
- C. 29/45
- D. 31/45

[Note: Answering this BONUS QUESTION allows you to unveil the reality by changing the Power Scheme of 2 to Power Scheme of 3 for above four questions]

Section D: The Great war

Type of Questions: **More than one correct**

Max Marks: +16

Marking Scheme: **All or Nothing**

Min Marks: 0

After you think Quill had killed Thanos, he reveals the true reality that shows Knowhere engulfed in flames, and that he has half of the Infinity Stones. Thanos has laid a trap for them so that he could capture his daughter Gamora, after sacrificing whom he obtains the Soul Stone.



Question 15:

The Mad-Titan has ordered Ebony Maw to take his ship to destroy the Earth. The ship is equipped with 3 Laser Guns each of different type. Iron-Man, Vision, and War-Machine are searching for the weak spot to destroy them. Each Laser Gun denotes a non-negative integer, all 3 integers are different. Each of the heroes is given a gun of their own and each of them fires at one of the rival guns of the ship in one single round. The points are awarded depending upon the integer corresponding to the gun he shoots in that round. Friday, an AI created by Tony helps to distribute the Laser Gun between three of them before each round. After a number of rounds (≥ 2) Iron-Man has 20 points, Vision has 10 and War-Machine has 9. We know that in the last round Vision has hit the gun corresponding to maximum integer.

If the points assigned to the guns are x , y and z ($x > y > z$), Then find out which of the three has fired the Laser Gun corresponding to the integer value y in the first round and z in second round?

- A. War Machine
- B. Iron Man
- C. Vision
- D. Can't say

Q16: Iron-Man, Vision, and War-Machine have successfully destroyed the ship but unfortunately, they are unable to prevent Ebony from taking the Tesseract, containing an infinity stone. The destroyed ship is now falling over the Earth and despite the efforts of the trio, they are unable to stop it. Dr. Strange steps in to help them out. He finds out that they can prevent the ship from hitting the Earth's surface if he sets the ship on fire and burns it down in the atmosphere itself.

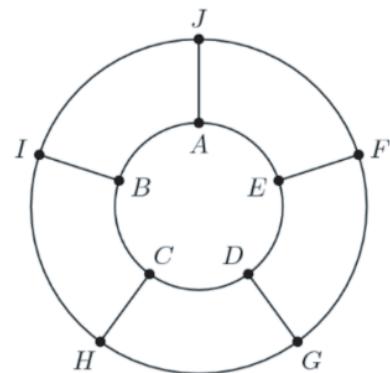
The ship is shown in the figure and contains two circles along with 5 joining spokes. Dr. Strange starts the fire from point A. At every step of the process, the fire runs from one labeled point to adjacent labeled point. Along with the inner circle, fire spreads in a counter-clockwise direction while the outer circle in a clockwise direction. For example, the fire can travel along the path **A J A B C H C H I J A** which has 10 steps. Let n be the number of paths with 15 steps that begin and end at point A. Find the remainder when n when is divided by 2, 3, 7 and select the correct remainder(s) whichever are available in the options.

A)0

C)3

B)1

D)4



With five stones in hand, Thanos has stepped onto Earth with his entire army of Outriders to attack Wakanda. As the magical wall constructed around the city of Wakanda falls, the army of Thanos and the Avengers face each other.

For Questions 17 & 18:

Thor, Rocket, and Groot arrive on Wakanda to reinforce the Avengers. Thanos has divided his army into n squads (n is even). Each i -th squad has a_i outriders. Rocket with his weapons and Thor with his newly forged Stormbreaker, have decided to make alternate moves to kill the outriders, with Rocket taking the first shot. On each of their turns, they must choose exactly $n/2$ non-empty squads and independently kill some number of outriders from each of the chosen squads. They can remove a different number of outriders from the different squads in a single turn. The first person unable to make the kill is regarded as the loser in their challenge (i.e When there are less than $n/2$ nonempty squads).

Each squad, in the beginning, can have outriders ≤ 15 and > 0 .

Question 17:

Given the starting configuration tell who will kill the last outriders to win the challenge. Given $n=10$ and the number of outriders in the squad be :

6, 13, 11, 6, 6, 13, 15, 11, 11, 11

- A. Thor
B. Rocket

- C. Thor or Rocket
D. Can't say from given data

Question 18:

If Thor lands the last attack, what is the minimum and maximum sum of a, b, c, d ?

Outriders in the Squads : **8, 15, 8, 13, 8, 15, a, b, c, d**

- A. 32
B. 24

- C. 45
D. 39

Despite all the efforts made by Avengers to stop Thanos, he rips the Mind Stone from Vision's forehead, killing him. Thanos activates the completed Gauntlet by snapping his fingers and teleports away. Half of all life across the universe disintegrates and the Avengers have finally lost the battle.

Section E: The End Game



Type of Questions: **Integers** Max Marks: +24

Marking Scheme: **Proximity** Min Marks: - 4

Five years later, Avengers find out a way to make things normal by going back in time through the Quantum Realm. Stark relents and works with Banner, who has, after the snap, merged his intelligence with the Hulk's strength, and the two successfully build a time machine.

This is the only chance left for them to bring back the people lost by the snap. With their future at stake, Avengers get into various time zones to bring back stones.

For Questions 19 & 20:

With teams divided to get back the infinity stones, Captain America and Tony are going after the Tesseract containing the space stone. They have realized that the tesseract is secured in a two-level cage, each level containing 9 sections. The tesseract is somewhere in the two central sections, which is surrounded by security guards in the surrounding 16 sections, 8 on the upper level and 8 on the lower level. While the guards start marching towards the cage, Cap and Tony get hold of three of the guards outside and obtain the following information about the arrangement of the security in the cages :

1. All 16 sections must be occupied.
2. No section can hold more than 3 guards.
3. Each of the four outer sides (total of both levels) must hold 11 guards.
4. The whole upper level must hold twice as many guards as the whole lower level.

Although 3 fewer guards than expected have reached the cage, all the guards were able to house in the cage in conformity with the four conditions.

Question 19:

Help Cap and Tony to find out how many total guards were marching for the security (including the 3 they captured in the beginning).

Question 20:

If the sum of the guards in the 8 corner cells for the present arrangement is N and that of the original arrangement if the 3 guards were also present is M, what is M + N?

Question 21:

At the same time, Black widow goes to Vormir to get the soul stone. She is stopped by Red skull who says that she can obtain the stone only if she plays a logic game with him. He starts explaining the rules of the game as follows:

There are two piles of pebbles, each pile less than equal to 15 pebbles. The two players take turns picking up pebbles.

1. You can pick up any or all the pebbles in one pile, or
2. You can pick up pebbles from both piles, but only if you take the same number from each pile.

The player who takes the last pebble wins.

Winning positions include (1, 0) (Meaning 1 pebble in the first pile, none in the second) and

(n, n). You pick up, respectively, 1 pebble (rule 1) and $2w$ pebbles (rule 2).

(1, 2) is a losing position:

But though (1, 2) loses, not only (1, 0) and (1, 1) but any other (1, n) wins. A player simply picks up $(n - 2)$ pebbles from the second pile, leaving (1,2).

There are many other losing positions other than (1,2). Help her find all such losing positions.

What is the total sum of the differences of the two numbers of all the distinct losing pairs?

Reuniting in the present, the Avengers fit the Stones into a Stark-created gauntlet, which Banner uses to resurrect all those whom Thanos disintegrated. Nebula uses the time machine to transport past-Thanos and his warship to the present, where he attacks the Avengers' compound. Thanos summons his army to devastate the Earth, but a restored Stephen Strange arrives with other sorcerers, the restored army of Avengers to fight Thanos and his army.

Space for Rough Work

Question 22: [BONUS QUESTION : THE SNAP]

After overpowering the heroes, Thanos seizes the gauntlet, but Stark steals the Stones back just before he could make a snap. Tony now has all the stones with him. He has to arrange the given stones as shown in Fig.1 to Fig. 2 on his gauntlet in order to make them work properly. Each of his move consists of sliding a stone around the other stones, without disturbing them, to a new position in which it touches two other stones always. The stones must remain flat on the surface of gloves all the time.

What is the minimum number of moves Tony should make to arrange the given stones as desired so that he can perform the snap and settle things once and for all?

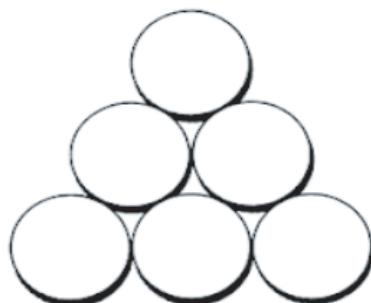


Fig. 1



Fig. 2

Answering this BONUS question (ONLY EXACT ANSWER) decides if Tony can do the snap or not, doubling the total positive marks obtained by you in this section or making it half respectively.

With every stone now in his possession and the gauntlet fully functional, Tony looks at Dr. Strange. Knowing the various possibilities of the future, Dr. Strange gives a look of faith showing that this would be the moment to decide the future. This was the EndGame you were prepared to face in the last 2 hrs. With this final snap, Tony could dust away Thanos and his army. But....

Was Tony successful in putting an end to the Mad Titan and his evil plans of destroying this universe through the snap?

Let us wait and see if you have survived the Ultimate Snap on the day of Results!

Space for Rough Work

A word from the organisers of Technothlon 2019

Hello

We hope that you enjoyed the last two and a half hours, brainstorming your way through what happens to be one of the most challenging exams for school students. We know that hundreds of thoughts like, "What is the point of giving such questions?", "The level is unnecessarily high!" and "Who made such questions?" occurred to you throughout the examination. But we, as a team, can proudly state that making these questions was one of the most enjoyable experiences we've had till date.

The big question which perhaps still lurks in your minds is, "What does Technothlon want to achieve through this question paper?". Believe us, when we say that this was the first question that came to our minds when we started making the question paper. But the fact is that Technothlon has grown exponentially over the years, and so have the expectations regarding the exam. 'Being Ordinary' is the last thing you would expect from a Technothlon question paper. Our question papers are expected to be challenging, logical and most importantly, enjoyable. Even this year, we have tried not just to match the expectations, but to cross them all. A lot of time, hard work and sleepless nights have gone into the making of the question paper. Do not feel sad if you weren't able to solve the questions during the exam. Our motive is not just to test your mental prowess, but to help you better it. We hope that you will keep your spirits high, even after the exam and keep trying until you've solved the complete paper, a feat very grand in itself. Our aim was not just to select the brightest minds in the country but to inspire one and all. We hope that our grand prizes – A trip to NASA or ISRO and the chance of visiting IIT Guwahati were motivating enough to help deliver your best in the exam. We hope to see you at IITG and wish you all the very best for your future.

And finally, the chief organizers of Technothlon 2019 thank all the cityreps for making our dreams a reality. We thank you for working really hard despite the scorching summer heat or the chilling winter breeze, and spreading the word of Technothlon throughout the nation. We hope that you enjoyed the experience and got to know new people. A special thanks to all the institution heads, faculty coordinators, organizers, invigilators and volunteers who were responsible for the smooth conduction of the paper. Lastly, but very importantly, we thank our little team for designing the maze of logic and creativity that you have been trying to solve for the last two and a half hours.

Hope you enjoyed the entire experience!

An open invitation for a lifelong association with Technothlon

Before you feel that you have come to the end of your association with Technothlon, we should remind you that this is just the beginning. You have become an inseparable part of the Technothlon community. Regardless of whether you make it to the second round or not, we enjoy every moment of our interaction with you all. Our Facebook page is our means of reaching out to the student community. Be connected, Stay updated! We are eager to help through counselling of any kind required by utilizing the experienced pool of IITians and highly qualified faculty of IIT Guwahati. And finally, we will appreciate any constructive feedback about the question paper or any general issue that you would like to discuss with us. After all, your feedback is the only way we come to know about our performance.

Chief Organising Team

Milan Rayat

P. Suhas

Vaibhav Singh

Sparsh Dutta

Karthik Ganne

Aniruddh Bakshi

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<https://www.facebook.com/technothlon.techniche>
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Techniche

Just like a rainbow gets its grandeur from the balanced blend of seven colours, each edition of Techniche promises to be a perfect blend of creative ideas, innovation and selfless efforts. It has the vision of motivating the youth of the country to think out of the box and be responsible for the inception of such ideas that boost the growth of the techno-management sphere. Techniche brings forth a medley of remarkable events, be it the inspiring keynotes of prominent personalities in The Lecture Series or the opportunity to interact with eminent industrialists in The Industrial Conclave. From thrilling Robotics competitions to knowledge enhancing Workshops, every bit of Techniche will be a wonderful experience. With innovative ideas like Technothlon -the International School Championship and the Guwahati Half Marathon as well as other outstanding initiatives, Techniche stands proud as one of the best techno-management festivals of the country.

TECHEXPO

Techniche's latest undertaking, the TechExpo has been initiated with the cardinal aim of bringing to light the technological advancements made by the youth of this country and to provide an opportunity to showcase their innovations on a larger platform. It provides for a platform for the participants to showcase the projects undertaken by them in front of a mass multitude of people which includes but isn't restricted to Professors from various fields, notable personage including Nobel Laureates and Students from the nation.

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