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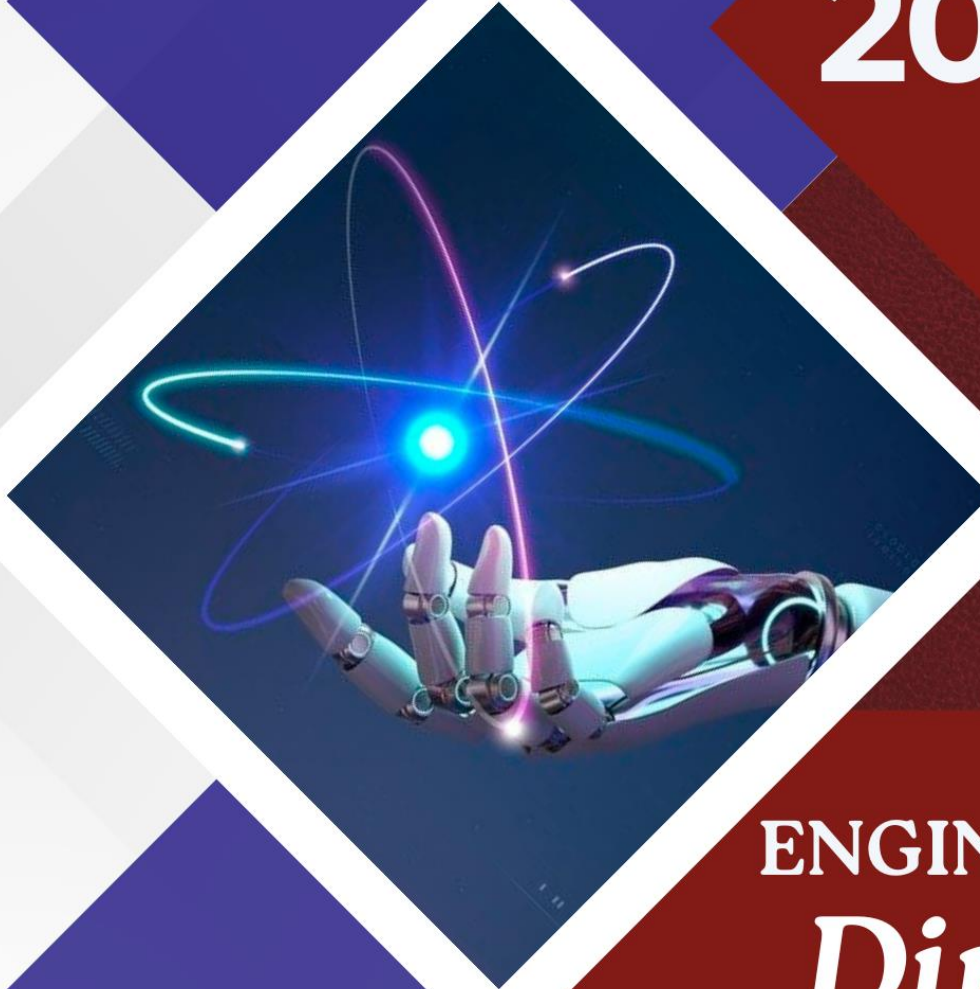
SCIENCE & ENGINEERING FEST
Directives

UCP Science & Engineering Fest 2024

Science & Engineering FEST

Directives 2024

Submitted By:

Faculty of Engineering (FOE)

Faculty of Science and Technology (FOST)

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Overview

The Faculty of Engineering (FOE) and Faculty of Science and Technology (FOST) are organizing an event by the title of "Science and Engineering Fest 2024" as join hosts.

This event will be held among students at different colleges and universities to provide students of University, intermediate, and A-levels a space to test and showcase their theoretical knowledge and their proficiency in its application in competitive environments. This will be a two-day event starting on January 24th, 2024, and will end on January 25th, 2024. There will be different competitions falling into four categories namely the Competitive module, Workshop Module, Exhibition Modules, and fun and games.

Format

Competitions:

Intermediate and undergraduate level students will be pitched for various competitions to enhance their skills and knowledge based upon the current demands of academia and industry. A schedule of competitions will be issued according to the registrations.

Workshops:

To give some basic knowledge and guidance to college students, a set of workshops will be arranged. These workshops will help them build their engineering-related projects for the main event. The workshops will be planned one week before the main event. A schedule of workshops will be issued according to the registrations.

Exhibitions:

To promote the quest for science and technology among freshmen and sophomores an exhibit of the scientifically intriguing and engaging showcase of creative ideas will be held on two days event. The schedule of the event will be issued according to registrations.

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Fun and Games:

Basic recreational and fun activities will be planned to ensure the interest and involvement of the audience keeping the scientific and Engineering grounds in perspective.

Events:

The main event of Science and Engineering FEST 2024 is scheduled to be held as per the following:

Day	Date
Day 1	24th January 2024
Day 2	25th January 2024

Note: The above schedule is tentative and is subject to changes.
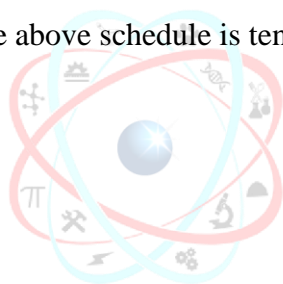
MODULES

Sr. No	Module	Event
1	Competitive Module	Brain FEST
2		Poster Competition
3		3D Model and Project Display
4		Math Treasure Hunt
5		Pet Show
1	Workshop Module	Microbial Culture Art
2		Robotics (Robo Race and Line Follower)
3		Hackathon
4		3D Modeling and Printing
1	Exhibition Module	Science Cinema
2		Science Circus
3		Mini Zoo
4		Nutrition Camp
5		Departmental Project Display
1	Fun and Games	Jenga Jam
2		Brain Games
3		Human Ludo
4		Rubik's Rumble
5		Paper Plane

1. Competitive Module

1.1 Brain Fest

Brain Fest will be a competition of wits and knowledge. The tournament is comprised of 3 stages and each stage will be conducted in rounds of 3 teams, supervised by a Quizmaster, where each team will attempt to answer the maximum number of questions correctly for points. The teams

with a maximum number of points of all participant teams in a stage will proceed to the next stage. The 3 stages are:

1. Buzzer Quiz Stage: Questions will be projected on a screen, and teams will sound their buzzers to have the opportunity to answer them first.
2. Picture Identification Stage: A picture will be projected on a screen and the teams will sound their buzzers to have the opportunity to correctly identify the contents of the image.
3. Final Stage: The final stage will be a mix of picture and quiz-based questions, and the team to achieve the maximum points out of all remaining participants will be crowned champion.

Rules:

- Each Team will be of 3-4 participants.
- Participants cannot be substituted in a team once the tournament has begun. Exceptional cases should be referred to Event Heads.
- Each Round will be of 3 teams.
- The team pressing the buzzer first will answer the question.
- The question must be answered in 20 seconds, if no answer is given, no points are awarded, and the round then moves on to the next question.
- Once the buzzer is pressed, no discussion between teammates is allowed.
- The correct answer is worth 10 points. An incorrect answer is worth -5 points.
- Once a team has answered the question, the round then moves on to the next question.

- Points are accumulated for each team in a round and then tabulated against all teams in a stage. The teams with the maximum points qualify for the next round.

- In case a team is not present when a round begins, they are withdrawn from the tournament. A team must notify Event Heads beforehand in case of any emergency to be accommodated.
- The use of phones, tablets, or any other electronic devices is disallowed during a round. A participant may ask to be excused from the venue for personal reasons, including attending a call or using the restroom.
- The administrative authority reserves the right to change or modify any of the above set rules, participants will be duly notified.

1.2 3D-Model Competition

A Brief Introduction:

The 3D Modeling Competition is a thrilling showcase of creativity and technical skill, inviting participants to bring their digital designs to life. From the theme announcement to the final showcase, participants engage in a dynamic process of innovation, receiving valuable feedback from expert judges and peers. The competition culminates in an exciting award ceremony, recognizing outstanding achievements and pushing the boundaries of what is possible in the realm of 3D design.

The 3-D Model Competition can be on the following theme relating to:

- Science and Technology

Dimensions of the 3-D model:

- Maximum dimensions = 4 ft. X 4 ft. (1.219 m X 1.219 m)

Rules:

- Everyone should be there on time.
- 3D Model should be according to the given theme.
- Teams should not select a single spokesperson for the team, nor should a single team member monopolize the oral presentation of the poster to the judges.
- 3D Model need to be set up for display by the deadline provided.
- The team should be able to answer in-depth questions. This opportunity lets judges find out whether teams understand the project.

- The 3-D model allows you to more personally interact with the people who are interested in your 3-D model.

Registration Fee:

500 per team

Prize: Rs. 5000 in 1st position

Certificates will be provided to runners-up.

Venue: B building (lobby)

3-Model Evaluation Criteria

1. Relevance to the theme.
2. Originality.
3. Artistic composition.
4. Creativity.
5. Message conveyed by the 3-D model.
6. Effectiveness in communicating the intended message.

Judging Criteria:

- 3-D models need to be set up for display by the deadline provided.
- All team members should be present throughout the 3-D model reception. Keep in mind that the team members have expertise in various components of the project. The inability of the team members who are present to correctly answer questions during the judges' visits negatively affects the entire team, as well as its advisors and sponsors.
- Teams should not select a single spokesperson for the team, nor should a single team member monopolize the oral presentation of the 3-D model to the judges.
- Judges expect a "team" presentation of the poster, so make certain that all team members are prepared to contribute if called upon.
- Other members of the community may be visiting your poster when a judge arrives at the team poster. Teams should inform other visitors that they would have to return later because a judge is

now present. Judges should be given top priority during the 3-D model reception because they have limited time to complete their judging responsibilities.

- Your oral presentation during the 3-D model reception needs to be concise due to time constraints. *If a judge requests a brief explanation, do not provide a lengthy one.*

1.3 Math Treasure Hunt

Math Scavenger Hunt is a hands-on math activity to test the college-based mathematical knowledge of the participants along with the ability to comprehend and relate it with hidden clues.

Areas of Mathematics tested will be:

- Algebra
- Matrices and its Operation
- Modular Arithmetic
- Differentiation
- Integration
- Geometry
- Trigonometry
- Sequence and Series
- Solution of $2^{nd}/3^{rd}$ degree polynomials

There will be a total of 10-15 clues that will be essentially some mathematical problems or riddles. Clue 1 will be provided at the start of the competition. The correct answer to the clue will lead the participants to the place where Clue 2 is hidden, and the correct answer to that clue will lead them

to the place where Clue 3 is hidden, and so forth. The team who will find all the clues first will be considered the *winner*.

Guidelines:

- A total of 8-10 teams can participate in this one-time competition.
- Each team may comprise of 2-3 members.

- Each team will be provided with some scratch paper, math toolkits, useful math formulae, and pencils at the beginning of the hunt. However, each team must bring its own scientific calculators for calculation purposes.

- All members will have to submit their cell phones, smart watches, pagers, or any other online devices before the start of the hunt.

- The mathematical working of all the clues must be clearly shown in the clue questions.

- Each team must have a *team leader* who'll submit the clues with all the calculations at the end of the final clue to be checked by the Hunt Coordinator.

- There is a one-time lifeline option; "*Ask a Math Teacher*", available for each team during the hunt in case they get stuck in any of the clues. The team can consult their math teacher by phone or in person by notifying the Hunt Coordinator present at the starting point of the hunt. The name of the teacher must be conveyed by each team beforehand.

- Disqualification will result from any of the following:
  - Damaging any property,
  - Using the internet or any online help,
  - Interfering with other teams,
  - Copying/Stealing from other teams,
  - Using Shortcuts or help from others.

1.4 Pet Show Competition

Introduction

We are thrilled to announce our upcoming Pet Show at University of central Punjab, where we celebrate the diverse and wonderful world of pets! From furry friends to feathered companions, our event welcomes all types of calm pets in a single category, fostering a sense of inclusivity and camaraderie. This gathering is not just a showcase but a platform to appreciate the unique qualities, bonds, and talents that make each pet special. Join us for a day filled with joy, creativity, and a shared love for our animal companions. Let's make this pet show a memorable and heartwarming experience for everyone involved!

General Rules and Regulations

1. The Pet Show is open to all college and UCP students, staff, and faculty members.

2. Cats, birds, pocket pets, small mammals and aquatic animals are eligible to participate.

3. All participating pets must be in good health, free from contagious diseases and up to date on vaccinations depending on the type of pet.

4. Pets must have proof of vaccinations submitted with registration.

5. All pets must have a hard sided carrier, kennel, aquarium, or bowl that is appropriate for their transport. Pets without a carrier will be excused for their own safety.

6. Pets should be well-behaved and non-aggressive. All exhibitors are responsible for their own pets.

7. Different categories of pets are judged together as Best and Most unique pet in Show as declared by judges.

8. Participants are encouraged to bring hand sanitizer and educate the public about the importance of proper handwashing when handling these pets.

Classes of pet

- Cats (Vaccinated)
- Birds
- Pocket Pets
- Aquatics
- Small mammals

Health Requirements

➢ The show committee reserves the right to excuse any animal that appears to be overly stressed or in a condition that indicates a health problem.

➢ Any signs of pink eye, fungus, mites, open sores, or any other signs of contagious or infections conditions will result in dismissal (with no refund).

Pet Evaluation Criteria

Evaluation of pet show where various types of pets are considered as a single category involves assessing a combination of factors related to the pets' well-being, behavior, and presentation. Following criteria will be used for the evaluation:

- Health and Wellness (30%)
- Grooming and Presentation (20%)
- Obedience and Temperament (20%)
- Owner-Pet Interaction (10%)
- Audience Engagement (5%)
- Special Tricks or Talents (5%)
- Overall Impression (5%)
- Adherence to Rules and Regulations (5%)

Registration fee: Rs. 500/

1.5 Poster Competition

Introduction

This competition provides a dynamic platform for showcasing artistic talent and visual communication skills.

The competition is divided into **2** categories:

1. Thematic Posters (For Intermediate Students)

2. Research-based Posters (For University Students)

This event aims to celebrate creativity and scientific inquiry, providing a platform for students to contribute to the advancement of knowledge. It's an excellent opportunity for participants to enhance their artistic skills, receive constructive feedback, and connect with like-minded individuals.

Dimensions of the Poster:

- Maximum dimensions = 4 ft. X 4 ft. (1.219 m X 1.219 m)
- Font size must be readable from a distance. *Recommended* font sizes are:

- 44 pt for headers
- 38-40 pt for body text
- 18-24 pt for captions beneath figures
- 18 pt for references

Rules:

- Everyone should be there on time.
- Posters should be according to the given theme.
- Use short sentences, simple words, and bullets to illustrate your points.
- The poster (text) should be easily readable from a distance of about 2 meters.
- Teams should not select a single spokesperson for the team, nor should a single team member monopolize the oral presentation of the poster to the judges.
- Posters need to be set up for display by the deadline provided.
- It should take no longer than 10 minutes for someone to read the poster.
- Due to red-green color blindness, the use of these colors to represent contrasting concepts should be avoided.
- Poster text and figures may appear clearer on screen than on paper; therefore, a printout of the poster should be viewed before display.
- The team should be able to answer in-depth questions. This opportunity lets judges find out whether teams understand the project.
- Avoid the use of poor-quality micrographs and other images on the poster.
- The reader should be able to navigate the poster with ease.
- Those who are participating under the category of scientific research-based poster should clearly define the scope of research topics through their poster.
- All submitted posters must reflect original research work conducted by the participant or the research team. Proper attribution should be given to prior work and sources, and any borrowed content must be appropriately cited. Failure to provide proper credit or engaging in plagiarism will result in disqualification.
- Participants must present accurate and authentic data in their posters. Any manipulation, fabrication, or misrepresentation of data is strictly prohibited. In cases of collaborative research,

contributors should be acknowledged appropriately, and the primary data sources must be clearly identified. Any violation of data integrity standards may lead to disqualification.

Theme for poster

1. Climate action
2. **Good health and well-being.**

Materials Required:

- Double tapes (3)
- Scotch tape (3)
- Pen box (1)
- Print out of mark sheets (6)
- Certificates for winner (2)
- Certificates for runner-up's (4)
- Prize money for winner (2)

Prize:

Rs. 5000 on 1st position

Certificates will be provided to Runner-ups

Venue: B building lobby

Poster Evaluation Criteria:

- Relevance to the theme and category
- Originality
- Artistic composition.
- Creativity.
- Message conveyed by the poster.
- Effectiveness in communicating the intended message.

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● Balance: The poster should be a balance of text, figures, and space. The excess text should be avoided - figures should play a dominant role in communicating the project on the poster. There should be adequate space around text and figures to avoid a crowded appearance. Judges will place heavy emphasis on balance.

● Overall Visual Appeal: Color and font changes should be used appropriately. The use of too many colors creates an unprofessional appearance. Dramatic colors should be used only to illustrate dramatic points – overuse is simply confusing. There should be consistent use of color throughout the poster to represent the same concept - the colors should not be randomly switched. Due to red-green color blindness, the use of these colors to represent contrasting concepts should be avoided. A poster with overall visual appeal stands out among other posters.

● Legibility: The poster should be easy to read. There should be high contrast between the text and background. The background should not be busy and distracting. The resolution of the printed poster should be high enough that the text is clear and there is sharp detail on the figures. Avoid the use of poor-quality micrographs and other images on the poster. Poster text and figures may appear clearer on screen than on paper; therefore, a printout of the poster should be viewed before display.

● Conciseness: The content of the poster should be technically written. It should take no longer than 10 minutes for someone to read the poster.

● Flow: The poster content should follow a logical sequence. The reader should be able to navigate the poster with ease.

● Appropriate and Relevant Content: Careful thought should be put into the selection of poster content. Redundancy in the presentation of information becomes tedious and exists at the expense of other information.

● Grammar/Spelling: Posters should be critiqued before printing for spelling and grammar errors. Scientific names should be presented correctly.

● Oral Presentation of Poster: The poster presentations provide judges the opportunity for detailed probing. The team should be able to answer in-depth questions. This opportunity lets judges find out whether teams understand the project.

Judging Criteria:

- Posters need to be set up for display by the deadline provided.

- All team members should be present throughout the poster reception. Keep in mind that the team members have expertise in various components of the project. The inability of the team members who are present to correctly answer questions during the judges' visits negatively impacts the entire team, as well as its advisors and sponsors.

- Teams should not select a single spokesperson for the team, nor should a single team member monopolize the oral presentation of the poster to the judges. Judges expect a "team" presentation of the poster, so make certain that all team members are prepared to contribute if called upon.

- Other members of the community may be visiting your poster when a judge arrives at the team poster. Teams should inform other visitors that they will have to return later because judge is now present. Judges should be given top priority during the poster reception because they have limited time to complete their judging responsibilities.

- Your oral presentation during the poster reception needs to be concise due to time constraints. If a judge requests a brief explanation, do not provide a lengthy one.

2. Workshop Modules

2.1 Microbial Culture Art Workshop & Competition

(Workshop Leading to Competition)

Expected Date for the Workshop: 24th January **2024.**

Brief Introduction of Workshop:

- One-day workshop for the participants which will be conducted prior to one week of the competition, so that the participants will gain complete knowledge of **Microbial Culture Art.**
- Two trainers will be giving the training to the participants.
  - The type of agars that could be used in the competition will be guided by trainers.
- The art will be created on the agar plate through culturing.

Registration Fee:

The registration for the workshop and competition will be Rs. 500 for per participant.

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Participation in this contest is open to groups of participants limited to 3 participants per group.

THEME: Underwater world

Rules:

- Two hours will be given to the participants so that they can think of the art that they may want to create on an agar plate.
- They should submit the proof of the plate that they have made with the description, significance, idea, and title.
- Only bacterial cultures and agars can be used to create agar art and use of props or other materials is not allowed.
- Judges are not responsible for any technical failures or problems of any kind associated with any mode of electronic submission used, nor for any delays.
- They can disqualify the participants if the proof of the culture is taken from internet source.
- No component of said Work is permitted to contain any language, imagery, or themes that are offensive, objectionable, discriminatory or threatening against any persons, or illegal.
- Participants associated with any participant suspected or known to be in violation of the legal conditions and guidelines outlined in this contest will be disqualified.
- Judging Criteria:
- Pictures must be submitted by the participants to the given (mail, online page).
- Title and idea of the art will be judged thoroughly.
- The picture should be clear (pixels of the picture should not be fading, otherwise it can affect the results.)
- Description should be precise.
- It should not be taken from the internet or else the team will be disqualified.

Prize Distribution:

Rs. 5000 for 1st position

Certificates will be provided to runner ups

Venue: Microbiology Lab, B building (3rd floor)

Microbial Art Evaluation Criteria:

- Originality
- Relevance to theme
- Artistic composition
- Creativity
- Message conveyed by the art

2.2 **Robotics**

- Line Follower

A Line Follower robot is a mobile machine that detects predefined lines on a surface underneath it by way of Infrared Sensors (IR) or else, that transmits data to a processor by specific transition buses. The processor then commands the driver in ways that let the robot follow the line.

Line Follower will be a knockout stage competition, and the winner will receive a cash prize.

Rules:

- Up to 5 members per team.
- The robot must be completely autonomous once the operator starts it.
- Maximum dimension of robot=30cm x 30cm x 30cm (LxWxH).
- There are no limits on the weight of the robot.
- LEGO kits as well as microcontroller-based robots are allowed
- In addition, there are no restrictions on the sensors used by the contestants. The robot can also touch the lines on the ground to detect them; however, it must not at any point damage the track. If the track gets damaged, then the robot will be disqualified.
- There are no restrictions in using readymade kits and modules, although the effort put into making the robot is taken into account while judging the robot by the jury
- 1 Point will be given on crossing every checkpoint
- If any robot stops working or if there is a technical fault, then it should be picked up by one of the team members and restarted from the start point, as preferred by the team members, this will be counted as a retry.

- A maximum of three retries are allowed, the minimum

time will be counted.

- The jury may stop any robot at any time if they feel that it is performing or about to perform any action that is dangerous to people or setup.

- Teams will be given 1 minute for setting up the Robot at the start point.

- The robot can start at the instant when the start signal is given and a whistle is blown.

- Once the Robot moves, team members will not be allowed to touch the Robot or enter the Contest Arena.

- A team member will raise his hand to notify if he wants a retry

- Time will start once the start signal is given and the whistle is blown.

- The time duration for robots is 9 minutes. They can take 3 retries within this period.

- The track could be modified on the runtime to give ease to robots to complete the track.

2.3 Truss Bridge Competition/ Hackathon

Competition Rules:

- Each team comprises 02 members.

- A workshop shall be arranged at UCP to make you ready for the competition

- You will choose your design and start working to make it a reality.

- You have to bring the drawing of the chosen design on the competition day.

- Material (Ice cream Sticks and Glue) will be supplied to you.

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- It is a time-bound competition with a maximum time of 1 hr. for on-site fabrication.
- Already fabricated items will not be allowed.
- You must bring your calculators for calculation purposes.

Evaluation Criteria:

- Your truss bridge must look like the drawing provided by you for the selected design.
- The weight of the Truss bridge will be measured (A).
- The finished bridge will be loaded at the center point of the span with external weights.
- The maximum value of the load that a truss bridge carries before fracture will be recorded (B).
- The ratio of weight carried to the weight of the bridge itself will be calculated (B/A).
- The team with the greatest B/A ratio will win the competition.

2.4 3D printing

- The competition is open to individuals or teams with a passion for 3D modeling and printing.
- Participants of all skill levels are welcome.
- Each participant or team must submit their 3D model file(s) in a compatible format (e.g., STL, OBJ).
- Include a brief description of the design.
- Designs should adhere to the technical specifications of 3D printing, considering factors such as overhangs, wall thickness, and minimum feature size.

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- Clearly label 3D model files with the participant's or team's name.

- Designs should be suitable for printing on a standard 3D printer (8cm X 8cm)

- Participants are expected to conduct themselves respectfully.

- Any form of cheating, harassment, or unsportsmanlike behavior may result in disqualification.

- The organizers reserve the right to modify the competition rules or schedule, if necessary, with timely communication to participants.

3. Exhibition modules
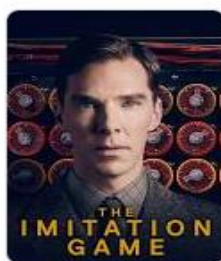
3.1 Science Cinema

A pop-up cinema, named Science Cinema will be set up for the general audience and participants of Science Fest. It will exhibit Hollywood movies(non-fiction)/documentaries based on some famous mathematicians in history. The stall will be decorated with flexes(standees) showcasing the movie poster of the selected movies/documentaries. Along with the movie poster, there will be further educative posters/charts with all information and facts about the incident or personality featured in the movie. A projector and screen will also be used to run trailers and teasers of the selected movies in the stall.
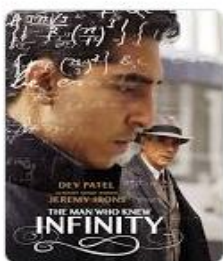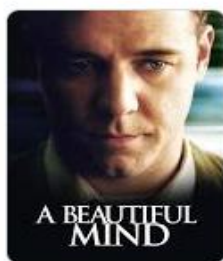
| The Man Who K... | A Beautiful Mind | The Imitation Ga... | The Theory of E... | Hidden Figures |

Some of the suggestions for the movies/ documentaries are:

- A Beautiful Mind
- The Man Who Knew the Infinity
- The Theory of Everything

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- The Imitation Game

- Hidden Figures

- A trip to Infinity (Netflix Documentary)

- The Great Math Mystery (Documentary)

- The top 2(for each day of the event) most popular and demanded movies or documentaries will be screened in any of the booked UCP hall or classrooms. The general walk-in audience will cast a vote for their favorite one.

- A nominal ticket of 200 Rs will be set as a registration fee for the screening. (It may be kept free for guest participants outside UCP)

The purpose of this activity is to inspire and encourage young students with the lives and contributions of math geniuses in the field of mathematics and Science in a visual and entertaining way.

3.2 Science circus

"Science Circus" is a captivating fusion of art and science, where the boundaries between creativity and scientific exploration dissolve in a spectacular display of demonstrations and experiments.

The event unfolds as a vibrant and engaging circus, featuring captivating demonstrations of scientific experiments presented in a visually stunning and entertaining manner.

The performers, our skilled teachers and university students, bring scientific concepts to life through interactive and awe-inspiring displays. This immersive experience allows attendees to not only witness the magic of scientific principles but also actively participate in hands-on experiments that spark curiosity and learning.

For Science Fest '24 , Science Circus will consists of three segments, directed by the three Department of FOST, namely Department Mathematics, Physics and Basic and Applied Chemistry.

The three segments are:

- Physics Fantasy

- Math Mania

- Chemicals Carnival

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Total time= 45 minutes

Venue: Amphitheatre/ Auditorium UCP

Free for Participants

3.3 Miniature Zoo 3-D Model Competition

Introduction

Zoos first began centuries ago as centers of entertainment to satisfy people's curiosity about animals. Now, Zoos have evolved to become centers for conservation, education, research and

recreation. The Mini-Zoo is a competition of 3-D models which includes tabletop animal displays and conversational nature interpretation. The aim of 3-D Models presenting a zoo is recreation,

education, research, and conservation. In addition to the tabletop tank displays, a floor corral with tortoises or armadillos, and/or a free-standing display may also appear.

3-D model competition

- Sustainable Development Goals
- SDG 14: Life beneath the water
- SDG 15: Life on Land

Dimensions of the Scientific Models:

Maximum dimensions = 4 ft. X 4 ft. (1.219 m X 1.219 m)

Rules:

- The viewer can go forwards and backward through the model.

- It attracts an audience that is really interested in your work.

- It should predict the main objective of your idea.

3.4 Nutrition camp

Nutrition camps play an important role in promoting awareness, knowledge and practical

execution of healthy dietary habits. The purpose of the camp is to foster awareness about

nutrition and its importance in maintaining good health. The

camp aims to educate the

students of the different institutions on healthy eating habits, a balanced diet, and the impact

of nutrition on overall well-being. During the camp, you will learn all about how nutrition

affects health, ways to eat to optimize your well-being and practical tips to help you eat for a healthier

happier you.

- The Camp can provide the following services depending upon the participant's involvement:
- Anthropometric Measurements (Weight, Height, BMI, W/H ratio)
- Biochemical assessment (Body fat measurement)
- Clinical Examination
- Dietary History (Food Frequency Questionnaire/24-hour recall)
- Counselling
- Diet plan
- The purpose of these evaluations is to understand the current health status of the students and
- Identify any potential nutritional deficiencies or health concerns.

3.5 Departmental Project Display

Departmental project display involves an experience where you get to step into the realm of academic excellence as students from 10 diverse departments showcase their final year projects at the Departmental Project Display and Exhibition. This event serves as a unique platform where graduating students present their culmination of learning and innovation.

Imagine a vibrant space filled with stalls, each representing a specific department. Here, students proudly exhibit their final year projects, offering a firsthand look at the fruits of their academic journey. These projects span a spectrum of disciplines, from computer science marvels to the wonders of electrical engineering, showcasing the application of knowledge to real-world challenges.

To enhance this exhibition experience, each student is provided with a dedicated stall to creatively display and explain their projects. These stalls serve as interactive hubs, allowing visitors to engage with the projects and gain insights into the depth of research and ingenuity applied.

But it doesn't end there. The Departmental Project Display goes beyond a mere exhibition; it opens doors to future possibilities. Attendees have the valuable opportunity for career counseling, connecting with professionals and faculty members who can offer guidance and insights into potential career paths.

In essence, this event is a celebration of academic achievement and innovation, providing a glimpse into the diverse and impactful projects emerging from the minds of our graduating students. The Departmental Project Display and Exhibition not only bridges the gap between theory and application but also acts as a gateway to future endeavors, making it a must-attend for those seeking inspiration and guidance in the realms of science and engineering.

4. Fun and Games

4.1 Jenga Jam

- Proposed Day: 24th, 25th January

Introduction:

Jenga is a classic wooden block stacking game where players take turns removing blocks from the tower and placing them on top, without causing the tower to fall. This is a one-on-one game. this will be a knockout session.

The winning participant (or team of 2) of team 1 will be playing against winning participant (or team of 2) of the team 2 in the next round of game. and so on.

For example, if 8 teams are competing against each other, 4 winning teams will go to the semifinal round, then from those 4 teams, only 2 winning teams will go to the final round. In the end only 1 team will be the winner. Cash prize of 5000/- or any gift hamper worth 5000/- will be given to the winner.
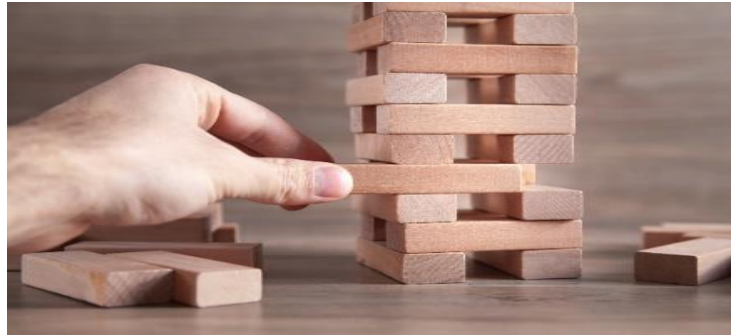
Rules:

- Build the tower by stacking the blocks in layers of three, alternating the blocks direction.
- Players take turns removing blocks from any level of the tower except the top two.
- Blocks can only be removed from the outside of the tower, not the inside.
- After removing a block, the player must place it on top of the tower
- If the tower falls, the player who caused it to fall loses.
- The game continues until a player successfully removes and places a block without causing the tower to fall.
- Winning Prize: 5000/- or Sponsor gift
- Proposed Venue: Building A/B lobby
- Registration Fee: 200 each Participant.

Jenga is a great game for building decision-making skills and improving hand-to-eye coordination. The aim of this game is to teach kids the importance of being patient and how to be a good friend under pressure.

4.2 Brain Games

4.2.1   Mensa Connections/Ingenious

Ingenious is the English name for Einfach Genial (Simply Ingenious), a German abstract strategy board game designed by Reiner Knizia. It is known as Mensa Connections in the UK.

There are six colored symbols used in the game: red 12-pointed star, green circle, blue 6-pointed star, orange hexagon, yellow 24-pointed star, and purple ring.

Tiles are in the shape of two conjoined hexagons, with one of the colored symbols in each hexagon. There are six tiles for each two-color combination (e.g. red/orange) and five for each double (e.g. blue/blue). The combination of colors and symbols aids visually impaired players.

- The game can be played by two, three, or four players.
- Each player has a rack of six randomly chosen tiles which are concealed from the other players.
- The board is also made up of several hexagons, with the two outermost rings reserved for three- and four-player games respectively.
- Players take turns placing a tile on the board, scoring points by creating lines of identically colored hexes.
- On the first turn, each player must place a tile next to a different one of the six printed colored symbols on the board; thereafter players may place tiles on any free space.
- Scoring occurs from each of the two symbols on the tile. Counting outwards in a straight line from each of the five available faces of the two hexagons (the symbols on the tile itself are not counted), one point is scored in that tile's color for each identical symbol in an unbroken line. It is, therefore, possible to score points on two colors by placing a single tile.
- Each player's score is visible to everyone at all times.
- If a player reaches a score of 18 with any color, they declare 'Ingenious' and place another tile.
- If a player holds no tiles of their current lowest-scoring color, he/she may choose to swap his/her tiles. Their remaining tiles are shown to the other players, a full hand of six tiles is drawn, and the discarded ones are replaced in the bag.

- Every player must refresh his hand after every move by drawing a tile from the bag to bring it back up to a full hand of six.

- Any player scoring 18 on all six colors wins immediately. Otherwise, the game ends when no more pieces can be added to the board, at which time players check the color in which they have the fewest points. Whoever has the highest point value in their weakest colour is the winner of the game. In the case of ties, the second weakest colour is checked, and so on.

4.2.2 Rummy O-Rule

Rummy-O is a tile-based game for 2 to 4 players, combining elements of the card game rummy and mahjong.

- The game is played with 106 numbered tiles. Tiles are numbered 1-13 in four different colors, each tile appearing twice; and there are two Jokers.

- All tiles are shuffled and placed on the table, face down. Each player takes one tile; the player who has the highest value, gets the first turn.

- Then these tiles are put back onto the table, and each player takes 14 tiles. The remaining tiles will form the *stock*.

- A player play his tiles in *melds* (groups) on the table, in two possible ways:

1. You play a run if you play three of more tiles of the same color, with numbers in sequence, like **456** or **910111213**.

2. You play a set if you play three or four tiles with the same number, in different colors, like All **777** or **1111** colors must be different, so this is *not* valid: **444**.

- In each turn, you may take tiles that are already on the table and combine them with your own tiles to form new melds. At the end of your turn, however, all tiles on the table must be part of valid runs or sets again.

- It is not allowed to take tiles that were on the table at the start of your turn and put them back into your hand.

- Jokers are wildcard tiles that can represent any other tile. You play Jokers in the same way as you would play the tile they stand for, for example: **4*6** or **77*7**.

- You must replace the Joker with the matching tile, before you can use it anywhere else.In a set of three, the Joker can be replaced by any of the missing colors, e.g. in **22*** you can release the Joker with either a **2** or a **2** .

- There is an additional restriction that the matching tile must come from your hand. You cannot replace the Joker by a tile that was already on the table.

- When you have played all the tiles you can (or want to), you say "Done!". Then the player at your left will get the turn.

- If you didn't play any of your tiles in your turn, then you have to draw another tile from the stock.

- Before you can play anything else in a game, you must play one or more new melds with a total of 30 or more. For example: **91011**, or **3333** **56***. Jokers in these melds count as the tile they stand for.

- Only when you have played a total of 30 or more in new melds, you may add tiles to other melds or rearrange tiles that are on the table.

- Once you have played 30 or more in new melds, then in subsequent turns you can play anything you like.

- When you have played all your tiles in valid melds, so you have no tiles left, then you win the game.

4.2.3   Chinese checker

Chinese chequers are a strategy board game of German origin that can be played by two, three, four, or six people, playing individually or with partners.

The aim is to race all one's pieces into the star corner on the opposite side of the board before the opponents do the same.

The destination corner is called *home*.

- Each player has 10 pieces.

- Players take turns moving a single piece, either by moving one step in any direction to an adjacent space or by jumping in one or any number of available consecutive hops over other single pieces.

- A player may not combine hopping with a single-step move – a move consists of one or the other. In the diagram, Blue might move the topmost piece one space diagonally forward as shown.

- A *hop* consists of jumping over a single adjacent piece, either one's own or an opponent's, to the space directly beyond it in the same line of direction. Red might advance the indicated piece by a chain of seven hops in a single move.
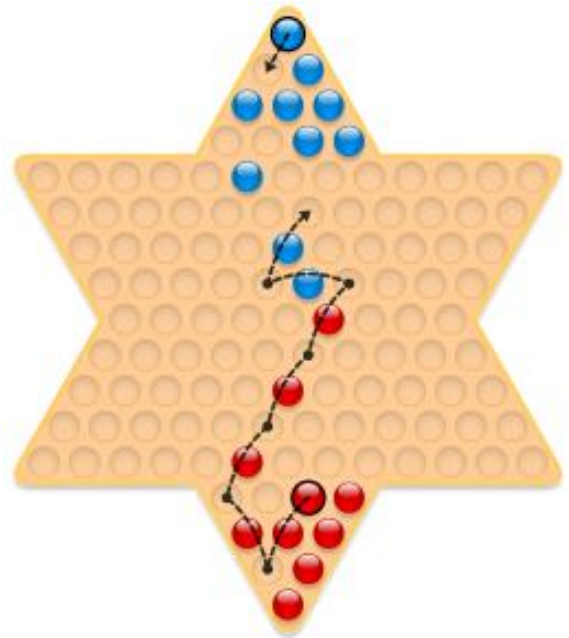
4.4.4   Ubongo

In Ubongo you race against time and the other players to finish your puzzle.

- Each player receives one set of 12 tiles.

- At the beginning of each round, each player also receives a new puzzle board. The task to be completed on each puzzle board is determined by rolling the die; immediately afterward, the hourglass is turned over.

- All players simultaneously try to place a predetermined set of tiles on the light-colored placement area of their puzzle boards in such a way that the area is completely covered

- Each player who can complete his or her task before the hourglass runs out shouts "Ubongo!"

- The player completes his/her puzzle first will get 4-point, 2nd gets 3, 3rd gets 2 and 4th gets 1 point.

- If a player fails to complete the puzzle before the hourglass runs out, he will get zero points.

- The player who reaches a total of 20 points first will win.

4.5 Human Ludo

Human Ludo is a game in which Humans play as Ludo Pawns. Human Ludo is a fun game best to utilize in your spare time. This game is proposed on the same rules and technique as Ludo.

- Four teams will be playing at a time

- Each team will maximum have 2 players.

- There will be two dice provided to the participants.

- If a team secures two sixes on the dice on a single turn, they will be allowed for another turn with the dice.

- Only one participant can come out of the prison at each six.

- If three consecutive sixes come for a team, then the turn for that team will be canceled and dice will be given to the next team.

- The participant can also enter the home even if he hasn't killed a participant from another team.

- A team will win the match if one member of a team secures going home.

- The knockout system will be followed.

4.6 Rubik's Rubble – solo challenge

Proposed Day: 24th, 25th January

Objective: In the solo challenge of Rubik's Rubble, your objective is to solve the entire 3x3 Rubik's Cube as quickly as possible.

Components:

1. 3x3 Rubik's Cube

Setup:

1. Begin with a shuffled Rubik's Cube.
2. Choose a well-lit and comfortable playing area.

Gameplay:

1. On each turn, you must perform one of the following actions:
   - Rotate a single face of the Rubik's Cube 90 degrees clockwise or counterclockwise.
   - Swap two adjacent faces of the Rubik's Cube.
2. The goal is to align all faces of the Rubik's Cube to have a single color.
3. You may not rotate or swap faces that are already solved.
4. The game continues until all faces of the Rubik's Cube are of the same color.

Winning: The player wins by completing the Rubik's Cube in the shortest time possible with as few moves as possible.

Scoring:

- Record the time it takes to solve the Rubik's Cube.
- Record the number of moves it takes to solve the Rubik's Cube.

Winning Prize: 5000/- or Sponsor gift

Proposed Venue: Building A/B lobby

Registration Fee: 200 each Participant.

4.7 Paper planes

If you wish to showcase your Arm's strength and your ability to design better, then don't forget to participate and show your abilities to fold the paper and prove yourself to be a good designer.

As we unfold the possibilities of paper, remember that each fold, crease, and design hold the potential to defy gravity.

- The plane covering the longest straight distance will be declared the winner.
- Paper planes must only be constructed out of one piece of paper: Standard A4 format (297x210mm), weighing.+ 100gms, at most 2 staple pins, and 3 inches scotch tape.
- Overweight paper planes will be disqualified.

Summary

Competition	Team size	Registration fee (per team/participants)	Prize money	What's included in the fee
Brain Fest	3 to 4	500	10,000	Certificate of Participation
3D Model Display	1 to 3	500	10,000	Certificate of Participation
Poster Competition	1 to 3	500	10,000	Certificate of Participation
Math Scavenger Hunt	2 to 3	500	10,000	Hunt Kit Certificate of Participation
Microbial Culture Art	1 to 3	500	10,000	Certificate of Participation
Robotics – Robo Race	1 to 3	500	10,000	Robotics kit Workshop training
Robotics– Line Follower	1 to 3	500	10,000	Robotics kit Workshop training
Structural Design Hackathon	1 to 4	500	10,000	Workshop training Building material
3D Printing	1 to 3	500	10,000	Certificate of Participation
Departmental Project Display	1 to 5	--	--	Certificate of Participation
Rubik Rubble	1	200	5,000	Certificate of Participation
Jenga Jam	1	200	5,000	Certificate of Participation
Human Ludo	2 to 4	200	5,000	Certificate of Participation
Brain Games	1 to 4	200	5,000	Certificate of Participation
Paper Plane	1 to 2	200	5,000	Certificate of Participation
Pet Show	1 to 3	500	10,000	Certificate of Participation