



THE CHEMFEST
VORTEX 9.0



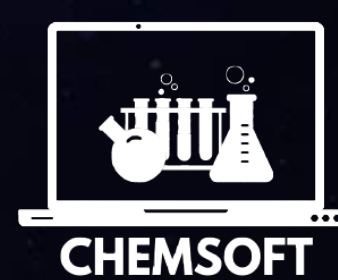
THE CHEMFEST
VORTEX 9.0



THE PRODIGY

SERIES OF EVENTS

THE
PRODIGY
series of events





VORTEX 9.0

THE CHEMFEST



SR IDP

INTRODUCTION:

Industry Defined Problem (IDP) is one of the most anticipated events of Vortex: The Chemfest of Institute of Chemical Technology (formerly known as UDCT). It combines various disciplines in its quest to provide the most industry-friendly solution making it a unique event. Having a proud lineage of YRC and YICC, IDP is the flagship event of Vortex.

Problems are provided directly by the leaders of the industry and represent the actual issues faced by the companies.

The participants are required to use their technical know-how to come up with innovative and effective solutions fulfilling the conditions set by the industry; these solutions are then analyzed by expert industry professionals.

FORMAT:

Participation: 3rd and 4th Year Undergraduates, Graduate, Post Graduate and Phd students with valid ID cards of their respective educational institutes are allowed to participate in The Industry Defined Problems of Vortex 9.0.

Teams: Only team participation allowed. Make groups of 2 or 3 members. A team can consist of participants from different colleges provided each one of them has a valid ID card of his/her own college.

RULES:

1. The event will take place on 6th March 2022.
2. The teams will be allotted the IDP statement on a first-come-first-serve basis (based on date and time of payment).
3. The PDF document of these allotments will be uploaded on the website and the allotments would be mailed to you.





VORTEX 9.0

THE CHEMFEST



4. In case the preference form is filled multiple times, only the first entry will be considered.
5. In order to have a transparent system and unbiased results, we request all the participants to not include the name, logo, symbol of their institute/college in the presentation or any text they submit.
6. During their presentation too it should not be mentioned unless asked by the judges. Failure to abide by this rule may lead to disqualification.
7. Each team will prepare a PowerPoint presentation based on their problem which they will present for a period of 10 minutes before the judges.
8. Supporting the PPT, a detailed report containing all assumptions, references, appendices and calculations must be presented which will be given to the judges.
9. A 2-page executive summary of the solution will also be required for submission to the judges. (Font size 12, Double space).
10. After the 10-minute presentation, there will be a 5-minute post- presentation Q&A session with the judges. Questions from the audience will not be entertained.
11. All PPTs need to be submitted 30 mins before the official start of the event. No changes will be allowed after submission.
12. Not adhering strictly to the time limit will result in negative marking
13. Decision taken by the judges shall be treated as final and binding to all.
14. Participants who have duly submitted and presented a solution will only get their participation certificates.
15. The organizers reserve the rights to change any of the above rules as they deem fit without any prior intimation.
16. Team ID would be allotted to you after registration.

THE
PRODIGY
series of events



INDUSTRY DEFINED PROBLEM



THE CHEMFEST VORTEX 9.0



PRESENTATION, REPORT AND SUMMARY

Last date for registration is 18th February 2022.

Participants have to e-mail a copy of the report and executive summary before 2200 Hours (10 PM) of 27th February 2022 to vortex.sridp@gmail.com.

Subject of email: Team ID – IDP <Alphabet allotted>

1. Please note that no changes will be allowed after submission of these documents.
2. Failure to submit the report and summary before the above-mentioned date will lead to automatic disqualification.
3. One of the team members needs to present the solution in the meeting platform.

Contact:

Dewashish Dixit (Event Head) - 9529032193/8390432650.

Vyankatesh Tarkase (Event Head) – 8379083461.

Shyam Gandhi (OEH-Prodigy) – 9923244781.

For any other queries or information, mail to:- vortex.sridp@gmail.com

Best wish from ,

SR IDP Team 2022.

THE
PRODIGY
series of events



INDUSTRY DEFINED PROBLEM



VORTEX 9.0

THE CHEMFEST



JR IDP

Do you have it in you to solve real-world problems faced by the industry? Get to know by participating in Junior IDP. Specially designed for the young aspiring minds of the First and Second year (Undergraduates). This event will present you with the industry-based problems of today's world. You have to give a solution for the same using your knowledge and skill. More practical, economical and creative your solution is, more is the chance of winning this competition! So, get going guys.

FORMAT

Round 1: Abstract Submission

- The participants are requested to submit the abstract for the problem statement which will briefly discuss the solution to the problem along with answers to the questions asked.
- As your abstract will be the only key for going into the next round prepare it in the best possible manner highlighting the uniqueness of your solution.
- The abstracts will be graded for their innovation, thought process and relevance to the problem statement.
- Hence the participants are advised to read the problem statement carefully.

Round 2: Presentation and Report Submission

- The selected groups of round 1 will have to prepare a detailed report including calculations leading to their answer and give a presentation on the same in front of judges.
- The date and time of the event will be communicated soon after your abstract submission last date.
- The top 2 groups (from each year) selected by the judges will be awarded a merit certificate and prize money during the prize distribution ceremony.

The format of the mail should be as follows:

1. The subject of the mail should include the problem statement and the JR IDP TEAM ID given after event registration on the VORTEX 2021 website. The format for the subject of the mail is Jr. IDP_PROBLEM STATEMENT DESIGNATION_TEAM ID. For e.g. The subject of mail for the problem statement for the first year should be Jr. IDP_FY_JID1005 and that for the second year should be Jr. IDP_SY_JID1005, and so on. Use the same format for the file name to be attached.
2. The abstract should not exceed 1 page. The font is Times New Roman, size 12.
3. Deadline for Abstract Submission for both FYs and SYs will be on 25th Feb 2022 11:59 PM.
4. The first slide should clearly mention the team details of the candidates (Name, Branches).
5. Mail ID for submission (both round 1 and 2):- v.jridp@gmail.com

THE
PRODIGY
series of events





VORTEX 9.0

THE CHEMFEST



RULES

- A team of maximum 3 people is allowed. (Individual or participation in a group of two's is allowed too).
- Participation within a team need not be of the same college. (Participant must be from the same year)
- Only 1st and 2nd-year undergraduate students of all branches are allowed to participate.
- Under all circumstances, the decision of the judges and the event heads will be final and binding on all the participants.
- Any difficulty faced should be addressed to the event heads who will do their level best to solve them.
- References and accurate data are necessary and a must.
- The presentation should not exceed duration of 10 minutes.
- References must be in accordance with any recognized formats followed by international journals.
- **Plagiarism is strictly prohibited and if it is found then that respective team will be immediately disqualified.**

CONTACT

• Event head

- Gayatri Kulkarni - +91 87886 21357 (For SY)
- Abhay Kannaujiya - +91 9136872475 (For FY)

• Overall event head (OEH)

- Shyam Gandhi - +91 99232 44781

For any other queries or information, mail to: - v.jridp@gmail.com OR Contact event heads.

Best wish from ,
JR IDP Team 2022.





VORTEX 9.0

THE CHEMFEST



PAPYRUS

It's not a competition; it is a platform to present your uniqueness in the form of a full-length paper. The event mainly revolves around literature survey, quality of literature, the future scope of research in the topics, areas where ongoing research is happening, and suggested future avenues of innovation that will ultimately test your presentation skills. Your innovation, technical and presentation skills will be evaluated by the best researchers in their fields.

Take this event as a challenge to evolve yourselves and bring a revolution in the field of research.

FORMAT OF THE EVENT

Two categories for the event.

1. **Undergraduate Category (UG)** - **Review paper** based on scientific literature and research. Only allowed for **Undergraduate (UG)** students.
2. **Open Category (OPEN)** - **Original research paper** (no review papers allowed). Open for all **(UG, PG and research scholars)**

ROUND 1

- Participants need to send the entries of abstract for review papers and research papers.
- Selected participants will be sent a selection mail.
- The abstract must be sent to this mail ID - vortex.papyrus@gmail.com
- Submit your abstracts for Round 1 by **26th February 2022 23:59 IST.**

ROUND 2

- Selected participants from round 1 will submit the complete review or research paper on the same mail ID - vortex.papyrus@gmail.com.
- Checking plagiarism and taking the depth of the paper into consideration, participants will be selected for round 3.
- Selected participants will be sent a confirmatory mail of selection along with rules for the final round and timings.

ROUND 3

- The final round will be in the form of a presentation of the review or research paper.
- The participants will be presenting the paper to a panel of judges, comprised of experienced professors and research professionals with substantial research experience.
- The rules about the final presentation of the paper will be communicated to the selected teams after the round.



PAPYRUS



VORTEX 9.0

THE CHEMFEST



RULES

- A team can consist of up to 3 people, not necessarily from the same college.
- No participant can be a part of more than 1 team.
- There is no restriction on the number of teams from the same college.
- False identity will lead to disqualification on the final day.

RULES FOR ABSTRACT AND PAPER SUBMISSION:

1. The abstract should be written in English in your own words which specifically represent and summarises the innovation and work.
2. The file must be prepared using "**Times New Roman**" font, "**12 point**" font size, and justified text with **1.5 line spacing**. The title/heading should be centered with bold font.
3. The abstract should **be no more than 300 words** and mention **3-5 keywords** after the abstract. Do **not** mention citations or references in the abstract.
4. Explain the abbreviation at their first occurrence. Example: (Quantum Dots referred to as Qds), Carbon Nanotubes (hereafter referred to as CNT).
5. Abstract file should be named as **YOURNAME_CATEGORY_TOPIC.pdf** (e.g. SS_UG_TOPICNAME.pdf). CATEGORY = UG (OR) OPEN.
6. Figures used in the paper should be referred in the text e.g. (see fig.2.5) or fig.2.5. shows that: (text)
7. Page numbers of the manuscript should start from page 1 at the right-hand corner. The standard format and rules for writing papers need to be followed.
8. References for the paper to be done as per the standards. One may refer to the following link
<https://booksite.elsevier.com/9780081019375/content/Elsevier%20Standard%20Reference%20Styles.pdf>

NOTE: Participants can submit their work based only on the specified topics in the categories. The judging panel reserves the right to disqualify the participant team if any of the rules given above are breached by any participant. It is the responsibility of the participants to keep themselves updated. The organizers reserve the right to change the rules of the event at any time and will do their best to update the contestants of the same.





VORTEX 9.0

THE CHEMFEST



TOPICS

Undergraduate Category

1. Catalysis and Catalytic Processes
2. Heat transfer Equipment and Reactor Design
3. Membrane Separations and Novel separation processes and their Applications
4. Food Product Development
5. Innovations in colouring, dyeing, oleochemicals and textiles processing
6. Applications of Oil-based paints
7. Drug Repurposing and Drug Delivery
8. Novel Processes and Advances in Plastics, Packaging, Paints and Polymers
9. Synthetic biology, Bioinformatics, Industrial Biotechnology and Genetic Engineering
10. Applications and advances in Nanomaterials, Nanoscience and Nanotechnology
11. COVID19: vaccines, clinical trials, spread, biological aspects, drug development and preventions

Open Category

1. Wastewater Treatment Methods, Green Chemistry and Technology, Sustainable Methods in Chemical Engineering, Waste and Plastics Management and Clean Energy
2. Preparation methods, Effluent Treatment, Chemistry and Quality analysis of Natural and Synthetic Dyes
3. Catalysis and Catalytic Processes
4. Novel Technologies and advances in Surfactants, Biofuels, Polymers and oleochemicals
5. Food Preservation, Non-thermal Technology, Food Chemistry and technology, Perfume intermediates and Sensory evaluations and synthesis of flavours, oils and Fragrances
6. Novel methods in drug and cosmetic delivery, discovery and medicine management
7. Recent Advances in Nanomaterials, Nanoscience and Nanotechnology
8. Process Modelling and Simulations
9. Hydrogen Fuel cells, Solar cells and innovations in other battery technologies
10. Novel separation processes, Bioseparations and Membrane Separations
11. COVID19: vaccines, clinical trials, spread, biological aspects, drug development and preventions

CONTACT DETAILS

- Anant Sohale (Event Head): +91 9823190995
- Ankit Singh (Event Head): +91 7643041534
- Shyam Gandhi (Overall Event Head Prodigy): +91 9923244781

MAIL ID: vortex.papyrus@gmail.com

Best wish from ,
PAPYRUS Team 2022.

THE
PRODIGY
series of events



PAPYRUS

CHEMSTORM

Everyone would remember that Chemistry is the branch of science that deals with the properties, composition, and structure of elements and compounds, how they can change, and the energy that is released or absorbed when they change. This is the basic definition you come across in your school and junior college days. But do you really remember your school and junior college chemistry concepts? Well, Chemstorm lets you use your vast knowledge of chemistry creatively and will test your understanding of the subject in real life in a captivating way. This will require brainstorming through various concepts of chemistry as the game becomes tough after every ladder you climb!

FORMAT OF THE EVENT

ROUND 1:

- As the title of the competition suggests, it's time to brainstorm your basic chemistry knowledge! But mind us, it ain't gonna be a cake walk/remain basic throughout!
- Are you versatile in your real life? Umm, that doesn't matter... but to ace this round, you need to be versatile! From Organic Chemistry to Inorganic, and a bit of Physical, you should know it all. Also, the words might cross each other's paths.
- Need hints? You need to be quick and clear to tackle the newness of the format. This might last for 20 minutes, every minute worth 1 point. So, only the ones who hold tight against the storm qualify for the next round! We are sure you don't wanna leave it loose, it's gonna be fun.

ROUND 2:

- Chemistry is a way of life as our professors say, we have no choice but to include our professors' favorite traditional examination pattern! :(
- Time for some Multiple Choice Questions? Just like surprise CATs (Continuous Assessment Tests, as we say), we might also come up with some surprise elements!
- The clock's ticking, hold up your brain in the right state, and get ready to answer the questions in 40 minutes! It might be tough for some, and easy for the rest... you decide yours! :)

ROUND 3:

- Are you good with theory? Or do you love numerical? Or let us guess, are you an organic or inorganic fan? Don't you worry, we got all of it in this round! But there's a twist.
- Speed writer or a speed thinker? We hope you still remember all your formulas and concept! That's your only savior (Got the hint right?)
- Get your pen and paper ready, and of course your phone! Obviously to scan your answer sheet ;P This is the finale, and we hope you nail it by answering all questions in 60 minutes! May you sail through

RULES

1. Solo participation only.
2. Late submission in any rounds, under any circumstances, will not be considered.
3. Malpractices like cheating, false identities, copying from the internet, etc. will lead to direct disqualification.
4. Decisions taken by the event heads will be final and binding overall participants.
5. Internet connectivity, the input of answers, and sending of answers are the participant's responsibility. The organizers are not responsible for the same.
6. 1st, 2nd, and 3rd rounds require the participants to join a meeting platform. The link for the same would be shared later.

CONTACT DETAILS

Gouresh Gargate (Event Head): +918857930528

Prashasti Keshari (Event Head): +918828473492

Shyam Gandhi (Overall Event Head Prodigy): +919923244781

"MAIL ID: vortex.chemstorm@gmail.com"

Best wish from ,

CHEMSTORM Team 2022.



VORTEX 9.0

THE CHEMFEST



CHEMQUOTIENT

This event tests the knowledge of chemical engineering/technology of the participants. Knowledge is the only key here. Compete with some of the best brains of chemical engineering/technology across the country and make it to the podium!

FORMAT OF THE EVENT

Students from both, UG(BChem & Btech) and PG, can participate in this event.

ROUND 1: OBJECTIVE ROUND

- It will be an objective round with multiple options to choose based on general chemical engineering aspects like thermodynamics, chemical engineering operations and much more testing your core concepts.

ROUND 2: VISUAL + PEN AND PAPER ROUND

- Top 30% candidates will qualify round 1 and will be eligible for this round.
- This round will be slightly tougher than the previous one. This round contains two parts.
- In first part, questions will appear on the screen in the form of pictures/videos. Each picture/video would be displayed for duration of 20 seconds and you will get another 30 seconds to answer.
- Part 2 of the round is a pen and paper test consisting general numerical and theory questions based on general chemical engineering/technology topics.
- Scoreboard will be maintained for both parts of the second round.
- Top 8 participants with the highest total of both the parts in round 2 will be qualified for the interview round.

THE
PRODIGY
series of events



CHEMQUOTIENT



VORTEX 9.0

THE CHEMFEST



ROUND 3: INTERVIEW Round

- The 8 candidates that qualified round 2 will be eligible for this round.
- There will be an interview conducted by judges testing your chemical engineering/technology knowledge.
- Cumulative result of both round 2 and round 3 will be considered for the evaluation.

RULES

- Participation will be solo.
- Late submissions for round 1 and round 2 will not be accepted.
- False identity will lead to disqualification on the final day.
- Decisions taken by the organizing team would be final and binding.
- Any issue of internet connection, software/hardware issues of the device used by the participant during the event are responsibility of the participant.
- For 2nd and 3rd round of the event, you need to join an online meet platform. Link for the same would be given later.

Contact Details

- Atharv Kulkarni (Event Head): **+91 7666067790**
- Shyam Gandhi (Overall Event Head Prodigy): **+91 9923244781**
- MAIL ID – chemquotient@gmail.com

Best wish from ,
CHEMQUOTIENT Team 2022.



CHEMSOFT

On our way to become a good chemical engineer/ technologist we come across various softwares and simulators which are our allies that make work easier in the industry. So here we bring to you a new event which will test your knowledge and application skills. This is your chance to showcase how much you know about your allies.

FORMAT OF THE EVENT

Round 1: Objective Round.

- Candidates will have to solve multiple choice questions that will not only test their chemical but basic knowledge about various softwares and simulators as well that are commonly used.
- This round will consist 20 questions of one point each.

Round 2: Simulation Round

- Candidates who qualified the objective round will be eligible for this round.
- This round will comprise problem statements on DWSIM and Salome.
- Participants will solve given problems in 1 hour with their deep understanding of core chemical subjects with the application of softwares and simulators.
- In this round participants will have to join the meet and keep their camera on.

RULES

- 1) This is a solo event.
- 2) There is no restriction on the number of participants from the same college.
- 3) False identity will lead to disqualification on final day.
- 4) Please ensure that necessary files have been attached.
- 5) Late submissions will not be accepted.
- 6) Any issue of internet connection, software/ hardware of device is the responsibility of the participant.
- 7) Candidates have to download DWSIM and Salome on their devices for second round.
- 8) Decision taken by the organizers will be final and binding on all participants.

CONTACT DETAILS

- Yashvir Koul (Event Head) : +91 8178033028
- Shyam Gandhi (Overall Event Head Prodigy) : +91 9923244781

Mail Id: vortex.chemsoft@gmail.com

Best wish from ,
CHEMSOFT Team 2022.



VORTEX 9.0

THE CHEMFEST



CHEMCODES

Chemcodes tests the coding skills of the participants combined with their technical knowledge. The participants solve chemical engineering problems by a logical approach using their programming knowledge. An event for all those advert and nerdy coders out there.

Code your way to glory!

FORMAT OF THE EVENT

ROUND 1: GENERAL APTITUDE TEST

- Candidates will have to solve general chemistry based questions, logical and analytical reasoning types. There would be 20 questions to be solved within stipulated time.

ROUND 2: TECHNICAL QUIZ

- Candidates who qualified the General Aptitude Test will be able to appear for this round.
- Candidates will be asked questions from Core Chemical Engineering topics as well as some basic questions related to Programming. The difficulty level would be medium. 20 questions to be solved within a given time.

ROUND 3: CODE IT UP!

- Candidates who qualified the Technical Quiz will be able to appear for this round.
- Questions from various topics will be provided and candidates will have to write a Computer Program in any of the 'Mentioned Languages' and have to complete the tasks that are listed out by the problem statements.

THE
PRODIGY
series of events





VORTEX 9.0

THE CHEMFEST



GENERAL RULES

- This is a solo event.
- There is no restriction on the number of participants from the same college.
- False identity will lead to disqualification on the final day.

RULES FOR FILE SUBMISSION

1. The programming language used can be anyone out of the following: Python, C, C++, Java, R, SciLab, MATLAB and GNU OCTAVE.
2. Use of MS Excel is not allowed.
3. The code should be neatly written with necessary comments and docstrings.
4. Please ensure that you have attached all the necessary files that are required to run the code (functions, classes, images, gifs (if any) etc).
5. Attach a pdf of the code which will be used as a reference if there is any error found after the code is submitted (for a cross check).
6. The information related to functions or classes should be clearly mentioned in the code.
7. All the variables should be named appropriately and units should be mentioned in the code as well as in the output.
8. Output should be a clear representation of the problem statement and should convey the information that the problem statement asks for.
9. Files should be appropriately named (they will be opened in the same working directory of any url is being used, be careful).
10. References (if any) should be provided appropriately in a separate pdf or a word doc.





VORTEX 9.0

THE CHEMFEST



11. Make sure that any formula used is clearly mentioned (name of the correlation, model, equation etc).

12. **NOTE** : The judging panel reserves the rights to disqualify the participant if any of the rules given above are breached. It is the responsibility of the participants to keep themselves updated. The organizers reserve the right to change the rules of the event and the same will be conveyed to you before the round starts.

CONTACT DETAILS

- Prehas Madke (Event Head) : +91 9890255381
- Rida Sayed (Event Head) : +91 8108206208
- Shyam Gandhi (Overall Event Head Prodigy) : +91 9923244781

Mail ID : chemcodes.vortex9@gmail.com

Best wish from ,
CHEMCODES TEAM 2022.

