

Loknete Ma. Hanmantrao Patil Charitable trust, Vita

# Adarsh institute of Technology & Research Centre

Gat No - 421 At Post - Khambale (Bha.) Khanapur Dist - Sangli  
415311, Vita, Maharashtra, 415311



## AITRC

### Criteria 7: Institutional Values & Best Practices

<b>Particulars</b>	7.2.1: Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual
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**LOKNETE HON.HANMANTRAO PATIL CHARITABLE TRUST'S  
ADARSH INSTITUTE OF TECHNOLOGY AND RESEARCH CENTRE,VITA**

**(NAAC Accredited Institute)**

**A/P:** Khambale(Bha) Near Karve MIDC, Vita **Tal:** Khanapur **Dist:** Sangli.415311

**Phone & Fax:** (02347) 229021 **Email:** [aitrc@agiv.edu.in](mailto:aitrc@agiv.edu.in) **Web :** [www.aitrcvita.edu.in](http://www.aitrcvita.edu.in)

**Hon.Adv.Sadashivrao H Patil**

Ex.MLA. Founder

**Hon.Adv.Vaibhav S Patil**

President



# Academic Year 2022- 2023

## A Report On "Best Practices Activity"

### 1. Title: "Adarsh Talent Search"

### 2. Objectives of the Practice

**1. Identifying Gifted Individuals:** Talent search exams aim to identify exceptionally talented individuals who demonstrate outstanding abilities and potential in specific areas such as mathematics, science, language, arts, or sports.

**2. Promoting Education:** Talent search exams often focus on academic subjects, encouraging students to excel in their studies. By recognizing and rewarding academic excellence, these exams promote a culture of learning and intellectual development.

**3. Encouraging Creativity:** Talent search exams in fields like arts and creative writing aim to encourage creativity and originality among participants. They provide a platform for individuals to express themselves and showcase their creative abilities.

**4. Supporting Diversity and Inclusivity:** Talent search exams strive to identify talent from diverse backgrounds, including different regions, socioeconomic statuses, and ethnicities. This promotes inclusive and ensures that exceptional talent is recognized regardless of the individual's background.

**5. Promoting Excellence:** Ultimately, talent search exams aim to promote excellence in various fields. By identifying and nurturing exceptional talent, these exams contribute to the overall progress and advancement of society.

### 3. The Context

The AITRC, Vita announces the talent search exam for the 10<sup>th</sup> Standard students in the month of April. Syllabus for the exam is 7<sup>th</sup> to 10<sup>th</sup> standard Maths, science, English. First of all exam is conducted in different Schools in their schools after that qualified students should appear to the main exam which is held in our institute. The format can vary, including multiple-choice questions, essay-type questions, or practical demonstrations. After the exam, answer sheets or responses are evaluated, and scores are compiled. The results of the talent search exam is declared in our institute. For exams related to



educational courses, counseling sessions may be organized for successful candidates. These sessions provide guidance on course selection, educational institutions, scholarships, and other related matters. Exceptional performers awarded prizes. for 1<sup>st</sup> rank- Lenovo tab, 2<sup>nd</sup> rank- Bicycle, 3<sup>rd</sup> rank- Smart watch, 4<sup>th</sup> rank- Bluetooth headphone, 5<sup>th</sup> rank- Pen-drive. Organizers collect feedback from participants and stakeholders to assess the effectiveness of the talent search process. This feedback is used to make improvements in subsequent editions of the exam, ensuring its quality and relevance. Successful candidates' achievements and success stories are often publicized to inspire others and demonstrate the impact of the talent search program. This publicity can motivate more individuals to participate in future talent search exams.

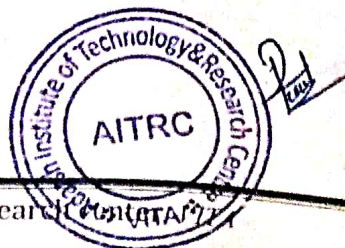
## 4. The Practice

### 4.1. PROCEDURE

- The AITRC, Vita announces the talent search exam for the 10<sup>th</sup> Standard students in the month of April.
- 1<sup>st</sup> stage of exam is held at their schools
- 2<sup>nd</sup> stage of exam is held at our institute for qualified students.
- Rankers are awarded with prizes.
- Prize distribution ceremony and feedback session are arranged for successful candidates.

### 4.2. OUTCOMES

1. **Identification of Talent:** Talent search exams identify individuals with exceptional skills, knowledge, and potential in specific fields such as academics, arts, sports, or other specialized areas. Critical thinking
2. **Skill development:** Talent search exams promote skill development by encouraging participants to excel in their respective fields. This leads to the enhancement of specific skills and expertise.
3. **Boost in Confidence:** Recognition through talent search exams boosts the confidence of participants, validating their efforts and encouraging them to pursue their passions with greater determination.



**4. Inspiration to others:** Success stories of talent search exam participants inspire others to excel in their fields, motivating a new generation of individuals to explore their talents and capabilities.

**5. Networking opportunities:** Participants often get the chance to network with experts, mentors, and peers in their field, providing valuable connections and collaborations for future endeavors.

### 4.3. CONCLUSION

In conclusion, talent search exams serve as invaluable platforms for recognizing and nurturing exceptional abilities in diverse fields. By identifying individuals with extraordinary talents, these exams not only validate the hard work and dedication of participants but also provide them with transformative opportunities. Moreover, talent search exams contribute significantly to the enrichment of society. By promoting inclusivity and diversity, these exams ensure that talent is recognized irrespective of backgrounds, leading to a more equitable representation of gifted individuals. The outcomes of these exams ripple through communities, inspiring others to pursue their passions and contribute meaningfully to society.

Furthermore, the impact of talent search exams extends beyond individual achievements. Exceptional talents identified through these exams often become pioneers, innovators, and thought leaders, driving advancements in various fields. Their contributions shape the future, leading to breakthroughs in science, art, technology, and other domains, ultimately benefiting humanity as a whole.

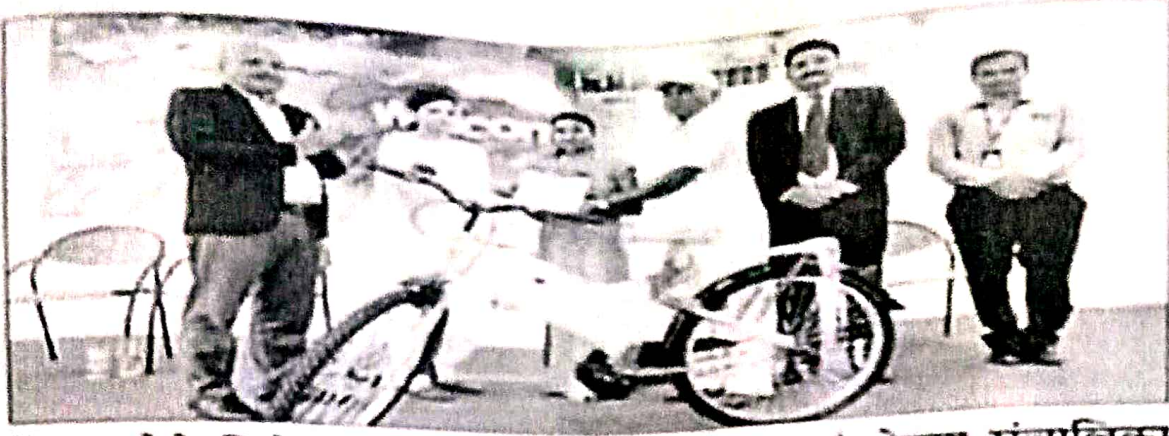
In essence, talent search exams are not just assessments; they are catalysts for change and progress. They nurture dreams, fuel aspirations, and create a cadre of skilled, motivated individuals who can make a difference. As these exams continue to evolve and adapt, they will undoubtedly play a pivotal role in shaping a future where talent knows no bounds, and excellence becomes a shared pursuit for us all.



### 5.Evidence of Success



## पुढारी



विटा : येथे विजेत्यांना बक्षीस वितरण करताना संस्थेच्या संचालिका पूजा पाटील, रविराज सूर्यवंशी, प्राचार्य डॉ. देविदास महाडिक.

### आदर्श टेक्नॉलॉजी सेंटरमध्ये 'आदर्श टॅलेंट सर्च'चे बक्षीस वितरण

विटा : येथील लोकनेते हणमंतराव पाटील चॅरिटेबल ट्रस्ट, संचालित आदर्श इन्स्टिट्यूट ऑफ टेक्नॉलॉजी अँड रिसर्च सेंटर येथे 'आदर्श टॅलेंट सर्च २०२२' या परीक्षेतील विजेत्यांना बक्षीस वितरण करण्यात आले. या स्पर्धेतील पहिल्या ५ विजेत्यांना अनुक्रमे लिनोवा कंपनीचा टॅब, सायकल, स्मार्टबॉच तसेच हेडफोन व पेनड्राईव्ह अशी बक्षीसे देण्यात आली. स्पर्धेमध्ये ६ हजार ५३ विद्यार्थ्यांनी परीक्षा दिली. यातील २ हजार ४५४ विद्यार्थी दुसऱ्या फेरीच्या अंतिम परीक्षेसाठी पात्र ठरले. यातून टॉप - १० विद्यार्थ्यांची निवड करण्यात आली. संस्थापक सदाशिवराव पाटील, अध्यक्ष वैभव पाटील, संचालिका पूजा पाटील, व्यवस्थापकीय संचालक पी. टी. पाटील, रविराज सूर्यवंशी, प्राचार्य डॉ. देविदास महाडिक, प्रवीण गावडे, प्रा.डॉ. के. जाधव, सी. बी. पाटील उपस्थित होते. पी. एस. शिंदे यांनी आभार मानले.

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Jun 20, 2022 Page No. 3  
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you've got  
**TALENT**

## आदर्श टॅलेंट सर्च

(दहावीच्या विद्यार्थी वर्गासाठी आयोजित स्पर्धा)

विजेत्यांचे हार्दिक अभिनंदन.!

क्रमांक	नाव	गाव	बक्षिसे
प्रथम	: वैष्णवी जयवंत कदम	शेळकबाव	लेनोवो टॅब
द्वितीय	: वैष्णवी विजय गायकवाड	विटा	सायकल
तृतीय	: साक्षी जगन्नाथ पवार	बलवडी	स्मार्ट वॉच
चतुर्थ	: प्रणोती अशोक परीट	चिंचणी	ब्ल्यूटूथ हेडफोन
उत्तेजगार्थ	: दिव्या दिपक कदम	शेळकबाव	पेनड्राइव्ह

आणि अधिक २५०+ आकर्षक बक्षिसे

दहावीनंतर प्रथम वर्ष डिप्लोमा

प्रवेश सुरु २०२२-२३

संपर्क: 7755900777



AITRC

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**ADARSH INSTITUTE OF TECHNOLOGY AND  
 RESEARCH CENTRE VITA**  
 (Engineering and Polytechnic)

● NAAC Accredited & ISO 9001:2015 Certified ●





## 6. Problems Encountered and Resources Required

### Problems Encountered

1. Lack of Awareness:
2. inadequate preparation
3. Limited Resources:
4. Socioeconomic Disparities
5. Pressure and Stress:

### Resources Required

1. Study Materials:
2. Practice Papers:
3. Online Learning Platforms
4. Time Management Tools
5. Supportive Environment



*[Signature]*  
Principal

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Maharashtra, Pin-415 311



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## CIVIL ENGINEERING DEPARTMENT

Date:6/09/2022

### Notice

#### Best Practices

All Faculty and Students of civil engineering department are hereby informed that we have to plan to start "Best Practices" activity as technical corner. So all students must have to present at least one poster in month. For these activity kindly refer the central ,departmental library and digital media resources.

This activity will conduct under group of students (max 4 students in each group ).One group of student have to present one poster at end of the month.

All should note the same.it is compulsory to all students.

Prof.Mrs.P.S.Patil

(Best Practices Activity Coordinator)

Prof.C .B.Patil

Head of Department

**HEAD**  
**CIVIL DEPARTMENT**  
**ADARSH INSTITUTE OF TECHNOLOGY**  
**& RESFARCH CENTRE VITA**



## A Report On "Best Practices Activity"

### 1. Title: "Technical Corner"

### 2. Objectives of the Practice

- **Foster Innovation:** Encourage creativity, experimentation, and continuous improvement to drive innovation within the organization. To increase knowledge of numerical reasoning.
- **Measure and Monitor Progress:** Implement key performance indicators (KPIs) and monitoring systems to track progress and assess the effectiveness of best practices. Students interest to keep up with the fast paced, ever changing tech space.
- **Adapt to Change:** Build flexibility and adaptability into processes and practices to respond to changing market conditions, technologies, and customer needs.
- **Drive Continuous Improvement:** Foster a culture of continuous learning and improvement, where best practices are regularly reviewed and updated.
- **Sustain Long-Term Success:** Lay the foundation for sustained success and growth by consistently applying best practices and learning from past experiences.

### 3. The Context

To introduce about a technical Corner is an assessment to measure the candidates' technical abilities. Since technical corner refers to a person's inherent technical intelligence, technical assessments measure the applicants' technical prowess by making them use their skills to solve complex problems. Monthly posters are displayed on notice board of department.

Subject of that poster should be new technique invented in civil engineering. Group of students explain that poster to all students and faculties in department.

Poster presentations are a common mode of communication in academic, scientific, and professional settings. They are widely used at conferences, symposiums, and exhibitions to convey research findings, share information, and engage with peers and audiences. To ensure the



effectiveness of a poster presentation, it is essential to adhere to best practices in various aspects of the process.

Aptitude Tests assesses your logical reasoning and thinking ability. They consist of multiple choice questions and are held as proper exams. The tests are strictly timed. Generally, the time given depends on the number of questions in the test. There are many different types of questions which can be asked in an aptitude test.

### **Audience Engagement:**

- **Objective:** The primary goal of a poster presentation is to effectively convey information and engage the audience.
- **Best Practices:** Utilize visual elements, clear language, and a well-structured layout to capture the audience's attention and facilitate understanding. Use concise text, bullet points, and visuals to convey key points.

### **Content Clarity:**

- **Objective:** Communicate research findings, project details, or information clearly and concisely.
- **Best Practices:** Present information in a logical and organized manner. Use headings, subheadings, and a clear hierarchy of information. Avoid clutter and focus on essential details.

### **Visual Design:**

- **Objective:** Create an aesthetically pleasing and visually engaging poster.
- **Best Practices:** Choose a clean and professional design with a harmonious color scheme. Use high-quality images, graphics, and charts to support content. Ensure readability from a distance.

### **Conciseness:**



- **Objective:** Convey information succinctly and avoid overwhelming the audience with excessive text or data.
- **Best Practices:** Limit text to essential details, providing context and results. Use visuals, graphs, and tables to illustrate complex information effectively.

### Engaging Presentations:

- **Objective:** During the presentation, engage with viewers and convey the poster's significance.
- **Best Practices:** Prepare a brief and engaging verbal presentation that highlights key points. Be receptive to questions and discussions, fostering meaningful interactions.

### Feedback and Iteration:

- **Objective:** Continuously improve the poster based on feedback and experiences.
- **Best Practices:** Collect feedback from peers, mentors, and audience members to identify areas for improvement. Use this feedback to enhance future presentations.

## 4. The Practice

- **Define Your Objective:** Clearly define the purpose and objectives of your poster presentation. What message or information do you want to convey to your audience?
- **Know Your Audience:** Understand the background and interests of your target audience. Tailor your content and level of technical detail accordingly.
- **Plan and Organize:** Create an outline or storyboard of your poster's layout. Determine the flow of information from top to bottom and left to right. Allocate sections for the title, introduction, methodology, results, discussion, conclusions, and references.
- **Design Your Poster:** Use a clear and concise title that grabs attention and summarizes the main message. Utilize a professional and visually appealing design with a balanced color scheme. Incorporate high-quality visuals, images, graphs, and charts that support your content.
- **Presentation Day:** Arrive early to set up your poster, ensuring it is properly displayed and well-lit. Greet attendees and be approachable for questions and discussions. Deliver



your presentation confidently, focusing on the most critical points. Engage with your audience, encouraging questions and discussions.

- **Collect Feedback:** Encourage attendees to provide feedback or ask questions about your poster. Use feedback to improve your poster and presentation skills for future events.
- **Digital Assets:** - If applicable, have a digital version of your poster accessible for attendees who may want to view it electronically.

#### 4.1. OUTCOMES

- **Audience Engagement:** Presenters are skilled in engaging with the audience, answering questions, and facilitating meaningful discussions about their research or technical content.
- **Organization and Flow:** Presenters can organize their posters in a logical and coherent manner, ensuring that the content flows smoothly from one section to another.
- **Effective Communication:** Presenters can effectively communicate the significance and impact of their research or technical work to a diverse audience.
- **Adaptability:** Presenters can adapt their presentations to suit the background and interests of different audience members, ensuring that the information remains accessible and relevant to a wide range of viewers.
- **Continuous Improvement:** Participants understand the value of continuous improvement and apply feedback and best practices to enhance their poster presentations for future events.
- **Confidence:** Participants develop confidence in presenting their work and responding to questions and inquiries from the audience.
- **Time Management:** Participants learn to manage their time effectively during the poster presentation, delivering key points within the allotted time frame.
- **Positive Reception:** Audience members respond positively to the poster presentations, finding them informative, engaging, and well-organized.
- **Enhanced Learning:** Participants gain valuable insights into effective communication and presentation skills, which can be applied in various academic, scientific, and professional contexts.



PRD

## 4.2. CONCLUSION

the poster presentation best practices activity has been a valuable learning experience that has equipped participants with the skills and knowledge necessary to excel in the art of presenting technical information effectively. Through this activity, we have focused on key aspects of poster presentations, ranging from content clarity and engaging design to audience engagement and ethical considerations.

Throughout the activity, participants have learned how to craft clear and concise content, design visually appealing posters, and engage with their audience in a meaningful way. They have also honed their abilities to organize information logically, adapt to different audiences, and present their work confidently. Importantly, participants have recognized the significance of professionalism and ethical conduct in their research and presentation practices. They understand the importance of proper attribution and the avoidance of data manipulation, ensuring the integrity of their work.

Furthermore, this activity has fostered a culture of continuous improvement, where participants have embraced feedback as a tool for enhancing their poster presentations. They have also come to appreciate the value of adaptability and time management in delivering effective presentations.

As we conclude this activity, it is evident that the skills and knowledge gained here extend far beyond the realm of poster presentations. They are transferable to various academic, scientific, and professional contexts, empowering participants to communicate their ideas, research findings, and technical information with clarity, impact, and professionalism.

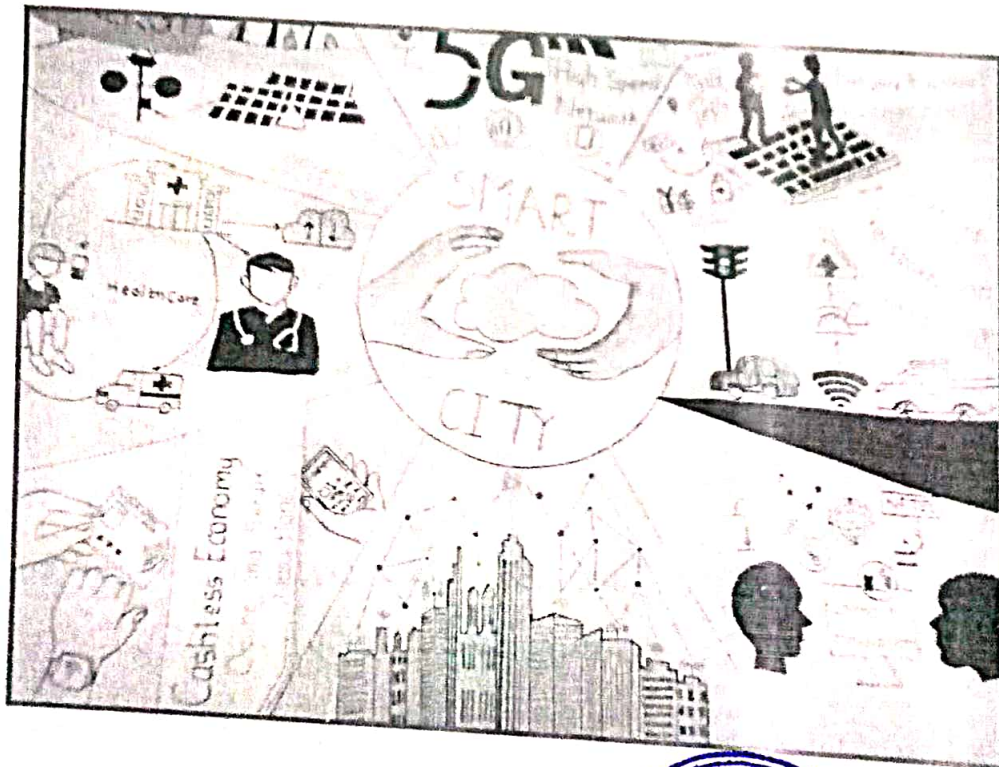
We look forward to seeing these newly acquired skills put into practice, and we trust that the lessons learned here will contribute not only to the success of future poster presentations but also to the overall growth and development of each participant's academic and professional journey.



### 5. Evidence of Success



Fig. 5.1: Inauguration of "Technical Corner"



*PBA*



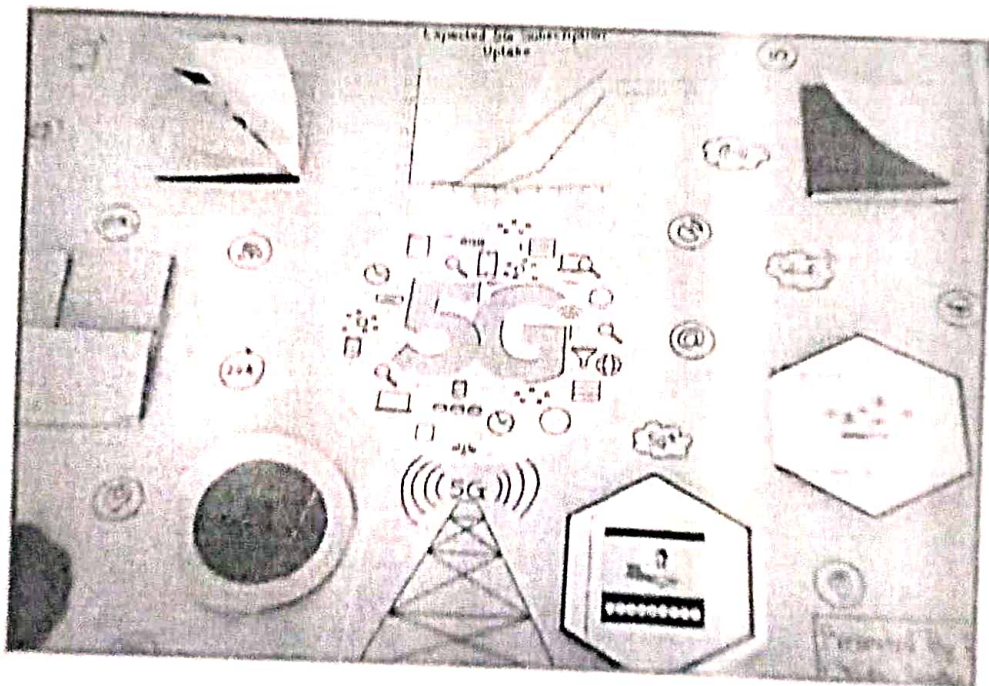
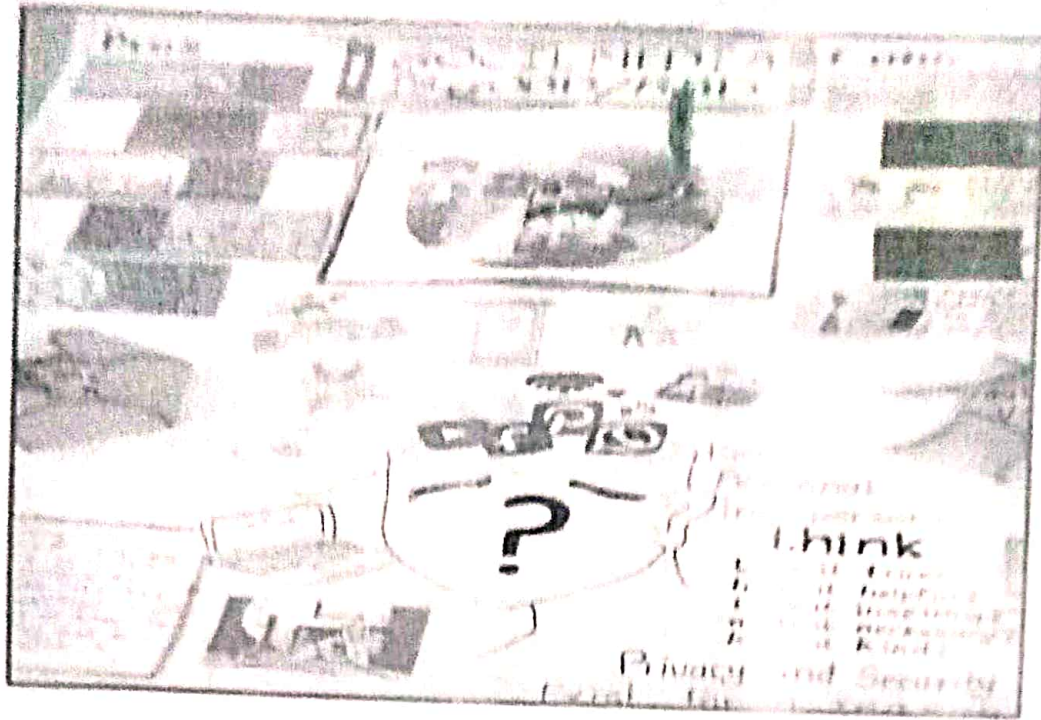


Fig. 5.2: Posters Presented by students



P.P.O.

## 6. Problems Encountered and Resources Required

When preparing for a poster presentation, several problems or challenges may arise, and specific resources are often required to overcome them effectively. Here are common problems encountered and the resources needed for a successful poster presentation.

### 1. Lack of Clarity in Content:

- **Problem:** Difficulty in conveying complex ideas or research findings in a clear and concise manner.
- **Resources Needed:** Access to research mentors, peer feedback, and resources on effective scientific communication to help refine content.

### 2. Design and Layout Challenges:

- **Problem:** Struggling to create an engaging and visually appealing poster layout.
- **Resources Needed:** Graphic design software or templates, access to design tools or training, and guidance on poster design best practices.

### 3. Time Constraints:

- **Problem:** Insufficient time to prepare and fine-tune the poster before the presentation.
- **Resources Needed:** Time management strategies, effective planning, and prioritization of tasks, and possibly additional help or support.

### 4. Limited Presentation Skills:

- **Problem:** Nervousness or lack of experience in presenting the poster to an audience.
- **Resources Needed:** Presentation training, practice sessions, peer or mentor feedback, and resources on effective presentation techniques.

### 5. Technological Issues:

- **Problem:** Technical problems with digital aspects of the presentation (e.g., laptop, projector, digital displays).
- **Resources Needed:** Technical support, backup equipment, and familiarity with presentation technology.





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Ex. MLA, Founder

**Hon. Adv. Vaibhav S Patil**

President



# **Academic Year 2021- 2022**

## **A Summary On “Best Practices Activity”**

### **1. Title: “Question of the Day”**

### **2. Objectives of the Practice**

1. To increase Problem-solving skills.
2. To increase knowledge of numerical reasoning.
3. To overcome the lack of numerical method problems.
4. Students interest to keep up with the fast paced, ever changing tech space.

### **3. The Context**

To introduce about a technical aptitude test is an assessment to measure the candidates' technical abilities. Since technical aptitude refers to a person's inherent technical intelligence, technical aptitude assessments measure the applicants' technical prowess by making them use their skills to solve complex problems. On daily basis two questions are written on black board. Departmental students try to find answer within day and submit answer to coordinator. The winner is selected by analysis of answer.

Aptitude Tests accesses your logical reasoning and thinking ability. They consist of multiple choice questions and are held as proper exams. The tests are strictly timed. Generally, the time given depends on the number of questions in the test. There are many different types of questions which can be asked in an aptitude test.

### **4. The Practice**

#### **4.1. MANUFACTURING & ASSEMBLY PROCEDURE**

- Firstly, the two questions are written on the blackboard daily.
- Students of the department will write that questions in his notebook.
- Students try to find answers within day.
- And submit answers to coordinator and winner is selected by analysis of answer.

## 4.2. OUTCOMES

- Ability to reason with logic.
- Problem-solving ability.
- Critical thinking.
- Numerical computation and numerical reasoning.
- Attention to hints and detail.
- The inclination to learn, digest, and apply information.
- Interest to keep up with the fast paced, ever changing tech space.

## 4.3. CONCLUSION

Students will get the knowledge about what type of questions are their in any aptitude test. Students will increase the problem-solving skills as well as critical thinking power. Departmental students confidentially participated in numerical competitions and numerical reasoning tests.

## 5. Evidence of Success



Fig. 5.1: Inauguration of “Question of the Day”

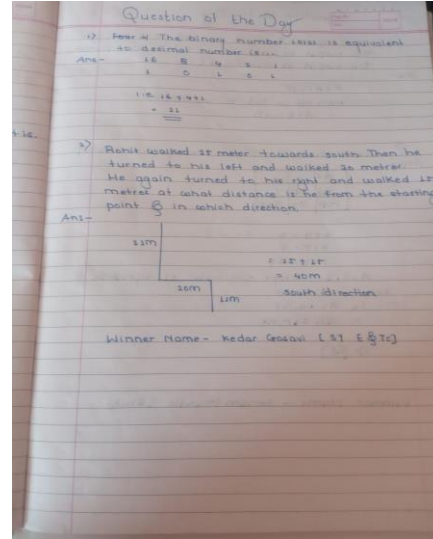
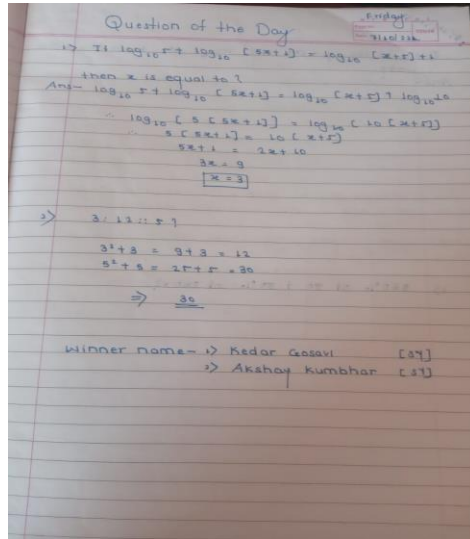


Fig. 5.2: Solved answers by students

## 6. Problems Encountered and Resources Required

Various Problems encountered in initial phase, in preparation of aptitude reasoning. But by studying from various sources we overcome the difficulties and then successfully done the “Question of the Day” activity. Only blackboard and chocks are required for the activity.



*Principal*  
**Principal**  
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 Maharashtra, Pin-415 311

# A Report On “Best Practices Activity”

**1. Title:** “Reading Club Activity for Faculty”

## **2. Introduction**

Importance of best practices is to innovate quality circle amongst the faculties to improve efficiency or performances.

In the academic year 2021-22, Computer Science and Engineering Department decided to develop a reading club for faculty of department. In the recent years, there is lot of advancement in technology. In day to day life we get to know different technical or non-technical things. So this club will help to provide the details about recent trends, knowledge about that which will be discussed among faculty members.

## **3. Objectives of the Practice**

1. To improve discussion between faculties based on recent ideas.
2. To improve the reading habit of faculty and inculcate the reading and discussion culture at department.

## **4. The Context**

In premises there is Central Library and also there is departmental library at each department. With reading club there is enhancement in stress management, spreading the knowledge, vocabulary buildup, stronger analytical thinking process and better writing speaking skills.

## **5. The Practice**

Faculty members at each department will gather for this reading club activity. There must be group of minimum 5 members. Head of the department, promotes the faculty members in the department and ensure that all should participate in activity.

## 7. Outcome


- Reading club activity encourages critical thinking and deeper engagement with different topics discussed.
- This activity makes reading habit more thoughtful.
- 

## 6. Problems Encountered

- For successful conduction of activity the main task is to manage the time schedule and also not to disturb the academic at department.

## 8. Evidence of Success



  
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President



# Academic Year 2020- 2021

## A Report On Best Practices Activity No 1

**1. Title:** “Development of Lawn Grass Cutter Machine”

### **2. Introduction**

Every year college is providing opportunities to develop new device, equipment, system or any technique under best practices activity. Objective of these best practices is to cultivate the culture of quality circle amongst the faculties and create something which will be beneficial for the department or institute infrastructure and systems in practices to improve its efficiency or performances.

In the academic year 2020-21, in Mechanical Engineering Department under this best practices activity it was decided to develop a grass cutting machine useful for lawn and garden grass and other unnecessary bushes cutting through students projects. This also reduces expenditure incurred in the human to clean the garden and maintain the lawns.

In the recent years we have seen a shortage of skilled labour available for garden maintenance; hence due to this shortage the societies have transitioned to using such lawn/garden grass cutters. These cutters are available for purchase but they are not affordable because of their high costs. Considering the Indian market, it has been noted that small holding space owners having lawn or gardens less than one acres or even upto few square feets generally do not require the full-featured grass cutter. Due to financial or transportation reasons these cutters are not available in all parts of rural areas. Thus there is a need for a smaller and efficient cutter which would be considerably cheaper and more accessible. The mission is to create a portable, low cost grass cutter and user friendly.

### **3. Objectives of the Practice**

1. To make it an economical and efficient grass cutter.
2. To reduce the cost involved in maintenance.
3. To overcome the lack of availability of skilled labors.

## 4. The Context

India is an developing country which takes various types of organizations consisting of educational, societal, industrial and tourism places where the surrounding of such organizations needs to maintain healthy and greenery. Nowadays various grass cutting machines are available which are very costly. In our institute's lawn and garden we don't have such grass cutting machine. And all garden people remove grass and bushes by hand which is a very effortful and time consuming process. Sometimes cutting or removing grass and bushes by hand results in damage due to blisters on hands. Because of this the laborers show resistance to for such work.

In order to overcome this problem we thought and developed new innovative cutter under best practices activity mainly used in garden and lawn grass removing. In this cutter we fabricate the grass cutting machine for the use of agricultural field, to cut the grass and crops in the garden. It is simple in construction and its working is easy. Maintenance should be less due to availability of the components. This machine operates on petrol engine having 1.5 HP power.

## 5. The Practice

### 5.1 MANUFACTURING & ASSEMBLY PROCEDURE

- Firstly the frame of crop cutter manufactured as per the designed load by square tubes.
- Wheels are attached to that frame by means of shaft and pedestal bearings.
- Engine base is formed on frame by welding square tubes. and engine mounted on it.
- Smaller and Large pulleys are mounted on the engine shaft and transmission shaft respectively. and both pulleys connected by v-belt.
- The transmission shaft is supported by using bearings with frame.
- The scotch yoke mechanism is manufactured by using thick metal sheet to transmit power to moving blades.
- The blades are manufactured by using High carbon steel plate and teeth profile is formed by using cutter. And cutter sharp edges are produced by grinder.

- Additional attachment is that the dome of metallic sheet that divide the cut crop into besides of crop cutter.
- Finally all the components are assembled together from base frame, wheels, engine, pulleys, belt, shaft, eccentric disc, fixed blade and movable blades.

## 5.2. Principle of working

Power to the circular saw blade is directly provided from engine. Mechanism is a single slider crank mechanism with two cranks. The two blades rotate in opposite directions. The cut paddy spreads on both the sides. Reason for dropping this concept, collection mechanism was absent, making the grass and bushes to fall on either side. Other than that handle bar should be angled relative to the shaft, to prevent an uneven load being placed on our work and machine should have excellent vibration damping to ensure to have energy to work for a long time without getting tired.

## 5.3. CONCLUSION

The Combined reaper and colleting machine is built to be compact and efficient to cut the Grass and bushes. The machine was tested on a field to check its cutting capability and efficiency. The test results were successful as the machine performed flawlessly. It can be concluded that the machine is comparatively compact and easy to handle. This machine is able to run of field effortlessly and the efforts of farmers are reduced. The cost of cutting using this machine is considerably less as compare to manual. The cutters available in market are suitable for large space and compact, so this can be the best machine for small gardens and lawns.

## 6. Evidence of Success

### 6.1 Photographs of Cutter

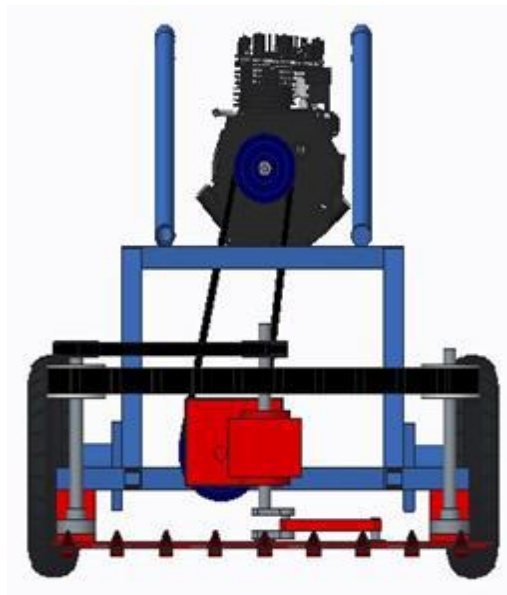


Fig. 6.1: Front view of Proposed Cutter



Fig. 6.2: CAD model of cutter



Fig. 6.3: Photograph of Actual Cutter

## 6.2 Actual cost of Cutter:

Sr. No	Part Required	Quantity	Price/par t (Rs.)	Total cost (Rs.)
1	Engine 3hp 3000rpm	1	10500	10500
2	Spur gear box	1	3500	3500
3	Bevel gear box	1	4500	4500
4	6" pulley x2	1	542	542
5	2" pulley x2	1	294	294
6	4" pulley x1	1	180	180
7	3" pulley x1	1	130	130
8	5" Nylon pulley	3	779	2337

9	Coupling	1	650	650
10	Bearing	15	192	2880
11	Shaft	3	500	1500
12	Wheel assembly	1	2000	2000
13	52" V belt	2	400	800
14	32" V belt	1	250	250
15	Frame Angle	37 kg	54/kg	2000
16	MS plate	13 kg	58/kg	750
17	1"dia -Pipe	2	325	650
18	G.I. Sheet	1	250	250
19	Collecting belt	1	300	300
20	Bearing circlips	10	20	200
21	Cutter blade	18	40	720
22	Nut bolts, Color			397
23	Labor charge			1500
24	Engine oil			340
25	Total cost (Rs)			40,370

### 6.3 RESULTS

Parameter	Cutting done by manual process	Cutting done by machine
Time required to harvest the 1 acre farm	6 day	1 day
Labour Cost spend to harvesting	Rs 1800	Rs 300
Total cost spending	Rs 1800	Rs. 660.85

## 7. Problems Encountered and Resources Required

Various Problems encountered in initial phase, in design process as well as in fabrication of actual cutter. But by studying from various sources we overcome the difficulties and then successfully developed the cutter. At the time of trial again some difficulties faced in working of the cutter, those also corrected by technical experts and cutter operation becomes successful and flawless in order to cut grass and different kinds of bushes and other stems.



  
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## **BEST PRACTICES No 2**

### **TITLE OF THE PRACTICE:**

Improvement of University result of Network Analysis Subject

### **OBJECTIVES OF THE PRACTICE:**

- To increase the university result
- To provide extra knowledge about the subject
- To provide deep knowledge about the subject

### **THE CONTEXT:**

In engineering field some subjects are easy to understand while some require some extra efforts by the faculties to make it easy for the students to understand. Since all the students will not have the same capacity to inculcate the knowledge about all the subjects we need give extra supports. Taking the extra lectures will provide some ease to understand the subject. With extra lectures we also need to provide some ICT tools for more basic understanding of the subjects by the students.

### **THE PRACTICE:**

To increase the university result of S.Y 'Network Analysis' extra lectures has been taken by the respective faculty. These extra lecture has been taken on every Saturday of the semester. Every week there will be two hours allotted for that particular subject. For proper understanding of the subject some ICT tools such as PPT and videos are also given for the students.

### **EVIDENCE OF SUCCESS:**

By doing such an activity the university result of all the students for that particular subject has increases from 53.85% to 100% for the next batch students. We can be able to see the grip of students in that particular subjects after getting the results. The students become more confident and active in that particular subject.

## PROBLEMS ENCOUNTERED AND RESOURCES REQUIRED

For conducting the extra lectures, we need convince the students to appear for it. May of time the attendance of the students was poor. After few lecture increase in the attendance has been seen, which results in increase in the graph of the result of the students for the subject Network Analysis.



  
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President



AITRC

# Academic Year 2019- 2020

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## Rainwater Harvesting at AITRC Vita

### OBJECTIVES OF THE PRACTICE:

- To meet the rising demand of water needs.
- To raise the water table underground.
- To reduce soil erosion.
- It helps preventing urban flooding due to excess rain.
- It can reduce the water bill in urban areas.
- It can be used for non-drinking purposes

### THE CONTEXT:

The main purpose of the rainwater harvesting is to use the locally available rainwater to meet water requirements throughout the year without the need of huge capital expenditure. This would facilitate the availability of uncontaminated water for domestic, industrial, and irrigation needs.

### THE PRACTICE:

**Surface Runoff Harvesting:** Rainwater is collected into natural reservoirs or tanks, or the infiltration of surface water into subsurface aquifers before it is lost as surface runoff.

**Roof-top Rainwater Harvesting (RRH):** Roof-top rainwater harvesting involves diverting and recharging (or) storing part of the rainwater that falls on the roof of a house. The harvested water is directed stored into a recharge pit, which collects and slowly recharges into the groundwater storage/aquifer in that area

### EVIDENCE OF SUCCESS:

Easy to Maintain, Independent Water Supply, Reducing Water Bills, Suitable for Irrigation, Reduces Demand on Ground Water, Supplemental in Drought, Reduces Floods and Soil Erosion, Rainwater for Drinking Purpose, It reduces soil erosion and flood hazards by collecting rainwater and reducing the flow of storm water to prevent urban flooding. Most buildings that utilize rainwater harvesting systems have a built-in catchment area on top of the roof, which has a capacity of collecting large volumes of water in case of rainstorms

## **PROBLEMS ENCOUNTERED AND RESOURCES REQUIRED**

### **1. Unpredictable Rainfall**

Rainfall is hard to predict, and sometimes little or no rainfall can limit the supply of rainwater. It is not advisable to depend on rainwater alone for all your water needs in areas where there is limited rainfall.

Rainwater harvesting is suitable in those areas that receive plenty of rainfall. If rain is unpredictable, the use of a rainwater harvesting system can be critical to capturing the rain when it does fall.

### **2. Initial High Cost**

Depending on the system's size and technology level, a rainwater harvesting system may cost anywhere between \$200 to \$2000 and benefit from it cannot be derived until it is ready for use. Like solar panels, the cost can be recovered in 10-15 years, which again depends on the amount of rainfall and sophistication of the system

### **3. Regular Maintenance**

Rainwater harvesting systems require regular maintenance as they may get prone to rodents, mosquitoes, algae growth, insects and lizards. They can become breeding grounds for many animals if they are not properly maintained

### **4. Certain Roof Types may Seep Chemicals or Animal Droppings**


Certain types of roofs may seep chemicals, insects, dirt or animals droppings that can harm plants if it is used for watering the plants.

### **5. Storage Limits**

The collection and storage facilities may also impose some kind of restrictions as to how much rainwater you can use. During the heavy downpour, the collection systems may not be able to hold all rainwater, which ends in going to drains and rivers Rainwater collected during the first rainy season is generally not needed by plants until the dry season though it can be used for other household purposes. However, once the catchment is full, it cannot take advantage of future rains.

Rainwater harvesting is a system that is gaining momentum over time. ease.



  
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