

# ANNUAL REPORT OF TEAM ARYANS

## 2019 – 2020

Date: 26<sup>th</sup> February, 2020

**TEAM ARYANS** of Government College of Engineering Aurangabad, is a team of 25 passionate and enthusiastic engineering students, participating in BAJA SAE INDIA competition since 2011. BAJA is a national and international level competition organized by the SAE (Society of Automotive Engineers) which gives opportunity to Engineering students from all over the country to enhance and present their technical abilities, skills and creativity. The competition favors the Research, Design, Fabricating, Testing, Marketing, Validation and racing of the ATV (All-Terrain Vehicle) that is built up by the participating teams with ideas, creativity, innovations and skills. The distribution of work is done according to the departments' transmission, rollage, brakes, suspension, steering, data acquisition, sales, and cost.

The year 2019-2020 started in the month March 2019. 25 students from all branches of institute formed a team and started the work to build the best all-terrain vehicle. The aim of the team this year was to be the **NATINAL CHAMPIONS**. We set the goal in the early stages of the competition and kept the workflow accordingly to achieve the milestone.

This year team used various CAE software includes Solidworks, Hypermesh, Ansys, Adams Car, Lotus, Nastran, MATLAB. Along with this for graphics and designing, team used Adobe Photoshop, Corel Draw, E-draw and Adobe Illustrator. While doing the daily work practices, the team members get hand on practice on machining processes like Milling, Cutting, Grinding, Drilling, Welding, Notching and Pneumatic equipment's. This helps to fulfil the objective of competition to make students thrive for creativity and for intellectual growth. We have prepared the Bill of Material, Design Validation Plan, Design Failure Mode Effect Analysis, Project Plan, Failure reports and Test reports for the competition purpose.

Virtuals is the first phase of BAJA SAE Competition which is also known as the design round. The virtuals round was held at Chitkara University, Chandigarh on 12<sup>th</sup> to 14<sup>th</sup> July, 2019. This year with kick start to this season, **We secured ALL INDIA RANK 1** in BAJA Virtuals 2020. The team has qualified for phase two of BAJA SAE India 2020 at Pithampur, Indore.

Maintaining the legacy, Team has participated in BAJA SAE Competition for the 8<sup>th</sup> time this year. Team designed, manufactured, and validated the vehicle named as '**VULCAN**' meaning the god of fire. In Vulcan, we shifted to AF60 63 series shock absorbers, customized the vehicle CVT and tested our vehicle for 1200+ kms. This year, the competition was organized in the period of 22<sup>nd</sup> to 26<sup>th</sup> January, 2020 at NATRAX, Pithampur, Indore. Team has secured **855.6/1000** points in the competition. Vulcan achieved eminence of being India's **Overall First Runners up** at the event. Vehicle completed the endurance track, completing 26 laps and stood **2<sup>nd</sup>** in the race. Also, in the suspension and traction event, continuing the legacy team has achieved **AIR 1**.

### Achievements this year:

Virtuals BAJA	<b>AIR 1<sup>st</sup></b>
Overall Rank	<b>AIR 2<sup>nd</sup></b>
Durability Award	<b>AIR 2<sup>nd</sup></b>
Suspension & Traction Event	<b>AIR 1<sup>st</sup></b>
Design Presentation	<b>AIR 5<sup>th</sup></b>

This event wouldn't been a success without the precious support of college, faculty, parents and continuous support of alumni and their guidance.

Industrial Interaction During the phase of preparation was very crucial part this year. Student are exposed to various industries for the purpose of machining, testing, guidance, validation, sponsorship and applications. Team Aryans is blessed to have a large exposure towards various industries in Waluj and other MIDC areas.

### **Our Technical Collaboration and Industry Institute Engagement with**



**Digvijay industries, Suraj Blow Plast, Chandra electrical and electronics, Krushna Coatings, Perfect Engineering, Baba Engineers, Akshay group of Industries. AURANGABAD,**

**It's great pride that our ALUMNI and their industries have rendered Technical and Financial support and their contribution is valuable in our success,**

### **We have received Technical support from following Industries**

Mallikarjun industries, Satish Engg Works, Amap press and tools, Shree Turn Engineering, Shreeshot tools, prem industries, Globus precision tools, A.B Engg Works, Shree Industries, H.M. Traders, Globus Precision Tools, Jijau Engg, SS Gears, Goraksha Gear Industries, Kalalaxmi Engg, Onkar Industries, Tulsi Industries, AURANGABAD, We are thankful for their valuable contribution.

**Dr. Sanjay Chukalthankar (HMED) Faculty Advisor:** Dr. A. M. Nikalje, Dr. S. A. Patil

### **Team Members 2019 – 2020:**

Baswaraj Kete (Team Captain), Vaishnavi Patil (Team Vice-Captain), Pradeep Madane, Yashraj Gawande, Prajwal Gote, Kaivalya Pande, Khush Kale, Pratik Badhe, Pushpraj Dongare, Tushar Khodankar, Atharva Bagad, Shantanu Kingaonkar, Amruta Yadav, Jidnyasa Talele, Samruddhi Talware, Aishwarya Sakhre, Tilottama Kodam, Parth Vaijapurkar, Amit Sonwane, Kalpesh Kulkarni, Sanket Zade, Saurabh Singare, Pranav Sonar.



**VULCAN 2020**



**VULCAN 2020 with Awards**



**Vehicle in Endurance Grid**



**Podium Finish of Team Aryans**



**Team Aryans with Awards at BAJA SAE INDIA 2020**