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A.Y 2021-22

Date: 31/03/2022

**PROCEEDINGS**

As per request received from all faculty members and with the approval of the heads of departments, it has been decided to grant research incentives to faculty members for attending conferences, workshops, and professional membership fees for the academic year 2021-22. The list of faculty members approved for these incentives is enclosed.


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 31/3/22  
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| S.NO | Year    | Name of teacher           | Name of conference/ workshop attended for which financial support provided                           | Name of the professional body for which membership fee is provided | Amount of support received (in INR) |
|------|---------|---------------------------|--|--|-------------------------------------|
| 1    | 2021-22 | Dr S PAVAN KUMAR          | Research Ethics and Identifying Predatory and Cloned Journals in Publications                        |  | 5500                                |
| 2    | 2021-22 | FARMANULLAH SHAIK         | Research Ethics and Identifying Predatory and Cloned Journals in Publications                        |  | 5000                                |
| 3    | 2021-22 | MUNWAR ALI SHAIK          | Research Ethics and Identifying Predatory and Cloned Journals in Publications                        |  | 5000                                |
| 4    | 2021-22 | SHAIK MONA                | Research Ethics and Identifying Predatory and Cloned Journals in Publications                        |  | 5000                                |
| 5    | 2021-22 | BATHULA BHAVANI           | Research Ethics and Identifying Predatory and Cloned Journals in Publications                        |  | 5000                                |
| 6    | 2021-22 | Dr.CH.VENKATESWARA RAO    | Research Ethics and Identifying Predatory and Cloned Journals in Publications                        |  | 5500                                |
| 7    | 2021-22 | K.ANIL KUMAR              | Intellectual Property Rights   |  | 5000                                |
| 8    | 2021-22 | G.KOTESWARA RAO           | Intellectual Property Rights   |  | 5000                                |
| 9    | 2021-22 | RAJAVARAPU RAMBABU        | Intellectual Property Rights   |  | 5000                                |
| 10   | 2021-22 | Dr.N.SRINIVASA RAO        | Intellectual Property Rights   |  | 5500                                |
| 11   | 2021-22 | N. Hymavathi              | Starilization of watercourse contrivance   |  | 6000                                |
| 12   | 2021-22 | Sd Khasim                 | An efficient cross layered approach quality aware energy efficient routing protocol for QOS in MANET |  | 6000                                |
| 13   | 2021-22 | SK. C.M. Subhani          | The Aerodynamic Analysis on car body and drag reduction by modifying the design                      |  | 6000                                |
| 14   | 2021-22 | Dr.G.NAGA MALLESWARARAO   | Intellectual Property Rights   |  | 5500                                |
| 15   | 2021-22 | RESHMA BEGUM SHAIK        | Intellectual Property Rights   |  | 5000                                |
| 16   | 2021-22 | SHAIK CHAND MABHU SUBHANI | Intellectual Property Rights   |  | 5000                                |
| 17   | 2021    | Dr.K.SANJEEVA RAO         | Intellectual Property Rights   |  | 5500                                |

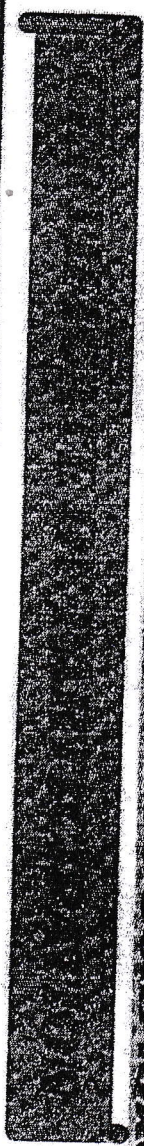
  
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This is to certify that **MUNWAR ALI SHAIK**, **PROFESSOR** of **ESWAR COLLEGE OF ENGINEERING** has participated in National Online Workshop on "Research Ethic and Identifying Predatory and Cloned Journals in Publications" organized on 25.11.2022.

Resource Person: Prof(Dr) Sumit Narula, Deputy Director, Amity University.

*R. Raghavendra Rao*

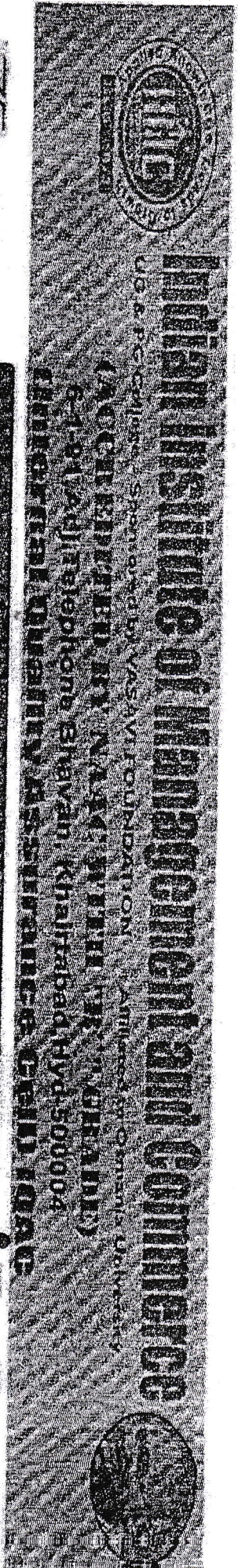
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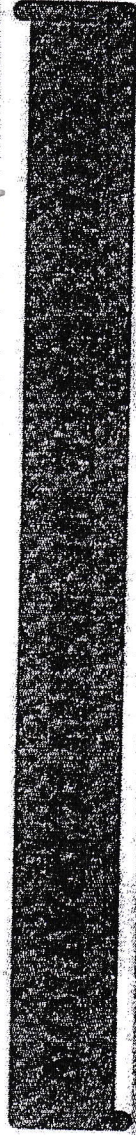
*K. Shaikajia*  
 Head,  
 Department of  
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*K. Raghuvver*  
 K. Raghuvver,  
 Principal







Asadi KA  
Arora Mahotsev



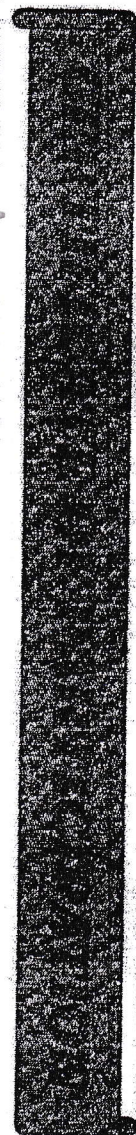
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Resource Person: Prof(Dr) Sumit Narula, Deputy Director, Amity University.

  
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**Resource Person: Prof(Dr) Sumit Narula, Deputy Director, Amity University.**

*R. V. H.*

*K. Shalaja*

**K. Shalaja**  
**Head,**

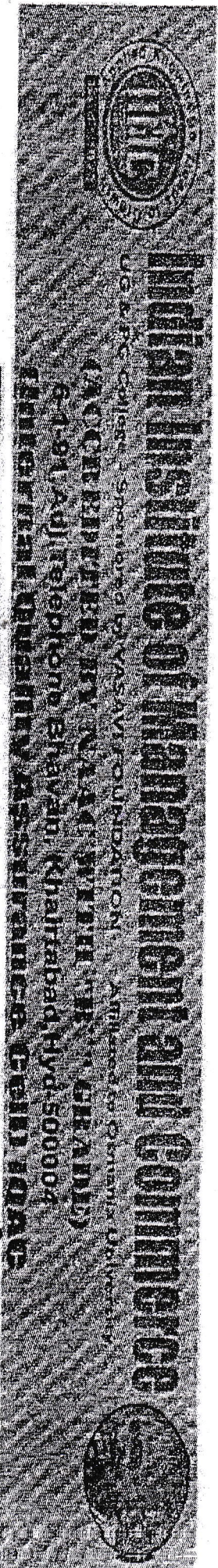
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**K. Raghuv**  
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*R. Raghavendra Rao*

**R. Raghavendra Rao,**  
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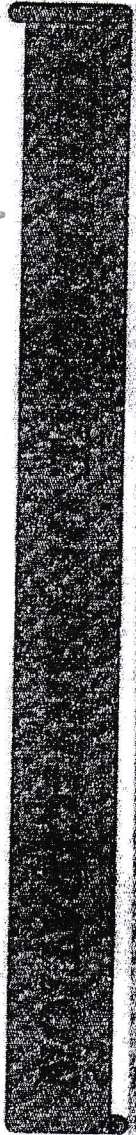
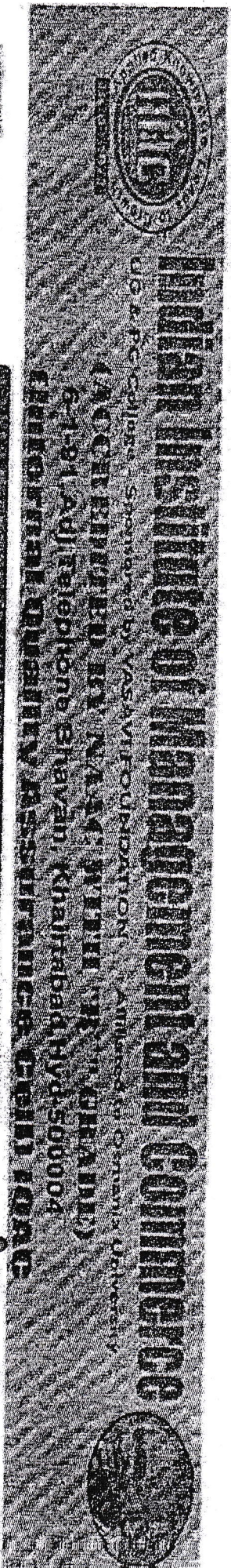
*K. Shalaja*

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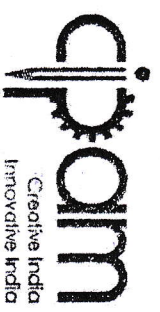
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Dr. G. NAGA MALLESWARRAO

for her/his participation in a one-day national workshop on Intellectual Property Rights held on January 7, 2021, organised by the Cell for IPR Promotion and Management (CIPAM) in association with KG College of Arts & Science (KGCCAS), Coimbatore.

A handwritten signature in black ink, appearing to read 'Dr. J. Rathinamala', written over a horizontal line.

DR. J. RATHINAMALA,  
Principal, KG College of Arts  
and Science

A handwritten signature in black ink, appearing to read 'Shri Karan Thapar', written over a horizontal line.

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Deputy Secretary, CIPAM,  
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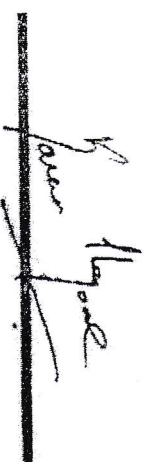
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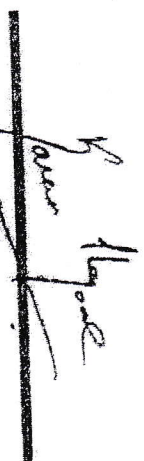
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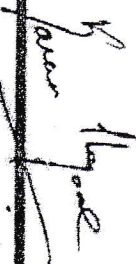
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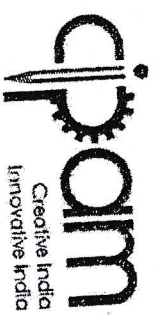


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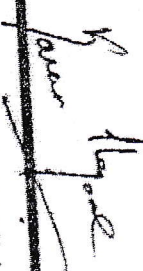
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# THE AERODYNAMIC ANALYSIS ON CAR BODY AND DRAG REDUCTION BY MODIFYING THE DESIGN

Shaik. Chand Mabhu Subhani and P. Sravani,

Department of Mechanical Engineering, Eswar college of Engineering, Narasaraopet, India.  
Department of Mechanical Engineering, Narasaraopeta Engineering College, Narasaraopet, India.

**Abstract**— This is a case study on the influence of CAR on the global drag characteristics. Reducing overall drag by redesigning the CAR has a potential of almost 20% in the overall drag breakdown, mainly due to the viscous effects and the fluidic interaction of the flow under the car with the typical bluff body flow pattern behind the vehicle. A special parameterization is proposed for the global shape of the sedan car, taking into account most of the specificities of the system. For such a complex interaction, CFD analysis is probably the only efficient tool in order to assess specific design parameterization of a generic car shape. Based on the CFD results, possible strategies to be used in order to reduce viscous drag and global drag characteristics are proposed.

Aerodynamic drag is one of the main obstacles to accelerate a solid body when it moves in the air. Firstly we analyzed the Sedan car using at a definite velocity to note down the Drag coefficient. We also noted the velocity, pressure and Vortex generation around the car body at a certain velocity. Then we validated our Results with the Issued Research Paper and we were almost nearer to the value of Drag coefficient. Further, we tried to reduce the Drag coefficient by attaching the Vortex generator at the rear end of the roof of the Car body.

## I. INTRODUCTION

Aerodynamics is a branch of fluid dynamics concerned with studying the motion of air, particularly when it interacts with a moving object. Automotive aerodynamics is a sub branch dealing with the aerodynamics of road vehicles. Its main goals are reducing drag and wind noise, minimizing noise emission, and preventing undesired lift forces and other causes of aerodynamic instability at high speeds. Air is also considered a working fluid in this case. For some classes of racing vehicles, it may also be important to produce downforce to improve traction and thus cornering abilities by understanding the motion of air around an object.

Aerodynamic drag of racing cars has probably received highest attention over last five decades in using the experimental and practical field of fluid dynamics. Many researchers and authors have described different forms of drag, possible reasons behind them and several ways of minimizing the drag to improve the fuel efficiency of the vehicle.

By defining a control volume around the flow field, equations for the conservation of mass, momentum, and energy can be defined and used to solve for the properties. The use of aerodynamics through mathematical analysis, empirical approximation and wind tunnel experimentation form the scientific basis. External aerodynamics is the study of flow around solid objects of various shapes. Evaluating the lift and drag on an airplane, the shock waves that form in front of the nose of a rocket, or the flow of air over a wind turbine blade are examples of external aerodynamics. On the other hand, internal aerodynamics is the study of flow through passages in solid objects. For instance, internal aerodynamics encompasses the study of the airflow through a jet engine or through an air conditioning pipe and other internal flow

conditions.

The vehicle aerodynamic flow process is fall into three types

- (i) Flow of air around the vehicle
- (ii) Flow of air through the vehicle body
- (iii) Flow of air within the vehicle machinery. Today's fast-moving, highly competitive industrial world, a company must be flexible, cost effective and efficient if it wishes to survive. In the process and manufacturing industries, this has resulted in a great demand for industrial control systems/ automation in order to streamline operations in terms of speed, reliability and product output. Automation plays an increasingly important role in the world economy and in daily experience. Automation is the use of control systems and information technologies to reduce the need for human work in the production of goods and services. In the scope of industrialization, automation is a step beyond mechanization. Whereas mechanization provided human operators with machinery to assist them with the muscular requirements of work, automation greatly decreases the need for human sensory and mental requirements as well.

**Automation Control System** - system that is able to control a process with minimal human assistance or without manual and have the ability to initiate, adjust, action show or measures the variables in the process and stop the process in order to obtain the desired output.

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