



**Mar Baselios Christian College of Engineering
and Technology**

Kuttikanam, Peermade – 685531

**DEPARTMENT OF MECHANICAL
ENGINEERING**

&

**ASSOCIATION OF RADIANT MECHANICAL
ENGINEERS (ARME)**



ASSOCIATION OF RADIANT MECHANICAL ENGINEERS

**DEPARTMENT ASSOCIATION PROGRAM
REPORT**

2022-2023

REPORT ON

“PART ASSEMBLY AND TECH QUIZ”

REPORT ON PART ASSEMBLY AND TECH QUIZ

Date: 06/01/2023

Venue: Hi-Tech Room, MBCCET, Peermade

Introduction:

The purpose of this report is to present the findings and outcomes of the carburetor assembly and Tech quiz conducted by the Department of Mechanical Engineering in association with ARME (Association of Radiant Mechanical Engineers) in MBCCET, Peermade on 6th January 2023 for the academic benefit of mechanical engineering students.

CARBURETOR ASSEMBLY

Task is given to students to assembly carburetor within the allotted time period effectively and precisely to evaluate the efficiency and effectiveness of the assembly techniques, skill level, practical knowledge and experience of students

Methodology:

The carburetor part assembly was conducted using a standardized assembly procedure. The following steps were followed during the assembly process:

- a) Preparing the work area: The work area was properly organized and equipped with the necessary tools and equipment.
- b) Component inspection: Each carburetor part was inspected for any defects, damage, or irregularities that could affect the assembly process.
- c) Assembly process: The assembly process involved the systematic installation of each part according to the manufacturer's guidelines and specifications.
- d) Evaluation: After the assembly, check was conducted to ensure that all parts were correctly assembled and in proper working condition.



Conclusion:

The carburetor part assembly conducted by the Association of Mechanical Engineering Department provided valuable insights into the efficiency and effectiveness of the assembly process. While the overall assembly process was found to be satisfactory, some potential issues and recommendations for improvement were identified. Implementing these recommendations will enhance the overall assembly process, ensuring optimal performance.

TECH QUIZ

The quiz was organized to test the technical knowledge and problem-solving skills of the participants and promote a culture of continuous learning and professional development within the department.

Objective:

The main objectives of the Tech Quiz were as follows:

- To assess the participants' understanding of various technical concepts related to mechanical engineering.
- To encourage healthy competition and teamwork among the participants.
- To identify areas of improvement and provide feedback for further learning.

Methodology:

The Tech Quiz was designed as a timed competition, consisting of multiple-choice and open-ended questions. The following steps were followed during the quiz:

a) Question selection: A diverse set of questions covering different aspects of mechanical engineering was prepared by the organizing committee. The questions were designed to test both theoretical knowledge and practical application.

b) Participant registration: Students from all departments were invited to participate in the quiz. Registration was done in advance to ensure proper organization and arrangement of the event.

c) Quiz format: The quiz was conducted in a controlled environment. Participants were provided with answer sheets and writing materials.

d) Quiz administration: The questions were presented on a screen or announced by the quizmaster. Participants had a specific time limit to answer each question, and the papers were collected after each round.

e) Evaluation and scoring: The answer sheets were evaluated by a panel of judges or graders. The scoring criteria were established in advance, with points allocated for correct answers and partial credit for partially correct or well-reasoned responses.

f) Result announcement: The final scores were calculated, and the top performers were announced and awarded prizes.

Results:

The Tech Quiz yielded the following results:

a) Participation and enthusiasm: The Tech Quiz received an enthusiastic response from the participants, with a significant number of students and faculty members actively taking part in the event.

b) Knowledge assessment: The quiz effectively assessed the participants' understanding of various technical concepts in mechanical engineering, including fundamental principles, applications, and problem-solving techniques.

c) Identification of knowledge gaps: The quiz helped identify areas where participants may have knowledge gaps or require further learning. This information can be used to design targeted educational initiatives or workshops to address these gaps.

d) Teamwork and collaboration: The quiz encouraged teamwork and collaboration among participants, as they discussed and debated the answers during group or team rounds.



Student Coordinators

Alan G Johnson (Third Year, Mechanical)

Prince Anil (Third Year, Mechanical)

Mathew Joseph (Third Year, Mechanical)

Jude Kurian (Third Year, Mechanical)

Abhijith Vasudev (Third Year, Mechanical)

Jiss John (Third Year, Mechanical)

Expenses

Prize money – RS. 2000

Posters and banners- RS. 1150

Food and refreshments- Rs. 1100

Pen and notepad- Rs. 400

Total expense- Rs. 4650

Conclusion:

The Tech Quiz conducted by the Association of Mechanical Engineering Department successfully achieved its objectives of assessing technical knowledge, promoting healthy competition, and identifying areas for improvement. The active participation and enthusiasm of the participants contributed to the overall success of the event. The findings from the quiz can serve as a basis for designing future educational initiatives to enhance the learning experience of students.

REPORT ON

“ROBOSOCCER”

REPORT ON ROBOSOCCKER

Date: 27/04/2023

Venue: Hi-Tech Room, MBCCET, Peermade

Introduction:

This report presents the findings and outcomes of the RoboSoccer event organized by the Department of Mechanical Engineering in association with ARME (Association of Radiant Mechanical Engineers) in MBCCET, Peermade on 27th April 2023. RoboSoccer aimed to showcase the application of robotics and engineering principles in the field of sports by organizing a soccer match between autonomous robots.

Objective:

The main objectives of the RoboSoccer event were as follows:

- To demonstrate the capabilities of autonomous robots in a competitive sports environment.
- To encourage innovation, teamwork, and problem-solving skills among participants.
- To provide a platform for knowledge exchange and networking among robotics enthusiasts.

Methodology:

The RoboSoccer event was conducted following a systematic approach. The following steps were followed during the event:

- a) Team registration: Students from different colleges all over kerala were invited to form teams and register for the event. Each team was required to design and build an autonomous robot capable of playing soccer.
- b) Robot design and construction: Teams were given a specified time frame to design, construct, and program their robots. The design had to adhere to specific size and weight restrictions, and the robots were required to navigate the soccer field autonomously.
- c) Game setup: A soccer field was prepared, complete with goalposts and boundary lines. A suitable playing surface was provided to ensure smooth movement of the robots.

- d) Game rules and regulations: A set of rules and regulations were established, including the dimensions of the playing field, the duration of the game, and the penalties for rule violations. These rules ensured fair play and equal opportunities for all participating teams.
- e) Tournament structure: The RoboSoccer event consisted of a series of matches played in a tournament format. Teams competed against each other, and the winners advanced to subsequent rounds until a final winner was determined.
- f) Game execution: The matches were officiated by referees who monitored the game, enforced the rules, and resolved any disputes. The robots operated autonomously, following their programmed algorithms to navigate the field, interact with the ball, and score goals.
- g) Result determination: The results of each match were recorded, and points were allocated to teams based on the outcomes. The team with the highest number of points at the end of the tournament was declared the winner.

Results:

The RoboSoccer event yielded the following results:

- a) Technical competence: The participating teams demonstrated exceptional technical competence in designing and constructing autonomous robots capable of playing soccer. The robots exhibited various features, such as obstacle detection, ball control, and strategic decision-making.
- b) Teamwork and collaboration: The event fostered teamwork and collaboration among the participants as they worked together to overcome challenges, refine their designs, and program their robots for optimal performance.
- c) Innovation and creativity: The RoboSoccer event showcased innovative and creative approaches in robot design and programming. Teams incorporated unique strategies, such as adaptive algorithms, machine learning techniques, and advanced sensor integration, to enhance their robots' performance.
- d) Learning and knowledge exchange: The event provided an opportunity for participants to learn from each other, exchange ideas, and gain insights into the latest trends and advancements in robotics and automation.

Student Coordinators

Safi Salam (Fourth year mechanical)

Lijin Ponnachan (Fourth year mechanical)

Mobin Antony (Fourth year mechanical)

Ben B Thomas (Fourth year mechanical)

Alwin A (Fourth year mechanical)

Expenses

Prize money- Rs. 15000

Plywood for preparing playground- Rs. 2750

Paint (Green)- Rs. 260

Tape- Rs. 60

Pvc pipe- Rs. 140

Pvc connections- Rs. 90

Tennis Ball- Rs. 160

Total expense- Rs. 18460







Conclusion:

The RoboSoccer event organized by the Association of Mechanical Engineering Department successfully achieved its objectives of showcasing autonomous robots in a competitive sports environment, promoting innovation and teamwork, and fostering knowledge exchange among participants. The event not only highlighted the capabilities of robotics in sports but also encouraged students and faculty members to explore interdisciplinary approaches to problem-solving and engineering.

Report Prepared By ,

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