

REPORT ON WOMEN IN ROBOTICS PROGRAMME PHASE-02

MVSR Engineering College- Team-06

Team Members

Raqshanda Siddiqua

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Introduction:

A half-day workshop on ‘**Introduction to Robotics**’ was organized by team-6 from MVSR Engineering College, for the Ninth and tenth standard students of Zilla Parishad High School, Nadargul and for first to seventh standard students of Lotus Lap Public School, Badangpet on 27th and 26th of September, 2018, from 10AM to 01:00 PM. The Workshop was part of the Women in Robotics Programme organised by IEEE WiE.

Background to Workshop

IEEE WiE Hyderabad section in collaboration with IEEE Women in Engineering MJCET SB organised a 3 phase Robotics programme for girl students which commenced on 10 September, 2018. The phase one included a workshop on Robotics for design of Voice Controlled robotic arm and in the second phase the participants were supposed to visit nearby schools and organise a workshop on robotics for the girl students and motivate them towards robotics and engineering.

Need for the workshop:

Education is one of the most critical areas of empowerment for women, It is also an area that offers some of the clearest examples of discrimination women suffer. By keeping this in the view we have organised a workshop for the girl

students where they can learn basics of Robotics and can be motivated to learn Robotics and broaden the outlook of engineering. .This is a profound and empowering experience, which greatly impacts students. These students learn that they can control the world around them by building machines. This subtle change in perspective can have a profound impact on students' futures.This instills confidence in students. Specifically, it instills technological competence which helps in elevating the standard of living through technological & scientific advancements

Goal of IEEE Women in Robotics Programme

The goal is to facilitate the recruitment and retention of women in technical disciplines globally and to facilitate the development of programmes and activities that promote the entry into, and retention of, women in engineering programmes.Keeping the goal in mind aspiring women engineers were trained and sent to schools to motivate young girls to enter technical field.

Contents of the workshop include:

1. Introduction to IEEE MJCET and Women in Engineering
2. Introduction to Robotics
3. Introduction to Electronics
4. Mechanics in Robotics

Participants:

The workshop was well attended. There were 100 participants belonging to first to seventh standard from Lotus Lap Public school,Badangpet and 70 participants belonging to ninth and tenth standard from ZPHS Nadergul.

Session Plan:

Content	Resources, Teaching learning materials required	Remarks/Explanation
Guessing the title of the session	<p>Q.Do you you know Rajinikanth? Ans.yes or no</p> <p>Q.Can you name some of his movies? Ans.They mention some of his movies including Robot</p>	The topic Robotics was guessed by the students
Definition of a Robot	<p>Q.What is a Robot? Ans.It is a machine used to do work</p> <p>Slides of the Presentation</p>	Students learnt definition of a robot
Laws of Robotics	Slides of the Presentation	Students learnt laws of robotics
Types of Robots	<p>Q.Students were asked to explain what their Robot sketch can do. Ans.Help police,Cook,do homework,dance.</p> <p>Slides of the Presentation and a video titled 10 amazing robots</p>	Most of the students sketched a human shaped robot,the slides and a video were played to make them understand that there are many types of robots other than humanoid robot
Advantages of Robots	Slides regarding advantages of Robots were shown	Students learnt advantages of robots
Robots in Space	Slides of the	Students learnt that a

	presentation	big advantage of space robots is that they need neither food nor drink and can support very inhospitable conditions. More important still, although expensive to design and produce, their loss is always preferable to that of an astronaut.
Robots in Medicine	Slides of Presentation	Students were introduced to Surgical precision robots
Robots in Military	Slides of Presentation	Students learnt that Robots would save and preserve soldiers' lives by removing serving soldiers, who might otherwise be killed, from the battlefield.
Robots in home	Slides of Presentation	Students were introduced to robotic vaccume cleaners, floor washing robots, kitchen robots, lawn cleaning robots, robotic toys
Disadvantages of Robots	Slides of Presentation	Students learnt disadvantages of Robots
Definition of Electronics	<p>Q.Do you know anyone who is pursuing Engineering?</p> <p>Ans. Yes/No</p> <p>Q.Any one from ECE? If so what do they do?</p> <p>Ans.They work with circuits</p> <p>Q.What is Electron?</p>	Students learnt that Electronics deals with study of Flow and control of electrons

	<p>Ans. Negatively charged particle.</p> <p>Slides were shown</p>	
Difference between Electronics and Electric systems	Slides of presentation	Students learnt the Difference between electric and electronic systems
Definitions of current,voltage,resistance,batteries	Slides of presentation, bulb,batteries	Students were practically shown how a bulb glows and what the internal process is. Thereby learning the definitions
Ohms law	Slides of presentation	Students learnt Ohms law
Series and parallel connection	Slides of presentation	Students learnt series and parallel connections
Arduino	Arduino UNO	Students were introduced to Arduino
Bread Board	Bread Board, Slides of presentation	Students examined the breadboard practically
Multimeter	Digital Multimeter	Students were able to measure current and voltage of a battery
Types of Sensors	<p>Q.Did you visit any hospital where the doors open and close automatically?</p> <p>Ans.Yes</p> <p>Q.Do you know about fire alarms? If so how does it work</p> <p>Ans.When there is fire the bell rings</p>	Students were explained types of sensors and their applications
Motors	<p>Q.What does a motor do?</p> <p>Ans.Pump water when provided</p>	Students learnt that motors are devices which convert current to mechanical

	Electricity	energy.They practically saw servo motor and DC motor
Chassis,Wheels	Students were shown chassis and wheels, Slides of presentation	Students learnt types of wheels and chassis
Robot walk	Students were made to imitate a robot	This was done to involve Students in the workshop without getting bored
Test	Students were asked some questions taught during the session	The winners of the test were given chocolates as a token of success

Points put forward by the participating Students:

- Robots should be used only when it is necessary, using Robots is good but overusing them will lead to destruction of man
- Robots should be designed to help their mothers at home
- Robots should be designed to catch thieves
- In movies good Robots fight with the bad robots, but in real life they shouldn't make bad robots
- A separate subject should be introduced in their syllabus on Robots so that they could learn more in that field

Recommendations based on the evaluation of workshop:

- The concepts must be presented in a way that shows value and relevancy by providing real-world examples in order to keep “learners” engaged, active, and motivated
- Interacting with a physical object or an experiment enhances and expedites learning.
- Students should be provided engaging activities that allow them to apply their interests, expertise in engineering and other fields, and creativity

- We need to provide students a support structure built by a community of peers and engineers to promote learning; women in robotics programme is the best example for this
- We need to develop an 'I can do it' attitude in girls
- In the school level children must be taught basic concepts of Robotics and they must be able to use basic instruments
- School activities must be made more fun so that children can learn in playful environment. Fearless environment must be maintained in the class
- Outlook of Engineering must be broadened and desire to become an Engineer/Scientist must be increased in the girls

Gallery:



Team-6 interacting with students of Lotus Lap Public School, Badangpet



Team-6 interacting with Students of ZPHS Nadergul



Students demonstrating Robot Walk



Students examining Bread Board

Students examining Robotic Car



Students watching video

Student interacting with Team-6



Team-6 distributing Chocolates



Participants from ZPHS Nadergul

Sketch and feedback from Students and Principal:



ROBOTICS D. Anjali
 12th Std
 Roll No: -01

Today we are learnt about Robotics and also type of Robotics. How the Robotics walk. And also learn electronics electricals. And the Three Sisters Telling So Nice And the Explanation also So Nice. How the Robo is Moving and. How the Robo's work. Why the Tube light and bed light voltage Robotics is three types of Robotics they are: LEGGED Robotics, WHEELED Robotics, AUTONOMOUS Robotics. These Robotics I am Get Some knowledge. MYSR Sisters telling So Beautiful.

Robots are electronic machines which are used to do multiple purpose in daily life. There are many uses with Robots. Specially in the Army. Without human loss we can use robots.

* I don't about robots when the MYSR Sisters said clearly about robots I want to enter in to Robotics field.

* And I request my TIM to keep a Special Subject about Robots

* Thanks Sisters about giving this information.

నాకు ఈ రోబో బాగానే అర్థమవుతుంది. నాకు రోబోలు ఉంటాయి. నాకు నాకు తెలుసుకోవాలి, నాకు చెప్పండి నాకు చాలా నాకు అర్థమవుతుంది. నాకు నాకు వివరాలు కూడా తెలుసుకోవాలి. నాకు నాకు కంటే ఎక్కువ నాకు తెలుసుకోవాలి. నాకు నాకు తెలుసుకోవాలి.

A robot is a machine designed to execute one or more tasks automatically.

ఈ రోజు మీ పాఠశాల రోబోట్ నిరూపణ పోటీలు జరిగాయి. అనేక విధాల రోబోట్ మెకానిక్స్ ను చూడవచ్చు. ఈ రోజు మీ పాఠశాల రోబోట్ నిరూపణ పోటీలు జరిగాయి. అనేక విధాల రోబోట్ మెకానిక్స్ ను చూడవచ్చు. ఈ రోజు మీ పాఠశాల రోబోట్ నిరూపణ పోటీలు జరిగాయి. అనేక విధాల రోబోట్ మెకానిక్స్ ను చూడవచ్చు.

ROBOTICS

Today, we have learnt about Robotics, types of Robotics, and how we will get the advantages of from Robotics. From the MYSR collage the 3 sisters came and they explained excellent. we listened intrestingly and we are so excited. they showed one project it is with 4 cells. there are 3 types of Robotics they are: legged, wheeled and autonomous and in the Robotics there are two machines Electronic and Electrical. The Electronic means negatively charged and Electrical is positively charged and the sisters are friendly with us. And they also showed that the Digital Multimeter. Voltage, Current etc. Disadvantages of Robotics are:

- money
- Unemployment etc.

Robotics are electronic and electrical machines.

Nadargul
27/09/2018

To
Dr. Mohammed Arafuddin Sahal
Professor and Head
Department of ECE
MJ college of Engineering.

Sir,

Subject: Letter of Appreciation

I would like to thank you for conducting a Robotics seminar in our school for the awareness of education and technology especially for women students found it very interesting and we hope you could continue your good work.

Thanking you.

Team Members:
Ragshanda
A. Keerthana
B.H.S Elizabeth
M. Akhila
Coordinator: Likitha

DEPUTY HEAD MASTER
J.P. High School, Nadargul
M.H. Palpur, R. Dist-501510

To
Dr. Mohammed Arafuddin Sahal,
Professor and Head,
Dept. of Electronics and Communication Engineering,
Muffakham Jah College of Engineering and Technology.

Sir,

Subject: Letter of appreciation

Reference: Introduction to Robotics workshop organised on 26-09-18

I would like to take this opportunity to thank you for sending your students to organise a workshop on 'Introduction to Robotics' on 26th September 2018 in our school. The workshop was a success and was appreciated by the participating students and faculty.

The students learnt basics of Robotics and its applications in day-to-day life. Students were significantly benefited by the workshop. This workshop has motivated students towards Engineering, broadening their outlook towards it. The school appreciates time, dedicated effort of the organisers for conducting the workshop, and contribution in improving the well being of the students.

With Thanks and Regards

Team Members:
Ragshanda Siddiqua
A. Keerthana
B.H.S Elizabeth
M. Akhila.

Dr. S. Rama Reddy
HEAD MISTRESS
LOTUS LAP SCHOOL
Siddipet, Palpur (M), R. Dist-501510

Conclusion:

In this paper, we share our experiences related to the workshop conducted by us focused on Educational Robotics for the girl students. It was a good opportunity to learn new concepts and also teach children with some basic concepts, not only children but we have also been benefited by this programme, it was a well thought-out workshop of motivating the students towards the field of Robotics. At the end of the workshop students were exposed to what is happening in today's world and being a girl how they could contribute their share for the development of country and technology. We thank MJ CET and WiE Hyderabad session for giving us this opportunity. We would be glad to attend similar workshops in future.