

Project Details of Winners – Open House 2018, PEC

Circuitual Branches:

1st Position: Braille Tablet

~Khushwant Rai, Esha Tandon, Simran Kaur, Garima Shukla

Aim : To develop a alpha prototype of Braille Tablet with touch screen on front side, provide Braille tactile on the opposite side of the tablet, provide voice command operation facility in tablet, thus helping people who are visually impaired to unleash unlimited opportunity in their education personal productivity.

2nd Position : I-Vote

~Nikhil Agrawal, Saurabh Kapil, Kirandeep, Vidushi

Aim : To build a new voting system that will cut costs, increase voter turnout, make voting more convenient and accessible, ensure elections are honest, and reassure voters that their voice was heard by their government.

3rd Position: Bone Conduction Hearing System

~Pallabh Singh, Lakshay Piplani

Aim : To develop a bone conduction hearing system which could be used for various purposes like as a hearing aid, earphones, etc. This system can be very useful for people who have a dysfunctional ear-drum as the sound would be sent to the inner ear using their bones and not the ear-drum.

Non-Circuitual Branches:

1st Position : Design and Fabricatio of Low Speed Water Tunnel

~Ankush Kumar, Parth Sonara, Charanjeet Kaur

Aim : To design and fabricate a low speed water tunnel for flow visualisation over various cross-sectional models/bodies gain valuable insight into the flow effects on and in the wake of the test body.

2nd Position :

a. Thin Film Coating For absorbance beyond visible spectra

~Simran Katyal, Hansin Garg, Supriya Bhalla, Saurabh Singh, Karan Dogra

Aim : Synthesize a transparent conducting Oxide (TCO) coating with maximized heat absorbing ability. Develop solar heat reflecting parabolic model concentrating sun rays on absorber tube placed at focus.

b. Synthesis of piezoelectric Materials and its application in smart structures

~Chirag Sachdeva, Sachin Sharma, Kumar Siddharth

Aim : To synthesize, characterize and analyze piezoelectric materials – PZT 52/48 and PVDF. Utilization of these smart materials to develop multifunctional intelligent structures which could sense the impact, stresses, strains and external vibrations. Consequently, monitoring the real time structural state and health, similar to living organisms.

3rd Position : Human Powered Nebulizer

~Sushil Pandey,Uday Vir Singh,Eshaan Sharma,Montek Singh

Aim : To produce a low-cost, portable nebulizer that doesn't require electricity, providing life saving respiratory treatment to those who cannot afford currently available expensive nebulizer and those who live in remote areas away from basic medical facilities.

Technical Societies :

1st Position : Gesture Controlled Wheelchair

~Jatin Batra, Palak Jain, Ashmeet Jheetha, Aman Garg, Mukul Sahni

Aim : To model a Gesture controlled Wheelchair equipped with basic home automation applications vis-à-vis control of fans and lights as well as advanced features including face detection enabled security systems.

2nd Position : LiFi

~Taanya Gupta, Ayush Srivastava, Gajendra Pratap Singh

Aim : To make use of common household LED bulbs which can be utilized to allow data transfer with a speed greater than that of Wi-Fi using a wireless technology that relies on visible light communication instead of radio waves.

3rd Position : Robotic Arm

~Aadesh Gupta, Yatin Gupta, Shivam Kathuria, Shreshth Aggarwal, Biswajit Pradhan

Aim : To develop a miniature of a real life gesture controlled robot that would mimic our hand movements and would show how a real life robot would work in the real world.

Special Awards

Research with larger impact : Smart Shoe for blind

~Samridhi Jain,Shaurya Kumar, Jasleen Kaur Dhanoa

Aim : The aim is to investigate the development of a navigation aid for blind and visually impaired people and to reduce navigation difficulties of the blind. To overcome the lack of advance technologies and equipments used for blind people and encourage smart products to help visually impaired people.

Most innovative idea : Smart Gate Controlling Reservoir System

~Utkarsh Uppal, Raghav Gautam, Sahil Gupta, Tarun Chopra

Aim : Complementing the working of dams with the implementation of modern and smart technology for a more efficient production of hydroelectric power.