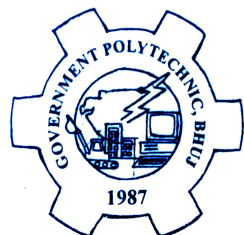


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List of Faculty Suggested Challenges



Sr. No.	Broad Area	Real Life Challenge / Problem Definition	Suggested By
1	Construction Materials Technology	Formation of an Agency, which can co-ordinate between Construction Material Suppliers, Material Testing Laboratories, Material Purchasers and prepare App or Website to supply materials of required quality to purchasers at competitive price.	N.V.THAKER
2	Transportation Engineering	Establish firm for conducting different Traffic related surveys with modern Softwares.	N.V.THAKER
3	Material Technology	Establishment of Material Testing laboratory for various Construction materials as per BIS standards.	N.V.THAKER
4	Environmental Pollution Control	To Find out the solution to treat waste water from different industries from kutch region using recent advancement in technology and nano particle based reagents/adsorbents	B.V.THACKER
5	Air Quality Index	Study of Air quality in industrial region of Kutch , Prepare Air Quality index (AQI) ,modelling of the same and derive technologies to minimise the air pollution	B.V.THACKER
6	Eco-friendly construction material	Develop an eco-friendly building materials for sustainable development and reducing carbon foot print.	RAVI L. LALWANI
7	Re-use of construction or other wastes.	Develop various techniques for re-use of construction & demolition wastes and there by minimizing environmental pollution and sites required as dumpyards.	RAVI L. LALWANI
8		To improve the efficiency of various construction equipments using various optimization techniques	BINDIYA B. SITAPARA
9		Design of Water Distribution Network for bhuj	BINDIYA B. SITAPARA
10		Use of Remote Sensing for Irrigation Water Allocations	BINDIYA B. SITAPARA
11		To optimize techniques for disposal of solid waste management	BHAVESH P. PATEL
12		Sustainable Groundwater Use Under Climatic Variability and Land Use Change	BHAVESH P. PATEL
13		To prepare the micro level ground water management plan for kutch region using various modeling tools	YASHRAJ D. JETHVA
14		Assessing Impacts of Climate Change On Rainfall And Streamflows Using Downscaling Models	YASHRAJ D. JETHVA
15	Building Material	Performance of Adhesive and Cementitious Anchorage Systems	NARESH V PRAJAPATI
16		Groundwater Recharge Estimation	NARESH V PRAJAPATI
17	Fluid	Probabilistic Analysis of Offshore Wind Turbine Soil-Structure Interaction	HARESH A VIRDA
18	Road	Warm bituminous mix road to sustainable pavement construction.	HARESH A VIRDA

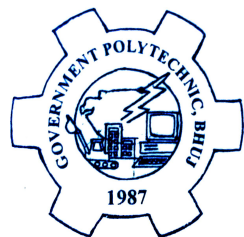


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List of Faculty Suggested Challenges



Sr. No.	Broad Area	Real Life Challenge / Problem Definition	Suggested By
19	Roads	Impact of S-Curve on Speed in a Modern Roundabout	VINOD S KHEMCHANDANI
20		Water Balance Studies in Small Experimental Watersheds	VINOD S KHEMCHANDANI
21	student db for conession pass management	dbms for collection of student travelling conession pass (ST/ Railway) at both end (College / Bus Stand), Date sent to ST / Railway Authority by authorized email ID, ST/ Railway Auhtority can issue student pass on it, App can also be developed. student have to show mobile screen for verifying PASS Validity	G V Lakhani
22	Water Resource Management	There should be some system that takes care of water distribution to all the buildings and departments inside the campus evenly. So that the crises regarding shortage of water never happen. And also the unwanted wastage of water should be minimized.	BHUMI NILESHBHAI NAKHUVA
23	Android based Electronic notice board	Electronic displays are used these days to display relevant information in a public place. It could be scrolling message or fixed displays in areas like railway stations, banks, public offices, etc. Notice Boards used in the institution require sticking of the various notices day-to-day. This project can deal about an advanced hi-tech wireless notice board which can be controlled by Android device through Wi-Fi or Bluetooth.	KAMAL SHANKARLAL MANEK
24	GTU EXAM MANAGEMENT	This system automates the exam process.	A. V. KATUVA
25	Online Voting System	online voting system is applicable to elect the member like MP, MLA etc through this system it is possible to achieve "ONE NATION ONE ELECTION". through Adhara data voter can vote at any place to their legislative assembly so no need to go at their Booth for voting. Advantages:- 1) May achieve 100% voting 2) 0% Booth Capturing possibility 3) While voter in roaming in india, he will able to vote at any place through this system 4) Quick result 5) Less Man Power required	Divyarajsinh Indrasinh Jadeja
26	Library & Books Management	Books in the library can be managed and searched well with this kind of software. Individuals have account with this and taken books can be seen with the ID of particular.	Aarti Jansari

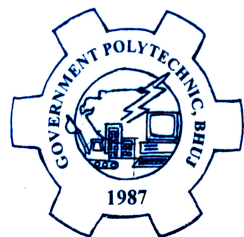


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List of Faculty Suggested Challenges



Sr. No.	Broad Area	Real Life Challenge / Problem Definition	Suggested By
27	AIR QUALITY MANAGEMENT	An Application is suggested where the a person can log the details about the area which includes (Number of peoples, vehicles, trees and area), the application should log the current air quality by some devices installed around the place, and by considering the parameters such as number of peoples, pollution creating things, fresh air sources (Trees) and the area which is covered by the application, the application should suggest the required fresh air and the solutions to do the same. This application can lead to a better environment where the residents can live a healthy life.	Mayur Taunk
28	Task Logger	An network base task assignment System is suggested, where colleagues can assign the task from the application with a deadline to other colleagues, this will bring a good management of work to be done in a co-operative manner	Mayur Taunk
29	GTU Exam Management System	A complete system which take care of exam duties allocation to final remuneration calculation. This system will be able to generate all kind of necessary report which are require for GTU Exam	N J Goswami
30	Agriculture	Individual Insurance Scheme for corp	Devraj Sakariya
31	Solar Power Plant	Automatic Robotic Arm/Machanism Devlopment for Optimum Solar Power Generation	JITEN M KHODIYAR
32	Toll Gate	Automatic Trafic Diversion/Lan Indication system and Open Bypass Lan in Rush Time	JITEN M KHODIYAR
33	Measurement System	Dedicated Domestic Water level indicator for Monitoring & Optimized Usage of Water	MAYUR S THACKER
34	Energy Conservation	Digital Power Consumption Monitoring System with IOT Based Enhanced Energy Conservation Notification	MAYUR S THACKER
35	MicroController	MicroController Based Trafic Control Signal with Indicator	SHRUTI P JARADI
36	MicroController	Low Cost LPG Leakage Detactor with Buzzer Indicator Using MicroController	SHRUTI P JARADI
37	Solar Power	Improvment of Efficiocy in Generation	MANMEET U VADHER
38	Automobile	Hybrid Fuel Bike Electrofuel Concept	MANMEET U VADHER
39	Electrical Power Generation	Electricity From Rain	VASIM A MISTRY
40	Power Electronics	Low Harmonics Inverter	VASIM A MISTRY
41	SOLAR SYSTEM (ROOFTOP)	Improve the Power Generation by Cleaning Solar Module.	KRUPAL B PARMAR

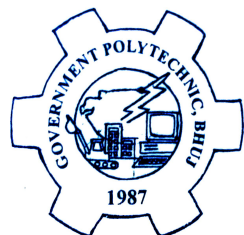


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Sr. No.	Broad Area	Real Life Challenge / Problem Defination	Suggested By
42	STREET LIGHT SYSTEM	To Design Street-Light Control System Which Automatically Start ni the Evening (in College)	KRUPAL B PARMAR
43	Power System	Low Maintenance System for Remote/Rural Distribution Network	Ajit Yadav
44	Hazard Managment	Garbage & Drainage Smart Maintenance System	Ajit Yadav
45	Railway	Frequent Accident Occurs at Railway Crossing & Track Switching Required to Avoid Accident	Harshad N. Lad
46	Electrification of Remote Areas	Due to Geographical condition of Remote Place Electrification is not done yet, currently : High T & D Losses, Cost of Installation Maintanance	Harshad N. Lad
47	REDUCTION OF CARBON FOOTPRINT	PROMOTING GREEN ENGINEERING TO IMPROVE MANUFACTURING	R A VYAS
48	URBAN DEVELOPMENT	INTELLIGENT PARKING SYSTEMS	R A VYAS
49	POWER GENERATION	POWER GENERATION FROM GARBAGE AND SEWAGE	A Y PANDYA
50	ACCESS TO DRINKING WATER	ABSENCE OF LOCAL EXPERTISE IN THE CONSTRUCTION AND MAINTANANCE OF WATER SYSTEM	A Y PANDYA
51	CLIMATE CHANGE	ADDRESSING CLIMATE CHANGE THROUGH ENGINEERING INNOVATIONS	N C TRIVEDI
52	CIVIC AMENITIES	LOW COST SYSTEMS TO DETERMINE PURITY OF AVAILABLE WATER.	N C TRIVEDI
53	Power Theft	Power Theft leads to Revenueloss to Suplpy Companies, It also effects the supply company	Nirav J Patel
54	Advance Condition Monitoring	Trouble Free Continues Operation of Power Transformer, Very High Cost of Power Transformer. So, Queried to Prevent it against more faults	Nirav J Patel
55	Project I	Protecting IM from Phase & Temperature Using Gate Circuit	MITESH K RAVAL
56	Solar Bag	This is an solar Backup to Charge all your Devices with a Removable Power Bank	MITESH K RAVAL
57	Smart grid technology with smart tower	In this project it will make transmission and distribution of power more efficient and will indetify any fault soon by improving reliability. - This will also facilitate in finding theft connections will improve the efficiency.	SAGAR L Oza

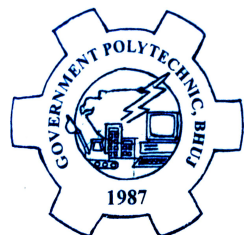


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Sr. No.	Broad Area	Real Life Challenge / Problem Defination	Suggested By
58	Switchgear	GSM based Substation Monitoring and Control System - This project aims to acquire various substation parameters like current, voltage, temperature, power factor, etc., remotely via GSM communication. Thus, the remote operator can analyze these parameter values and take corresponding control action. A user can remotely operate the substation equipments like circuit breakers, isolators, relays, buzzer alarms, and so on.	SAGAR L Oza
59	Energy Conservation	Automatic Control of Light and Fan (Class Rooms/Labs/Staff Rooms)	Narvatsinh S Patel
60	Liquid Level Controller	Automatic Control of Water Level for Institute / All Department Water Tanks	Narvatsinh S Patel
61	Non-conventional Energy	Improve technology in non conventional resources of energy to reduce pollution in auto mobile sector	Yogendra P Gusai
62	Power Sector	Power supply on demand, Payment of Electricity bill any time etc.	Keyur H Patel
63	Residential Building	Automatically Switch ON/OFF Lights Fans in Rooms	Keyur H Patel
64	Safety	During Bike riding, many time bikers forget to raise the side stand, which may cause accident.	D D Pandya
65	Energy Conservation	water coming down from the overhead tanks (multistored building, municipal water tank etc) having potential energy, can be utilised to produce power	D D Pandya
66	Comfort	In public transport, it is very difficult for senior citizens, heavy weight persons and divyang persons to climb in the vehicles as height of first stair from the ground is very high	D B Lokwani
67	Energy Conservation	Gases from the kitchen chimney having heat energy can be utilised for further use	D B Lokwani
68	Energy Conservation	heavy Rain water running down from tarrace can be utilised to produce power	D B Lokwani
69	Transport	On road weighing bridge to measure weight of moving vehicle	H S Sorathia
70	IDP based	To reduce to metal lose of sand crusher grinder blade	H S Sorathia
71	Environment	Pollution through Industries & Emmision by vehicles-The major problem for human being	D L Suthar
72	Safety	Introduce more Active and passive safety devices for two wheelers vehicles-remove casulties	D L Suthar
73	Transportation	Efficiency of vehicle is very low it can be increased	H D Tank
74	Safety	various safety features in automobile to prevent accident	H D Tank

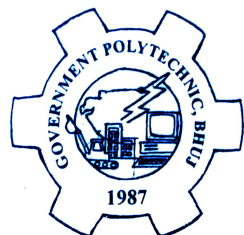


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Sr. No.	Broad Area	Real Life Challenge / Problem Definition	Suggested By
75	Automobile	Mostly transportation vehicles carrying overload and create accidents if we provide sensors which prevents the start of engine	S B Bavaliya
76	Automobile	We can measure the quantity of gasoline during filling of tank	S B Bavaliya
77	Interdisciplinary or service software design	People often find their vehicles missing from where they park, apart from damage to the vehicle, action of the system to alert the owner of the vehicle towed by the police compound the matter	D M Chauhan
78	Interdisciplinary or service software design	Open defecation is major issue in India, It may be due to public mentality and non availability of pay and used toilet. Device a toilet which may help to solve such issue. Also it should be very low compare to current alternative.	D M Chauhan
79	Interdisciplinary or service software design	Hybrid car which can be run by pedal power as well as solar energy. Space, save eco friendly and joy to ride in and around city to promote save environment green energy, healthy life.	D M Chauhan
80	privacy	Develop such device which detect cc tv camera in private public place	K A Chaudhri
81	Mechanical	open hearth furnace is not available in workshop	K A Chaudhri
82	Agricultural	Develop the device which reduce the farmer more time waste in spraying fertilizers on plant or soil	D P Judal
83	public	Develop such device which crush plastic bottles and converts fine material	D P Judal
84	Agricultural	To produce such irrigation system which help farmers to reduce time, effort and also save water	D P Rami
85	Agricultural	To reduce effort of farmer during fertilizer spraying	D P Rami
86	Automobile	In motorcycle in which digital fuel indicator does show accurate measurement	P B Surani
87	Automobile	To make a device which control the speed of buses and trucks to prevent fatal accidents	P B Surani
88	Automobile	Fuel storage indicator system for two wheelers	N K Prajapati
89	Interdiscipline	Obstacles sense automobile system to minimise accidents	N K Prajapati
90	Interdiscipline	Sensor base lathe machines	N K Prajapati
91	Design	Seasonal pollution is one of the major issue nowadays, which may affect many lives of eco system Device a mechanism which may help to collect and clean soot very fast and effectively	M M Rana
92	Design	Device a latest baby cradle to help digital parenthood	M M Rana

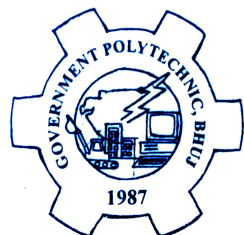


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Sr. No.	Broad Area	Real Life Challenge / Problem Definition	Suggested By
93	Textile, Mechanical	Yaan wrapping machine	K H Siju
94	Automobile	Foldable bicycle	K H Siju
95	Mechanical	Power generation through speed of vehicle on highways	K H Siju
96	Pollution	Pollution control device in two wheeler	V S Solanki
97	Safety	over speed indicator in four wheeler	V S Solanki
98	Automobile	Smart parking system in heavily populated area	H J Wadhvana
99	Design	Design a mechanism for different types of furniture which is space saver	V D Patel
100	Automobile	Design a electro mechanical which can sense life of tires and indicates it	V D Patel
101	Mechanical, metallurgy	Segregation of metal particals from grinding dust of ingot	V M Gadhvi
102	Energy Conservation	Design a floating mechanism in sea to harness energy from sea waves	V M Gadhvi
103	Steel Making	Develope formula for calculating alloying elements added during making of alloy steel.	E U Ghanchi
104	Steel Making	To Reduce toxic gases from steel scrap in steel industry.	E U Ghanchi
105	Corrosion of metals	To reduce of corrosion in Galvanized Solar Water Tank	R J Patel
106	Foundry	Simulation of sand casting for defect minimization	R J Patel
107	physical metallurgy	Physical simulation of thermo mechanical process	Samarsinh Chauhan
108	Iron and Steel making	Use of natural gas as an alternative to metallurgical coke.	Samarsinh Chauhan
109	Foundry	Reclamation of sand after casting in foundry.	Shailesh Bachubhai Rathava
110	Steel Making	Recycling and use of slag produced from steel making.	Shailesh Bachubhai Rathava
111	Non Ferrous	Utilization of red mud for developement of building materials.	M B Hadia
112	Work Place	Online display of employee location at workplace	P Y Trivedi

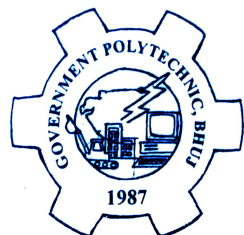


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113	Work Place	Online display of machine location with its status at workplace	P Y Trivedi
114	Finance	Individual Tax Calculation with import Export option	S N Heruvala
115	Electricity	Energy meter reading from android app	S N Heruvala
116	Maintainance	Smart solution for door to door waste collection procedure under MGSM	S S Shah
117	Maintainance	Utilization and secondary uses of collected waste from institution	S S Shah
118	Pollution	Reducing air pollution in industry by using preventive measures	R.K. Patel
119	Safety	Safety of workers in industry by using PPEs and implementation of Safety plan	R.K. Patel
120	Food waste management	Collect food waste from different places like our home, hotel,etc. will be use as fertilizer for increasing fertility of land	J.N.Chavda
121	material sand	Demolition waste , stone waste and other constructional waste are utilise in construction as material sand is replace natural sand	J.N.Chavda
122	Energy	house electrification and power generation from renewable sources gudelines for public	R J Mistry
123	Energy	Smart techniques adoption for energy saving and geneartion	R J Mistry
124	Water conservation	Restrict runoff of rain water to improve ground water table by connecting flud channels at suitable place.	S G Srivastav
125	Utilization of industrial waste	By reducing,reusing and recycling technics and proper treatment of waste before dispose off.	S G Srivastav
126	Pollution	Sound pollution is a major cause in mines or hearing loss and accidents in mines. So that to reduce this above ratio, proper precaution and prevention can be taken by using various technichs like sound survey and plantation etc.	Shrijal C Dabhekar
127	Non Renewable energy source	Cost of fuel consupction is high and also the effluents which librate after its consupction are very harmful. To solve this above problem different parameter and technics can be used.	Shrijal C Dabhekar
128	Beautification	An application which will scan face and give make up advice.	Sejal K Gohil
129	Education	An application which can show availability of a particular at nearby book store.	Sejal K Gohil
130	Education	Chip installed markcheet may be helpfull in differentiating fake and original marksheet	Kalyani M Jha
131	Education	Chip installed hall ticket may reduce UFM cases during examination	Kalyani M Jha
132	Daily life	An application for cloth exchange where we can not only buy cloths but also sell old cloths	Keyuree V Patel



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133	Glocery	An application which can give comparative vegetable rates nearby venders.	Keyuree V Patel
134	Blasting	Design a drill pattern to reduce blast vibration in surface mines.	C .V. Thakor
135	Education	Develop an android application of Mining Dictionary.	C .V. Thakor