

In Partnership with



**“100 Times Curious”**

**Documentation of Questions asked by Mentees to Mentors**

**Released on the occasion of**

**Science & Engineering Fair of Selected Projects**

**At**

**National Science Center, Pragati Maidan Delhi**

**On**

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# FOREWORD

It is well established in neuroscience that the young brain is constantly completing a picture of the world, its objects, processes and relationships. How does it do so? By asking questions and going after what seem to be hidden mysteries. If curiosity is a trigger questions are its outcomes.

But not every child gets an opportunity to give a definite form to its questions or share its curiosities. In fact the poorer a child's economic circumstances are, the higher is the incidence of what we might call stimulus poverty- the lack of stimuli in his or her environment. Material poverty is but one reason for stimulus poverty. Children can grow stimulus-poor from any material circumstance.

Anveshana is one more platform Agastya International Foundation has created to address this problem. This event, now 5 years old in Bangalore, completed 3 years in Hyderabad and now for the first time in NCR has a built in opportunity for children to get curious and ask question because it takes them far away from their regular environs thus providing a state of excitation from which questions will result.

Till now we had not created a process to verify if this questioning is happening while children and their guides engage in their projects. Anveshana 2015 set out to correct this.

What you see in this volume are the questions children asked while doing their projects. It is almost certain not all of them could have been answered. Equally, each is a first step in a voyage of discovery that the child has begun.

**AGASTYA INTERNATIONAL FOUNDATION**

## PROJECTS EXHIBITED IN THE FAIR

S.N	PROJECT TITLE	COLLEGE	SCHOOL
1	SAVING OF POWER FROM STREET LAMP USING MOTION SENSORS	NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, NOIDA	CRS GIRLS INTER COLLEGE SECTOR-45 SADARPUR VILLAGE,NOIDA
2	AUTONOMOUS VEHICLE FOR HANDICAPS	AJAY KUMAR GARG ENGINEERING COLLEGE, GAZIABAD	DHT SARASWATI VIDYA MANDIR, GHAZIABAD
3	TRAINS GOT BRAINS	AJAY KUMAR GARG ENGINEERING COLLEGE	MAHARISHI DAYANAND VIDHYA PEETH INTER COLLEGE,GHAZIABAD
4	LET'S GEOPARK	AJAY KUMAR GARG ENGINEERING COLLEGE, GAZIABAD	ST PAUL'S SCHOOL GHAZIABAD
5	ARTIFICIAL FIBER: SYNTHESIS & IMPORTANCE	G D GOENKA UNIVERSITY, GURGAON	MEWAT MODERN SCHOOL
6	STREET LIGHT AND TRAFFIC LIGHT CONTROL SYSTEM	BHARATI VIDYAPEETH'S ENGINEERING COLLEGE, NEW DELHI	GOVT SCHOOL,D BLOCK KAMDHENU,MANGOLPURI
7	WALKING STICK FOR VISUALLY IMPAIRED	BHARATI VIDYAPEETH'S ENGINEERING COLLEGE, NEW DELHI	GOVT SCHOOL Q-BLOCK MANGOLPURI
8	SOLAR BACKPACK	BHARATI VIDYAPEETH'S ENGINEERING COLLEGE, NEW DELHI	GOVT SCHOOL Q-BLOCK MANGOLPURI
9	BURGLAR ALARM	BHARATI VIDYAPEETH'S ENGINEERING COLLEGE, NEW DELHI	GOVT SCHOOL C-BLOCK MANGOLPURI
10	COLOUR BLINDNESS GEAR	BHARATI VIDYAPEETH'S ENGINEERING COLLEGE, NEW DELHI	GOVT SCHOOL O-BLOCK MANGOLPURI
11	WATER LEVEL CONTROLLER	BHARATI VIDYAPEETH'S ENGINEERING COLLEGE, NEW DELHI	GOVT SCHOOL,KHURD MANGOLPURI
12	SMART SAFTY & SECURITY SYSTEM: ONE STOP SOLUTION FOR AUTOMOBILE	J S S ACADEMY FOR TECHNICAL EDUCATION,NOIDA	CRS GIRLS INTER COLLEGE SECTOR-45 SADARPUR VILLAGE,NOIDA

13	REAL TIME BATTERY CHARGING SYSTEM BY HUMAN WALKING WITH DISPLAY OF BLOOD PRESSURE, BODY TEMPERATURE AND CALORIES BURNED	J S S ACADEMY FOR TECHNICAL EDUCATION,NOIDA	CRS GIRLS INTER COLLEGE SECTOR-45 SADARPUR VILLAGE,NOIDA
14	DESIGNER BRICK FROM CONSTRUCTION WASTE FOR BETTER ENVIRONMENTAL	G D GOENKA UNIVERSITY, GURGAON	GOVT,BOYS SENIOR SECONDARY SCHOOL,SOHNA
15	MITTI FRIDGE	MANGALMAY INSTITUTE OF TECHNOLOGY, NOIDA	BHARI LAL INTER COLLEGE,DHANKOR,GAUTAM BHUDHA NAGAR
16	SAFTEY CAR	MANGALMAY INSTITUTE OF TECHNOLOGY, NOIDA	BHARI LAL INTER COLLEGE,DHANKOR,GAUTAM BHUDHA NAGAR
17	WATER HARVESTING	NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, NOIDA	CRS GIRLS INTER COLLEGE SECTOR-45 SADARPUR VILLAGE,NOIDA

## 1. SAVING OF POWER FROM STREET LAMP USING MOTION SENSORS

1. What is Sensor?
2. What are different types of Sensors?
3. Who invented the Sensors and When?
4. Explain Motion Sensors.
5. Where is it used?
6. What are the Sensors present in Nature?
7. When was the first street lamp invented?
8. When was the first electric street lamp invented?
9. When was the first LED street lamp invented?
10. What is light?
11. What are the properties of light?
12. What is current?
13. What is AC current?
14. What is DC current?
15. What is resistance?
16. Block diagram of project.
17. What is series combination?
18. What is parallel combination?
19. Difference between Series and Parallel combination
20. Difference between AC and DC current
21. Distance between two poles and height of poles
22. Connection in houses are done in parallel or series
23. Why not in series?
24. What is Anode?
25. What is Cathode?
26. What is LED?
27. Who invented LED and when?
28. How is it more effective?
29. What is conductor?
30. What is insulator?
31. What is semiconductor?
32. What are different types of semiconductor?
33. What are N-type and P-type semiconductors?
34. Difference between Conductor, Semiconductor and Insulator
35. What is PIR?
36. What is Soldering?
37. What are the types of soldering?
38. What are the materials required in soldering?
39. What is flux?
40. What is the importance of flux?
41. What is energy?
42. What is power?
43. What is space height ratio and what is value of it?

## 2. AUTONOMOUS VEHICLE FOR HANDICAPS

1. What is wheelchair?
2. What is A.C.?
3. What is D.C.?
4. What is programming?
5. What is coding?
6. What is joystick?
7. What is the use of joystick?
8. What is Breadboard?
9. What is the use of breadboard?
10. What is power?
11. What is arduino?
12. What is battery?
13. How much power supply does an Arduino takes?
14. What is electricity?
15. What is Relay?
16. What is R.O.S?
17. What is Shield?
18. What are the advantages of autonomous wheelchair?
19. What is jumper wire?
20. How many type of jumper wire are there?
21. What is Touch Panel?
22. What is Motor?
23. What is the full form of IDE?
24. What is IDE?
25. What is a sensor?
26. What is voice command?
27. What is the use of sensor?
28. What is an Image Processing?
29. Which camera will be used in wheelchair?
30. What is micro-controller?
31. Different between manual wheelchair and electronic wheelchair?
32. What is Resistor?
33. Why we are using D.C. supply instead of A.C. in wheelchair?
34. How many volts power supply flows in our house?
35. What is the lowest limit of sensors for obstacle detection?
36. What is the farthest limit of sensors for obstacle detection?
37. What is GPS?
38. How many pins are there in breadboard?
39. By which system we can retrace the map?
40. What is ultrasonic sensor?
41. What is laser sensor?
42. What is radar?
43. Why we are using two motor in wheelchair instead of one?
44. How much volts batteries are used in our wheelchair?
45. How many motor are used in the wheelchair and why?
46. How many batteries are used in wheelchair and why?
47. What is AUTONOMOUS?
48. What is full form of GPS?
49. What is Gear?
50. How the handicapped people are benefited from the use of wheelchair?
51. What is mapping?
52. How it can impact the world?
53. What are the positive parts of Autonomous wheelchair?
54. What is vehicle?
55. What is SONAR?
56. What is Camera?

## 2. AUTONOMOUS VEHICLE FOR HANDICAPS

57. What is image?
58. Who invented wheelchair?
59. What is the cost of a manual and an electronic wheelchair?
60. Who invented an electric wheelchair?
61. What is the use of Shield?
62. What is an electric current?
63. What is Resistance?
64. What is voltage?
65. What is Ampere?
66. What is Raspberry Pi?
67. What is the use of raspberry pi?
68. Different between current & power?
69. What is electricity?
70. What do you mean by work?
71. Which device helps us to rotate wheel for moving left & right directions?
72. Which type of motors is used in wheelchair?
73. How we can transform normal into complete electronic wheelchair?
74. How device can be connected with arduino?
75. In which situation the wheelchairs rotate inside a house and how can we retrace the path?
76. In how many second the camera capture an image for helping the user to retrace the path?
77. How many sensors are used in wheelchair?
78. What is CC?
79. What are the limitations of using laser sensors?
80. Till what range the camera captures an image?
81. Why jumper wires are of different color?
82. What is circuit?
83. Time required recharging the battery?
84. Why we are not using Wi-Fi for navigation?
85. What is navigation?
86. What is joule?
87. Why we are using ultrasonic sensor?
88. Why we are using ultrasonic sensors in side view of wheelchair?
89. Which arduino will be used in our wheelchair?
90. Which is the most costly part in the wheelchair?
91. Which is the low costly part of wheelchairs?
92. In which program the arduino coding was made?
93. Why we are using jumper wire?
94. Why we are using two batteries?
95. What are the positive parts of Autonomous wheelchair?
96. How many types of wheelchair are there in the market?
97. What is the use of navigation?
98. How many data will be saved in the pi?
99. How many types of sensors are there?
100. What is the use of camera in our vehicle?



### 3. TRAINS GOT BRAINS

1. Who coined the term, 'Internet of Things'?
2. Give a brief description of Internet of Things.
3. List a few applications of IoT.
4. How can IoT be used for Environmental monitoring?
5. Give the application of IoT in media.
6. Give the application of IoT in Infrastructure management.
7. How can IoT be used for manufacturing?
8. How can IoT be used for energy management?
9. How can IoT be used for medical and healthcare systems?
10. How can IoT be used for Building and home automation?
11. Give the application of IoT in transportation.
12. How can the devices connected to IoT be uniquely addressed?
13. What are the security issues related to IoT?
14. What environmental issues can be caused by IoT?
15. What is ubiquitous computing?
16. What is digital object memory?
17. What is web of things?
18. What is Open Interconnect Consortium?
19. What is Indoor Positioning System?
20. What is Algorithmic Regulation?
21. What is meant by techno-utopia?
22. What are the common wireless technologies used in the IoT?
23. Which commonly used messaging protocols are used in the IoT?
24. Which companies are developing the Thread protocol for the IoT?
25. Which internet protocol is another name for WiFi?
26. According to Cisco estimates, how many devices will be connected to the internet by 2020?
27. With the creation of the IPv6 addressing protocol, how many devices can be connected directly to the internet?
28. Huge numbers of devices connected to the Internet of things have to communicate automatically, not via humans. What is this called?  
Where is Dell opening its first European IoT Lab?
29. Which was the first search engine on the internet?
30. How many bits are used by IPv6 address?
31. Which was the first web browser?
32. Firewall in computers is used for what purpose?
33. What is MAC address?
34. Which language is used to create webpages on the internet?
35. What is the difference between internet and the World Wide Web?
36. What is a URL?
37. What is meant by IP address?
38. What is DNS?
39. What is Client-Server Model?
40. What is the difference between a webpage and a website?
41. What is meant by bandwidth?
42. What is a router?
43. What purpose does a Gateway serve?
44. What is a hub?
45. What is a Modem?
46. What are hyperlinks used for?
47. What is HTTP?
48. What is meant by Web 2.0?

### 3. TRAINS GOT BRAINS

49. What is a cookie?
50. What is the full form of IOT?
51. How can IoT impact railway transportation?
52. List a few technologies that can drive the IoT?
53. How can IoT be used for speed monitoring in trains?
54. How can IoT be used for increasing efficiency of railway systems?
55. How can IoT be used to ensure safety and reliability of railway equipment?
56. How can IoT alter the prevailing business models of rail system?
57. What are the challenges in connecting railways with the IoT?
58. What are the general issues that need to be addressed by the engineers while applying IoT in rail systems?
59. How can IoT help in minimising train derailment?
60. What is the scope of IoT in automated driverless trains?
61. How can IoT improve the safety of level crossing?
62. How can IoT improve the services provided in trains?
63. What can IoT do to ensure connectivity of on-board train passengers to the internet?
64. How do ultrasonic sensors work?
65. How do I select the right sensor range for my application?
66. What is a wireless sensor network?
67. What the function of motion sensor?
68. What's the working theory for motion sensor?
69. What's dual technologies motion sensor?
70. Where should I install them?
71. How to maximize the performance of motion sensor?
72. Why the Internet of Things (IoT)?
73. What effect will the internet of things (IoT) have on our daily lives?
74. What shouldn't be connected and why?
75. Will IoT actually work over the internet or will it have its own dedicated wide area network?
76. How do we code morals into smart devices?
77. What does IR Sensor Stands for?
78. What are the uses of IR Sensors?
79. What does IR sensor consist of?
80. What are the two parts of IR sensors?
81. What is the full form of I R LED?
82. What is the full form of I R p?
83. What are the functions of IR LED?
84. What are the functions of IR p?
85. Different Types of IR Sensors?
86. Applications of sensors in our day to day life?
87. What is a sensor data?
88. What is a photo eye sensor?
89. First manmade sensor?
90. What are vision sensors?
91. What are fiber optic sensors?
92. What are level sensors?
93. What are reed switch sensors?
94. What are voltage sensors?
95. What are gas sensors?
96. What are sensors IC's?
97. What are HVAC sensors?
98. What are Wireless Motion Sensors?
99. What are Proximity Sensors?

## 4. LET'S GEOPARK

1. What is a resistor?
2. What is a capacitor?
3. What is flash memory?
4. What is a microprocessor?
5. What is a micro controller?
6. What is difference between a microprocessor and a micro controller?
7. What is the role of Raspberry Pi?
8. Which model of Raspberry Pi is used?
9. How is Raspberry Pi remotely accessed?
10. Which language will be used in Raspberry Pi?
11. What is the role of Arduino?
12. Which Arduino model is used in this project?
13. What is the use of 2.0 port in Arduino?
14. Why there are so many pins in Arduino?
15. What are analog Pins?
16. What are digital Pins?
17. Which language is used in Arduino?
18. How to troubleshoot in Arduino?
19. How data is transmitted from Arduino to Pi?
20. What is the problem statement of the project?
21. What is Geo fencing?
22. What is a protocol?
23. What is open source?
24. What are sensors?
25. Why false wiring is used?
26. What is GSM?
27. What is the role of GSM in the device?
28. What is GPS?
29. How GPS works?
30. Which GPS module is used?
31. What is the accuracy of GPS?
32. What is the precision for latitude and longitude value?
33. How ray cast algorithm works?
34. Where program is burned in Arduino?
35. How program is transferred from computer to Arduino?
36. What is boot loader?
37. What are libraries?
38. Why libraries are used?
39. How is the device connected to internet?
40. How does the device log data onto the spreadsheet?
41. How does the spreadsheet gets to know about the new entry?
42. What is RAM?
43. What is clock speed?
44. What is baud rate?
45. What are the components of the device?
46. What are drivers?
47. What are the functions of IaaS?
48. What is PaaS?
49. What is SaaS?
50. What is SQL?
51. What is database?
52. What is relational database?
53. What is non-relational database?
54. On which database is the device working?
55. What is the reason for working on the mentioned database?
56. Why in future SQL will not be used for the device?

## 4. LET'S GEOPARK

57. What is XML?
58. What is JSON?
59. Which is better XML or JSON?
60. What is .NET?
61. What is Node.js?
62. On which platform is the device running presently?
63. Why in future the device will be moved from .NET to Node.js?
64. What is piezoelectric material?
65. What is the role of piezoelectric material?
66. Why did we switch from accelerometer to Piezoelectric?
67. What is HTTP protocol?
68. What is the minimum voltage required to turn on the device?
69. What is serial input?
70. What are the chip numbers?
71. What type of application is on the web?
72. What is Console application?
73. What is WCF?
74. What is Web Job?
75. What is encryption?
76. What is an API?
77. What are the API's used in the project?
78. What is IOT?
79. How is IOT implemented in the device?
80. How are the API's used in the system?
81. What is trigger and event trigger?
82. Where will the device be installed in the vehicle?
83. Where can the user mark the geofence area?
84. What would be the default shape of the geofenced area?
85. In what shape can the area be fenced?
86. What is the largest and the smallest area that can be covered under Geofencing?
87. How does the owner stop the vehicle in case of theft?
88. What is an interface?
89. What are the various controls on the interface?
90. What is a spreadsheet?
91. What is the approximate cost the device?
92. What is a cloud?
93. What are dark areas?
94. On what platform is the device available?
95. In how much time data will be flushed?
96. How data can be used in future?
97. What is the future scope of the device?
98. Can the device be used for the purpose of controlling the traffic?
99. Can the device be used for accidental control?
100. Can the device be used for pollution control?

## 5. SYNTHESIS OF RAYON FIBRES

1. What is fiber?
2. What are the types of fiber?
3. What is the colour of fibers?
4. How thick fibers are?
5. How long they fibers can be?
6. What do you mean by natural fiber?
7. What do you mean by synthetic fiber?
8. What do you mean by semisynthetic fiber?
9. How many fibers we need to make a shirt?
10. What is rayon?
11. What is the structure of rayon?
12. What is element?
13. What is compound?
14. Why these compounds are not visible?
15. What is the colour of copper?
16. What is N?
17. How NH<sub>3</sub> form?
18. All the elements has different colour?
19. What is a chemical reaction?
20. What are polymers?
21. What is the importance of rayon?
22. What is the colour of rayon?
23. Why we make semisynthetic or synthetic fibers, when natural exists?
24. What do you mean by basic structural unit?
25. What is precipitate?
26. Why do we do experiments?
27. What is filter paper?
28. Why heat evolve in chemical reaction?
29. What is endothermic reaction?
30. What are exothermic reactions?
31. How we observe gas is evolved?
32. What is schweitzer's solution?
33. Why this solution is called schweitzer's solution?
34. When heat evolve beaker does not break?
35. Can we make solutions in our steel glasses?
36. Can we touch these fibers?
37. What are ions?
38. Why ions form?
39. What do you mean by hydrolysis?
40. What is distilled water?
41. What do you mean by dilute?
42. Why we make a solution dilute?
43. What is decolorization?
44. NH<sub>3</sub> and NH<sub>4</sub>OH both has N and H in common then why they are different?
45. What are the products we can make from rayon fibers?
46. These come in living things or non-living ?
47. What is the meaning of viscose?
48. What do you mean by positive test or negative test?
49. Why we seal the flask after adding filter paper?
50. What is acid bath?

## 6. STREET LIGHT AND TRAFFIC LIGHT AUTOMATION SYSTEM

1. What is the competition?
2. What does Anveshana mean?
3. What is my role in the project?
4. What is your role in the project?
5. Will we get a certificate?
6. Is it our project or yours?
7. How will help us?
8. What is your project name?
9. What is the project all about?
10. What is the specialty of your project?
11. How will it help the society?
12. Can this project be implemented in Mangolpuri?
13. How many members do you have in your team?
14. Which college are you from?
15. What will you get from this project?
16. What does the word smart mean in your project?
17. How can a project be smart?
18. What is current?
19. How can we measure the current?
20. How are people hurt by current?
21. What does voltage mean?
22. How is potential different from voltage?
23. What is meaning of positive and negative charges?
24. What are insulators?
25. How is copper a better conductor than iron?
26. What does the word circuit mean?
27. What is power?
28. What does the word Ohm mean in the Ohm's law?
29. What is meaning of SI unit?
30. What does the word resistance mean?
31. What is a capacitor?
32. What is the meaning of parallel plates in a capacitor?
33. What are different types of capacitors?
34. How does a bulb glow?
35. What do mean when you say the bulb has resistance and it still glows?
36. What is a filament?
37. What is the best insulator?
38. What is the best insulator?
39. What do mean when you say no body is a perfect conductor and insulator?
40. Why are the house wire colours different?
41. What is the significance of different colours?
42. Do these colors remain same throughout the country?
43. Why do we need a neutral wire?
44. What is earthing?
45. What is the need of earthing?
46. In a two pin plug there is no earthling connection, why?
47. How is a two pin plug different from a three pin plug?
48. Why do we still experience a shock even if the appliance wire is earthed well?
49. Is the earth a conductor or an insulator?
50. Is our body a conductor?
51. When are we advised to wear chappals or shoes while handling the appliances?
52. Why do people still experience shocks even after wearing protection?

## 6. STREET LIGHT AND TRAFFIC LIGHT AUTOMATION SYSTEM

53. What is the function of a proton in an atom?
54. What is the function of protons?
55. Why does the electron leave the atom?
56. What is the direction of current?
57. What do you mean by a hole?
58. What does the word PN junction?
59. What is a depletion layer?
60. What are LED bulbs?
61. Why are they better?
62. What are star ratings on the AC?
63. What are energy bands?
64. What are semi-conductors?
65. Can we separate the semiconductor and impurity after doping?
66. What is meaning of directly proportional?
67. Is resistance good or bad?
68. What do we use in real life- metals or semiconductors or insulator?
69. What are the small lights you are using in your project?
70. What is a sensor?
71. What is a diode?
72. What is infra-red?
73. What do the word transmitter and receiver mean?
74. What have you used to make lamps in your model?
75. What is a motor?
76. What is an I C?
77. What is an LCD?
78. What is a seven segment?
79. Why is called so?
80. How does it glow?
81. How can it be used to represent different numbers?
82. What is a micro controller?
83. How does it work?
84. What is its function in the project?
85. Why do you keep calling it as the brain?
86. How does it control everything?
87. What is the meaning of arduino?
88. Why are male and female wires different?
89. What is an LDR?
90. Why is it necessary in the street lamp?
91. Why did you say that resistance is constant when the resistance of LDR changes?
92. What do we have to learn for the competition?
93. How many people will come?
94. Will we have stay at night?
95. What will the judges ask?
96. Will you lose if we forget something?
97. What will happen if we don't win?
98. Can our parents come to watch us?
99. What if we become nervous in front of so many people?
100. Do you think we can win?

## 7. WALKING STICK FOR BLIND

1. Why are you making this project?
2. Which college do you study? What is your education qualification?
3. What is a sensor? How many sensors does our circuit use?
4. What is microcontroller? Which microcontroller we are using in our model?
5. What is the principle of proximity sensor?
6. Which electrical component is used in water sensor?
7. What is LED?
8. What is difference between diode and led?
9. What is resistor and what is application?
10. Which element is used in dark sensor circuit?
11. What is LDR and how does it differs from resistor?
12. What are different loads used in our model?
13. What is the need of dark sensor?
14. What is power supply?
15. What are the different kinds of signals?
16. What is the difference between analog and digital n signal?
17. What is BJT?
18. How does BJT works?
19. What is motor?
20. Which motor are we using in our model?
21. What is arduino?
22. What is the model of arduino we are using?
23. What is processor?
24. How many analog and digital pins are there on arduino board?
25. What is the rating of power supply for arduino?
26. What is adapter and what is its use?
27. Can be used as diode?
28. How many transistors are BJT there Name them.
29. Name the terminals of BJT.
30. How does output of buzzer is controlled.
31. What is the range of proximity sensor?
32. Which model of proximity sensor are we using?
33. What is 555 timer?
34. What is the use of 555 timer?
35. What the input and output of dark sensor?
36. What are the other components used in dark sensor circuit:?
37. What is the use of capacitor?
38. What do you mean by integrated circuit?
39. What is the total power requirement in the model?
40. How is the need of using different output for different sensor circuit?
41. What are the elements present on arduino board?
42. What is boot loader?
43. What is the need of vibration motor?
44. What can be the substitute for buzzer?
45. How does BJT operates in water sensor?
46. How does resistivity of LDR changes?
47. Describe the role of 555 timer in dark sensor circuit?
48. What is the name of processor chip in microcontroller?
49. Which are the other microcontrollers we can use in distance detector?
50. Can we detect distance without microcontrollers?
51. Which are the devices that need external supply voltage for operation?
52. Which model of sensor are we using?
53. What is the pin configuration of sensor?
54. How are the sensors placed on the stick?



## 7. WALKING STICK FOR BLIND

55. What is the range of sensor?
56. Can the range of obstacle detection be changed?
57. How does microcontroller functions?
58. How is code loaded in the microcontroller?
59. What is the use of reset pin?
60. What is the power requirement for microcontroller?
61. What is the type of input voltage in microcontroller (ac or dc)?
62. How does sensor gets its supply?
63. What is GND?
64. What is the need of ground pin?
65. What happens when base of BJT touches water?
66. From which terminal we take output of BJT?
67. What can be the other substitute for taking output?
68. What is waveform?
69. What are digital and analog signals?
70. What is the type of input and out signals for distance sensors?
71. What is the difference between npn and pnp transistor?
72. How do we know that power supply is ac?
73. Air is insulator and water is conductor. How?
74. How is battery connected to arduino?
75. What is the other function of microcontroller apart from controlling operation?
76. How can conductivity of semiconductor be increased?
76. Can we use semi-conductor for covering conductors?
77. What is the application of conductors?
78. Which is the most commonly used conductor?
79. What is electrical energy?
80. How is power related to energy?
81. What is charge carrier?
82. How can atom be positively or negatively charged?
83. What is current?
84. How is current related to voltage and power?
85. What is MCB?
86. Can other models of arduino be used?
87. What is frequency?
88. Which frequency we use in India?
89. What is the need of vibration motor?
90. How is the operation of LDR is just reversed?
91. What is the pin configuration of 555 timer?
92. In 555 timer what does "555" stands for?
93. What is the use of capacitor in dark sensor?
94. What is the difference between electrical and electronics?
95. What does "bipolar" stands for in bjt?
96. What does "p" and "n" stands for in p and n type semiconductors?
97. What can be substitute for stick?
98. What is the difference between motor and generator?
99. What is the application of generator?
100. Can we use generator as power source in our project?

## 8. SOLAR BACKPACK

1. Why are you teaching us about the project?
2. What will you teach us during the classes?
3. Do we have to present the projects to everyone or only to the judges?
4. Will you be showing us the project model?
5. What do we call an atom in Hindi?
6. What is the role of protons in an atom?
7. What is an insulator?
8. How do we differentiate between conductor and insulator?
9. Why the resistance of insulator is more than conductor?
10. How do we supply power to circuit?
11. How a cell works?
12. What are the chemicals used in a cell?
13. How do electrons move in a circuit?
14. Why current moves in opposite direction than electrons?
15. Why protons don't move in a circuit?
16. What are free electrons of an atom?
17. Why do we use different type of resistors?
18. Do our body also have any resistance?
19. Why the resistance of an insulator is so high?
18. What is a solenoid?
19. What is the difference between an inductor and a solenoid?
20. How do electromagnet works?
21. What is a switch?
22. How do switches in our houses work?
23. What is an MCB?
24. If we have normal switches than do we need an MCB?
25. Why haven't you use resistance like in Wheatstone bridge in our Physics lab in your project?
26. What is the metal used in electrical wiring in our homes?
27. What are the different applications of insulators?
28. How do we store electricity in a battery?
29. How current moves in a conductor?
30. What is a capacitor?
31. What is a sensor?
32. How do capacitors store energy?
33. Why silicon is called a semiconductor?
34. Are semiconductors similar to metalloids?
35. What exactly is a smart phone?
35. What does it mean when we say a phone is an android phone?
36. What is the working of a ceiling fan?
37. How a LED work like a diode?
38. How semiconductors differ from a conductor and an insulator?
39. What are the advantages of solar energy?
40. How does doping help a semiconductor?
41. What are nonrenewable and renewable sources of energy?
42. Which are other renewable resources other solar energy?
43. Which part of spectrum of sun's radiation is used for obtaining heat energy?
44. What is transformer?
45. Why solar energy is costly?
46. Why is transformer so heavy?
47. Why is there a transformer in our mobile phone charger?
48. Why are solar cells costly?
49. What is a PCB?
50. How do we solder things on a PCB?
51. What is welding?
52. What is hybrid?

## 8. SOLAR BACKPACK

53. What is generator?
54. How much power does a solar cell produce?
55. Can sun energy ever be over?
56. What branch of engineering do you study in?
57. What are the different branches of engineering in India?
58. How electrical engineering differs from electronics engineering?
59. What is the difference between LED and LCD?
60. Is it portable?
61. Can any common man use our product?
62. How we convert AC to DC and vice versa?
63. What equipment's are used to convert AC to DC?
64. What is a general purpose PCB?
65. What is an IC?
66. What different ICs are used in our project?
67. What components are used in soldering?
68. What is a rectifier?
69. How diodes are used in rectifier?
70. What is the role of capacitor in our rectifier circuit?
71. What is booster?
72. What is Anveshana?
73. How much current do our cell phones need?
74. What type of batter are we using?
75. What a controller?
76. What is a microcontroller?
77. What is n type and p type semi conductor?
78. How the model works basically?
79. Who invented AC?
80. How solar power helps economy?
81. How to program a controller?
82. What is frequency of a wave?
83. What is wavelength of a wave?
84. How do we get an electric shock?
85. What is multimeter?
86. What are transistors?
87. What is the speed of light?
88. What is the life of a solar panel?
89. What are photo voltaic cells?
90. Does rain effects solar cell?
91. What is transmitter?
92. What is a receiver?
93. What is a buzzer?
94. What is transistor?
95. What is heat sink?
96. What is an LCD display?
97. What is the voltage level we get at home?
98. What is meant by power?
99. What is energy?
100. Do we get any certificates for this competition?

## 9. BURGLAR ALARM

1. What is electricity?
2. What is static electricity?
3. What is difference between a conductor and insulator?
4. What are free electrons?
5. What is current?
6. What is potential and voltage?
7. What is resistance?
8. What is the relationship between current, voltage and resistance?
9. What is a semiconductor?
10. How is a semiconductor different from a conductor and insulator?
11. What is doping?
12. What are holes?
13. What is valence band?
14. What is conduction band?
15. What is energy gap?
16. What defines direction of current?
17. What are oscillations?
18. What is time period of an oscillation?
19. What is frequency of an oscillation?
20. What is a wave?
21. What is difference between a material wave and an electromagnetic wave?
22. What is the electromagnetic spectrum?
23. Which ray of the electromagnetic spectrum is mostly used for wireless communication?
24. Which ray of the electromagnetic spectrum is most harmful?
25. Which ray is used for radio operation?
26. Why is only X-Ray used for bone scanning?
27. What is difference between a cell and a battery?
28. What is meaning of autonomous?
29. What is a security system?
30. How can a security system be automatic?
31. What is a diode?
32. What is the full form of an LED?
33. How does an LED work?
34. How is an LED different from a usual diode?
35. How can we limit current through an LED?
36. What is forward bias?
37. What is reverse bias?
38. Why LED only works in forward bias?
39. Why a diode has a very high resistance when reverse bias?
40. What is the purpose of a diode?
41. What is the depletion layer in a diode?
42. How the depletion layer changes with biasing?
43. Which element should be doped for making an n type semiconductor?
44. Which element should be doped for making an p type semiconductor?
45. Is Carbon a semiconductor?
46. What is a valence electron?
47. What is a digital signal?
48. What is an analog signal?
49. Is digital signal similar to binary language?
50. Do computers understand analog signals?
51. Why only radio frequency waves are used for data transmission?

## 9. BURGLAR ALARM

52. What is the unit of voltage?
53. What is AC?
54. What is DC?
55. Is the project expensively?
56. What is the green board inside a TV remote?
57. What is a motion sensor?
58. What is the full form of PIR sensor?
59. Why is a circuit board used along with a PIR sensor module?
60. How does a Radio frequency transmitter works?
61. Why we use analog to digital converter in RF transmission?
62. Is it possible to transmit an analog signal wirelessly?
63. Why signals are not transmitted through wires for long distances?
64. What is inside a Radio frequency receiver?
65. Do Radio frequency receiver have an antenna
66. What is the purpose of an antenna?
67. What is a microcontroller?
68. What is inside a microcontroller?
69. How do a microcontroller takes a decision?
70. What is the name of the microcontroller we'll be using?
71. Why is a microcontroller necessary?
72. Can we make this project without a microcontroller?
73. What is a CCTV camera?
74. How is a CCTV camera different from a usual camera?
75. Can we use a CCTV camera in our project?
76. Why aren't we using CCTV camera in our project?
77. Will we be using an alarm?
78. What is the full of GSM?
79. What is the purpose of a GSM module?
80. What is the difference between a GSM module and a cell phone?
81. What is the need of a GSM module?
82. Can we make a call instead of sending an SMS from the GSM module?
83. Can a GSM module receive calls?
84. What is the cost of a GSM module?
85. What is the cost of a microcontroller?
86. Can i have a security system at my house?
87. Can we make the GSM module call police?
88. What is a microcontroller made up of?
89. What is soldering?
90. What is an IC?
91. What is required for soldering?
92. What is the material of a soldering wire?
93. Can copper wire be used for soldering?
94. Can soldering wire be used in fuse?
95. What is a breadboard?
96. What is an LCD?
97. What is a voltmeter?
98. What is the difference between an LCD and LED TV?
99. What is inside a keypad?
100. Is the TV remote similar to the keypad in our project?

1. What is Anveshana project competition?
2. What is Agastya foundation?
3. Why this project is for?
4. How does it work?
5. What is photodiode?
6. What is LDR?
7. What is resistor?
8. What is microcontroller?
9. What is arduino?
10. What are the components used in this project?
11. What is LED?
12. What is diode?
13. What is Bluetooth?
14. What is scope of engineering?
15. What is difference between LDR and LED?
16. What is Electronics Engineering?
17. What is Electrical Engineering?
18. What is colour blind?
19. How this gadget will be helpful to colour blind?
20. How does it work?
21. What is difference between Electronics and Electrical Engineering?
22. What is TCS3200?
23. How does TCS3200 works?
24. What are the alternatives of TCS3200?
25. What is bluetooth module?
26. How does bluetooth module works?
27. What are the Components of TCS3200?
28. What is colour filter?
29. How does colour filter works?
30. How many colour filters are there in the TCS3200?
31. How many colours can be detected using TCS3200?
32. What is light?
33. What is reflection?
34. What is refraction?
35. What is absorption?
36. What happens when light falls on an object?
37. What is the use of microcontroller in this project?
38. What is wavelength?
39. What is frequency?
40. What happens if light of same colour falls on same coloured subject?
41. What is 7-segment display?
42. How does it work?
43. What is the use of digital pins in arduino?
44. What is the use of analog pins in arduino?
45. What is serial monitor?
46. What is the use of LEDs in TCS3200?
47. What is PCB?
48. What is the use of PCB in this project?
49. Which components are used in this project?
50. What is the use of TX pin in an arduino?
51. What is the use of RX pin in an arduino?
52. What is time period?
53. What is electromagnetic spectrum?
54. What is visible spectrum?
55. What are gamma rays?
56. Where are the uses of X-rays?

57. What is the relation between wavelength and frequency?
58. What are microwaves?
59. Why microwaves are used in oven?
60. How light propagates in a medium?
61. What is the use of Vcc pin in arduino?
62. What is the use of Vcc pin in bluetooth module?
63. In how many ways arduino can be powered?
64. Which microcontroller is used in arduino?
65. What are the various types of arduino available in the market?
66. What are infrared rays?
67. What is IR LED and what are its uses?
68. Why is photodiode normally blackened?
69. What is IR sensor?
70. What is light intensity and on what parameters does it depend?
71. What is the use of white LEDs on TCS3200 board?
72. What are the various pins in TCS3200 and what is their significance?
73. What is RGB LED and how does it work?
74. What is the alternative of TCS3200 in colour sensor?
75. How bluetooth module is connected to android?
76. How does TCS3200 respond to colours?
77. Why TX of Bluetooth is connected to RX of arduino and vice versa?
78. What is the range of Bluetooth module?
79. What is a switch?
80. What is a capacitor?
81. Is your project portable?
82. . What is an LCD display?
83. What is the scope of this project?
84. How can it be expanded?
85. What is a short circuit?
86. What is a fuse?
87. What is an MCB?
88. What do mean by feedback by a sensor?
89. What is an android application?
90. What is programming?
91. How does a relay work?
92. What metal wire is used in soldering?
93. What is an IC?
94. Why is it written VCC and Ground on modules?
95. What is multimeter?
96. What are transistors?
97. What is a DC motor?
98. What do you mean by rotation?
99. How a motor rotates in both direction?
100. Why we should store energy?

## 11. WATER LEVEL CONTROLLER

1. What is Anveshana?
2. Why school students are chosen for this competition?
3. What is the Motto of this competition?
4. What are the benefits of doing this project?
5. What is our project?
6. What is our role in this project?
7. How do we control the level of water in a tank?
8. What is voltage?
9. What is current?
10. What is resistance?
11. How we can measure the value of resistance?
12. What is ohms law?
13. What is the value of voltages at our home?
14. How do we get shock?
15. What are the ways to avoid electric shock?
16. What is the value of frequency of AC voltage at our home?
17. What is DC?
18. What is difference between AC and DC?
19. Which is more dangerous AC or DC?
20. Why we don't use DC voltages instead of AC?
21. Is every machine runs on AC?
22. What is difference between AC and DC machine?
23. What is conductor?
24. What is semiconductor?
25. What is insulator?
26. Give some examples of semiconductor?
27. How semiconductor is formed?
28. What is doping?
29. What are the benefits of mixing impurities to the semiconductor material?
30. What is p-type semiconductor?
31. What is n-type semiconductor?
32. What is silicon and germanium?
33. What are the benefits of using semiconductor?
34. How semiconductor works?
35. How we can control semiconductor?
36. Why conductor is not used in our project instead of semiconductor?
37. What is transistor?
38. What is its use in our project?
39. How transistor is used as a switch?
40. What are the types of transistor?
41. Why p-n-p transistor is not used in our project?
42. What is base current?
43. What is p-n junction?
44. What is forward bias?
45. What is reverse bias?
46. What are the conditions necessary for the transistor to work?
47. How do we supply voltage to our circuit elements?
48. What is battery?
49. Why AC voltage is not given to our circuit elements?
50. What modifications are required to operate elements from AC?
51. What is rectifier?
52. What is full wave rectifier?
53. What is half wave rectifier?
54. How rectifier converts AC into DC?
55. What are diodes?



## 11. WATER LEVEL CONTROLLER

56. How many types of diodes are present?
57. What is p-n junction?
58. What is depletion region?
59. What is enhancement region?
60. What is the use of diodes?
61. How diode works?
62. How will we identify the positive and negative terminal of diode?
63. What is LED?
64. How will we identify the positive and negative terminal of LED?
65. How LED glows?
66. What is PCB?
67. What is soldering?
68. Which type of wire is used in soldering?
69. How our circuit works?
70. Is there any risk of shock in our circuit?
71. How our circuit gets completed by the use of water?
72. How current flows in water?
73. Is there any current in the water of the tank?
74. What is relay?
75. What are NO and NC terminals of relay?
76. How relay works?
77. How do relay control the action of pump?
78. What are the coil terminals of the relay?
79. How do these coils terminals get energized?
80. How relay control the AC voltage connected to the motor?
81. How DC operated relay control AC operated motor?
82. What is 555 timer?
83. What is ICs?
84. What are the functions of different terminals of the 555 timer?
85. What is inside the 555 timer?
86. Why it is named as timer?
87. What is the function of trigger pin in 555 timer?
88. How 555 timer works?
89. What is motor?
90. What is the difference between motor and generator?
91. Which type of motor is used in our project?
92. Are we using the same motor as used in our home?
93. How do we pump the water into small tank in our project?
94. Which type of voltage is used to operate the pump in our project?
95. Can we add some more features in this circuit?
96. What is the prize of the competition?
97. What are the advantages of our project as compared to the same product available in the market?
98. What are the disadvantages of our project?
99. Can we use this project at our home or some changes needed?
100. What is the cost of our project?

## 12. SMART SAFETY & SECURITY SYSTEM : ONE STOP SOLUTION FOR AUTOMATION

1. What are the basic modules used in this project?
2. How does the communication take place between the hardware and software?
3. What are the applications of this project?
4. What are the major causes of accidents in India?
5. What can this project do to prevent it?
6. What are microprocessors?
7. What microprocessor is used in this project? What is its function?
8. Name the modules used in this project?
9. Explain all their uses and applications?
10. Using Block diagram explain their connections and roles?
11. How data is sent in hardware and how it processes it?
12. What is the most basic language does the computer understand?
13. What is the full form of GPS?
14. For what purpose it is used?
15. What is a Wi-Fi system?
16. What is the codename of a Wi-Fi system?
17. How hardware converts basic data to binary data?
18. What is a fingerprint sensor?
19. How does it sense the fingerprint?
20. Write the full form of IOT?
21. Where the IOT is used?
22. Why it is used?
23. What are sensors?
24. What is the programming language used here?
25. What is communication?
26. What is the basic communication model consisting of?
27. What is noise? In what form it is present?
28. How satellites keep tracks of objects on earth?
29. What are embedded systems?
30. Explain the major ports in the microprocessor?
31. What is a API?
32. Where it is used?
33. What is URL?
34. Where it is used?
35. What do you mean by threshold value?
36. What do you mean by cut-off value?
37. What is difference between binary, decimal and octal no.?
38. What is charge?
39. What is the S.I. unit of charge?
40. What is the charge of an electron?
41. What is the charge of a proton?
42. What is resistor?
43. What is capacitor?
44. What is inductor?
45. What is the difference between resistor, capacitor and inductor?
46. What is the difference between active and passive electronic device?
47. What is S.I unit of inductor?
48. What is the S.I unit of capacitor?
49. What is the S.I. unit of resistance?
50. What is a circuit?
51. What are the different components of a circuit?
52. What do you mean by voltage source?
53. What is the S.I unit of voltage?

## 12. SMART SAFETY & SECURITY SYSTEM : ONE STOP SOLUTION FOR AUTOMATION

54. How the current flows in the circuit?
55. What is the direction of flow of current?
56. What is power?
57. What is the S.I. unit of power?
58. What is a block diagram?
59. What are the different blocks of the circuit?
60. How the different blocks of the projects are connected?
61. What are the advantages of the project?
62. What are the applications of the project?
63. How the stored power is used in charging?
64. What is the estimated cost of the project?
65. How the project can be modified?
66. How can the efficiency of the project be improved?
67. What is a diode?
68. How a diode works?
69. What is an IC?
70. How is IC fabricated?
71. How can we measure voltage?
72. How can we measure current?
73. Where is this technology used in the present time?
74. How is the project beneficial to the society?
75. What errors can be discovered while making this project?
76. Why such devices are not available in the market?
77. What changes can be made in the project to reduce its cost and size?
78. How does fingerprint sensor work?
79. How does alcohol sensor works?
80. List some of the major programming lang. used?
81. What is diff between low level lang. and high level lang.?
82. What is interpreter?
83. What is compiler?
84. What is a header file?
85. What type of language is C, C++etc.?
86. Write a basic program in any language to print "hello"?
87. Write the difference between interpreter and compiler?
88. What is a transistor?
89. What is a transistor works?
90. How transistor acts as a switch?
91. What is a semiconductor?
92. How a semiconductor does works?
93. What waves are used for communication?
94. In which layer is satellite being present?
95. How does satellite communicate with ground station?
96. How is 1 and 0 interpreted by circuits?
97. What are ports?
98. Are ports used for input or output?
99. What is a UART port?
100. What is a USB port?

## 13. REAL TIME BATTERY

1. What do you mean by real time battery charging?
2. What is ground reaction force?
3. What is difference between electrical and electronics?
4. What are the different electronics devices?
5. What is a battery?
6. How a battery works?
7. What is real time application of battery?
8. What is current?
9. What is the S.I. unit of current?
10. What is alternating current?
11. Name some devices that use alternating current.
12. What is direct current?
13. Name some devices that use DC current.
14. What do you mean by piezoelectric material?
15. How the piezoelectric crystal transforms pressure into electrical energy?
16. What are the different forms of energy?
17. How the amount of energy generated is calculated?
18. What is the S.I. unit of energy?
19. What is frequency?
20. What is time period?
21. What is the relation between time period and frequency?
22. What is the S.I. unit of frequency?
23. Which frequency range we are using in the project?
24. What is Pressure?
25. What is the S.I. unit of pressure?
26. How can the pressure be measured?
27. What is force?
28. What is the S.I. unit of force?
29. Which area is used in calculating pressure?
30. What is the S.I. unit of area?
31. What is charge?
32. What is the S.I. unit of charge?
33. What is the charge of an electron?
34. What is the charge of a proton?
35. What is resistor?
36. What is capacitor?
37. What is inductor?
38. What is the difference between resistor, capacitor and inductor?
39. What is the difference between active and passive electronic device?
40. What is the S.I. unit of resistance?
41. What is a circuit?
42. What are the different components of a circuit?
43. What do you mean by voltage source?
44. What is the S.I unit of voltage?
45. How the current flows in the circuit?
46. What is the direction of flow of current?
47. What is power?
48. What is the S.I. unit of power?
49. What is a filter?
50. What are the different types of filter?
51. Why are we using filter?
52. Which filter are we using in the project?
53. What is a block diagram?
54. What are the different blocks of the circuit?
55. How the different blocks of the projects are connected?

## 13. REAL TIME BATTERY

56. How much voltage is generated by piezoelectric material?
57. How much power is generated through walking
58. How much pressure is exerted during walking?
59. What is the meaning of portable?
60. What do you mean by real time system?
61. What is the meaning of bulky?
62. How can the power generated be stored?
63. What are the advantages of the project?
64. What are the applications of the project?
65. How the stored power is used in charging?
66. Can the project be used to store energy generated by the movement of hand?
67. Why cannot we use A C power for charging?
68. Which piezoelectric materials are available in the market?
69. Which piezoelectric material will be used in the project?
70. How many piezoelectric crystals will be used in the project?
71. How we will arrange those crystals?
72. Why are we using filter?
73. What do you mean by boost converter?
74. Why are we using booster circuit?
75. How we convert ac signal to dc signal?
76. What are the different storage devices available?
77. Which storage devices can be used in the project?
78. Why are we using lithium ion battery in the project?
79. What is electrolyte?
80. Why we use non aqueous electrolyte in lithium ion battery?
81. What are the advantages of using lithium ion battery?
82. What is the estimated cost of the project?
83. How the project can be modified?
84. How can the efficiency of the project be improved?
85. What is a diode?
86. How a diode works?
87. What is an IC?
88. How is IC fabricated?
89. How can we measure voltage?
90. How can we measure current?
91. What is a rectifier?
92. How a rectifier works?
93. What do you mean by full wave rectifier?
94. How the bridge rectifier works?
95. How much voltage is required to charge the battery of a phone?
96. Where is this technology used in the present time?
97. How is the project beneficial to the society?
98. How the project can be used to store energy through cycling?
99. Why such devices are not available in the market?
100. What changes can be made in the project to reduce its cost and size?

## 14. DESIGNER BRICK FROM CONSTRUCTION SITE WASTE

1. Why this project is for?
2. What is the Use?
3. Why school students should be a part of team.
4. Why only Science Projects?
5. What is binder?
6. What is P.O.P?
7. What is Ash?
8. What is LED?
9. What is Grinder?
10. What is Polishing Process?
11. What is Working Principle of LED?
12. Why we use Binder?
13. What happens if Binder is not used?
14. From where did you got this idea?
15. What is a brick?
16. What is the need of Idea?
17. What do You Mean by Designer Brick?
18. What Is Latex?
19. Why Latex is used?
20. What is mould?
21. Why mould is used?
22. What are aesthetics?
23. How your project satisfy aesthetics to the society?
24. What is mixing?
25. Use of mixing in this project?
26. What do you mean by sustainable development?
27. What is glass?
28. What is the composition of glass?
29. Use of Glass in this Project?
30. What is Light?
31. What is Speed of Light?
32. What is Lumination?
33. What is standard size of a brick?
34. How a brick is made?
35. What is the composition of a standard brick in India?
36. Process of making a brick?
37. Process of making a Designer brick?
38. How this project helps in sustainable development?
39. What is the strength of a normal brick?
40. What is the strength of a designer brick?
41. What is UTM?
42. What kind of tests you performed on UTM?
43. How many designer bricks can be made in a day?
44. What is the application of a designer brick?
45. What is plaster?
46. What is the weight of a standard Brick?
47. What is the weight of a Designer Brick?
48. What is DC power supply?
49. Circuitry involved in a single brick?
50. Circuitry involved in a Designer wall?
51. Will you sell a designer brick?
52. Why Light Travels?
53. State laws of Reflection?
54. Different mediums through which light can travel?
55. In which medium light travels faster?
56. What is a microcontroller?
57. What is programming a microcontroller?
58. Which microcontroller you have used?

## 14. DESIGNER BRICK FROM CONSTRUCTION SITE WASTE

59. What is Frequency?
60. What is an audio Band?
61. How we split Audio band in different frequencies?
62. What is an IC?
63. Why electronic circuit is used?
64. What is the function of MSGEQ7 IC?
65. What is the use of PCB Board?
66. What is a regulator?
67. Why capacitor is used?
68. What is rectifier?
69. Why led light cannot be operated directly?
70. What is the difference between AC and DC?
71. Why we should convert AC to DC?
72. What is a multimeter and why it is used?
73. Whether the project is economical?
74. What is the life span of the model?
75. How can we cut down the cost of the brick?
76. How can we store electric charges?
77. What is the difference between power and current?
78. Why Dc current is not used in domestic circuits?
79. What is compression test?
80. Name some binding Agents?
81. Materials used for making a Designer Brick?
82. What is a Sandpaper?
83. What do you mean by Grain size?
84. What is baking?
85. What is the importance of Baking a Brick?
86. How you have performed baking in designer Brick?
87. What is the Future Prospect of this Designer Brick?
88. Does it require any Special labour to make a wall of it?
89. Can an alone wall stacking one another can be built?
90. What type of waste materials can this brick accommodate?
91. Does it require a special machine or industry for its manufacturing?
92. What do you mean by soldering?
93. Explain soldering Process?
94. What are components used in soldering Process?
95. Is it Portable?
96. Where this setup can be used?
97. Does it require any maintenance?
98. Can a common man use it?
99. Are there any color variants to this product?
100. Is this product customizable according to customer's need?

## 15. MITTI FRIDGE

1. What is this?
2. What it does?
3. It means it is similar to refrigerator in our houses?
4. What material is used to make it?
5. Can we also make it by any type of clay?
6. From where you get this idea to built a fridge made by mud?
7. What is its cost?
8. What is the cost of other available fridges?
9. Is there any saving?
10. How you save this much cost?
11. Why is it Red in colour?
12. It is rectangular in shape any reason?
13. What principle does it use?
14. What is evaporation?
15. What does evaporation do?
16. Is there two parts in it?
17. What is the purpose of two cabinets?
18. White sand?
19. What are the main constituents it has?
20. In which areas it is found?
21. What is the purpose of sand?
22. Where this sand is is filled?
23. What is the equipment used in this project?
24. What is the use of fibreglass?
25. Is there any constraint to the weight of the door?
26. Thermocouple?
27. Is there any other types thermocouple?
28. Which thermocouple is used here?
29. What is the main feature of this fridge?
30. How much time it will light?
31. Why?
32. What is unconventional energy?
33. What types of unconventional energies are there?
34. Is this solar panel permanent?
35. Is it effective?
36. What is the use of pitcher pot?
37. How water is cool as it is not in the cabinet?
38. What drives evaporation?
39. What is the main source of heat input?
40. What is the working principle of mitti fridge?
41. Why covering of sand is provided by the jute bags?
42. Why is there a bulging in the rectangular inner and outer cabinets?
43. What may be the impact of this fridge?
44. How light provided in the door turns OFF and ON?
45. Is it convenient to carry it?
46. What happen if we increase the size of this fridge?
47. Does it need special environment?
48. Is its cooling similarly effective in rain?
49. Humid conditions?
50. What season is the best for this fridge?
51. What is the life of this refrigerator?
52. If it have a low life as comparison to conventional electric refrigerator than why one must purchase it?
53. Is it good for the health of environment?
54. What is its biggest advantage?
55. Can light provided in the cabinet also lights in night?
56. What we will get by all this interaction?



## 16. SAFETY CAR

1. What is DC?
2. What is AC?
3. What is difference between AC & DC?
4. What is GPS? What is GPRS?
5. What is GSM?
6. What is difference between GPRS & GPS?
7. What is micro-controller?
8. How much voltage required for system?
9. What is airbag system in car? What is crash sensor?
10. What is role of crash sensor in vehicles?
11. What is smoke sensor & what is its role in vehicles?
12. What is fire sensor & what is its role in vehicles & how it help in safety of car?
13. What is relay?
14. What is short circuiting?
15. How can family member received message with location?
16. What is ignition?
17. How ignition coil stop?
18. What is wireless communication?
19. What is difference between wireless & wire communication?
20. How your technology save life in accidents?
21. What is SMS?
22. Is it better to have your car doors unlocked system after accident?
23. What is accumulator?
24. How panic button & what is its role in safety car?
25. Why you cannot use crash sensor?
26. What is application of crash sensor?
27. What is micro switch?
28. Where you insert crash sensor?
29. What is actuator?
30. Where the actuator install?
31. Which type of modem is used?
32. What is Arduino modem?
33. What is semiconductor?
34. What is ceramic capacitor?
35. What is simulation?
36. What is Ignition coil?
37. How system help to stop theft?
38. How system work in rural area and urban areas?
39. What is function of smoke sensor?
40. What is function of fire sensor?
41. What is electric belt?
42. What is use of software for system?
43. Which software is used for system?
44. How to track our vehicle through this system?
45. How to receive signal for system?
46. What is GSM receiver?
47. How much minimum supply is required for system?
48. How much current is required for system?
49. Why AC is not used for that system?
50. What is variable resistance?
51. Which software used for simulation?
52. How normal seat belt is differ from electric seat belt?
53. Which type of vehicles is used?
54. What happen if anyone remove panic button?
55. How many modem required for system?

## 16. SAFETY CAR

56. How many micro- controller required for system?
57. Can this system work in all vehicles?
58. What is benefit of ignition coil in car?
59. How many members of family received SMS?
60. How much time to receive SMS after accident?
61. What is open circuiting?
62. What is difference between open circuiting and short circuiting?
63. How much time taken to install whole system?
64. Can automatic door open system is flexible for vehicles?
65. How alcohols drunk driver detects by this system?
66. How door of car jammed?
67. How automatic door opened by system after accidents?
68. What is modem?
69. What is actuator?
70. What is GSM & GPS?
71. What is micro-controller?
72. What is relay?
73. How many people died without wearing seat belt?
74. Why vehicles can't start without wearing seat belt?
75. How automatic door open?
76. How crash sensor safe your head injury in car?
77. What is rack?
78. What is pinion?
79. What is actuator centre locking?
80. What is regulator?
81. What is capacitor?
82. What is push button?
83. What is GPS module?
84. What is GSM modem?
85. What is LCD?
86. What is LED?
87. What is DTE?
88. What is DCE?
89. How much people died in road accidents?
90. How you control all the system through mobile?
91. How car stop or OFF through mobile?
92. What type of power supply required for system?
93. How much cost of your system?
94. How much flexible this system?
95. How to reduce the cost system?
96. Can this system is useful for everyone & everywhere?
97. Can this system applicable in every vehicles?
98. Which type of voltage regulator is used?
99. What is importance of voltage regulator?
100. What is total cost of project?

## 17. RAINWATER HARVESTING

1. What is Rainwater Harvesting (RWH)?
2. Who can practice RWH?
3. Why should I implement RWH?
4. Where can RWH be implemented?
5. Is RWH only feasible for new buildings?
6. What quantity of rainwater can be collected?
7. What is the cost involved?
8. What do you mean by filters in RWH?
9. What types of filters are needed for RWH?
10. Which type is needed if the rainwater is to be used for flushing toilets?
11. Can the stored rainwater in storage tanks be used for cooking and drinking?
12. What are the various types of RWH?
13. What are the basic components of a RWH and conservation system?
14. What are the characteristics of a good RWH system?
15. Can existing structures be used for RWH?
16. What does artificial recharge to groundwater mean?
17. What are the various types of recharge structures?
18. What is a recharge pit? Is it the same as a recharge well?
19. What should be the depth of a recharge well/pit?
20. What are the legal guidelines and their implication for recharge pit sizes?
21. How much do recharge pits cost?
22. What are the basic steps to begin the process of RWH?
23. How to deal with the technicalities of direct storage and groundwater recharge?
24. Average rainfall in Delhi NCR in 2015 is 617mm
25. Does Rainwater can be used during acid rain?
26. What is acid rain?
27. What are the benefits of RWH?
28. Is RWH a new trend?
29. Which of the states have taken action to promote rainwater harvesting?
30. What can you use rainwater for?
31. Why should I use harvested rainwater?
32. Is rainwater better than drinking water for outdoor use?
33. Will I save on my water bill if I have rainwater harvesting?
34. How long would the water last in a drought?
35. What happens when the system is full and overflows?
36. Do I need to do anything if going on a long holiday?
37. What is the best way to distribute water from the storage tank?
38. How long does it take to fill the tanks?
39. Can I use a lawn sprinkler with my rainwater harvesting tank?
40. Does all rainwater harvesting equipment come with all the right connectors
41. Who would install a Rainwater Harvesting system?
42. What are the risk of frost?
43. Issues occurring with rainwater harvesting?
44. Places in India where rain water harvesting is applied
45. Why rainwater harvesting is necessary in the state of Kerala?