



In Partnership with



100 Times Curious – Collection of Questions
Released on the occasion of
Science & Engineering Fair of Selected Projects
At
National Science Center, Pragati Maidan, New Delhi
On
9th & 10th February 201



CONTENTS

1. FOREWORD
2. LIST OF PROJECTS EXHIBITED IN THE FAIR
3. QUESTIONS



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 6 years old in Bangalore, completed 4 years in Hyderabad and 2 years 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 CODE	PROJECT TITLE	COLLEGE NAME	SCHOOL NAME
1	AS-D-01	ANANTA: HALE SOLAR DRONE	JSS ACADEMY OF TECHNICAL EDUCATION, NOIDA	RSS INTERNATIONAL SCHOOL NOIDA, UTTAR PRADESH
2	AS-D-02	ANTI-THEFT CAR LOCATION TRACKER	BHARTI VIDYAPEETH'S COLLEGE OF ENGINEERING, DELHI	GOVT GIRLS SENIOR SECONDARY SCHOOL, NITHARI
3	AS-D-03	BASE ISOLATION FOR BUILDING	SANSKAR COLLEGE OF ENGINEERING, GHAZIABAD	GOVT INTER COLLEGE, NANDGRAM, GHAZIABAD
4	AS-D-04	BLOOD ON TIME	NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, GREATER NOIDA	GAUTAM BUDH BALAK INTER COLLEGE, GREATER NOIDA
5	AS-D-05	BODY CHARGER	MANGALMAY INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA	GAUTAM BUDH BALAK INTER COLLEGE, GREATER NOIDA
6	AS-D-06	DESALITRIC	GL BAJAJ INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA	RASTRIYA PRATIBHA VIKAS VIDYALAYA, JHANDEWALAN
7	AS-D-0	DUAL AXIS SOLAR TRACKING SYSTEM	NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, GREATER NOIDA	RASTRIYA PRATIBHA VIKAS VIDYALAYA, JHANDEWALAN
8	AS-D-08	ECO-FRIENDLY CAR	GARGI INSTITUTE OF TECHNOLOGY, BHOPAL	MLB HIGH SCHOOL BHOPAL
9	AS-D-09	ELECTRICITY FROM PLANTS	SHARDA UNIVERSITY, GREATER NOIDA	MLB HIGH SCHOOL BHOPAL
10	AS-D-10	ELECTRONIC EYE CONTROLLER	NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, GREATER NOIDA	GAUTAM BUDH BALAK INTER COLLEGE, GREATER NOIDA



11	AS-D-11	ELECTRONIC SHELF LABELLING SYSTEM	JSS ACADEMY OF TECHNICAL EDUCATION, NOIDA	RSS INTERNATIONAL SCHOOL NOIDA, UTTAR PRADESH
12	AS-D-12	ENERGY EFFICIENCY WITH WATER	G D GOENKA UNIVERSITY, GURGAON	RASTRIYA PRATIBHA VIKAS VIDYALAYA, JHANDEWALAN
13	AS-D-13	GAS LEAKAGE DETECTOR	BHARTI VIDYAPEETH'S COLLEGE OF ENGINEERING, DELHI	GOVT GIRLS SENIOR SECONDARY SCHOOL, NITHARI
14	AS-D-14	HOME AUTOMATION BY DTMF	NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, GREATER NOIDA	GAUTAM BUDH BALAK INTER COLLEGE, GREATER NOIDA
15	AS-D-15	HOME AUTOMATION SYSTEM	G D GOENKA UNIVERSITY, GURGAON	RASTRIYA PRATIBHA VIKAS VIDYALAYA, JHANDEWALAN
16	AS-D-16	LED FLASHER USING MICROCONTROLLER	G D GOENKA UNIVERSITY, GURGAON	GOVT MODEL SENIOR SECONDARY SCHOOL, SECTOR-4, GURGAON
17	AS-D-17	LOW COST WATER PUMP	MATA RAJ KAUR INSTITUTE OF TECHNOLOGY, REWARI	GOVT BOYS SENIOR SECONDARY SCHOOL, REWARI
18	AS-D-18	NAVIGATION SYSTEM FOR BLIND	NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, GREATER NOIDA	GAUTAM BUDH BALAK INTER COLLEGE, GREATER NOIDA
19	AS-D-19	PURIFICATION OF WATER	NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY, GREATER NOIDA	GAUTAM BUDH BALAK INTER COLLEGE, GREATER NOIDA
20	AS-D-20	SEWAGE TREATMENT	JAI NAARANAYAN COLLEGE OF TECHNOLOGY, BHOPAL	MLB HIGH SCHOOL BHOPAL
21	AS-D-21	SMART DUSTBIN	BHARTI VIDYAPEETH'S COLLEGE OF ENGINEERING, DELHI	GDS DAV SENIOR SECONDARY SCHOOL, PUSA ROAD DELHI



22	AS-D-22	SMART CITY	SAGAR INSTITUTE OF RESEARCH AND TECHNOLOGY, BHOPAL	MLB HIGH SCHOOL BHOPAL
23	AS-D-23	SMART KRISHI E-MONITORING SYS.	AJAY KUMAR GARG COLLEGE OF ENGINEERING, GHAZIABAD	ST PAUL ACADEMY, RAJNAGAR, GHAZIABAD, DHT SARSWATI VIDYA MANDIR, NEHRU NAGAR, GHAZIABAD
24	AS-D-24	TADPOLE DESIGN BASED CAR	SHREE GANPATI INSTITUTE OF TECHNOLOGY, GHAZIABAD	GOVT INTER COLLEGE, NANDGRAM, GHAZIABAD
25	AS-D-25	TRAFFIC CONGESTION MANAGEMENT	AJAY KUMAR GARG COLLEGE OF ENGINEERING, GHAZIABAD	KVS, KAMLA NEHRU NAGAR, GHAZIABAD, DHT SARSWATI VIDYA MANDIR, NEHRU NAGAR, GHAZIABAD
26	AS-D-26	WALKING AID GEARS (FOR BLIND)	BHARTI VIDYAPEETH'S COLLEGE OF ENGINEERING, DELHI	CO-ED SENIOR SEC. SCHOOL, C-BLOCK, MANGOLPURI
27	AS-D-27	WIRELESS HEXAPOD	GL BAJAJ INSTITTUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA	GAUTAM BUDH BALAK INTER COLLEGE, GREATER NOIDA



1. ANANTA: HALE SOLAR DRONE

1. What is drone?
2. What is solar cell?
3. What is airplane?
4. How airplanes fly?
5. What is the Bernoulli's theorem?
6. What is the meaning of medium?
7. Why things fall on the ground?
8. What is gravitation force?
9. What is force?
10. How solar cell works?
11. How to make solar panel by using solar cells?
12. What is the meaning of efficiency?
13. What is the motor?
14. What is bldc motor?
15. How motor works?
16. What is ESC?
17. What is capacitor?
18. What is resistance?
19. What is the meaning of efficiency of something?
20. What is the meaning of communication?
21. How to communicate with drone?
22. What is the meaning of the trans-receiver?
23. How trans receiver works?
24. What is antenna?
25. How antenna works?
26. What is controller?
27. What is ic?
28. What is soldering?
29. What is interconnecting wires?
30. What is arduino?
31. What work arduino does?
32. What is programming?
33. How to transfer data from laptop to arduino?
34. How arduino sends signals?
35. How arduino communicate with trans receiver?
36. How arduino control the things?
37. How arduino programs?
38. How to make the wings of drone?
39. What is airfoil?
40. What is servo motor?
41. What are gears?
42. What is battery?
43. How battery works?
44. What is lipo?
45. Which battery uses in our homes?
46. What is li-ion battery?
47. How battery charges?
48. What is propeller?
49. What is fuselage in drones?
50. What is rudder?
51. What is throttle?
52. How drone moves forward?
53. What is momentum?
54. What is fiber?
55. What is carbon fiber?
56. What is balsa wood?
57. How drone change the direction?
58. What is use of tails in the drones?
59. What is the meaning of ANANTA?
60. What is meaning of HALE?



2. ANTI-THEFT CAR LOCATION TRACKER

1. What is arduino?
2. What is GSM?
3. What is GPS?
4. Who created GPS technology?
5. Who created GSM technology?
6. What is GPS tracking?
7. How GSM work?
8. How GPS work?
9. In which year GPS technology was implemented first time?
10. What is battery?
11. What is current?
12. What is IC?
13. Why 805 IC is used?
14. What is the meaning of voltage distribution?
15. What is use of TX pin in GPS module?
16. What is the use of RX pin in GPS module?
17. What is meaning of ground pin in GSM module?
18. What is frequency?
19. What is baud rate?
20. What is meaning of 900 in SIM900a module?
21. What is the minimum number of satellite required for GPS communication?
22. What is frequency bandwidth?
23. Frequency bandwidth required for the GSM?
24. In which format GPS gives the data?
25. What is NMEA format?
26. How to check stable network in GSM module?
27. What is latitude?
28. What is longitude?
29. How latitude and longitude use to define the location?
30. What is SMS technology?
31. How GPS communicate with satellite?
32. What is voltage regulation?
33. What is DC?
34. What is AC?
35. Voltage required by GSM module?
36. Voltage required by GPS module?
37. What is voltage?
38. How GPS modules receive data from satellite?
39. What is the use of GSM?
40. What is the voltage required for arduino?
41. What is programming or coding?
42. What is the frequency range of GPS antenna?
43. How arduino communicate with GPS and GSM module?
44. Which GPS module is used in this project?
45. Which GSM module is used in this project?
46. What is transmitter?
47. What is receiver?
48. What is transformer?
49. What is step-up transformer?
50. What is step-down transformer?
51. What is SI unit of current?
52. What is SI unit of voltage?
53. How you can say that arduino is a mini computer?
54. What is ATmega 328?
55. How many digital pins in arduino?
56. How many analog pins in arduino?
57. Voltage required by arduino?
58. How GSM will send location to the caller?



59. What do you understand by 2D fix of GPS?
60. What do you understand by 3D fix of GPS?
61. What is use of status led in GSM module?
62. What is LED?
63. What do you understand from Vcc pin of GPS module?
64. What is antenna?
65. What is minimum voltage required by 805 IC for proper working?
66. What is resistor?
67. What is capacitor?
68. What is diode?
69. How can you know that the GPS module got fixed?
70. What is Google map?
71. Who created Google map?
72. In which year Google map was used for first time?
73. How GSM recognize call from particular number?
74. Who created SMS technology?
75. In which year SMS technology used for first time?
76. What command is used for sending message?
77. Why GPRMS is used for latitude and longitude?
78. Which country used navigation system for first time?
79. What is the SI unit of frequency?
80. What is audible frequency?
81. What is inaudible frequency?
82. What is audible frequency range for humans?
83. What is significance of power led in GSM module?
84. What is PCB?
85. Which type of material is used for making PCB?
86. For communication RX pin is connected to which pin?

87. For communication TX pin is connected to which pin?
88. What are the applications of GPS?
89. What are the applications of GSM?
90. What is the total cost of project?
91. Device is portable?
92. How many hours the battery can sustain?
93. What are the advantages of tracking system?
94. Which type of battery is used for this project?
95. What is data communication?
96. What is wireless communication?
97. What is wired communication?
98. What is relay?
99. How relay work?
100. Which type of voltage regulator is used?



3. BASE ISOLATION FOR BUILDING

1. What is base Isolation?
2. What is basic use of base Isolation?
3. What is earthquake?
4. What are the main causes of earthquake?
5. What are the effects of earthquake?
6. What is SESIMIC?
7. What is wave?
8. What is seismic wave?
9. What are the wave which are the main reason for earthquake?
10. What is oscillation?
11. What is the meaning of Isolation?
12. What is mass?
13. What is force?
14. What is displacement?
15. What is simple harmonic motion?
16. What is frequency?
17. What is the meaning of damping?
18. What is mass damper?
19. What are types of Isolation bearing?
20. What is bearing?
21. What is shaking mechanism?
22. What is the difference in between fixed base building and base Isolation building?
23. What is seismograph?
24. Define structural dynamics?
25. What is the basic principle of base Isolation?
26. What is other purpose of using base Isolation?
27. Why it is not applicable for high raise building?
28. What is friction?
29. What is friction force?
30. What is kinematic?
31. Example of base Isolation building in India?
32. What are the main limitations of base Isolation?
33. What is advantage of base Isolation?
34. What is Newton's law of motion?
35. What are the lateral forces acts on the high rise building?
36. Name of foundation which is used in our project?
37. How can we reduce the effectiveness of the earthquake?
38. What is gravitational force?
39. What is C.G?
40. What is roller?
41. What is roof?
42. What is column?
43. What is beam?
44. What is foundation?
45. What is substructure?
46. What is superstructure?
47. What is wall?
48. Is Isolation bearing used in bridge?
49. What is energy?
50. Is base Isolation work as energy dissipater?
51. What is the meaning of energy dissipater?
52. What is cement?
53. What is brick?
54. What is brick work?
55. What is concrete?
56. What is steel?



57. What is new technique used for the construction of building?
58. What do you by door?
59. What is window?
60. What is crank shaft?
61. Give an example of bearing which is used in general life?
62. What is spring and their work?
63. Why we are using crank shaft in our project?
64. What is aesthetic view?
65. Why we are using springs in our project?
66. What are the precast things which we are using in construction of building?
67. What is plinth level?
68. What are the main propose of providing base Isolation to the building?
69. Is base Isolation economically possible?
70. What are the test which is provided before the use of base Isolation?
71. What is geological investigation?
72. What is topographical investigation?
73. What kind of land is preferred for the base Isolation?
74. What is soil?
75. Is soil is important factor for use of base Isolation technique?
76. What are the main locations where the isolators are used in building?
77. What is volcanic eruption?
78. What are other methods for earthquake resistance building?
79. What is Cost of our project?
80. Why we are using the marbles in our project?
81. What is the purpose of using metal caps in our project?
82. What about the 1st seismic Isolation building constructed in where?
83. Who is the inventor of seismograph?
84. What is the Richter scale?
85. How does seismograph work?
86. What is the highest range of earthquake which was coming in past?
87. What is the difference in between the Isolation base building and fixed base building?
88. What is the highest range of earthquake which was coming in past in India
89. What is dynamic force?
90. What is the cost of our project?
91. What are the recycle materials we are using in our project?
92. What are the main soil tests which are carried out before installing this technique?
93. Why people are not using this technique?
94. Give an example where this technique will be used and why?
95. What are the earthquake protecting systems?
96. What are the considerations for seismic Isolation?
97. What are the basic elements of seismic base isolation?
98. What are the earthquake zones?
99. What kind of area which are coming in danger zone in India?
100. Is study of earthquake zone is important for this technique?



5. BODY CHARGER

1. What is body charger?
2. What is conductor?
3. What is insulator?
4. What are peltier tiles?
5. What are booster circuits?
6. What is potential difference?
7. What is current?
8. How much current required charging a phone?
9. How much voltage required for charge a phone?
10. How much voltage produces by each peltier tile?
11. How much voltage produces by solar panel?
12. How to convert AC to DC?
13. What is AC?
14. What is DC?
15. Which type of voltage produce by solar panel?
16. Which type of voltage produces by peltier?
17. How much body temperature required charging phone?
18. How much temperature difference required charging phone?
19. Which temperature suitable for charger?
20. Is it possible to store charge in battery?
21. Who much efficiency of solar panel?
22. How much atmospheric temperature sufficient for charger?
23. Is it slow charger?
24. Is it work in any conditions?
25. Is it suitable for all phones?
26. What is thermoelectric effect?
27. What is an electron?
28. What are holes?
29. How electrons move from one place to another?
30. How moment of electrons generates electricity?
31. What are photons?
32. How photons produce voltage?
33. How much sufficient light required for solar panel?
34. What is sodium acetate?
35. What is formula for sodium acetate?
36. Is it an effect the body?
37. Is it an effects the skin?
38. How fast it charges during workout?
39. How much weight it has?
40. How solar panel works?
41. How many types of solar panels?
42. What is monocrystalline?
43. Why solar panel efficiency decrease?
44. Why solar panel not working in presence of heat?
45. What is battery?
46. Which type of battery used?
47. What is lithium ion battery?
48. What is positive terminal?
49. What is negative terminal?
50. What is difference between normal battery and lithium battery?



51. What is diode?
52. What is working of diode?
53. How diodes help in charging battery?
54. How much time it takes to charge mobile phone?
55. How much voltage produces by battery?
56. What is AC to DC converter?
57. What is power bank?
58. What is salvaged battery?
59. What is resistance?
60. What is micro USB?
61. What are Velcro strips?
62. What is battery charging board charge module and protection?
63. What is hot glue?
64. How many battery charged by power bank?
65. What is DC-DC booster?
66. How booster circuit works?
67. How much booster circuits boost?
68. What is parallel and series connection?
69. What is male and female header pins?
70. What is switch mode power?
71. What is transistor?
72. What is joule thief?
73. What is voltage regulator?
74. What is anode?
75. What is cathode?
76. What is electrochemical?

77. How much minimum voltage required for charging phone?
78. What are ceramic tiles?
79. What uses lithium ion batteries?
80. What is electrode?
81. What is Thomson effect?
82. What is Peltier effect?
83. What is Seebeck effect?
84. What is cold side?
85. What is hot side?
86. What is thermoelectric element?
87. What is temperature gradient?
88. How sodium acetate heat hot side?
89. Which side sodium acetate used?
90. What is P-type semiconductor?
91. What is N-type semiconductor?
92. How four peltier tiles connected?
93. How peltier tiles work?
94. What is interconnected?
95. What is heat sink?
96. Heat sink is made of?
97. Why heat sink is used?
98. How much time it takes made project?
99. How to reduce cost of project?
100. What is cost of project?



6. DESALITRIC

01. What is meant by desalination?
02. What is the main benefit of seawater desalination?
03. Is desalinated seawater damaging in nature?
04. Does desalinated water affect the aquatic life?
05. What happens to the salt that is removed from the water?
06. How does desalination works?
07. Do desalination plants pollute the environment?
08. How much water comes from desalination?
09. How much energy is required to extract the salt from the seawater?
10. What is the use of evaporation in the process of desalination?
11. Explain solar desalination.
12. What is meant by steam water equilibrium?
13. How can we get electricity from sun?
14. Do solar energy system need a lot of maintenance?
15. What are the main components required to take use of the solar technologies?
16. How is a solar electric system designed and maintained?
17. How much can a solar water heater replace an electric or gas water heater?
18. How are the generators useful?
19. On what principle does the generator works?
20. What is the working principle of AC generators?
21. What is faraday's law of electromagnetic induction?
22. What are the various sources of mechanical energy?
23. What is the significance of the rotating magnetic field in AC generator?
24. What are two main parts of AC generator?
25. What is the main difference between an AC Generator and DC Generator?

26. What are the advantages of stationary armature and rotating field in an AC Generator?
27. What is the efficiency of a generator?
28. How much different is a motor from a generator?
29. Why AC systems are preferred over DC system?
30. How does water evaporate below its boiling point?
31. What is the difference between evaporation and vaporization?
32. Define boiling point.
33. What are the factors affecting boiling point?
34. What parameters should be taken care of while using a generator?
35. What is the role of commutator in DC generator?
36. What is the use of windings in the generators?
37. How does no. of windings affect the working of generators?
38. What is flux?
39. How can demagnetization be achieved?
40. On what basis are the brushes placed in a generator?
41. What are the effects of armature reaction?
42. In a DC machine torque depends on what factors?
43. How is EMF induced in a generator?
44. What is the function of inner poles?
45. What is the ideal value of voltage for a device?
46. Why is the air gap between the yoke and armature in dc machine is kept very small?
47. Is the EMF induced dynamic or static in generators?
48. Which machine is used to charge a battery?
49. How can the maximum EMF be induced in a generator?
50. What is the angle between the stator and the rotor field in a machine?
51. What is Desalitric?
52. Can we use potable water instead of saline water?
53. Why have we given our prime importance to sea water?



54. Why are we focusing on solar energy?
55. Is the process of desalination done elsewhere across the globe?
56. Can't we use any other source of energy to evaporate water?
57. Why are we focusing solar rays?
58. Won't evaporation occur as time passes away?
59. Why aren't we boiling the water that we obtained as the end product of this experiment?
60. Can this process be carried out anywhere?
61. Does the whole setup of Desaltritic require a coastline or can it be done at a non-coastal region?
62. Can we use this process to purify water?
63. Can we focus the solar rays by any other means?
64. Why can't we use a lens for focusing these rays?
65. Which mirror are we using?
66. Why can't we use a plain mirror for this purpose?
67. What is the difference among a concave mirror, a convex mirror and a plain mirror?
68. Why aren't we using a convex mirror?
69. How is bar related to pressure?
70. What are the various other units of pressure?
71. What are turbines?
72. At what pressure does the turbine begin to rotate?
73. What is super critical & sub critical pressure?
74. What are the various types of generators?
75. What type of current do we obtain in our homes?
76. Why can't we use a DC current?
77. What is the difference between a DC & AC current?
78. How do we attain cooling at the end?
79. What are the various advantages of this product?
80. What are the disadvantages of this product?
81. How can we overcome these disadvantages?

82. How can we increase the efficiency of this product?
83. How can we use this electricity that is generated?
84. Don't you think this steam would further cause pollution?
85. Can we move around our apparatus?
86. Is any further treatment required to the water obtained?
87. Is distilled water safe for drinking?
88. Will this work on a cloudy day?
89. Are there any alternatives applicable on a cloudy day?
90. With the recent climatic conditions how will you protect it from storms?
91. What can we do with the salt?
92. Is the salt safe for consumption?
93. What is the difference between normal salt and iodized salt?
94. Can't we use a solar panel in our project?
95. Can we use any other renewable source of energy?
96. Why can't we attain 100% efficiency?
97. Has anyone else worked on it before?
98. Why can't we directly produce electricity by solar panels?
99. At what temperature water evaporates?
100. What is your benefit by creating this project?



7. DUAL AXIS SOLAR TRACKING SYSTEM

1. What is energy?
2. What are different types of energy?
3. What are renewable source of energy?
4. What are non-renewable sources of energy?
5. What are some ways of producing energy?
6. How can we use energy?
7. What is electricity?
8. How electricity affects normal life of people?
9. Why do we need electricity?
10. What is solar cell?
11. On which principle solar cell is based on?
12. How we can save electricity from solar cell?
13. What difference between old technology and new technology of solar panel?
14. Is it cost effective or not?
15. How is it cost effective?
16. What is best suited weather for Solar panel?
17. Is it self-starting?
18. How much energy can it produce?
19. What is live span of solar tracker?
20. Is it affordable for everyone or not?
21. How is it useful for industries?
22. How will it save energy?
23. How will it affect our environment?
24. How will it affect economy?
25. What are its applications?
26. What are some alternatives of solar panels and why we don't use it?
27. How can it be installed?
28. Who can install it?
29. How can we use energy at night using it?
30. Can solar system be used to in households?
31. Does it need government permit to install Solar Panel?
32. What is the need of solar tracking system?
33. How we can introduce it in modern technology?
34. What is sensor?
35. Which type of sensor is used?
36. How can it save men-power?
37. What is LDR?
38. On which principle LDR works?
39. What are some applications of LDR?
40. What is IC?
41. Which ICs we are using?
42. What are uses of IC?
43. What is light/photon?
44. What are some properties of light?
45. What is comparator?
46. What are uses of comparator?
47. What is IC L293d?
48. What is use of IC L293d?
49. What is use of IC LM339?
50. What is alternate option of LM339 and why we do not use it?



9. ELECTRICITY FROM PLANTS

1. What is electricity?
2. What are electrons?
3. What is voltage?
4. What is current?
5. What is potential?
6. What is charge?
7. What is work done?
8. What is force?
9. What is resistance?
10. Plants are similar to human being?
11. How plants are arranging food?
12. What is photosynthesis?
13. What is oxygen?
14. What is carbon dioxide?
15. What is the nature of oxygen?
16. What is the nature of carbon dioxide?
17. Which gas plants release?
18. Which gas human being release?
19. What are electrodes?
20. What is the nature of electrodes
21. What is periodic table?
22. What is metal?
23. What is non-metal?
24. What are gases?
25. What is electronic configuration?
26. How sharing of electrons can take place?
27. Is electrons are like human beings?
28. Electrons want energy?
29. How electricity produces?
30. How many ways to produce electricity?
31. What is pollution?
32. How many types of pollution are?
33. Pollution is good or bad for health?
34. What is water pollution and how it is related to production of electricity?
35. What is air pollution and how it is related to production of electricity?
36. What is land pollution and how it is related to production of electricity?
37. What is green electricity?
38. Is the colour of electricity is green?
39. What are microorganisms?
40. What is copper?
41. What is the nature of copper with reference to electricity?
42. What is zinc?
43. What is the nature of zinc with reference to electricity?
44. What is fertilizer?
45. What is natural fertilizer?
46. What is the difference between organic and inorganic fertilizer?
47. What is organic and inorganic?
48. What is cathode?
49. What is anode?
50. What is the nature of cathode?
51. What is the nature of anode?
52. What is photosynthesis cycle?
53. Plants release waste?
54. What is LED?



55. What is Transistor?
56. What is the nature of transistor?
57. What is Battery?
58. Which material is filled inside the transistor?
59. What is filled inside the Battery?
60. Is battery good or bad for health?
61. What is AC current?
62. What is DC current?
63. What is the difference between AC and DC current?
64. From where this current is supply?
65. What is pulp?
66. Which plants are pulpy?
67. What is water with reference to chemistry?
68. Which minerals are present in the water?
69. How we are producing electricity from plants?



10. ELECTRONIC EYE CONTROLLER

1. What is electronics?
2. What is eye controller?
3. What is LDR?
4. What is the basic principle of our topic?
5. What is resistance?
6. What is capacitance?
7. What is diode?
8. What is led?
9. What is regulator?
10. What are transistors?
11. What is breadboard?
12. What are connecting wires?
13. How the circuit is formed.
14. What are the applications of our topic?
15. What are the advantages of our topic?
16. What is the symbol of resistors?
17. What is the symbol of capacitor?
18. What is the symbol of diode?
19. What is the symbol of battery?
20. What is the symbol of transistor?
21. What is the symbol of regulator?
22. What is the symbol of LDR?
23. What is polarity of resistance?
24. What is the polarity of battery?
25. What is the polarity of buzzer?
26. What is the polarity of transistors?
27. What is the polarity of capacitor?
28. What is the symbol of buzzer?
29. What is the symbol of LED?
30. What is the polarity of buzzer?
31. What is the use of LDR?
32. What is the use of transistor?
33. What is the use of LED?
34. What is the use of buzzer?
35. What is the use of resistance?
36. What is the use of capacitance?
37. What is the use of regulator?
38. What is the unit of resistance?
39. What is the unit of capacitance?
40. What is the unit of transistor?
41. What are the advantages of this circuit?
42. What are the uses of this circuit?
43. How the circuit operates?
44. What is the circuit diagram of the circuit?
45. How this project is helpful for our society?
46. What are the lists of components used in the circuit?
47. How many resistors, capacitors, transistors, led used the circuit.
48. What are the different values of resistors used in the circuit?
49. What are the different values of capacitors used in the above circuit?
50. Transistor has how many terminals?
51. What is collector?
52. What is base?
53. What is gate terminal?
54. What is the basic function of gate terminal?
55. What is the basic function of collector terminal?



56. What is the basic of function of base terminal?
57. Why current through gate terminal is equal to zero?
58. Why LDR is called as light dependent resistors?
59. What is the value of battery used?
60. Why bread board is used instead of connecting directly?
61. Why connecting wires are covered with white coating?
62. What is the functioning of connecting wires?
63. How the bread board is internally connected?
64. What is the polarity of buzzer?
65. How the current flow is controlled using resistors?
66. What is the range of maximum current that each resistor can resist?
67. How does capacitor store charge?
68. In which form does capacitor store energy?
69. What are types of capacitors?
70. How the classification of capacitors is done?
71. What is forward bias condition?
72. What is reverse bias condition?
73. What is p-n junction?
74. How p-n junction is formed?
75. What is impedance?
76. How does impedance affects the circuit?
77. How does the impedance of LDR increases or decreases?
78. Why name IN4007 given?
79. What is the meaning of IN?
80. What is the short circuit condition?
81. How does diode get forward biased?
82. How does diode get reversed biased?
83. What is the practical application of diode in our life?
84. What is the practical application of transistors in our life?
85. What does Led indicates?
86. Why led glows when buzzer rings?
87. How does LDR understands darkness?
88. For practical application how we make use this circuit?
89. How we can use this circuit in garages?
90. Can we further modify the circuit?
91. Why different values of resistances are used?
92. Why different values of capacitances are used in the circuit?
93. How power supply is given in the circuit?
94. How the circuit is connected to ground?
95. What is the meaning of ground exactly?
96. What is the need to connect other terminal of electronic components to ground?
97. What is voltage drop?
98. How voltage drop is calculated?
99. Why does voltage drop occurs?
100. Under what severe condition this circuit will not work if any such condition exists.



13. GAS LEAKAGE DETECTOR

1. What is the use of project?
2. Isn't there any other method of detecting gas?
3. Where can it be used?
4. What will be its size?
5. What will be its cost?
6. What is electric circuit?
7. How do we make electrical circuits?
8. What components can be used in a circuit?
9. What is ohms law?
10. What is current?
11. What is its unit?
12. Why is it kept on a scientist's name?
13. How we measure current in a circuit?
14. What is signal?
15. How some material allow current to flow and some don't?
16. What is a semiconductor?
17. What is EMF?
18. What is voltage?
19. How to measure voltage?
20. What is the difference between EMF & voltage?
21. What is potential difference?
22. What is Analog signal?
23. What is digital signal?
24. What is pulse?
25. How current flows?

26. What is resistance?
27. How to measure it?
28. What is resistor?
29. What is capacitor?
30. Why electrons flow from negative to positive terminal?
31. Why is direction of current from positive to negative terminal?
32. Why do we get shock from electricity?
33. What are protons?
34. What are neutrons?
35. What is atom?
36. What is a microcontroller?
37. Why is it called controller?
38. Why is it called micro?
39. What does it do?
40. Why is the microcontroller named arduino?
41. What will be its operation in our project?
42. Are there other similar microcontroller?
43. Why is voltage rating set for microcontroller?
44. Why is current rating set for microcontroller?
45. Why is ampere taken as current unit?
46. What are input pins?
47. What are output pins?
48. What is ground pin?
49. Why input and output pins same in arduino?
50. Can input pins be used for output use everywhere?
51. What is coding?
52. What type of socket do switch boards have?



53. How coding is done?
54. What is machine language?
55. What is a buzzer?
56. What is piezoelectric buzzer?
57. What will be its operation in our project?
58. What if the person is deaf?
59. What is a sensor?
60. What is it made of?
61. What is SnO_2 ?
62. What is Sn ?
63. What is O_2 ?
64. What gases are detected from this sensor?
65. What is its name?
66. Why does it detect only some gases?
67. What are flammable items?
68. What are inflammable items?
69. Which gas do we use for cooking?
70. What ways can gas leak?
71. What precautions can be taken?
72. Are there other similar sensors as well?
73. What is meant by ppm?
74. Is it the resistance?
75. What are the functions of a_0 and d_0 in sensor?
76. How to vary the sensitivity?
77. Why are we using only d_0 ?
78. Why is it getting hot on usage?
79. What will be the range of sound from the buzzer?
80. For how long will it continue to sound?

81. Can we control the time for which buzzer goes?
82. What is full form of GSM?
83. Is it similar to gps?
84. How many mobiles can it send message to?
85. Can it make calls as well?
86. What is the thin connected wire in the module of GSM?
87. What is optical fibre?
88. How is it different from conventional fibre?
89. What is transmitter?
90. What is receiver?
91. What is frequency?
92. Why is frequency of supply 50hz in India?
93. What is frequency of supply in USA?
94. What is male to male, male to female & female wires?
95. What is channel?
96. What is bandwidth?
97. What is dot board?
98. What is bread board?
99. What is soldering iron?
100. 100. What is soldering wire?



14. HOME AUTOMATION BY DTMF

1. What is resistance?
2. What is a pot resistance?
3. What is the principle used in the project?
4. What is the full form of DTMF?
5. What is DTMF?
6. What is 555 Timer IC?
7. What is a relay?
8. Why we need only 230V, 50 HZ motor?
9. What are transistors?
10. How do transistors work?
11. Why we use double tone frequency?
12. What is an oscillator?
13. What is a crystal oscillator?
14. What is a capacitor?
15. What is an electrolytic capacitor?
16. What are diodes?
17. How do diodes work?
18. What are ceramic capacitors?
19. Difference between electrolytic and ceramic capacitors.
20. What is meant by ESR?
21. What is breadboard?
22. How do DTMF work?
23. What are the frequencies corresponding to 1?
24. What are the frequencies corresponding to 2?
25. What are the frequencies corresponding to 3?
26. What are the frequencies corresponding to 4?
27. What are the frequencies corresponding to 5?
28. What are the frequencies corresponding to 6?
29. What are the frequencies corresponding to 7?
30. What are the frequencies corresponding to 8?
31. What are the frequencies corresponding to 9?
32. What are the frequencies corresponding to 0?
33. What is the need of DTMF decoding?
34. How do DTMF work?
35. Why 555 Timer IC called so?
36. What is the history of DTMF?
37. How does DTMF decoder work?
38. What is a microcontroller?
39. What is peripheral?
40. Why we use DTMF over microcontroller?
41. When the device comes in the ON state?
42. Which no is to be pressed to make all the outputs high?
43. How to Operate DTMF Controlled Home Automation System without Microcontroller?
44. What is soldering?
45. What is a filler metal?
46. What is a solder?
47. Which type of supply we are providing?
48. What are the DTMF event frequencies?
49. What are the applications of soldering?
50. What is PCB?
51. What is DC?
52. What is AC?
53. What is a sinusoidal waveform?
54. Why we switch to AC from DC?
55. Appliances for AC & DC are same?



56. How power loss is reduced?
57. What is step-up?
58. What is step-down?
59. How step-up & step-down can be done?
60. How resistance and capacitance value can be measured?
61. What are S.I. Units?
62. What is S.I. Unit for resistance?
63. What is S.I. Unit for capacitance?
64. What is $M\Omega$ & $K\Omega$?
65. What is microfarad?
66. Define 1 farad.
67. What is ohm's law?
68. What VCC and GND Denotes?
69. What is the need of automation?
70. What are the DTMF signaling applications?
71. How much DC voltage we are providing?
72. Advantages of this project?
73. What are some other applications of the project principle?
74. How can we calculate the device on time?
75. What are the limitations of the circuit?
76. Where relays are used?
77. How audio jack is connected in the circuit?
78. Is there is any limitation for the distance?
79. DTMF decoder decodes the input in which form?
80. BCD stands for?
81. Can we control the circuit through sms?
82. What is the earlier method of telecommunication?
83. What do you mean by high and low?
84. How pressing the key 7 switch ON the device?
85. When a transistor starts working?
86. Why we use both ac and dc supply?
87. Can the frequencies corresponding to rows and columns be changed?
88. What is the difference between ac and dc supply?
89. What is the full form of dB?
90. Can we use another DTMF decoder IC except MT8870?
91. Why diodes are used in the project?
92. Will model work without these diodes?
93. What is mobile jack?
94. Why mobile jack is used?
95. Why Pin No.5 of Timer or 555 IC is grounded through a capacitor?
96. Why Pin No.4 of Timer or 555 IC is connected to V_{CC} ?
97. Is there any alternative of DTMF to make home automation?
98. If diodes are also having some S.I. Unit to measure like resistance and capacitance?
99. What about transistors measuring unit?
100. What is the full form of LED?



17. LOW COST WATER PUMP

1. How many blades are used in a rotator?
2. How can we increase the water pressure in it?
3. What are the other materials that are used for constructing the outer body?
4. Can we add other features in it also?
5. What is a water pump?
6. How a motor start?
7. What is the principle of a motor?
8. What is current and their types?
9. How a rotator rotates?
10. Difference between AC and DC?
11. Why we prefer power diode?
12. What is the power diode?
13. What is the difference between PN junction diode and power diode?
14. What is a semiconductor?
15. How can we increase the conductivity of a semiconductor?
16. Describe the types of semiconductor?
17. Explain RPM?
18. What is Resistance?
19. What is capacitance?
20. Explain the role of timer?
21. Give full form of LCD?
22. How LCD works?
23. Can we use any other display?
24. How a battery works?
25. How a battery reduces 220 V to 12V?
26. What is the voltage regulator?
27. What is a soldering iron?
28. What IS the alloy used in a soldering iron?
29. What is a breadboard?
30. How can we design a PCB?
31. Difference between resistance and conductance?
32. What is a microcontroller?
33. Where we use a microcontroller in this project?
34. What is a IC?
35. How 555 timer IC works?
36. What are the various means of 555 IC?
37. What is the difference between a series current connection and parallel current connection?
38. What is the Transformer?
39. How do you start & stop this pump using 555 timer IC?
40. How many blades are used in a rotator?
41. What do you mean by pressure?
42. Can we use any other waste material which can replace tin?
43. What is a buoyant force?
44. What is a centrifugal force?
45. How centrifugal force help in working of this pump?
46. Is it possible to increase the power of motor how?
47. If we connect this pump DC motor to AC supply what happens?
48. What is solar energy?
49. What is a solar plate?
50. How was solar plate the charged?
51. How electron removes?
52. What is the benefit of using solar energy instead of electric energy?
53. What are the various uses of this pump?
54. How an Android phone helps in starting the motor?
55. What type of software we use?
56. Why we prefer copper wire?
57. What are the safety measures to be taken in it?



58. What is the estimated life of this pump?
59. What is the difference between generator and motor?
60. Which device is used for measuring the speed of motor?
61. Which type of soldering is used here?
62. Are same types of products available in the market?
63. What is LED?
64. How LED indicator works?
65. What are the different materials used for making LED?
66. Does LED work on reserve basis?
67. Who discovered pressure?
68. Why series resistance is connected with LED always?
69. How can we prevent the pump from wetting?
70. Where do we get this idea of making this low cost water pump?
71. What is the range of an Android phone to start the motor?
72. Can we use any other device to start the motor from some distance?
73. How much height is attained by the water pumped by this pump?
74. What is a transistor?
75. What are the types of transistor?
76. What are the three terminals of a transistor?
77. How can we detect which pin is emitter and which is collector?
78. How can we measure current?
79. What are the difficulties faced in constructing this pump?
80. What is the difference between Microprocessor and Microcontroller?
81. What is bluetooth technology?
82. Can we use a rectifier here instead of power diode?
83. What is rectification?
84. How does a Diode work as a rectifier?
85. Is the O/P of a power diode pure DC or not?
86. Which one is bigger emitter or collector and why?

87. Why base is lightly doped in a transistor?
88. What is depletion layer?
89. What is knee voltage?
90. What is forward and reverse biasing?
91. Which type of diode is used in voltage regulation?
92. How K.E helps in rotating the motor?
93. What is the principle of conservation of energy?
94. How many types of windings are used in motor?
95. How many poles are used in motor?
96. How do we control the vibration in the motor?
97. How do we couple the Motors?
98. How do we couple the compressor head with the shaft?
99. Which machine is used for tin cutting?
100. What is the estimated cost of this project?



18. NAVIGATION SYSTEM FOR BLIND

1. What is microcontroller?
2. Name the IC which is used in microcontroller?
3. Number of pins used in microcontroller IC's?
4. Where microcontroller is used?
5. What purpose it is used for?
6. Which material is used in microcontroller?
7. Name some applications of microcontroller?
8. How many types of microcontroller?
9. How microcontroller works?
10. If it would not available in the market, what is its alternate?
11. What is the price of a microcontroller?
12. What is microprocessor?
13. Name the IC used in microprocessor?
14. No of pin in microprocessor IC's?
15. What purpose it is used?
16. Where microprocessor is used?
17. Difference b/t microcontroller and microprocessor?
18. Name some application of microprocessor?
19. How microprocessor works?
20. Which material is used in making microprocessors?
21. What type of materials used in making pins of microcontroller?
22. What is common b/t microcontroller and microprocessor?
23. Examples of microcontroller?
24. Examples of microprocessors?
25. Which is the semiconductor materials used in making microprocessor?
26. What is the used of microcontroller in your project?
27. What is used of microprocessor in your project?
28. How both are connected?
29. What are the benefits of microcontroller?
30. What are the benefits of microprocessor?
31. What is cost of microprocessors?
32. What are sensors?
33. Name the types of sensors?
34. How sensors work? Classification of sensors?
35. What are sensors made up off?
36. What is transducer?
37. Where transducer is used?
38. Difference between sensors and transducers?
39. What is ultrasonic sensor?
40. Name the IC used in ultrasonic sensor?
41. What is the use of ultrasonic sensor?
42. Which ultrasonic sensor is used in your project?
43. What is diff b/t ultrasonic sensor and transducer?
44. Application of ultrasonic sensor?
45. What is the cost of ultrasonic sensor?
46. What is the frequency of ultrasonic range?
47. How ultrasonic sensor works?
48. Which material is used in making ultrasonic sensor?
49. How ultrasonic sensor beneficial for your project?
50. How many types of ultrasonic sensor?
51. What is blue tooth? Types of Bluetooth?
52. What is the price of blue tooth?
53. How blue tooth works?
54. How blue tooth related to your project?
55. Which blue tooth is used in your project?
56. What is accelerometer?
57. What is the use of accelerometer?



58. What is the work of accelerometer in your project?
How it works?
59. Types of accelerometer?
60. What is -axis accelerometer?
61. Name the ic used as -axis accelerometer? How it works?
62. What is the application of -axis accelerometer?
63. What is the use of -axis accelerometer in your project?
64. What is the price of -axis accelerometer?
65. What is diff b/t -axis accelerometer and gyroscope?
66. What is gyroscope?
67. Where it is used? What is gyro sensor?
68. Where it is used?
69. What is the application of gyro sensor? How it works?
70. What is the price of gyro sensor?
71. What is your project? What is the need?
72. What problems can be eliminated?
73. Who will buy your product?
74. Why someone will buy your project? What do you learn from this project?
75. What is the teaching?
76. What is new to your product?
77. What are the problems that they currently face?
78. DO we have to meet real people or we can sell assume the problems they face?
79. Will the other person buy our product?
80. What is installation cause?
81. What problems can we face during making?
82. Do we really achieve what we can aspire?
83. What if the person using it does not like it? How can we upgrade this in future?

84. Is there any scope and can we establish a plant to produce on in mass?
85. Do we have to modify it for different terrains and places?
86. What is the scope of electronics and VLSI industry?
87. What are the properties of ac?
88. What are the properties of dc?
89. Where capacitors are used?
90. Where inductor is used?
91. What are the properties of resister?



19. PURIFICATION OF WATER PUMP

1. What is homemade water treatment?
2. How is homemade water treatment and safe storage done?
3. Is homemade water treatment safe?
4. What are the methods of treatment?
5. Why do we need homemade water purification?
6. By what we can purify the homemade water?
7. By what scale we can know the impurities of water?
8. What is pH value?
9. What is pH meter?
10. At what pH value we can drink water?
11. What things we use in our project?
12. Why do we use sand, gravels, & activated charcoal?
13. Why do we need a filter paper?
14. Why do we need pH meter?
15. Why do we need arduino?
16. What are the main parts of pH meter?
17. Why do we call arduino as microcontroller?
18. What is the function of an arduino?
19. What is the work of an arduino?
20. Why do we boil the after purification?
21. What is breadboard?
22. Why we need breadboard?
23. What is the full form of pH?
24. What is the pH value of bisleri water?
25. What is acidity?
26. What is basidity?
27. How many values are present in pH meter?
28. What is the pH value of bisleri water?
29. What is TDS value?
30. How we can measure the TDS value?
31. What is the TDS value of bisleri water?
32. At what value of TDS of water we can drink?
33. At what TDS value of water we can purify it?
34. What is the full form of TDS?
35. Why do we use this method for purification?
36. What is LCD?
37. Why we need LCD?
38. What is the full form of LCD?
39. Why do we need programming in this purification?
40. What is VCC?
41. Why do we use C language in our project?
42. What is ground?
43. Why do we need less Voltz in this project?
44. If the water is clean enough for us to drink?
45. What else might be in the water that we can't see?
46. What is pH sensor?
47. What is use of pH sensor?
48. Who develops the C programming?
49. What are header files?
50. What are keywords?
51. What are datatypes?



21. SMART DUSTBIN

1. What is resistance?
2. What is capacitance?
3. What is inductor?
4. What SI unit & symbol of resistance?
5. What SI unit & symbol of inductance?
6. What SI unit & symbol of capacitance?
7. What are the functions and significance of resistance?
8. What are the functions and significance of inductor?
9. What are the functions and significance of capacitor?
10. What is PCB and what are its functions?
11. What is potential difference & what is its unit?
12. What is ground potential?
13. What are the differences between DC and AC supply?
14. What are the symbols of DC and AC?
15. What is frequency & what is its unit?
16. Name the two wires using in single phase AC supply?
17. What is the value of AC frequency using in India?
18. What is ohm's law?
19. What is current & its unit?
20. What is KVL & KCL?
21. What is the effect of AC on capacitor?
22. What is the effect of AC on inductor?
23. What is transistor & what are its uses?
24. What are the basic principles of transistor working?
25. What are the types of transistor?
26. Biasing of transistor used in project?
27. What are the difference between NPN and PNP?
28. Switching behaviour of NPN and PNP?
29. How transistors differ from normal switch?
30. Ratings of transistor used?
31. What is the IC name of NPN and PNP?
32. What is IC technology?
33. What is microcontroller?
34. Name the microcontroller used in project?
35. What is the number of input/output pins in arduino?
36. What is the voltage at which arduino works?
37. What is digital signal?
38. What is analog signal?
39. What is the software used to code arduino?
40. How the connections of various element in project have been done?
41. Name the sensor used in project?
42. Define the basic working principle of ultrasonic sensor?
43. Pin configuration of ultrasonic sensor?
44. What is the working voltage of ultrasonic sensor?
45. Define metal detector?
46. Name the principle of working of metal detector?
47. What is unit of magnetic field intensity?
48. Explain oscillator?
49. Why metal detector used in project?
50. What is the minimum time delay can be given by arduino?
51. Number of arduino used in project?
52. What is the basic idea of project?
53. What is biodegradable waste?
54. What is non-biodegradable waste?
55. What is organic waste?
56. What is non-organic waste?
57. Material used to make dustbin?
58. What is the dimension of project?
59. What is the type of DC power supply?
60. What are the ratings of different power source used?



61. What is relay?
62. What is the basic principle of working of relay?
63. Why relay is used?
64. What do you understand by NO and NC?
65. Why driver circuit is used?
66. Which type of output given by different sensor used in project?
67. How is your project useful to solve some basic problem in society?
68. What are the key features of project?
69. Name the electronic component used in project?
70. Working voltage on project?
71. Define the term smart device?
72. Define fuzzy logic?
73. Type of motor used in project?
74. What is the basic working principle of dc motor?
75. What is servo motor?
76. What is the rating of servo motor used in project?
77. What is the objective of using servo motor?
78. Name the basic function and header file used in coding?
79. What is for and while loop?
80. What is oscillator?
81. What are the different types of switch button used?
82. Differentiate electronic and mechanical switch?
83. What are the different types of display?
84. Define the basic principle of working of LCD display?
85. What are the objectives of using LCD display in project?
86. What is diode?
87. Explain working of diode?
88. What is electromagnet?
89. Define the soldering techniques used?

90. What is multimeter?
91. What is transformer?
92. Explain the basic working principle of transformer?
93. What do you understand by flux?
94. Define faraday's law?
95. What is induced emf?
96. What is the basic application of project?
97. Name the recording mechanism used?
98. What are gears?
99. How's your project helping the society?
100. Name the problems that can be solved by using smart dustbin (project).



23. SMART KRISHI E-MONITORING SYSTEM

1. What is smart krishi e-monitoring system?
2. Why need of smart krishi e-monitoring system?
3. How to operate smart krishi e-monitoring system?
4. What, it project is only for farmers and agricultural field?
5. What would be the key points for smart krishi e-monitoring system in India?
6. What is Sensor?
7. What is use of sensor?
8. What is Relay?
9. What is use of relay?
10. What is breadboard?
11. What is Arduino?
12. What is use of Arduino?
13. What can we use of multiple sensors with arduino?
14. How do we connect the sensors with a arduino?
15. How do we upload the code to the arduino?
16. How to increase the productivity?/what will increase the productivity by this system?
17. How do will connect the personal computer with Project?
18. How do will connect the smart Phone with Project?
19. What is use of personal computer?
20. What is use of smart Phone?
21. What is use of Wi-Fi sensor?
22. What is the work of Bluetooth module?
23. What are the benefits of GSM module?
24. What is role of water pump?
25. How it project are helpful for smallholder farmers?
26. What are key target areas for their smart krishi e-monitoring agriculture strategies?
27. What are our project goals?
28. How the sensors will be interface?
29. What are future scopes of the project?
30. Where is the power source coming from?
31. What will effect of system on farmer's life?
32. What will do if soil moisture is increased or decreased?
33. What will do if soil temperature is increased or decreased?
34. What will do if humidity is increased or decreased?
35. What is need of smart krishi e-monitoring system for farming?
36. What are the advantages of project?
37. What are limitations of project?
38. How will do secure this project?
39. What is use of arduino Bluetooth application in the project?
40. What is IoT?
41. What is IoT view in agriculture?
42. How to related IoT from your project?
43. How do farmers think about the IoT?
44. How to connect sensors with arduino?
45. How many sensors are used in the model?
46. What are the names of sensor?
47. Why we are use of sensors in the project?
48. How many things are measures in the project?
49. How to work sensors in the project?
50. How to measure soil moisture by smart krishi e-monitoring system?
51. How to measure soil temperature by smart krishi e-monitoring system?
52. How to measure humidity by smart krishi e-monitoring system?



53. How to measure air temperature by smart krishi e-monitoring system?
54. What is Soil temperature sensor and air temperature sensor are different?
55. If Soil temperature sensor and air temperature sensor are different than how?
56. How to measure rain fall by smart krishi e-monitoring system?
57. What is benefit of rain sensor?
58. How many percentage (%) soil moisture is require in normal farming?
59. How many percentage (%) soil temperature is require in normal farming?
60. How much percentage (%) humidity is require in normal farming?
61. How many percentage (%) air temperatures require in normal farming?
62. What, in this project the water pump are automatic or manual?
63. How will much time taken to measurement of soil?
64. How many KW power are used to operate the water pump?
65. What is the work/use of water pump in the project?
66. What are the benefits of Water pump?
67. How will do Water pump with smart phone?
68. How will automatically ON /OFF water pump?
69. How to operate system with personal computer and smart phone?
70. What is benefit to operate project with personal computer and smart phone?
71. What is easy to operate this project by farmers?
72. What can operate project easily both large and small field?

73. What differences are for operate project in large and small field?
74. How to know farmer, what moisture, temperature level are good for farming?
75. What the barriers are for new technology adopt in agriculture field for formers?
76. If any farmers have not smart phone then they are use your system? If yes than how?
77. If any farmers have not personal computer then they are use your system? If yes than how?
78. What is basic requirement of your project smart krishi e-monitoring system?
79. What is your system solved related to social problems? If yes than how?
80. What will system have effect on farmers life?
81. How will system give the benefit for farmers?
82. How will reduce labour cost by the system?
83. If system is damage, Can we easily maintain the system?
84. In this project, if any problems are comes to operate the system then who and where will maintain the system?
85. What, Can we easily carry to system?
86. How many KW registers are used for soil temperature sensor?
87. What is the memory of WI-FI (esp8266) sensor?
88. We will do to secure the system from un authorized person?
89. What is role of the system in agriculture productivity?
90. How to increase product quality by the system?
91. What are the benefits of rain drop sensor?
92. How many type of wire is used in project?
93. How many sensors are connected to one Arduino?



94. What is the way to connect multiple sensors with arduino board?
95. What is the accuracy of soil moisture sensor?
96. What is difference between old farming and modern farming?
97. How can we say that modern farming is a smart farming?
98. What is use of GSM module?
99. How many voltage powers are needed in model?
100. Can we use same voltage power for all sensors?



24. TADPOLE DESIGN BASED CAR

1. What is basic design concept?
2. What are the benefits of this design as three wheeler arrangement of reverse configuration is very common?
3. What is other benefit of using three wheel configurations?
4. How braking is better in tadpole design?
5. How power train is better in tadpole design?
6. What is differential?
7. What kind of arrangement it is on front side for connecting wheels to chassis?
8. Why suspension system is required in vehicle?
9. What is double wishbone suspension system?
10. What is benefit of using double wishbone suspension system?
11. What is independent suspension system?
12. At high speed cornering how stability is maintained?
13. What is load transfer?
14. What is camber angle?
15. How camber angle assures stability?
16. Why damper is required even if spring is present?
17. What is engine?
18. What are the types of Engine?
19. What is 2 stroke Engine?
20. What is 4 stroke engine?
21. Name the steps involved in 4 stroke I.C Engine?
22. What is the difference between a gasoline (petrol) engine and a diesel engine?
23. What is the difference between 2 stroke and 4 stroke engine?
24. What is the meaning of C.C in engine?
25. What is difference between cam and crank shaft?
26. What is cylinder bore?
27. What is flywheel?
28. Why is cooling necessary for I.C. ENGINES?
29. What is gearbox?
30. What is transmission?
31. What are the components used in transmitting power from engine to wheels?
32. Necessity of transmission?
33. What is a clutch?
34. What is the function of clutch?
35. What is a carburetor?
36. What is Differential?
37. Function of Differential?
38. What is a universal joint?
39. What is gear ratio?
40. Intake and Exhaust Valves?
41. CI engine works on which cycle?
42. What is piston?
43. What is connecting rod?
44. What is engine cylinder?
45. What is crankshaft?
46. What is spark plug?
47. What do you mean by IHP and BHP?
48. What is steering?
49. On which principle steering mechanism works?
50. What is rack & pinion?
51. What is steering ratio?
52. What is turning radius?



53. Intake and Exhaust Valves?
54. SI engine works on which cycle?
55. Connecting rod joins to what?
56. What are the types of gudgeon pin?
57. Gudgeon pin connects to what?
58. Engine efficiency decided by what?
59. Working of the steering mechanism?
60. What is steering box?
61. What is the use of power steering?
62. What is four wheel steering?
63. Function of steering system?
64. What is steering angle?
65. What connect the steering column to wheel?
66. Components of steering system?
67. What is track width?
68. What is wheelbase?
69. Ackermann angle?
70. What is the centre point of steering?
71. What is steering linkages?
72. What are the types of steering?
73. What is frame/chassis of vehicle?
74. Purpose of roll cage?
75. Types of chassis?
76. What is unibody frame?
77. What is backbone tube?
78. What is x-frame?
79. What is perimeter frame?
80. What is platform frame?
81. What is space frame?
82. What is sub frame?

83. What is tubular space chassis?
84. History of brake/ how brake in automobile evolved?
85. Working of master cylinder?
86. Working of caliper?
87. Cause of load transfer?
88. What is e brake?
89. Benefits of abs brake?
90. Working of abs brakes?
91. Thermal aspect of disc brake?
92. Types of disc plate?
93. Advantages of disc brake?
94. Working disc brake?
95. Types of brake?
96. Basic concept of braking?
97. Working of drum brake?
98. Working disc brake?
99. What is the significance of frequency?
100. What is the difference between rigid and flexible suspension?



25. TRAFFIC CONGESTION MANAGEMENT

1. What is computer?
2. What is software?
3. What is hardware?
4. What is Data?
5. What is binary?
6. What is Database?
7. What is Storage Device?
8. What is memory?
9. What is device?
10. What is input device?
11. What is output device?
12. What is monitor?
13. What is mouse?
14. What is CPU?
15. What is ALU?
16. What is Control Unit?
17. What is motherboard?
18. What is hard-disk?
19. What is Read only memory?
20. What is read write memory?
21. What is RAM?
22. What is ROM?
23. What is primary memory?
24. What is secondary memory?
25. What is volatile memory?
26. What is non-volatile memory?
27. What is operating system?
28. What is user interface?
29. What is windows OS?
30. What is Android?
31. What is html?

32. What is html tag?
33. What is browser?
34. What is chrome?
35. What is internet?
36. What is network?
37. What is Search?
38. What is Search Engine?
39. What is Google?
40. What is website?
41. What is time format?
42. What is 12 hour format?
43. What is 24 hour format?
44. What is Data and Big Data?
45. What is prediction?
46. What is Data Analysis?
47. What is machine learning?
48. What is learning?
49. What is machine?
50. What is plotting?
51. What is chart?
52. What is table?
53. What is logic?
54. What is algorithm?
55. What is programming language?
56. What is R LANGUAGE?
57. What is Data Science?
57. What is Analytics?
58. What is Algorithm?
59. What do you mean by Data Analytics?
60. What is sensor?
61. What do you mean by Data Collection?
62. How to collect data?
63. Where to store this collected data?



64. What are steps involve in Data Analytics?
65. How to collect data from environment?
66. What do you mean by traffic?
67. What is traffic congestion?
68. What do you mean by management of traffic congestion?
69. What are the causes of recent increase in traffic congestion?
70. What are the effects of traffic congestion?
71. Name some present technologies used to address traffic congestion problem?
72. What is the action taken by the government to prevent traffic congestion?
73. What are the strategies used to reduce traffic congestion?
74. What are the benefits of managing traffic congestion?
75. What is the effect of congestion on roads?
76. How to increase public awareness about traffic congestion?
77. How can public help in reducing traffic congestion?
78. Describe the role of Government in controlling traffic?
79. How are pollution and traffic congestion related?
80. How can technologies help in combating traffic congestion?
81. What is the positive impact of traffic congestion?
82. What is the negative impact of traffic congestion?
83. Can obeying traffic rules help in reducing traffic congestion?
84. Write about some common traffic rules?
85. Name some countries that face the problem of traffic congestion
86. Describe the role of engineers to combat traffic congestion?
87. What is NGO?

88. Describe the role of NGO's to combat traffic congestion?
89. Describe the role of parents to combat traffic congestion?
90. Describe the role of law makers to combat traffic congestion?
91. How is our project on traffic congestion management different from Google maps?
92. What information do we get from Google maps on traffic congestion?
93. Does Google map show real time traffic?
94. Is it safe to share our traffic information with Google?
95. Does odd-even rule help in reducing congestion?
96. Shouldn't traffic congestion problem be made a political issue?
97. How can machine learning approach used to control traffic congestion?
98. What is machine learning model?
99. Which type of machine learning model is used?
100. Explain the whole project with the help of other related example?



26. WALKING AID GEARS (FOR BLIND)

1. What is ultrasonic?
2. How ultrasonic works?
3. What is sensor?
4. What is sonic?
5. What is Arduino?
6. What is microcontroller?
7. What is a circuit?
8. What does it do in the project?
9. How ultrasonic gives signal to Arduino?
10. What is 7805 IC?
11. Will the water sensor work on any other liquid?
12. What is a motor?
13. How does vibration occur in motor?
14. What is magnetic field?
15. For how much time battery works?
16. What will happen if battery drains out while the person is wearing the gear?
17. How does 7805 works?
18. Will sensors work in rain?
19. What will happen if the sensors wear out due to water?
20. What is a processor?
21. What is the distance up to which ultrasonic can detect the object?
22. How much power is required by the components used?
23. What is the use of 7805?
24. What is frequency?
25. Can we any other sensor instead of ultrasonic?
26. What else can we make from microcontroller?
27. What is ground pin?
28. How does LED glow?
29. What is semiconductor?
30. What is coding?
31. What is C language of coding?
32. How does Arduino what to do?
33. What is DC?
34. What is AC current?
35. What is Electromagnet?
36. What is the difference between conductor and semiconductor?
37. What is hertz?
38. What is semiconductor made of?
39. What is an IC?
40. Can we include more sensors to the project?
41. What is a switch?
42. What is a Transistor?
43. How a transistor works?
44. Can we use any other device instead of transistor?
45. Why water conducts electricity?
46. How Arduino sends command to the ultrasonic sensor?
47. What are other types of sensor?
48. Does the ultrasonic sensor work in dark?
49. What will happen if we apply ac current to the Arduino?
50. Can ultrasonic detect work in noisy environment?
51. What type of battery is used?
52. Why don't we directly use 5v battery?
53. How the blind person knows if battery runs out?
54. How much the battery lasts?
55. What are the different languages of coding?
56. How does the motor works?
57. How can we make an electromagnet?



58. Difference between a normal motor and vibration motor?
59. Is the product water proof?
60. What will happen if the person steps on a non-conducting slippery object?
61. What are the different pins of ultrasonic?
62. What function do the controller pins perform?
63. Can we place the module on any ordinary shoe?
64. What is the cost of the complete module?
65. How to reduce the cost of the module?
66. Why don't we use a buzzer instead of motor?
67. What will happen if the person steps onto water?
68. How the blind person will know about the hindrance from the side?
69. How much time it takes to make a single unit?
70. What is the work of microcontroller?
71. Can we use some other controller instead of it?
72. How Arduino receives command to the ultrasonic sensor?
73. What are the different types of sensors available?
74. How a sensor works?
75. Can the person wearing it, would be able to run?
76. Is the battery used rechargeable?
77. What will happen if we recharge the battery?
78. What the purpose is of led used?
79. Can the led be seen from a far distance?
80. Can we increase the distance?
81. How to increase the distance which is detected by ultrasonic?
82. In which form does the signal is sent?
83. What will happen if the coming object is fast?
84. How is a transistor made?
85. What is the use of 7805 IC used?
86. Can the person wearing these shoes receive shocks, due to battery used?
87. How the person will know, if battery drains out while the person is wearing the gear?
88. What will happen if opposite polarity is connected?
89. How a switch works?
90. What are ICs made of?
91. What is the use of IC?
92. What the polarity is of led?
93. What will happen if we reverse the polarity of led?
94. What voltage is supplied to the led?
95. What will happen if we supply overvoltage to the circuit?
96. How water conducts electricity?
97. Why does a microcontroller used in the project?
98. Is the module water proof?
99. What will happen if there is some false alarming?
100. What will happen if the motor wears out due to water?



27. WIRELESS HEXAPOD

1. What is robot?
2. What is meant by hexapod robot?
3. What is block diagram?
4. What is hardware design?
5. What is software design?
6. What is circuit diagram?
7. What is the use of hexapod robot?
8. What was the purpose of making hexapod?
9. What is the cost for making the project?
10. What is meant by ARDUINO?
11. What is microcontroller?
12. What is microprocessor?
13. What is meant by memory of microcontroller?
14. What is ROM?
15. What is RAM?
16. What is clock?
17. What is Atmega 256?
18. How does microcontroller works?
19. What is meant by pin of controller?
20. What is the memory of Atmega 256?
21. What is the difference between controller and processor?
22. Why we are using controller in our project?
23. What is a motor?
24. What is a servo motor?
25. What is Bluetooth module?
26. How the hexapod robot can be controlled?
27. In which surface the hexapod robot will move?
28. What is a sensory device?
29. What is the advantage of hexapod robot?
30. What is the disadvantage of hexapod robot?
31. What is breadboard?
32. What is the main feature present in microcontroller?
33. What is the role of controller in our project?
34. What is the first microcontroller?
35. How do we connect servo motor to the controller?
36. What is the power of servo motor?
37. What is resistor?
38. What is capacitor?
39. What is power supply?
40. How do we give power supply to the hexapod?
41. How does the hexapod will move?
42. What is coding?
43. Where do we do coding?
44. Why is coding essential?
45. Where is the code store in controller?
46. How do we control the legs of hexapod?
47. Why hexapod is called so?
48. How there is fix rotation in servo motor?
49. How is the role of 3 wires in servo motor?
50. How to program a microcontroller?
51. What material is used for the hardware design of hexapod?
52. What is oscillator?
53. Which type of battery is used in our project?
54. What is the voltage required for motor?
55. How much power is given to the controller?
56. What is the torque of motor?
57. What is transistor?



58. What is gear?
59. What is diode?
60. What is adapter?
61. What is led?
62. What is type of led used?
63. What is transmitter in Bluetooth module?
64. What is photodetector?
65. What is signal?
66. What is antenna?
67. What is IC?
68. How does Bluetooth works?
69. What is frequency?
70. What is the frequency of Bluetooth module?
71. What is PWM?
72. What is Bluetooth?
73. What is the range of Bluetooth module?
74. What is PWM signals?
75. How many pins are there in Atmega 256?
76. What are the types of capacitor?
77. How many PWM pins are there in Atmega256?
78. What are analog signals?
79. What are digital signals?
80. What is meant by communication?
81. What is analog pin?
82. How many analog pins are there in Atmega 256?
83. What are wired systems?
84. What is a wireless system?
85. What are connecting wires?
86. What is male and female in connecting wires?
87. What is the cost of arduino?
88. What is the cost of servo motor?

89. What is the difference between analog and digital signal.
90. What is APP for hexapod?
91. How do control the hexapod with the app?
92. Where do we form the software design?
93. What is a soldering rod?
94. What is the use of soldering rod?
95. What is a PCB board?
96. Which wire do we use for soldering?
97. How the connections are done?
98. Where do we done the coding for hexapod?
99. How the coding is done?
100. Why this project is required?

