



100 Times Curious – Collection of Questions
Released on the occasion of
Science & Engineering Fair of Selected Projects
At
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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
AGRICULTURE				
1	AS-B-AG-01	SILKWORM EGG COUNTER	MS RAMAIAH INSTITUTE OF TECHNOLOGY, BANGALORE	SRI VEVEKA BALA MANDIRA YELAHANKA
2	AS-B-AG-02	A NOVEL BIO PESTICIDE	SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY, BANGALORE	GHS KODIGEHALI
3	AS-B-AG-03	SOLAR AND LASER BASED FENCING	POOJYA DODDAPPA APPA COLLEGE, GULBARGA	CHANDRAKANTH PATIL MEMORIAL SCHOOL
4	AS-B-AG-04	PREGANACY DETECTION IN ANIMALS	VETERINARY COLLEGE,HASSAN	NETAJI PUBLIC SCHOOL
5	AS-B-AG-05	MULTI TALENTED ROBOT FOR FARMER	VSM INSTITUTE OF TECHNOLOGY, NIPPANI	NEW SECONDARY HIGH SCHOOL
AIR				
6	AS-B-A-01	AIR-QUALITY METER	SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY, BANGALORE	SJP PU COLLEGE HIGH SCHOOL
7	AS-B-A-02	ALGAL FILTERS FOR HEAVY METALS	SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY, BANGALORE	SJP PU COLLEGE HIGH SCHOOL
8	AS-B-A-03	FABRICATION OF STIRLING ENGINE FOR POWER GENERATION	SRI VENKATESHWARA COLLEGE OF ENGINEERING, BANGALORE	SRI VENKATESHWARA CENTRAL SCHOOL



9	AS-B-A-04	DESIGN AND IMPLEMENTATION OF SOLAR THERMOELECTRIC AIR COOLING AND HEATING SYSTEM	SRI VENKATESHWARA COLLEGE OF ENGINEERING, BANGALORE	SRI VENKATESHWARA CENTRAL SCHOOL
10	AS-B-A-05	EMBEDDED CONTROL FOR POLLUTION FREE ZONE	VIDYA VIKAS INSTITUTE OF ENGINEERING AND TECHNOLOGY, MYSORE	VIDYA VIKAS HIGH SCHOOL, MYSURU
11	AS-B-A-06	HARVESTING WIND ENERGY IN TRAINS USING HELICAL STRUCTURE TURBINE	PES COLLEGE OF ENGINEERING, MANDYA	HUDA PUBLIC SCHOOL MYSURU
12	AS-B-A-07	DEVELOPMENT OF SERVICE ROBOT	BASAVAKALYANA ENGINEERING COLLEGE	SHREE SARADAGI ANNPURNEWARI HIGH SCHOOL
ENERGY				
13	AS-B-E-01	BIOPOLYMER SOLAR CELL	SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY, BANGALORE	GHS KODIGEHALI
14	AS-B-E-02	DESIGN AND FABRICATION OF TURBINE USING GENEVA WHEEL MECHANISM	VIVEKANANDA COLLEGE OF ENGINEERING AND TECHNOLOGY, PUTTUR	GOVT. PU COLLEGE HIGH SCHOOL KOMBETTU
15	AS-B-E-03	SOLAR POWERED COOLING HELMET AND MOBILE CHARGING FOR FIELD WORKER	HMS INSTITUTE OF TECHNOLOGY, TUMKUR	GHS KYATASANDRA
16	AS-B-E-04	AUTOMATIC SPEED AND AUTO LIGHT BEAM CONTROL SYSTEM FOR GLARE PREVENTION IN VEHICLES	SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY, TUMKUR	KALIDASA HIGH SCHOOL



17	AS-B-E-06	SOLAR BASED AIR COMPRESSOR	GOVERNMENT ENGINEERING COLLEGE, HUVINAHADAGALI	TUNGABHADRA HIGH SCHOOL
18	AS-B-E-07	SMART STORAGE WITH WEB SERVER INTERFACED	JAIN UNIVERSITY- SCHOOL OF ENGINEERING AND TECHNOLOGY, RAMANAGARA	LAWRENCE HIGH SCHOOL
19	AS-B-E-08	SMART ENERGY SAVER AND CONSERVATOR (SESC)	JAIN UNIVERSITY- SCHOOL OF ENGINEERING AND TECHNOLOGY, RAMANAGARA	TWINKLERS SCHOOL
20	AS-B-E-09	WIND MILL FOR GREEN BUILDING	HIRASUGAR INSTITUTE OF TECHNOLOGY, BELGAUM	MORARJI DESAI SCHOOL, NIDASHOSHI
21	AS-B-E-10	MULTI ROTOR WIND MILL	HIRASUGAR INSTITUTE OF TECHNOLOGY, BELGAUM	MORARJI DESAI SCHOOL, NIDASHOSHI
22	AS-B-E-11	HHO SYSTEM	JAIN COLLEGE OF ENGINEERING, BELAGAUM	
23	AS-B-E-12	E-THERMO JACKET	POOJYA DODDAPPA APPA COLLEGE, GULBARGA	MAHADEVAMMA B PATIL SCHOOL, SHAKAINAH BAPTIS ACADEMY
24	AS-B-E-13	REGENERATIVE ELECTRO MECHANICAL BICYCLE	VIDYA VIKAS INSTITUTE OF ENGINEERING AND TECHNOLOGY, MYSORE	VIDYA VIKAS HIGH SCHOOL, MYSURU
WASTE MANAGEMENT (SWACCH BHARATH)				
25	AS-B-WM-01	ACTIVATED CARBON FROM CORN COB	DAYANAND SAGAR COLLEGE OF ENGINEERING, BANGALORE	DAYANANDA SCHOOL



26	AS-B-WM-02	NUTRACEUTICALS FROM SILK WASTE	SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY, BANGALORE	GHS KODIGEHALLI
27	AS-B-WM-03	RECLAMATION OF PALM WASTE	SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY, BANGALORE	GHS KODIGEHALLI
28	AS-B-WM-04	AUTOMATED WASTE SEGREGATOR	SDM INSTITUTE OF TECHNOLOGY, UJIRE	SDM SECONDARY SCHOOL UJIRE
29	AS-B-WM-05	SOLAR POWERED DRAINAGE CLEANER	BHEEMANNA KHANDRE INSTITUTE OF TECHNOLOGY, BHALKI	GHS KHATGAON
30	AS-B-WM-06	PLASTIC TO ENERGY	VIDYA VIKAS INSTITUTE OF ENGINEERING AND TECHNOLOGY, MYSORE	SADAVIDHYA HIGH SCHOOL, MYSURU
31	AS-B-WM-07	DRY LEAVES SUCKER AND GRINDER	VSM INSTITUTE OF TECHNOLOGY, NIPPANI	GHS NERLI
WATER				
32	AS-B-W-01	DEFLUORIDATION BY LATERITE METHOD	BLDEA'S VP DR PG HALAKATTI COLLEGE OF ENGINEERING AND TECHNOLOGY, BIJAPUR	SHRI B.M PATIL PUBLIC SCHOOL
33	AS-B-W-02	WATER FOR TOTAL HEALTH	HIRASUGAR INSTITUTE OF TECHNOLOGY, BELGAUM	MORARJI DESAI SCHOOL, NIDASHOSHI
34	AS-B-W-03	MOBILE WATER PURIFIER	SHAIKH COLLEGE OF ENGINEERING AND TECHNOLOGY, BELGAUM	JOSHI'S PUBLIC SCHOOL



GENERAL				
35	AS-B-G-01	A SUSTAINABLE MODULAR HOUSE USING LEAN CONSTRUCTION TECHNIQUES	BMS COLLEGE OF ENGINEERING, BANGALORE	GGHS LINK ROAD SHESHADRIPURAM
36	AS-B-G-02	IOT BASED MOP	CMR INSTITUTE OF TECHNOLOGY, BANGALORE	GHS YEDIYUR
37	AS-B-G-03	SMART ELECTRONIC HELMET	SAHYADRI COLLEGE OF ENGINEERING AND MANAGEMENT, MANGALORE	GHS KUMPALA
38	AS-B-G-04	ATTENDANT ROBOT FOR BEDRIDDEN PATIENTS	SIDDAGANGA INSTITUTE OF TECHNOLOGY, TUMKUR	SRI SIDDAGANGA COMPOSITE JUNIOR COLLEGE HIGH SCHOOL
39	AS-B-G-05	HEAD CONTROLLED MOUSE	GIRIJABAI SAIL INSTITUTE OF TECHNOLOGY, KARWAR	GHS KARWAR



1. SILK WORM EGG COUNTER

1. Why it is so important to count the eggs?
2. What are the uses of silk?
3. Describe the lifecycle of silkworm.
4. Which are the countries that produce silk in large quantities across the world?
5. How much silk is produced in India?
6. How much silk is produced in Karnataka?
7. What is Mulberry silk?
8. What are the stages involved in the production of Silk?
9. How many days does it take for the eggs to hatch?
10. How many days does it take for the silk worm to completely grow into a moth and spin cocoon?
11. What is the chemical composition of Silk fibre?
12. Which are the types of silk?
13. Which are the diseases related to Silkworm?
14. What kind of environment is required for breeding of silkworm egg?
15. What does the silkworm eat?
16. How many eggs does a moth lay?
17. What happens to the quality of silk when the moth is allowed to come out of the cocoon?
18. Are there any researches on silk?
19. What are the natural silk colours?
20. Which type of silk is broadly used?
21. What is chawki?
22. What do the chawki rearing centres do?
23. Can the silk be used for other purposes apart from textiles?
24. Can the silkworm eggs be preserved?
25. Why is this silkworm called multivoltine? What are the other types?
26. Is this indigenously available?
27. Does India export/import any silk?
28. What are the international trade relations regarding silk in India?
29. How many people's livelihood depends on sericulture?
30. How is the economic development regarding this industry?
31. What are the different ways to preserve the silkworm eggs?
32. Do all the eggs in the egg sheet hatch at the same time?
33. Why are the eggs laid in a spiral manner on the sheet?
34. Why are some of the eggs laid one upon another?
35. How is the image of eggs transferred into counts?
36. Why do we have to count the number of eggs?
37. Is the project Innovative?
38. Is the product only for farmers?
39. What is the reason for colour change of the eggs?
40. Can this counting method be used for other minute particles?
41. How much time does it take to count the eggs manually?
42. What are the disadvantages of this project?
43. Why is automatic counting done by image processing and not by other mechanical methods?
44. What is image processing?
45. Is it cheaper than manual methods of counting? How?
46. Does this product need continuous maintenance? Or is a one-time installation enough?
47. What more can be done from this project other than counting?
48. What all component does the device consist?
49. Who will manufacture this device later for farmers?



50. Will the farmers know how to use this device?
51. What if some problem occurs during its operation? Who will service it?
52. What are the drawbacks of manual methods?
53. How is counting of egg done (methods used)?
54. Where did you get the idea from?
55. Is the device user friendly?
56. Are you planning to work more on it after engineering?
57. What is Raspberry pi?
58. Why Raspberry pi?
59. What are the specifications of Raspberry pi?
60. Which language is used for developing the software?
61. Does the farmer need to know how to use a computer in order to work with this device?
62. What is the algorithm used for counting?
63. What does pre-processing mean?
64. What is the meaning of noise removal?
65. What kind of noise will be present in an image?
66. Why will there be any 'noise' in an image? Isn't noise related to sound?
67. How is this noise removed?
68. What are pixels of an image?
69. What is MATLAB?
70. Why is it called so? Does it involve maths?
71. What is a matrix?
72. How is an image represented as a matrix?
73. What do matrix operations mean?
74. Why is this process 'digital image processing'? What is digital about it?
75. What is meant by erosion?
76. Is it related to 'land erosion' we studied in geography?

77. Why do we need to erode the image?
78. What happens if it is not eroded?
79. What is meant by connected-component algorithm?
80. How does it know which regions are connected?
81. How does counting the connected components give us the total count?
82. What else can be found out using connected-component algorithm?
83. What are other applications of connected-component algorithm?
84. How does this project help for farmers?
85. How many eggs can be calculated by this method per second?
86. Is this method accurate than other methods?
87. Can this project be done in large scale?
88. How is this method used to calculate yield rate?
89. What is the meaning of colour segmentation in colour processing?
90. Is this method affordable for everyone?
91. What are the steps involved in project?
92. Can this method be used to identify whether the eggs are dead or alive?
93. What are the different methods in silkworm egg counting?
94. Can the overlapped eggs be counted?
95. Can the eggs be counted by weighing them?
96. Can this method be used to determine the hatch rate?
97. Is this method useful only in sericulture field?
98. We have other methods of counting, why is this method better than others?
99. Can we modify this project to know the time of hatch?
100. Is this project as simple as it looks?



2. A Novel Bio Pesticide

1. What is PH?
2. What is earthworm?
3. Why some chemicals are coloured?
4. What is bacteria?
5. Why are bacteria so small?
6. What is microscope?
7. How can we see these small organisms through microscope?
8. What is fungus?
9. What is antibiotic?
10. How they will extract antibiotics from fungus?
11. Why are bacteria harmful for humans?
12. Why leaves are green in colour?
13. What is photosynthesis?
14. Why only earth has living organisms?
15. Why ocean water is salty?
16. Why can't fishes live on land?
17. How did earth evolve?
18. How do the planets revolve around the sun?
19. What are scientific names?
20. How they will give scientific names to the organisms?
21. Which are the organisms present in the soil?
22. Why do different types of soil have different names?
23. How can bacteria live inside our body?
24. What is EPN?
25. What is extraction?
26. How we can extract bacteria or small organisms from the soil?
27. How are diseases caused?
28. How many types of bacteria are present?
29. How will EPN grow in a worm?
30. What is the meaning of pathogenic?
31. How are chemical fertilizers harmful to humans?
32. Why did you take this project?
33. How is this project helpful for farmers?
34. What is acidic PH?
35. What is litmus paper?
36. What is incubation?
37. What is galleria worm?
38. What are petri plates?
39. What is artificial food?
40. What is the composition of artificial food for galleria?
41. How does galleria worm breathe through its spiracles?
42. How does EPN grow up to 3 generations inside the galleria worm?
43. What is filter paper?
44. What is watch glass?
45. What is white trap method?
46. How we test the bio pesticide in fields?
47. How can we extract EPN from the dead galleria worms?
48. What is isolation?
49. What is model organism?
50. Which are the plants that get affected by galleria worm?
51. Why did we select galleria as model organism?
52. How many types of EPN are there in the soil?
53. How EPN will get attracted towards the worm in the soil?
54. Why are bio pesticides not harmful for humans?
55. What is the difference between chemical and bio pesticides?



56. What are nematodes?
57. Why are EPN entomo pathogenic?
58. What is in vitro?
59. What is in vivo?
60. What is juvenile stage?
61. What is hemolymph?
62. What is hemocoel?
63. What is membrane?
64. What is resistance towards a disease?
65. What is autoclave?
66. What are roundworms?
67. What are facultative parasites?
68. What are secondary metabolites?
69. What are peptides?
70. What are hybrids?
71. How can we develop hybrids?
72. What is suppression?
73. What are nematode secretions?
74. What is immunity?
75. Why do bacteria die at high pressure in the autoclave?
76. What is the multiplication time of a bacteria?
77. Why we need to dig soil up to 15cm to isolate the EPN?
78. After incubation why colour of the galleria worm changes?
79. What is the length of an EPN?
80. How EPN will release the symbiotic bacteria into the host?
81. What is cultivation?
82. What is yield?
83. What are the factors for growth of plants?
84. What is nematology?
85. What is symbiotic?
86. What is virulence?

87. How EPN will multiply in the insect cadaver?
88. How enteric bacteria get associated with the intestine of the nematode?
89. What is the time period taken by the enteric bacteria to kill the host?
90. What is larvae?
91. What are the chemicals released by the plants to attract the parasitic nematodes?
92. Why to maintain a moist condition to extract the EPN using white trap method?
93. What is efficacy?
94. How can we prepare organic fertilizer?
95. What is mortality rate?
96. How can we biologically control the pests?
97. What are prokaryotes?
98. What are eukaryotes?
99. What is susceptibility?
100. What is progeny?



3. SOLAR AND LASER BASED FENCING

1. What is fencing?
2. How is fencing done?
3. Why is fencing done?
4. What is solar?
5. How do we get solar energy?
6. When do we get solar power?
7. How can we utilize solar power?
8. How is solar energy converted to electrical energy?
9. What is the advantage of solar energy?
10. What are solar panels?
11. List the types of solar panels?
12. Which is the material used for making solar panels?
13. Which is the heart of this project?
14. How did you get the idea about this project?
15. Why this idea should be implemented?
16. What is the aim of this project?
17. What is the cost of the prototype?
18. What could be the cost of model?
19. Is it a real time system?
20. What is agriculture?
21. Who are farmers?
22. What do the farmers do in field?
23. Why India is called as an agricultural country?
24. How is agriculture maintained?
25. What are crops?
26. What is the use of crops?
27. How can we avoid destruction of crops?
28. Who is a cow boy?
29. What is the job of a cow boy?
30. Is it necessary to have a cowboy in the field?
31. Is this project about automation of the field security?
32. How the crops get destroyed?
33. Which animals destroy the crops?
34. How can we avoid animal/human interruption in the field?
35. Does the destruction of crops affect the overall productivity of the nation?
36. How can the productivity be increased?
37. In which areas of the country the destruction is seen more?
38. Why in coastal regions the destruction is seen more?
39. What is laser?
40. Why is laser used in this project?
41. What is the full form of laser?
42. What are the advantages of laser?
43. What are the disadvantages of laser?
44. What are the disadvantages of solar?
45. What is laser beam?
46. How laser beam is set up in the field?
47. What is the color of laser?
48. What is a microcontroller?
49. What is the aim of microcontroller?
50. Why microcontroller is used in this project?
51. What is the advantage of using microcontroller in this project?
52. How the coding is done?
53. What is coding?
54. Which language is used for coding?
55. Why microcontroller is called the heart of this project?
56. What is the full form of ldr?



57. What is LDR?
58. Why LDR is used in this project?
59. How does the LDR works?
60. What is battery?
61. What is the use of battery?
62. Which type of battery is used in this project?
63. How the solar power is transferred to battery?
64. What is buzzer/siren?
65. How does the buzzer work?
66. Why the buzzer is made to have dangerous sounds?
67. What is the use of dangerous sounds in this project?
68. How does the intruder run away from the field?
69. How does the owner of field get to know about the intruder?
70. What is gsm?
71. What is the use of gsm?
72. What is the full form of gsm?
73. When does the laser beam get interrupted?
74. Is laser a safer shock?
75. What is rechargeable battery?
76. What is real time feedback system?
77. What is the full form of LCD?
78. What is LCD?
79. Why is LCD used in this project?
80. What are the major components of this project?
81. What is PCB layout?
82. What is RS232?
83. What is the use of RS232?
84. What is transformer?
85. What is the use of transformer?
86. What are the disadvantages of electric fencing?

87. What are the disadvantages of solar fencing?
88. What are the advantages of solar and laser based fencing?
89. What should be shape of the field for this project?
90. Is it an economical project?
91. Does this project harm the environment?
92. Is this project farmer friendly?
93. When the LDR detects, what happens to the buzzer?
94. When the laser is interrupted, what type of message is sent to the owner of the field?
95. Is it a one-time investment?
96. What is the lifespan of this project?
97. Why this project is to be considered?
98. What is the cost for prototype making?
99. What is the real cost of this project?
100. What is the future scope of this project?



4. Pregnancy Detection Technique in Animals

1. What is meant by pregnancy?
2. Which are preservatives?
3. What does perishable mean?
4. What is shelf life of urine?
5. What does reliable mean?
6. What is metabolism?
7. What are cooperative societies?
8. What is technique?
9. What is diagnosis?
10. What is TDS?
11. What is sampling?
12. Name some animals kept for milking.
13. What is colour of urine in cattle?
14. What does distil water mean?
15. What is meant by percent solution?
16. What is meant by isolation?
17. What is identification?
18. What is crossbred cattle?
19. Why pregnancy in cattle needed?
20. What is the length of pregnancy in cattle?
21. What is the length of pregnancy in buffaloes?
22. What is the length of pregnancy in dog?
23. What is the length of pregnancy in cat?
24. What is the length of pregnancy in horse?
25. What is the length of pregnancy in elephant?
26. What is the length of pregnancy in rabbit?
27. What is the length of pregnancy in rats?
28. What is the length of pregnancy in tiger?
29. What is the length of pregnancy in lion?
30. What is the length of pregnancy in sheep?
31. What is the length of pregnancy in goat?
32. What is the length of pregnancy in pig?
33. What is the length of incubation period for eggs in poultry?
34. What is standardization?
35. Where is Hassan veterinary college located?
36. How much milk should an individual consume?
37. What is meant by simple technique?
38. What is meant by detection?
39. What is meant by commercial markets?
40. What is meant by precipitate?
41. What is meant by procedure?
42. What is meant by field trial?
43. Name the country with highest milk production?
44. Name the country with highest cattle population?
45. What is the origin of jersey cattle?
46. What is the origin of HF cattle?
47. What is synthesis of urine?
48. Why detection of pregnancy needed?
49. What are the best ways to maintain animal health?
50. What is ANAND?
51. What is NDRI?
52. What is NDDDB?
53. What is hygiene?
54. What is meant by quality?
55. What is quality control?
56. Name the Desi breeds of cattle?



57. What is Amrithmahal Kaval
58. What are fodder crops
59. What is cross breeding?
60. What are the types of seeds?
61. What is meant by insemination?
62. What are hormones?
63. Which part of plant is called shoot?
64. What do you mean by economical?
65. What do you mean by non-invasive?
66. What are Green grams?
67. Which are the tropic regions of world?
68. Which are the different seasons of the year?
69. What are monocotyledon seeds?
70. What are dicotyledonous seeds?
71. What is meant by ratio?
72. What is livestock census?
73. What is the total animal population in India?
74. What is urino-meter?
75. What percentage of urine is water?
76. Where kidneys are located?
77. What is function of the urinary bladder?
78. What is proteinuria?
79. What is glucosuria?
80. Name the hormone produced from kidney?
81. What is Petri dish?
82. What is germination?
83. What is artificial insemination?
84. What is meant by semen straws?
85. What is positive group?
86. What is negative group?
87. What is meant by significant?

88. What is meant by active principle?
89. What is radio immune assay?
90. What is ultrasound scanning?
91. What is dilution?
92. What is concentration?
93. What are non-productive animals?
94. What is a control group?
95. What is evaporation?
96. What is replication?
97. What is investigation?
98. What is blotting paper?
99. What is distil water?
100. What is inhibition?



5. Multi-Talented Robot Machine for Arecanut Farming

1. What is Arecanut cutting multitalented robot?
2. What is the shape of Arecanut cutting multitalented robot?
3. What is the height of robot?
4. What is the cost of robot machine?
5. What is the height of arecanut tree?
6. What is the width of arecanut tree trunk?
7. How is the robot body assembled on the tree?
8. What is the weight of the robot machine?
9. What can the robot machine do?
10. Can we apply it to different trees?
11. How much time does the robot take to climb the tree?
12. How much time does it take to take to cut a bunches of arecanut?
13. What are the mechanisms used in robot?
14. Can the robot fall down during work?
15. What part of the robot allows it to climb the tree?
16. How does the robot machine works?
17. How does the robot machine take grip?
18. What power does the robot use to climb tree?
19. What is capacity of robot machine?
20. How much weight can robot machine carry?
21. Why do we use this robot machine?
22. How much does it cost the agriculture field?
23. How much time does it require to assemble?
24. What is the use of this robot?
25. Does this robot damage the plant?
26. How we can operate this robot machine?
27. How does this robot work during spraying?
28. How many motors does the robot machine have?
29. How many motors does the robot arm have?
30. How many motors does the full robot machine have?
31. What are the different types motors used?
32. How many motors are used for climbing?
33. What mechanism helps the robot machine gain a proper grip?
34. What is the minimum height of an arecanut tree?
35. What is the ampere of the robot body motors?
36. What is the RPM of the robot body motors?
37. What is the voltage of the robot body motors?
38. Why do we use only these motors?
39. What is the actual application of these motors?
40. What material are used for the robot body?
41. What is the size of the material used?
42. Why do we use aluminium?
43. What is meant by clamping?
44. What is the size of the clamping mechanism?
45. Why is the clamping mechanism used?
46. What is the ampere of the clamping motor?
47. What is the RPM of clamping motor?
48. What is the voltage of the clamping motor?
49. What materials are used in clamping?
50. What is the shape of the clamping mechanism?
51. What is the diameter of the clamping motor?
52. How does the clamping work?
53. What are the parts used in the clamping mechanism?
54. How does the clamping adjust the grip?
55. What is the slider crank mechanism?
56. What is the use of the slider crank mechanism?
57. What is the size of the cutting mechanism?



58. What is the height of cutting mechanism?
59. What is the width of the cutting blade?
60. What motors are used in the cutting mechanism?
61. What is the Ampere reading of the motors used in the cutting mechanism?
62. What is the RPM of the motors used in the cutting mechanism?
63. What is the voltage of the motors used in the cutting mechanism?
64. Why is the cutting mechanism used?
65. What is the size of the arecanut bunches?
66. Why do we use the basket?
67. What is the roll of the basket?
68. What material are the baskets made up of?
69. How we are setting the basket in the robot's body?
70. What is the RPM of the robot arm motors?
71. What is the Ampere of robot arm motors?
72. What is the voltage of robot arm motors?
73. What is use of robot arm?
74. Why do we use the robot arm?
75. How many motors are used in arm?
76. What are the different functions of the robot arm?
77. What camera can we use in this robot?
78. Why are we joining the camera to the arm?
79. How do the arm and the camera work together?
80. What are the specification of camera?
81. How many trees can the spraying mechanism cover in one given space?
82. What is the size of robot arm?
83. Why are we using a nozzle?
84. What are the kinds of switches used in robot?
85. How many switches are used in remote?
86. What devise is used to supply power?

87. Why are we using spick belts?
88. How many mechanisms are used in this robot?
89. Why are we using a spring?
90. What is the size of the spring size?
91. How many springs are used?
92. What mechanism used for gripping?
93. What is the colour of robot body and why?
94. Why is Bering used in the robot?
95. How many spike belts are used in this robot?
96. How many shaft are used in the robot?
97. What is the diameter of the shaft?
98. What is the length of the shaft?
99. What is the total power required to operate the robot?
100. Can we run this robot by using AC current?



6. Hand Held Air Quality Meter

1. What is a microcontroller?
2. What are sensors?
3. What is air quality meter?
4. What is air quality index?
5. What is a CO2 sensor?
6. How CO2 sensor works?
7. What is a gas sensor?
8. How gas sensor works?
9. What is a humidity and temperature sensor?
10. How humidity and temperature sensor works?
11. What is a dust sensor?
12. How dust sensor works?
13. Why is it important to know the quality of air?
14. How dust in the air affect our health?
15. What are the general diseases associated with the polluted air?
16. What are the sources of these pollutants?
17. Will quality of air help us reduce adverse effects of air pollution?
18. What are the possible social impact of this device?
19. How does excess CO2 affect our health?
20. What are the possible precautions people may take if they are aware of air quality?
21. What is the shelf life of this device?
22. Will continuous readings vary its readings?
23. What are the places where the device can be employed?
24. What are criteria to get the government approval?
25. What are the other similar products available?
26. How will we classify the intensity of the danger by pollutants?
27. Can we add graphing system to it for survey purpose?
28. What is the %error in recordings by the device to standard measurements?
29. What is CO2?
30. What is lead?
31. How lead is released into the air?
32. What is the difference between analog and digital?
33. What is serial monitor?
34. What is software and hardware?
35. What is humidity?
36. How wrong connections affect the components?
37. How can the readings be altered?
38. Why is that there are different types of microcontrollers?
39. Has anything like this been done in India before?
40. Will this device be useful in villages?
41. Is the cost of this device is higher than the existing device?
42. What are its benefits over present day technology?
43. Why people should use this technology over present technology?
44. How this technology is better than present day technology?
45. What does the specification of the dust sensor denote?
46. How does LED work?
47. In the program what does (0,4) for the display denote?
48. What are the possible malfunctions of the device?
49. What are gates?
50. Can this device be deployed in high toxic conditions like mines?



51. Is there a way to get even the microbial condition of the air easily?
52. How does humidity vary with the seasons?
53. What is the difference between LED and LCD?
54. How can we specify varying humidity standards?
55. How much mass can be reduced in mass production?
56. What are MQ range of sensors?
57. How do MQ range of sensors work?
58. How do MQ range of sensors differentiate between different gasses?
59. Can the device be used for long term applications?
60. What are semiconductors?
61. What is soldering?
62. What is the solder thread made up of?
63. What are the effects of excess CO₂?
64. What are the effects of excess CO?
65. Can this system be made waterproof?
66. What does PPM imply?
67. How do readings vary with height?
68. What is the range of this device?
69. What is the temperature range of this device?
70. What is the internal function of the humidity sensor?
71. Will dryness in air affect us adversely too?
72. What is the case made up of?
73. Can the case withstand the environmental attacks?
74. How does device reading vary in a closed car?
75. What are the voltage ranges of outputs of the sensor?
76. Do all electronic devices function at 5v or 12v?
77. What changes the range of input voltage?
78. What is doping?
79. How do they select dopants?
80. What does solid state devices imply?
81. What is the function of a capacitor in an electronic circuit?
82. What is the function of a resistor in an electronic circuit?
83. What is ground?
84. What is a transducer?
85. How many types of Arduino are there?
86. Why Arduino is used here?
87. What is a printer?
88. What is an LCD display?
89. What are the toress of connecting wires?
90. Which software do we use for programming?
91. Can we interchange the pin slots of the sensor?
92. What is the response time of this device?
93. How does LCD display work?
94. Why are we using LCD display when we have printer?
95. What kind of printer are we using?
96. Can we prepare our own sensors?
97. How to give output instructions to LCD?
98. Is the output of the sensors analog or digital?
99. Can we alter the program at any time?
100. What are the limitations of this device?



7. Algal Filters for Heavy Metals

1. What is algae?
2. What is wastewater?
3. What is bioremediation?
4. Iron is a heavy metal; it is in our body. Is it not harmful?
5. What are the types of bioremediation?
6. What is biological remediation?
7. Is our drinking water safe?
8. Why should we clean lake water?
9. Will fish die in the lake?
10. Eating fish from lake is safe?
11. Is tap water safe?
12. Uses of bioremediation?
13. Can algae grow everywhere?
14. Are algae harmful when consumed?
15. What is biomass?
16. How do we obtain biomass?
17. Do algae grow in the absence of sunlight?
18. Do algae grow in minus temperature?
19. Uses of algae?
20. What is microalgae?
21. Are algae harmful?
22. Why is it necessary to clean lake water?
23. How do lakes get polluted?
24. Why do they allow lakes to get polluted?
25. What is heavy metals?
26. What are the few types of heavy metals?
27. What is pH?
28. What is pH of drinking water?
29. Does bore well water contain heavy metal? Is it safe for consumption?
30. Where do we get heavy metals from?
31. How can rock n volcano be heavy metals?
32. Why are heavy metals used?
33. Where are heavy metals used?
34. Is mining illegal?
35. How will mining effect?
36. Are algae plants?
37. Do algae have DNA?
38. Difference between algae and microalgae?
39. Are algae dirty like heavy metals?
40. Why do we use conical flask and glassware?
41. Why motor and filter are attached to flask?
42. Do algae need oxygen?
43. What is the pH of algae?
44. What is pH meter?
45. Why algae need nutrients?
46. What are the nutrients for algae?
47. Why only distilled water is used in this?
48. Can algae grow in flask?
49. What is autoclave? Why it is used?
50. What is laminar air flow?
51. Is UV radiation dangerous?
52. Why do we work in laminar air flow?
53. Why Bunsen
54. What are air filters?
55. Oven is used to heating? How can they be used to dry?
56. What are brickets?



57. Is it necessary to clean the lakes regularly?
58. What are the main sources of lake contamination?
59. Do algae also contaminate water?
60. Do algae help in cleaning water?
61. What does algae feed on?
62. Do algae need sunlight?
63. What is lux meter?
64. How long does it take for algae to grow?
65. What is sub culture?
66. What is extraction?
67. Why should we extract biomass?
68. Biomass means?
69. Biomass contains?
70. What is wet biomass?
71. What is centrifugation? How to operate it?
72. What are Oakridge tubes?
73. How will they get separated in separating funnel?
74. Biomass is dried? By boiling?
75. How do we detect water pollution?
76. How does water quality affect human health?
77. Is bioremediation safe?
78. Applications for bioremediation?
79. How many algae are there?
80. Only algae can be used in bioremediation?
81. What are different types of bioremediation?
82. There are heavy metals in drinking water, is it safe if we consume?
83. Waters are recycled in waste water treatment? Do they have heavy metal?
84. Can waste water treatment plant remove heavy metals?
85. What is sludge?

86. Lake water is boiled before consuming, is it safe?
87. Who use lake water?
88. Why are agriculture purposes are fulfilled by polluted lakes?
89. Are lakes attached from one lake to another?
90. After effects of consuming excess heavy metals through water?
91. Are there any benefits of consuming water that contains heavy metal?
92. Where microalgae are generally found?
93. What are health issue or diseases from polluted lake?
94. How long will it to take to identify the symptoms?
95. How do we get heavy metals in the body?
96. What is permissible limit?
97. Why can't we stop using heavy metals?
98. Can lakes be cleaned by algae?
99. After cleaning the polluted lakes, are they safe to drink?
100. Won't lakes get polluted again after cleaning?



8. FABRICATION OF STIRLING ENGINE FOR POWER GENERATION

1. What you mean by sterling engine.
2. Who invented Stirling engine.
3. On which year, this theory came into existence
4. What are parts it involves
5. Which is the best suitable material to manufacture the engine.
6. What is the efficiency of the engine?
7. What the function of flywheel
8. What are the applications of the flywheel?
9. What is the function of connecting rod?
10. what the function of cylinder
11. classify sterling engine
12. what are the different fuels used to run the engine?
13. what are advantages and disadvantages of sterling engine
14. what is the function of generator?
15. what is the function of piston?
16. Is it alternate source for conventional energy generation methods?
17. Is it environment friendly?
18. Explain sterling cycle
19. Explain the working of sterling engine
20. Briefly explain comparison between IC Engines and sterling engine
21. What are applications of sterling engine
22. Can we use solar energy to run engine?
23. what is the maximum efficiency of sterling engine?
24. What are the different processes in sterling cycle?
25. Compression process that takes place in Stirling engine is.....
26. In Stirling engine, pistons are arranged in.....
27. In a Stirling cycle, the heat rejection and addition takes place at constant.....
28. If Stirling cycle with regenerative arrangement and Carnot cycle operate within same temperature limits, then the thermal efficiency of Carnot cycle will be.....
29. The efficiency of Stirling cycle is Carnot cycle
30. Explain how the piston reciprocates in the cylinder
31. what are the effective ways of generation of power from the sterling engine?
32. What you mean by conventional sources of energy
33. What you mean by non-conventional sources of energy
34. What you mean by energy
35. What are different types of non-conventional sources of energy are available
36. What is importance of non-conventional sources of energy
37. What you mean by solar energy
38. How the solar energy can be effectively utilised to run the sterling engine?
39. How to measure the rotational speed of the flywheel



40. How to measure the power output from the engine
41. Is it possible to generate sufficient amount of energy from the engine?
42. What are factors to be considered while designing sterling engine
43. What you mean by torque?
44. What are military applications of sterling engines
45. Compare sterling cycle with Ericson cycle
46. What is the theoretical efficiency?
47. is friction existing in engine?
48. What is the maximum power that can be generated by using sterling engine?
49. What you mean by closed cycle.
50. What you mean by thermodynamic cycle.
51. What is theoretical efficiency of the sterling engine
52. What are the practical difficulties in manufacturing the engine?
53. How you will measure the speed of the flywheel
54. What is the frictional losses that exists in the engine?
55. How to measure the power output of the engine
56. How this sterling cycle can eliminate the difficulties of power problem
57. Is this technology reliable
58. How to utilise the concept of power generation from sterling cycle for other applications
59. What are the aerospace applications of sterling cycle?
60. Which cycle has more efficiency, between Ericson and sterling?
61. Is it renewable energy source?
62. Is it possible to get solution for power generation using sterling concept?
63. How to avoid friction losses in the cycle
64. How to improve the efficiency of the sterling cycle
65. What do you mean by closed thermodynamic cycle?
66. What do you mean by open cycle?
67. What is the difference between open and closed cycle?
68. What is isolated system?
69. Can we use this concept for other fields?
70. How to improve the speed of the flywheel
71. What are the different materials that can be used for manufacturing the flywheel?
72. Is this technology costly?
73. Is it possible to get solution for rural power problems?
74. Is this concept simple to understand?
75. What is alpha sterling engine
76. What is beta sterling engine?
77. What is difference between alpha and beta sterling engine
78. What you mean internal combustion
79. What you mean by external combustion
80. What is the suitable fuel to run the engine?
81. What is compression ratio?
82. What you mean by reversible cycle



83. What you mean by irreversible cycle
84. What you mean by microscopic properties
85. What you mean by macroscopic properties
86. What is composition of aluminium material
87. What you mean by durability
88. What is the maximum temperature that can be sustained by cylinder?
89. What you mean by temperature difference
90. How you will measure the temperature
91. What you mean by greenhouse effect
92. What is anveshana?
93. How the anveshana is helping the students to exhibit their knowledge
94. What are the instruments used to measure pressure?
95. How does one create pressure inside the cylinder?
96. How does one handle combustion pressure?
97. How does one improve the combustion process?
98. What you mean by combustion process?
99. What you mean by internal combustion engine?
100. How to calculate power of the engine?

9. DESIGN AND IMPLEMENTATION OF SOLAR THERMOELECTRIC AIR COOLING AND AIR HEATING SYSTEM

1. What is peltier model?
2. What is photovoltaic pane?
3. What is thermocouple?
4. What is the principle involved?
5. What is peltier module model used?
6. How does this technology work?
7. Why are 2 type of material (P&N) required?
8. Do these P & N couples function like diodes?
9. Can these devices be immersed?
10. Why would I want to use a thermoelectric system instead of compressor based technology?
11. How cold can these devices get?
12. How hot can these devices get?
13. How can I measure Temp hot and Temp cold in a thermoelectric assembly?
14. Why do I need a D C power supply?
15. In varying power to these devices should I change the current or voltage?
16. Are the peltier devices purely resistive?
17. How closely can temp be controlled with thermoelectric technology?
18. What is controlling unit?
19. What does controlling unit consists?
20. Why this controlling unit is required?
21. How fast can I get cool with this technology?
22. How fast can I get heat with this technology?
23. Do I have to insulate b/w the hot and cold sides of the system?
24. What is the innovation of this project?
25. What is battery?
26. Why battery is used as backup?
27. What is the difference between normal AC and peltier AC?
28. What is the difference between normal heater and peltier heater?
29. What is the range of battery?
30. What are different types of battery?
31. What is Solar energy?
32. How solar power is converted into electrical energy
33. How to convert AC to DC?
34. How to convert DC to AC?
35. Which type of battery used?
36. Which type of supply is given for peltier model?
37. How we can use both at a time?
38. Is this eco-friendly?
39. What's the cost of this project?
40. What's the main use of this project?
41. Why we have to make use of this project?
42. How long do air conditioner lasts?
43. How long do air heater lasts?
44. What is the size?
45. What efficiency should my ac or heater be?
46. How can I make my home more energy efficient?
47. How cold is produced by peltier model?



48. How hot is produced by peltier model?
49. What are the applications of this project?
50. What are advantages of peltier model?
51. What are disadvantages of peltier model?
52. What is heat sink?
53. What are the advantages of thermoelectric module?
54. What are the disadvantages of thermoelectric module?
55. What is semiconductor?
56. What is extrinsic semiconductor?
57. What are the 2 types of extrinsic semiconductor?
58. What is N-type semiconductor?
59. What is P-type semiconductor?
60. What is conductor?
61. What is insulator?
62. What is vector?
63. What is scalar quantity?
64. What is resistor?
65. Resistor colour coding?
66. What is resistance?
67. Unit of resistance?
68. What is resistivity?
69. Unit of resistivity?
70. What is current?
71. What is voltage?
72. What is potential difference?
73. What is electrons?
74. What is AC?
75. What is DC?
76. What are the types of renewable energy sources?
77. What are the types of AC?
78. What is the voltage range in 1-phase?

79. What is the voltage range in 3-phase?
80. How much conductors used in 1-phase?
81. How much conductors used in 3-phase?
82. Unit of current?
83. Measuring instrument of current?
84. Measuring instrument of voltage?
85. Why ammeter connected in series?
86. Why voltmeter connected in parallel?
87. Why current remains same in series connection?
88. Why voltage remains same in series connection?
89. What is ideal voltage source?
90. What is ideal current source?
91. What is thermometer?
92. What is power?
93. Unit of power?
94. Unit of voltage?
95. What is ohm's law?
96. What is doping?
97. What is forward biasing?
98. What is reverse biasing?
99. What does the black wire indicate?
100. What does the red wire indicate?



10. EMBEDDED CONTROL SYSEM FOR POLLUTION FREE ZONE

1. What is air pollution?
2. How is it caused?
3. What are the main pollutants present in air pollution?
4. What are major factors that contribute to air pollution?
5. Name the most pollutant gases for human beings and animals?
6. What are the diseases caused by air pollution?
7. Who are the main victims of air pollution?
8. Why are children considered to be the main victims of air pollution?
9. Why is air pollution a serious issue in India?
10. How does air pollution affect the children's health?
11. Why is air pollution increasing rapidly day by day?
12. What causes the movement of air in atmosphere?
13. What is the movement of air called?
14. Name the pollutants that cause greenhouse effect?
15. What is the percentage of carbon dioxide present in atmosphere?
16. What is the percentage of nitrogen present in atmosphere?
17. What is the percentage of oxygen present in atmosphere?
18. What is the percentage of sodium dioxide should be in economically sensitive areas?
19. What is the percentage of lead in economically sensitive areas?
20. What is the percentage of ozone in economically sensitive areas?
21. What is the percentage of carbon monoxide should be in economically sensitive areas?
22. How air pollution can be reduced?
23. What are the techniques used to reduced air pollution?
24. What are some major measures taken to reduced air pollution?
25. What are the pollutants that can be reduced?
26. What is a pollution free zone?
27. How does a place become a pollution free zone?
28. Why do we need pollution free zone?
29. Why are embedded systems preferred?
30. What is a sensor?
31. Which type of sensor are used in this project?
32. How do MQ-135 sense the pollution content in air?
33. What is the role of MQ135 sensor?
34. What are the different types of sensors?
35. Why we have to control mass air?
36. On what principle do we control mass air?
37. Why do we need two or more sensors for mass air control?
38. On which factor do the number of sensors depend?
39. Where do we have to place sensor?
40. Do sensors always gives correct reading?
41. What are the parameters that can affect sensor reading?
42. Which factor will decide the placing of sensor?
43. Is that pollution control measured in each sensor is equal or not?
44. Which pollutants are measured by MQ135 sensor?
45. What are the features of MQ135 sensor?
46. Why do you select MQ135 sensor for this project?
47. On what voltage does the MQ135 sensor operate?
48. How can we vary the sensitivity of MQ135 sensor?
49. What are the applications of MQ135 sensor?
50. What is an embedded system?



51. Which type of embedded system are we using in this project?
52. Which embedded system compares the amount of pollutants in atmospheric air?
53. Which embedded system gives the amount of pollutants present in the atmospheric air?
54. On which factors amount of pollution content depends?
55. Why do we prefer Arduino embedded system?
56. What is Arduino?
57. Why is the Arduino needed?
58. What is the use of Arduino?
59. What do you mean by programming language?
60. How does the Arduino compare the pollutant contents in air?
61. How many numbers of analogue inputs can be given to Arduino?
62. How many numbers of digital inputs and outputs pins Arduino has?
63. Is it possible to collect the sensed data from all sensing unit?
64. What is the use of a GSM?
65. Expand GSM?
66. Why do we use GSM in this project?
67. What is the function of GSM in this project?
68. What type of air pollution is reduced by silica gel?
69. What is the function of silica gel?
70. Can silica gel reduce the ozone pollution?
71. Why silica gel used in this project?
72. When will silica gel get activated?
73. Apart from silica gel, what are the other methods to absorb air pollution?
74. Why you are blocking the vehicles to that pollution free zone?
75. On what factor does blocking of vehicles to pollution free zone depend?
76. Is silica gel environmental friendly?
77. How will you block the vehicles to that pollution free zone?
78. Which embedded system is assigned to operate silica gel?
79. When will the silica gel operates?
80. How will you differentiate pollution level?
81. How will you inform the traffic police?
82. Is that embedded control of pollution free zone in automatic control?
83. How will you display the pollution content in that area?
84. Which display unit is used in this project?
85. What is LCD?
86. What is the use of LCD?
87. How does LCD's works?
88. Why LCD is used in this project?
89. Can this pollution control system be used in both indoor and outdoor locations?
90. What is the difference between other air pollution control project and this project?
91. Is that anything new in this project?
92. How can you implement this project?
93. How can this project be developed upon in the future?
94. What are the advantages of this project?
95. What are the applications of this project?
96. What are the effects of this project on environment?
97. Can it be used in industries?
98. Is this project environment friendly?
99. What is the cost of this project?



11. Harvesting Wind Energy in Trains Using Helical Structure Turbine

1. Is wind power safe?
2. What causes wind to produce electricity?
3. How much electricity can a turbine produce?
4. How much do turbines cost?
5. What is a typical rate of return on my investment in a turbine?
6. What are the variables of wind production?
7. Can I predict what my production will be?
8. Are wind turbines noisy?
9. Do wind turbines kill birds?
10. Do wind turbines cause headaches?
11. How is a turbine rated?
12. How deep does a wind turbine have to be "planted"?
13. Should I have a "wind study" or "paid wind consultation"?
14. Will a wind turbine increase insurance costs to my property?
15. Are wind turbines hard to install?
16. Are there any success stories that prove that wind is effective and efficient?
17. Are there other applications?
18. Why should I buy a wind turbine?
19. Are wind turbines hard to install?
20. Will a wind turbine increase the value of my property?
21. Why don't more people put them in?
22. Should I develop a wind farm?
23. Should I have an individual turbine for my business and my home?
24. What are appropriate wind speeds?
25. What kind of wind turbines are good?
26. Will electric companies pay me for my power?
27. Can I put one in a city limits?
28. Will it increase my insurance?
29. Will a wind turbine pay for itself?
30. Does wind turbine production qualify me for LEEDS?
31. Does wind turbine production qualify me for tax advantages?
32. Does wind turbine production qualify for Carbon Tax Credits?
33. Can I deduct the price of the turbine off of my taxes?
34. Over a 20-year period, what is the total economic benefit to me, if I purchase a 5 kW unit and put on my office?
35. Over a 20-year period, what is the total economic benefit to me, if I purchase a 250 kW unit and use in my building?
36. Will a wind turbine hurt my vegetation, animals, crops or environment?
37. What happens in 20 years when the turbine needs repair?
38. Can I get a turbine that also has a generator and/or batteries?
39. Can a turbine be placed on or aside a building?
40. How can I become a sales representative to sell wind turbines?
41. Can I purchase a wind turbine, install it, and charge a city or school for the power, or lease it to a third party?
42. How long does it take to get a wind turbine purchased, and delivered?
43. Can I combine a wind turbine and solar panels and a solar water heater?
44. Can a turbine make real estate or a building more marketable?
45. Can a wind turbine be removed from a property?



46. Is a turbine considered personal property, equipment or real estate?
47. Can I finance the purchase of a wind turbine with a small down payment?
48. If the bank needs an appraisal or environmental report, where can I get one?
49. If the power goes out, and a electric company worker is working on the line, what keeps my turbine from shocking the worker?
50. Can a turbine survive high winds or a hurricane?
51. Can I purchase a wind turbine with my credit card?
52. Who buys wind turbines?
53. What are some of the main points of installation, what does it cost?
54. How does a 3 phase AC turbine work with the inverter?
55. How do we sell electricity and is it practical?
56. Who does the installation?
57. What about real estate taxes? If a turbine increases my property value do my taxes go up?
58. Can a city use a wind turbine to produce electricity to run city services, such as electricity for water treatment plants, or sewer treatment systems?
59. Is there a way to lease or finance a wind turbine?
60. A few tax credits, grants, and benefits for wind turbine investments.
61. How much water does wind power use to produce electricity?
62. What are public relations aspects of using wind?
63. What about solar water heating?
64. If I am in a marginal area for wind, but we do have sunshine would you go with wind or solar?
65. Are wind patterns changing?
66. Can solar PV panels be used instead?
67. What about solar panel systems on trains?
68. Is it necessary to pay sales tax for wind turbines, or solar panels?
69. Which is best "on grid" or "off grid"?
70. How Efficient is Wind vs. Coal?
71. Who is the founder of Agastya foundation?
72. What are the objectives of Agastya foundation?
73. Why Agastya foundation conducts the exhibitions and inspires camps?
74. How the work of the foundations does stands as a opportunity source for school as well as college students?
75. What's the motto behind conducting the workshops which includes the training of school children?
76. How the workshops conducted by the foundation do helps to develop the responsibility?
77. What is the functionality development oriented fields of work by the foundation?
78. What are the supports provided by the Agastya foundation?
79. How does Anveshana program helps in building innovative skills and thinking ability?
80. How does Anveshana program helps the working coordination in groups?
81. What are RC LiPo Batteries?
82. How do we charge LiPo Batteries?
83. What are LiPo batteries and why are they so popular in the RC world?
84. Mention any 4 applications of LiPo Batteries

85. What are the differences in Lithium Ion (Li-Ion) Lithium Polymer (LiPo) batteries?
86. What is LiPo RC Battery voltage ratings?
87. What is LiPo RC Battery capacity ratings?
88. What is LiPo RC Battery discharge rate ratings?
89. What is LiPo RC Battery maximum charge rate ratings?
90. Explain over discharging of lipo's.
91. How to do we check LiPo Battery's internal resistance?
92. What is the maximum charge voltage and current?
93. What is RC LiPo battery balancing?
94. What is balancing and why it's important?
95. What is JST connector?
96. What is Deans Ultra Connectors?
97. What is EC3 connectors & EC5 connectors?
98. What is hexTronik XT-60 Connectors & hexTronic XT-90 Connectors?
99. What is Tamiya Power Plug, Tamiya Connectors?
100. What is charging safety?

12. Development of Service Robot

1. What is robotics?
2. What is meant by development of service robot?
3. What are the advantages of service robot?
4. What are the disadvantage of service robot?
5. What are the application of service robot in different field?
6. What are the components used in robotics?
7. Explain each component used in robotics?
8. What are the major sensor used in robotics?
9. What is robotic prototype and why it is designed?
10. Why has robot technology has been developed ?
11. What is the use of a microprocessor in a mobile robotics platform?
12. Why are the mechanical platform designed?
13. What is a segmented torso?
14. Why is a segmented torso used?
15. What are the properties that control the bimanual manipulation system?
16. What are the different mechanism used to construct the robot head?
17. Why is LED used in the robot head?
18. Why are sensor system used in robotics?
19. How are kinematic abilities of robot head enhanced?
20. What are the two industrial grade metals used in robotics?
21. What are the function of a universal robot?
22. How is the visual system set in the robot head?
23. How speed can be controlled by using sensors in robotics?
24. Which type of structure is used in the service robot?
25. What are the communication blocks used to control the communication architecture?
26. How are robots operated using smart phones?
27. Which types of processors are used to control the structure of robot?
28. Which type of processor system is used to control audio system?
29. How are mobiles and GSM-GPRS used to control operation of robot?
30. What are the type of sensors used to detect the obstacle in mobile robot?
31. What is the function of the BUS in communication and network?
32. What is the function of the laser in communication and network?
33. What are the key objectives of this project?
34. What are the keywords of this project?
35. How is the robot operated?
36. Why has robotic technology been design?
37. How can the robot be advanced?
38. In which century was robotic technology developed?
39. How is the robot developed using this new advance technology?
40. How were the earlier robots developed?
41. Expand UBMSR?
42. What is the importance of the sub system?
43. What are two main objective of robotics?
44. Why is UBMSRIS designed?
45. Which devices can be used in household?
46. What is use of UBMSR?
47. How is artificial intelligence is given to robotics?
48. What are the different functionalities initiated in human robotics?



49. What are the overall dimension of the mobile platform?
50. Where is the torso placed?
51. What is the size of robot head from chain to crown?
52. What are the importance of dimension in designing a robot?
53. What are the different type of mechanical design?
54. How is mobile platform motorized?
55. What are the major control device in robotics?
56. What is the brain of the robotic device made up of?
57. How is the device design towards safety?
58. What is the maximum payload that the robot can handle?
59. How many parts does the torso of the robot consists of?
60. What is the horizontal axis range of the segmented torso?
61. What is turning range in degree?
62. How is the universal robot handled?
63. How is the UBMSR is controlled?
64. Why are LEDs used in robotics?
65. What are the special camera used in robotics?
66. What are audio equipment?
67. What type of bus is architecture used in robotic control system?
68. Why is the hierarchy distribution used in service robot?
69. What are the different fields that use service robots?
70. What are the additional functionalities added for communication purpose?
71. What is the basic configuration used in bifocal stereo version?
72. Expand HRI?
73. Name some fields that make use of robotics?
74. What are the different of the UBMSR control architecture?
75. How is energy supplied to the robot head?
76. What is the different axis rotation of robot head?
77. What type of joint sensor is used in robotics?
78. What type of velocity sensor is used in MR?
79. Explain different extend sensors?
80. What are the inertial sensors?
81. What are optional special purpose sensors?
82. How is the robot hand joined?
83. What are the special software used for controlling the robot?
84. What does the global block control schematic consist off?
85. On what type of architecture are the dual arms based on?
86. How is the remote monitoring and supervisory controller controlled?
87. What is the use of enabling data transmission of commands in remote monitors?
88. Why is the supervisory system implemented?
89. What is use of smart phone in robotics
90. Expand EI?
91. How is emotional intelligence interfaced in robotics?
92. What are the different parameters to be controlled?
93. Why does the universal robot hands UR5 possess complain joints?
94. What are different invention involving robotics in the 90s?
95. What is meant by development of service robot?
96. What are some of the different modules?
97. How is human centric robot used commercially?
98. How is robotic used in transportation?
99. Name a few application of robotics in different fields?



13. Biopolymer Solar Cell

1. What are polymers? How are they formed?
2. What makes these materials special? What is the difference between metals and Polymers?
3. Can polymers be synthesized artificially? If yes, Name few.
4. How are natural polymers synthesized? Name the key substance involved in polymer synthesis naturally.
5. Are enzymes polymers? If not, why?
6. Name some natural biopolymers which have been extensively used by us.
7. What are copolymers?
8. How can one study the structure of a polymer?
9. Both catalysts and enzymes perform the same function of increasing the rate of chemical reaction, then what is the difference between an enzyme and a catalyst?
10. Are electrons involved in polymer synthesis?
11. Gum Acacia is a biopolymer that conducts, are electrons involved in conduction like that of metals?
12. What are the properties required in a material for it to conduct efficiently?
13. What is photosensitization?
14. How is X-ray diffraction used in studying the structure of a polymer?
15. How is diffraction different from dispersion?
16. What are the different types of bonds that exist between the monomers of a polymer?
17. Why do we call proteins, nucleic acids as polymers?
18. Why are lipids and fatty acids not considered as polymers?
19. Are all polymers degradable? If not, why?
20. Are all biopolymers degradable?
21. Gum arabica is a polymer produced by which plant?
22. What are the monomers of Gum arabica?
23. Why is the thermal stability of gum arabica a very essential property for it to conduct?
24. How are degradable plastics produced?
25. In the growing need of energy sources, scientists constantly looking for a source that is both efficient and environment friendly. What are the hazards posed to the environment by the current electronic devices? How do you think we can solve this problem?
26. What is a solar cell?
27. What is the basic principle behind solar cells?
28. How does a solar cell vary from the general ways of producing electrical energy?
29. What are the advantages and disadvantages of a solar cell?
30. What are the basic components used in a solar cell?
31. Which is the most commonly used solar cell?
32. What are p-type and n-type semiconductors?
33. What is Doping? Why is it done?
34. What is a p-n junction? How is it produced?
35. Name the materials used in the semiconductor solar cell?
36. How do electrons and holes help in producing electrical energy in a solar cell?
37. What are solar panels?
38. How are these panels used to produce huge amounts of electricity?



39. What is the role of sunlight towards the electrical energy production of a solar cell?
40. What are the various types of solar cells?
41. What are multi-junction cells?
42. What are the basic attributes of operation of photovoltaic cells?
43. What is the difference between a module and a panel?
44. How will you connect the solar panels to obtain maximum current production?
45. Who invented a solar cell?
46. What are the advantages of a solar cell over the other methods of energy production?
47. What are the conditions under which a solar cell will not work?
48. Disposal of the damaged semiconductor solar cell is a problem. Why?
49. Solar panels have a major use in space probes, how efficient do you think this is in replacing the primary battery source of the probe?
50. Name some solar powered devices in our daily lives.
51. What is the literal meaning of Photosynthesis? What kind of reaction is involved in the entire synthesis process?
52. What are the raw materials involved in photosynthesis?
53. What are the products of photosynthesis?
54. Do all plants rely completely on photosynthesis for their nutrition?
55. What are the pigments involved in the synthesis of food by plants?
56. Which is the structure involved in regulation of inlet and outlet of gases and vapours on a leaf?
57. Does photosynthesis take place in parts other than the leaf in plants?
58. What is light and Dark reaction? Does light reaction take place during the night?
59. What is photophosphorylation?
60. What is photolysis?
61. How does electron transfer take place during photosynthesis?
62. How are these electrons produced?
63. What is ATP? Why is it called the energy currency of the cell?
64. How is ATP synthesized?
65. How is energy stored and utilized in cells?
66. What is cyclic phosphorylation?
67. What is non-cyclic phosphorylation?
68. What is the wavelength of visible spectrum?
69. What is chlorophyll? Is it a polymer?
70. What are the wavelengths of light that the pigments absorb during photosynthesis?
71. What are the factors effecting photosynthesis?
72. When are carbohydrates produced during photosynthesis? What happens to those electrons when sugars are not produced?
73. What is photo-oxidation?
74. How does the leaf resist photo-oxidation?
75. What is the difference between protonic and electronic conduction?
76. What is current? What is the unit of current?
77. What is voltage? What is the unit of voltage?
78. What is the difference between current and voltage?
79. What is resistance? What is the unit of resistance?



80. Is resistance constant for a material? If not, why?
81. How does Ohms law give a relation between current and voltage?
82. What is conductance? How is it different from conductivity?
83. What is resistivity?
84. What are Ohmic and non-Ohmic conductors?
85. How can one classify materials broadly based on conductivity?
86. How does resistance vary with temperature and pressure?
87. What are semi-conductors?
88. What happens to a metal when it is placed in a cryogenic environment?
89. How does the resistance of semiconductor vary with temperature?
90. What kind of arrangement is used in the domestic wiring of the house?
91. What is earthing?
92. What is KCL and KVL?
93. What is the difference between DC and AC?
94. What are diodes? How are they formed?
95. What are transistors?
96. What is the difference between a photodiode and LED?
97. How can you use the transistor as an amplifier?
98. How does a transistor prove superior over vacuum tubes?
99. How does a transistor work as a switch?
100. What are the basic principles behind a voltmeter, ammeter and an ohmmeter?

14. TURBINE USING GENEVA WHEEL

1. What is a turbine?
2. What are the different ways of power generation?
3. What are the classifications of water turbine?
4. What is a Pelton Wheel?
5. What is a Francis turbine?
6. What is a Kaplan turbine?
7. How do we measure the power generation?
8. What is a Watt?
9. What is a Geneva wheel mechanism?
10. What is an aerofoil?
11. Where is the application of aerofoil?
12. How does aerofoil work?
13. What is Bernoulli's principle?
14. Example for Bernoulli's principle?
15. How to calculate force produced in aerofoil?
16. What is torque?
17. What is the unit of torque?
18. How to calculate power produced?
19. What is called efficiency of turbine?
20. How to calculate power of flowing water?
21. What is called discharge?
22. What is the unit of discharge?
23. What is called head?
24. What is the advantage of this new design?
25. Can we increase or decrease the number of blades?
26. What happens to the performance?
27. What happens if we increase the area of blades?
28. What happens if we increase the length of arms?
29. What is friction?
30. What is the unit of friction?
31. How does friction affect the turbine performance?
32. How can we reduce friction?
33. What is a bearing?
34. What are different types of bearing?
35. What is a ball bearing?
36. What is a roller bearing?
37. What is a taper bearing?
38. What is a shaft?
39. What are the different types of shaft?
40. What is a solid shaft?
41. What is a hollow shaft?
42. What is a tapered shaft?
43. What is joint?
44. What are different types of joints?
45. What is permanent joint?
46. What is temporary joint?
47. What are different types of welding?
48. What is brazing?
49. What are different types of steels?
50. What is mild steel?
51. What is bending?
52. What is torsion?
53. What is vibration?
54. How do vibrations affect turbine?
55. How do we reduce vibration?
56. How to measure the flow of water?
57. What is density?
58. How do we calculate density?



59. What is the unit of density?
60. What is specific weight?
61. What is the unit of specific weight?
62. What is Laminar flow?
63. What is turbulent flow?
64. What is Reynolds number?
65. What is open channel?
66. What is closed channel?
67. What is the difference between open channel and closed channel?
68. How do we measure discharge in open channel?
69. What is notch?
70. What are different types of notch?
71. What are weirs?
72. What is orifice meter?
73. What is venturimeter?
74. What is manometer?
75. How to measure pressure in it?
76. How is the velocity distribution in flow of water?
77. What is the reason for that?
78. What is velocity gradient?
79. What is viscosity?
80. What are the different types of viscosity?
81. What is the value of viscosity of water?
82. What are the units of viscosity?
83. How viscosity does depend on temperature?
84. What is Newton's law of viscosity?
85. What is flywheel?
86. What is the use of flywheel?
87. How to increase the speed of the output shaft?
88. What is called speed ratio?

89. What is used to increase the speed?
90. What is current frequency?
91. What is the value of frequency to be maintained?
92. How we can achieve it?
93. What is used to generate power?
94. What does stator consist of?
95. What are the different types of excitation?
96. What is electricity?
97. What are free electrons?
98. What is electromagnetic induction?
99. What is alternating current?
100. What is direct current?



15. Solar Powered Cooling Helmet and Mobile Charging for Field Workers

1. What is Anveshana?
2. What is a project?
3. What is the name of this project?
4. Is it possible to execute this project?
5. What is solar?
6. What is power?
7. What is energy?
8. What is solar energy?
9. What is electric energy?
10. How we can convert solar energy into electric energy?
11. What is a converter?
12. How many types of converters are there?
13. What is the cost of the solar panel?
14. What is the capacity of the solar panel?
15. What is voltage?
16. What is current?
17. What is resistance?
18. Output of the solar panel = _____volts and _____amps
19. Where you will store the electric energy?
20. What is a battery?
21. What is the capacity of the battery?
22. Which type of battery we are going to use?
23. What is a rechargeable battery?
24. What is the difference between the normal battery and rechargeable battery?
25. What is a fan?
26. How much voltage is needed to run a fan?
27. How much current is consumed by a fan?
28. What is the maximum (final) cost of this project?
29. Why are we involved in this project?
30. What is our role in this project?
31. When the event is organised?
32. Where the event is organised?
33. Who is going to conduct this event?
34. Why is Anveshana giving us this kind of an opportunity?
35. When Anveshana was started?
36. How is this project going to be beneficial for customers?
37. What kind of customers will benefit the most from this project?
38. What are the advantages of this project?
39. What are the disadvantages of the project?
40. What is the application of the fan?
41. What is the application of the rechargeable battery?
42. What is the principal of the solar panel?
43. What you meant by USB?
44. What is different between female USB and male USB connectors?
45. What is advantages of the USB?
46. Why we are using USB in this project?
47. Can you explain the applications of the USB?
48. What is the role of the switch?
49. What is power supply?
50. Are using LED's or not?



51. What is the full form of LED?
52. What is the input and the expected output from the device?
53. Is your project reliable and efficient?
54. Is your device portable?
55. What is the reason/purpose behind this idea?
56. Can our project be further modified?
57. How economical is this project?
58. Does your project work on batteries or electricity?
59. What is the weight of your project?
60. What is a circuit?
61. Does it require any maintenance?
62. If yes, then is it easy to maintain?
63. On what principle does it work?
64. What are the different components used in this project?
65. What is the cost of all the components?
66. Why is this project to be eco-friendly?
67. What is the feasibility of this project?
68. Is there any emergency power off button in this device?
69. Is this project designed with safety?
70. Is this product necessary for current market?
71. Why is this project innovative?
72. Are there any other alternatives for this project?
73. Can any common man can use it?
74. Is this project affected by the external environment?
75. Is it going to work on AC voltage or DC voltage or both?
76. What is the difference between AC and DC?
77. What are the different processes takes place in ADC?
78. What do you learn from this project?
79. What are the difficulties faced while doing research for this?
80. How is this project implemented?

81. What is the use of taking the part in Anaveshana?
82. What are the main feature of the engineers?
83. You are an electronics student?
84. What is electronics?
85. What is communication?
86. Give me examples of the communication?
87. Now a day's communication is very important in this world right?
88. What is the role of your guides in this project?
89. Do you need software for this project?
90. What are the unique features of this project?
91. How the school students are trained?
92. How has the internet helped you for this invention?
93. What are electrical wires?
94. What is the role of electrical wires in this model?
95. How is current related to resistance? How much electrical power is required for this project?
96. Is it a working model or prototype?

16. Design of Automatic Vehicle System and Auto Light Beam Control for Glaring Prevention

1. Who is the founder of Agastya foundation?
2. What are the objectives of Agastya foundation?
3. Why does Agastya foundation conduct the exhibitions and inspires camps?
4. How does the work of the foundations provide opportunities for school as well as college students?
5. What is the functionality development oriented fields of work by the foundation?
6. What are the supports provided by the Agastya foundation?
7. How does Anveshana program help the working coordination in groups?
8. What is Anveshana?
9. What is Agastya foundation?
10. Where is the headquarters of Agastya foundation located?
11. When was Agastya foundation started?
12. What are the advantages of humps detection?
13. How do we control speed limit?
14. How do we control the road accidents?
15. What are the applications of humps detection?
16. What are the applications of sign board detection?
17. How do we convert an image from RGB to gray scale?
18. Which conversation is used in humps detection?
19. What is image acquisition?
20. Which type of edge detection is used in detecting the humps?
21. What is a micro controller?
22. What is raspberry pi?
23. What are the advantages of raspberry pi?
24. What is noise reduction?
25. What is a histogram?
26. Where the extracted speed information is displayed?
27. Where is the camera mounted in vehicle?
28. What are the steps involved in reorganization of sign board?
29. What are the conditions used to hypothesize the location of the speed limit sign in the input image?
30. What are the major components of the speed detection system?
31. What are the problems faced by the speed detection system?
32. Define aspect ratio.
33. What are the preventive measures for accidents?
34. When was raspberry pi released?
35. What is the motivation for doing this project?
36. Why is the RGB color co-ordinate system used?
37. Why is raspberry pi used?
38. What transforms are used in the speed limit signs?
39. Why is the canny edge technique used to extract the edges in the image?
40. Which software is used in raspberry pi?
41. What are the problem statements of this project?
42. Which is the sensor used in humps and sign board detection?
43. What is the sensing time?
44. What is the maintenance cost of this project?



45. Is this application used in every vehicle?
46. What are the features of raspberry pi?
47. Is this application useful in night also?
48. At what distance can the camera in vehicle get an image?
49. How does the camera capture an image?
50. Why is the camera mounted on the front of the vehicle only?
51. What is image transformation?
52. How is image acquisition classified?
53. What is automatic sign board detection?
54. What are the methods to detect sign boards?
55. What is image processing?
56. What are the requirements of image processing?
57. What are the drawbacks of image processing?
58. Why RF transmitter and RF receiver is used?
59. What are the features of MC?
60. Why is automatic sign board detection used?
61. What are the advantages of sign board detection?
62. What are the disadvantages of sign board detection?
63. What is the size of the road humps in India?
64. How do we eliminate noise?
65. What are the methods of eliminating the noise?
66. Which display is used to display the extracted information started?
67. What is the aim of the project?
68. Can our project be further modified?
69. Is this project economical?
70. What is the reason or purpose behind this idea?
71. What is the cost of the project?
72. Why students like us as to be involved?
73. What is relay?
74. What is LDR?
75. How does LDR works?
76. What is the intensity of High beam light in vehicles?
77. What is the intensity of Low beam light in vehicles?
78. What is glaring effect?
79. Where and why are LDRs placed in your project?
80. How does relay work?
81. When are low beams used in vehicles?
82. When are high beams used in vehicles?
83. What is the need for automatic dimmer in vehicles?
84. What happens to the driver if the light intensity of the opposite vehicle increases?
85. What is the distance of High beam light?
86. What is the distance of low beam light?
87. When should both the vehicles switch from high beam to low beam light?
88. While driving vehicles low headlight beams are suitable for less than____ Kmph
89. While driving vehicles high headlight beams are suitable for more than____ Kmph
90. What is Headlight?
91. What is lumen or lux?
92. What is the objective of automatic dim and dipper?
93. What is resistance?
94. What is the cost LDR?
95. What is the cost of relay?
96. What are the advantages of automatic dim and dipper?
97. What is the title of your project?



18. WEB INTERFACED SMART STORAGE

1. What is Anveshana?
2. Whom does it primarily involve?
3. By whom are the school students mentored?
4. What do school students get out of it?
5. Objective of Anveshana?
6. What is smart storage?
7. What does IOT stand for?
8. What is IOT?
9. Examples of IOT?
10. Where are the commodities stored in bulk quantities?
11. Where is ware house situated?
12. What is the purpose of Ware House?
13. What is the traditional way of keeping record of commodities?
14. When is the stock updated in traditional way of record maintenance?
15. What are the aspects of new automated world?
16. What does the new aspects of automated world aim at?
17. What is the upgradation?
18. Which aspect of automated world is the key feature for upgradation of record maintainance?
19. What are the drawbacks of traditional way of record maintenance?
20. What is the smart storage with the use of internet?
21. What does smart storage aim at?
22. What are the advantages of smart storage over traditional methods?
23. How will the smart storage be helpful in conserving life?
24. How does smart storage enable developing countries to uplift themselves in terms of technology?
25. What are the causes or factors which lead to the invention of smart storage?
26. Has your smart storage met its vision and mission?
27. Compare mode of transaction in traditional and smart storage methods?
28. What is the basic principle behind smart storage method?
29. What is the basic principle behind smart storage method?
30. What does polling refers to?
31. State what is interrupt service?
32. How is interrupt service related to smart storage?
33. How is polling related to traditional method?
34. Compare between polling and interrupt service method?
35. What is the beneficiary for today's world?
36. What are the main features of smart storage system?
37. What are the design metrics of smart storage system?
38. Why is it difficult to meet all the design metrics to their satisfaction?
39. Which is more reliable smart storage of traditional method?
40. Which system has the best control over the commodities?
41. Can the smart storage system be a part of life saving conditions measures?
42. Which system has more human dependency?
43. What are the drawbacks of traditional methods?
44. What are the advantages of smart storage system?
45. What are the disadvantages of smart storage system?
46. How can the drawbacks of smart storage system overcome by future improvements?



47. How could the smart storage help the rural masses?
48. What could be the measures taken to reach the smart storage system to rural masses?
49. What are the various applications of smart storage?
50. In what all places can the smart storage system be implemented?
51. What it is intended to do?
52. How is it customer friendly?
53. Where is it put into work?
54. What are used to detect objects?
55. What type of sensors are used?
56. Where are the sensors fitted?
57. What is the work of the sensors?
58. What happens when bottle is taken out?
59. What does sensor do further on?
60. Where is it sent to?
61. What does the object detector unit do?
62. How is the generated software fed to PC?
63. In PC what updates the received data?
64. What is updated till time?
65. Is it manual update or automatic update?
66. What can be accessed by retailer customers?
67. What is block diagram?
68. What does it contain?
69. What are fitted inside refrigerator?
70. What is present inside the refrigerator?
71. What's the ratio?
72. What are they?
73. What if object is there?
74. What if object isn't there?
75. Where is the signal sent to?

76. Why is it sent there?
77. Which is the next unit?
78. What does it do?
79. Which format is it?
80. Where is the server understandable signal fed?
81. How is it fed?
82. Which is the next stage?
83. What does the server need?
84. What is TTL?
85. What should be done before feeding signals directly?
86. Why should it be done?
87. Which is the next unit?
88. What does this monitoring unit have in its memory?
89. What will it do when any such signal is found?
90. What happens after every pre-determined time interval?
91. Where will the customer get the information?
92. Which is the next unit?
93. What does the server do?
94. Why is it kept in the memory bank?
95. Which is the next unit?
96. What is the need for this unit?
97. Why is it designed?
98. Where is this voltage provided?
99. Why are the necessary voltages provided?
100. What is our objective?



19. SMART ENERGY SAVER AND CONSERVATOR (SESC)

1. What is SESC?
2. What is the idea being proposed?
3. What is the problem SESC is trying to solve?
4. What are the requirements for this project to work?
5. What is the device made up of?
6. What are the type of energies that come into play?
7. Where is the head of the water created?
8. When does the water, power up the battery?
9. What are the features implemented in this idea?
10. How does the device work?
11. In what sectors can this device be used?
12. Why is it a multipurpose device?
13. Where is the mini turbine placed?
14. Where is the device placed?
15. How does the turbine rotate?
16. What's the role of the alternator?
17. Why is the battery used?
18. Why do you think this device may become popular?
19. How many SESC devices are required for a building?
20. What is benefits of this project to society?
21. Who can use benefit from SESC Device?
22. How much electricity can be produced?
23. Where can this electricity be used?
24. What kind of innovation is used in this device?
25. What is the innovation component in the project?
26. What is the cost of the project?
27. How much time is required to build the device?
28. How do you think of taking this project further?
29. What is the learning potential in this project?
30. How is it helping the students?
31. What do we propose to do?
32. How can the students take this concept forward?
33. How will students giving presentations help them?
34. What are the other things students can do?
35. How do these campaigns help your project?
36. What is the requirement of present-day advancement in science and technology?
37. Where are water tanks placed in a building?
38. What is the function of smart small turbines?
39. How does the alternator work?
40. How is potential energy converted into kinetic energy?
41. What happens if we place a mini SESC in pipes?
42. Why can this method of producing electrical energy become popular?
43. How is this device beneficial for the society?
44. What is the innovation component of the project?
45. What is the cost to public?
46. How much time it will take to get the product in market?
47. What is the purpose of SESC?
48. How does the mini turbine move?
49. What is the role of kinetic energy of water?
50. How is this electricity useful in bathrooms?
51. How is SESC useful in near future?
52. What is the scope of this project in business?
53. How is the project beneficial for the society?



54. Why does water possess potential energy?
55. What are the benefits of this project to the water speed?
56. What is benefits of this project to cost?
57. What is benefits of this project to installation process?
58. What is benefits of this project to energy conservation?
59. Why do you think this device may become popular in conservation view?
60. Why do you think this device may become popular in future use?
61. What is the need of it in terms of environment?
62. What is the need of it in terms of human resources?
63. What is the need of it in terms of pollution?
64. What are the main objectives of this project?
65. How does the water move in the tank?
66. What are the uses of this device?
67. How is electricity used in this project?
68. What are the reason of water flow?
69. What kind of energy is involved?
70. Where is the mini turbine placed?
71. How is energy generated?
72. How is energy conserved in the pumping motor?
73. How is energy conserved from the tank to pipe?
74. How is energy conserved in the turbine?
75. How is energy conserved in the battery?
76. How is energy conserved in the usage of battery?
77. How is this a multipurpose device?
78. Describe the working of turbine?
79. Describe the working of battery?
80. What are overhead tanks?
81. Describe the working of water pump?
82. Name a few sources of water?

83. What is underground water?
84. What it can replace?
85. What is water flow control valve?
86. Describe the working of water flow control valve?
87. What does a water flow control valve look like?
Why is this device needed?



21. MULTI ROTOR WIND MILL

1. What is wind?
2. What is a windmill?
3. How do windmills work?
4. What are the characteristics of windmills?
5. Why do we use windmill on hills and not on plane areas?
6. What are the uses of windmill?
7. How do windmills make electricity?
8. How do windmills convert mechanical energy to electrical energy?
9. What is the length of windmills and its turbines?
10. Why not use plastic or paper either wood as turbine?
11. How much voltage of current do windmills produce?
12. Do windmills cause any type of pollution like water, air or soil pollutions? If yes, how? If no, why?
13. Name the device used to collect current in windmill?
14. Which device converts mechanical energy into electrical energy?
15. How are windmills prepared?
16. What is electricity?
17. If motor is used in windmills, how can windmills makes electricity?
18. What is neutral?
19. What is a generator?
20. How does earthing worked?
21. Which metal is used to prepare wind mill?
22. Who discovered electricity?
23. How many gears does a windmill have?
24. Who invented windmills?
25. Which is was the first source of energy?
26. Where the first windmill established?
27. Where the first windmill established in India?
28. Which type of motor is used in windmill? A.C or D.C motto?
29. What is an A.C and D.C motor?
30. What is A.C dynamo and D.C dynamo?
31. Differentiate between AC dynamo and AC motor?
32. Differentiate between DC dynamo and DC motor?
33. What is the function of the following?
 - a. AC dynamo
 - b. Dc dynamo
 - c. AC motor
 - d. DC motor
34. Who invented AC and DC dynamo? And why?
35. What is multi process windmill?
36. How many wings in a multi windmill? And why?
37. How much voltage of current in multi windmill?
38. What are the uses of multi rotor windmill?
39. Are windmills dangerous to the environment or people? If yes, why? If no, why?
40. What type of wings are used in a multi windmill?
41. What type of energy gives multi-rotor windmill?
42. What happens, if more than 4 turbines are used in multi windmill?
43. What happens if iron turbines are used in multi windmill?
44. How can multi windmills preserve our nature?
45. Which is better multi windmill or common windmill?
46. What amount of air required to rotate a multi windmill?
47. What materials are the turbines made from? Why?
48. Which of India's village or town have the highest number of windmills?
49. Where are windmills constructed?
50. Why were windmills invented?

51. What are the difference between regular windmills and multi windmills?
52. How many items are there in generator?
53. Windmill is supported by only air or supported by other things as well?
54. What happens if the nuts are not fit securely?
55. Multi windmills only essential for man or others?
56. How do windmills contribute to conserving nature?
57. What type of energy do windmills take as input?
58. Why the shapes of blade are aerofoil?
59. How do windmill work?
60. Why are the blades fixed to more than one rotors in our projects?
61. Windmill contribute to which type of energy source?
62. What are the types of windmills?
63. What is mean by multi rotor windmill?
64. What is the function of the gear in a multi rotor windmill?
65. Why is it important to think about sources of renewable energy?
66. If the weight of the pan increases, then how will it affect power generator?
67. How does the windmill help reduce air power?
68. If you want to increase the efficiency of the mill how you will design windmill?
69. What is difference between multi rotor windmill and single rotor windmill?
70. In this project instead of one rotor more rotor how many are used and why?
71. In this project why do we design the multi rotor windmill in such a way that it should rotate 360?
72. What are the different types of generators used in wind turbine?
73. What is meant by a turbine's sweep area?
74. Will a wind power project interfere with electromagnetic transmissions such as radio, television, or cell-phone signals?
75. In what other ways does wind energy benefit the economy?
76. What are the environmental impacts of wind power?
77. What are the advantages of wind energy?
78. What are the advantages of wind energy?
79. What are the power parameters that affect power quality?
80. What is power quality?
81. What is 'availability factor'?
82. What is Type Testing of wind turbines and why do we need it?
83. How do we estimate energy production from a wind farm?
84. How do we measure the winds at a site?
85. Are winds available throughout the year?
86. Where does the power generated from a wind turbine go?
87. What is a wind farm?
88. Can we mount a small wind turbine on our roof top?
89. What happens when the winds become too much for the wind turbines?
90. What is the life of a Wind Turbine?
91. Will a wind turbine produce power in the rain?
92. Does wind turbines height affect the generation?
93. What is the power generation in a 100kW wind turbine?
94. How much power can a wind turbine generate?



23. E-THERMO JACKET

1. What do we mean by Thermo?
2. What is thermal energy?
3. What is thermodynamics?
4. Which branch of engineering deals this topic?
5. What is heat transfer?
6. What is temperature?
7. How is temperature measured?
8. What is the SI Unit of temperature?
9. What is human body temperature?
10. What is room temperature?
11. What is surrounding temperature?
12. What happens if body temperature increases?
13. What happens if body temperature decreases?
14. What is climatic change?
15. How is temperature effecting climatic change?
16. What are different temperature zones?
17. Why temperature vary according to region and places?
18. What are the inconveniences caused due to change in temperature?
19. What are the major inconveniences caused due to high temperature?
20. What are the major inconveniences caused due to low temperature?
21. What is heating?
22. What is cooling?
23. What are sensors?
24. How are sensors made?
25. What are different types of sensors?
26. What are temperature sensors?
27. What are thermo-electric devices?
28. What is peltier effect?
29. What is principle of peltier module?
30. What is peltier plate?
31. What are two different sides of peltier plate?
32. How much is life of peltier module?
33. What will be the cost of peltier module used?
34. What is heat sink?
35. How a heat sink works?
36. What is heat sink paste?
37. What are dc motor fan?
38. What is battery?
39. What are different types of battery?
40. How battery stores current in it?
41. How is battery charged?
42. What are Li-Po batteries?
43. What will be the cost of battery used?
44. What are conductors?
45. What are good conductors of heat?
46. What is solar energy?
47. What is solar panel?
48. What is solar panel made of?
49. How is solar energy transformed into electrical energy?
50. What is foldable solar panel?
51. What will be the cost of solar panel used?
52. What is micro controller?
53. What is Arduino?
54. How Arduino work?
55. Why Arduino is used?
56. What is LDR?
57. What helps LDR to give signal to Arduino?
58. What is LED?



59. What is temperature controller?
60. How much temperature we can control?
61. How Arduino helps to control temperature?
62. What is GPS?
63. What are GPS devices?
64. How does a GPS works?
65. What is IOT?
66. How IOT helps this project?
67. What is Bluetooth?
68. What are the Bluetooth devices?
69. How is jacket and smart phone connected by Bluetooth?
70. What is an android application?
71. How is android application built?
72. How can we control and regulate temperature according to application?
73. Will the temperature regulation be accurate using a smart phone?
74. What is prototype?
75. What is jacket?
76. What is breathable jacket?
77. What will be the color of jacket?
78. What are different sizes of jacket?
79. What is material used to prepare the jacket?
80. Will the jacket be waterproof?
81. Will the jacket be washable?
82. Will the jacket be durable?
83. Is this jacket portable?
84. Will the jacket be wearable both the sides?
85. Does the jacket require maintenance?
86. What will be the weight of the jacket?
87. Where is battery placed in jacket?
88. Where the thermo heating and cooling system is placed in jacket?

89. Will it not make the jacket heavier?
90. Where is solar panel placed in jacket?
91. What was the inspiration for this project?
92. How better the system works than the previous one?
93. How is this project helpful to mankind?
94. What all problems this jacket can solve?
95. Who all can use this jacket?
96. Is the product user friendly?
97. Who are the end users of this product?
98. What are the disadvantages of this jacket?
99. What is the making cost of jacket?
100. What are the environmental and self-advantages from this project?



24. Regenerative Electro Mechanical Bicycle

1. What is a bicycle?
2. Who invented the bicycle?
3. What was the cause of invention?
4. What was the first bicycle called?
5. Where was it exhibited first?
6. How have bicycles evolved?
7. What are the common parts used?
8. Who are all the persons who use bicycle more?
9. What are the areas where bicycles are preferred more?
10. How much does a bicycle cost?
11. How frequently you can use it?
12. What are the advantages of bicycles when compared to other vehicle?
13. What are the different types of bicycles?
14. Which is the most preferred bicycle?
15. What are regenerative electro-mechanical bicycle?
16. Do you know that we can produce energy through it?
17. How can you correlate the words electro-mechanical?
18. Do you know that we can also place brushless motor in bicycle?
19. How do you think that we can generate energy through this?
20. What is regenerative electro-mechanical bicycle?
21. How does it differ from the bicycle we use?
22. What it is useful for?
23. Whom it is useful for?
24. Where can it be used effectively?
25. How long can it be used?
26. What is the main objective of using it?
27. How does this benefit people?
28. How will this be a boon for remote areas?
29. What are all the difficulties faced by the peoples for travel by normal bicycle?
30. What does regenerative really mean?
31. How is this related to electro-mechanical process?
32. What is the basic process of using it?
33. What are all energies that we come across in this process?
34. Which energy can be used to charge a bicycle?
35. How will solar energy be useful for this process?
36. How will regenerative energy be produced?
37. Where will the solar energy be stored?
38. What is the scope of the project?
39. Which type of motor is used in bicycles with regenerative kit normally?
40. What are the disadvantages of hub motors?
41. Which type of motor can be a used to clip-off the disadvantages of hub motor?
42. What are all the constructional parts used?
43. What does the electrical part consist of?
44. What does the mechanical part consist of?
45. What does the regenerative part consist of?
46. What is brushless DC motor?
47. What is brushed DC motor?
48. What are the advantages of brushless DC motor?
49. What is the difference between brushed and brushless DC motor?
50. What is a disadvantage of brushed DC motor?

51. Can we replace these motors by some other motors in this project?
52. What are the components of brushed DC motor?
53. What is the function of rotor?
54. What is the function of stator?
55. What is the function of commutator?
56. What is the purpose of using brushes?
57. Which is the step-up converter used?
58. What is boost converter?
59. What is the function of boost converter?
60. What is the mode of conversion?
61. Which device is used to control the speed?
62. What is electronic speed controller?
63. What is the function of electronic speed controller?
64. What are the two components which are used in mechanical part?
65. Which is the rotating mechanical device used for storing rotational energy?
66. What is fly wheel?
67. What are the advantages of flywheel?
68. What are the applications of flywheel?
69. What is bicycle gear?
70. What is the function of bicycle gear?
71. Which is the regenerative part used?
72. What is a need of regenerative part?
73. What is permanent magnet dc motor?
74. What is the function of permanent magnet DC motor?
75. How the obtained regenerative energy will be used?
76. What are the key features of the project?
77. What is the expected outcome of the project?
78. Which is the better way to use solar energy to produce electricity?
79. Why PV cells are used?

80. What exactly is a PV cell?
81. Where can we locate the PV cells?
82. Why black coating is preferred?
83. Is it necessary to buy this bicycle?
84. What are the benefits of buying it?
85. Will this be affordable?
86. Can we use in all climatic condition?
87. Which will be the best weather condition to use it?
88. Which areas will have a greater benefit of using it?
89. Who will be benefited more?
90. Will this be useful for all age group people?
91. Which is the best way to use?
92. Can the common man afford?
93. Will it work for future generation?
94. Will it be curse for region where there is heavy rainfall?
95. Will the generated energy prove useless in rainy season?
96. Will the charging process will be continuous?
97. Does the look of cycle get damage if we place a PV cell?
98. Is there any provision that enables the government to buy it?
99. Can government implement these cycles and issue it to everyone?

25. Activated Carbon from Corn Cobs

1. What is Activated carbon?
2. What are the applications activated carbon?
3. How is activated carbon prepared?
4. What are the major steps involved in activated carbon preparation?
5. What is carbonisation?
6. What is activation?
7. What is the process involved in carbonisation?
8. What are the types of activation?
9. Describe chemical activation.
10. Describe physical activation.
11. What are the types of activated carbon?
12. Describe granular activated carbon.
13. Describe powdered activated carbon.
14. Describe pelleted activated carbon.
15. Write a note on characterisation of activated carbon.
16. Write a note on the properties of activated carbon.
17. What is adsorption?
18. What is the role of absorption in activated carbon?
19. What is adsorption isotherm?
20. What are the different types of adsorption isotherms
21. Explain Freundlich isotherm.
22. Explain Langmuir isotherm.
23. Explain BET theory.
24. What are the factors that effect adsorption?
25. What is the role of zinc chloride in the preparation of activated carbon?
26. What is the application of activated carbon in sugar industry?
27. What is the application of activated carbon in food industry?
28. What is the application of activated carbon in mineral industry?
29. What is the application of activated carbon in in gas cleaning application?
30. What is the application of activated carbon in pharmaceutical industry?
31. What is fabrication?
32. What is nichrome?
33. Why we are using nichrome?
34. What is resistance?
35. What is current?
36. What is voltage?
37. Why is ohm's law?
38. Why there is need of resistance?
39. What is power?
40. Why there is need to decrease resistance?
41. In how many ways wires can be connected?
42. How can number of turns of wire can be find out?
43. What is circumference?
44. What is the formula of circumference?
45. Describe the features of activated carbon?
46. What is pyrolysis?
47. What is the role of surface area in activated carbon?
48. What is oxidation?
49. What is redox reaction?
50. What is porosity?
51. What are the substances used in the preparation of activated carbon?
52. How is activated carbon prepared from corn cobs?



52. What are the physical characteristics of activated carbon?
53. What is product density?
54. What is mesh size?
55. Define adsorbant.
56. Define adsorbate.
57. What is miller tube made of?
58. What are the characteristics of miller tube?
59. How does miller tube function?
60. Define ohm's law.
61. Define resistance.
62. What is parallel connection?
63. Define insulation.
64. Define voltage.
65. What is resistance time?
66. Define activating agents.
67. Define reactivation.
68. Define gasification process.
69. Why is nitrogen used here?
70. What is meant by inert atmosphere?
71. What is the use of ceramic cement?
72. Why is ceramic cement used here?
73. What is the composition of ceramic cement?
74. Why is thermocouple?
75. Why is thermocouple used?
76. What is variac?
77. Why is variac used?
78. What is DTC?
79. Why is DTC used?
80. What is bubbler?
81. Why is bubbler used?
82. What is contactor?
83. Why is contactor used?
84. What is meant by volatile components?
85. What is rudimentary part structure?
86. What is iodine number?
87. What is a quarts boat?
88. Why is it used?
89. What are the tests that are performed?
90. What is ash content test?
91. What is adsorption test?
92. What is methylene blue test?
93. What is BET surface area analysis?
94. What is heating zone?
95. Explain the formation of activated carbon,
96. What kind of power supply is used? (AC/DC)
97. What is designing?
98. How is fabrication different from designing?
99. Explain in detail the fabrication of activated carbon.



27. RECLAMATION OF PALM WASTE

1. What Is palm tree?
2. Difference between coconut and palm tree?
3. What is the difference between palm kernel and coconut kernel?
4. Why is palm oil red in colour while the pulp is yellow in colour?
5. What is kernel?
6. What is sterilization?
7. How does sterilization take place?
8. Sterilization is done for the whole bunch or the plucked fruits?
9. Why do we pluck the fruits out for steam sterilization?
10. Does the temperature of the steam decreases while it is sterilizing the fruits?
11. Why does the temperature decreases?
12. What are atoms and molecules?
13. Why does heat kill microorganism?
14. When human beings are burned they are converted into ashes, but when we sterilize the microorganism what happens to them where do they go?
15. Do kernel shell crack during the oil extraction from the mesocarp?
16. Is the kernel oil transparent or opaque white?
17. How will the fruits be in the steam sterilizer?
18. Why is palm production less?
19. How many times does the palm tree gives fruits in its life time?
20. What is the time required by the palm tree to fully mature?
21. Why are you doing this project?
22. Why you want to convert the wastes?
23. Where do we use palm oil?
24. What is incinerator?
25. What is pyrolysis?
26. What is the difference between incinerator and pyrolysis?
27. How much does it take for processing the palm oil?
28. What is the temperature of the water that is used for sterilization?
29. What is the difference between the mesocarp oil and the kernel oil?
30. What is the use of kernel oil?
31. How is sludge useful?
32. What is palm peat?
33. Why do we use soil nutrient enhancing medium?
34. Were the fibers dried before processing?
35. What is pulverization?
36. Why do you use water to soak the palm peat?
37. Why do you want to make into brick shape?
38. What kind of cells bear oil?
39. Why is there a colour difference in Palm oil and Palm kernel oil?
40. How are Palm oil and Palm kernel oil different in applications?
41. Is Palm oil versatile like coconut oil?
42. Where do Palm fibres come from?
43. Why are steel tanks used for steam sterilization?
44. Can Palm fruits get diseases?
45. What kind of insects infect Palm fruits?
46. Why is steam used for sterilization instead of any other hot gases?
47. How long does steam sterilization take?
48. What kind of quality tests are performed on the extracted oils?



49. Why can't microorganisms tolerate high temperatures?
50. How do machines separate fruits from fruit bunches?
51. Do fruits get damaged during separation from their fruit bunches?
52. During oil extraction, is 100% oil from the pulp squeezed out?
53. What are the sterilization techniques used for oil?
54. When kernel nuts are cracked, won't the kernel get damaged?
55. Which oil is better? Palm oil or Palm kernel oil?
56. Apart from oil extraction, do Palm fruits have any other application?
57. How many Palm plantations are there in India?
58. What is sludge?
59. Where is palm oil used?
60. Where can the kernel oil be used?
61. What are the uses of palmpeat?
62. How do the palm fibers look?
63. Is sludge in the liquid form?
64. What is melting point?
65. What are the uses of palm fruits?
66. How does a palm fruit look?
67. What is kernel cake?
68. How is the kernel cake useful?
69. What is a media?
70. Do we filter the oil?
71. From which part of the fruit we get palm oil and kernel oil?
72. How much of waste is produced?
73. What happens when steam is passed?
74. How much of waste is produced?
75. Why is clarification done?
76. How do we separate kernels shells from the fruit?

77. What type of filtration techniques are used in palm oil extraction?



28. Automated Waste Segregator

1. What is waste?
2. What is the need for waste segregation?
3. What is bio-degradable waste?
4. What is non-biodegradable waste?
5. Example for liquid type of waste: -
6. Example for solid type waste: -
7. What is hazardous type of waste?
8. Example for hazardous waste: -
9. What is organic type of waste?
10. Example of organic type of waste: -
11. What is recycling of waste?
12. What is the need of recycling of waste?
13. What is the risk of not recycling the waste?
14. What are the harmful effects of waste?
15. What are the plans initiated by our PM Modi?
16. Which is the cleanest city in India?
17. Which is the untidiest city in India?
18. What are different ways to decompose the waste?
19. What is biogas?
20. How is biogas created?
21. What are different ways in which waste can be used for producing useful products?
22. What is compost manure?
23. How is compost manure made?
24. What are some agricultural uses of waste?
25. How do decompose chemical wastes?
26. Name some reactive chemical wastes?
27. What does industrial waste consist of?
28. What are harmful effects of industrial waste?
29. How to decompose industrial waste?
30. Mention different ways to nullify industrial waste?
31. What is segregation of waste?
32. How to control industrial waste?
33. How does industrial waste affect human health?
34. How does non-biodegradable waste affect the nature?
35. How does non-biodegradable waste affect the human?
36. What is the contribution of waste to the reputation of India?
37. How is government of India trying to overcome the problems faced by the waste produced?
38. Which is the cleanest country?
39. What are the measures individual of the country should take to reduce the production of the waste?
40. Mention in what ways individual keep the society clean?
41. Which IC is the alternate for MSP430?
42. What is the significance of voice module in the system?
43. What is the capacity of waste collector?
44. Explain about proximity sensor: -
45. Is there an existing module? If yes, then what's new in this model?
46. Is it cost effective?
47. Can we implement this system without using microcontroller?
48. Is the system user friendly?
49. Have you used Assembly code or C Code?
50. Can we segregate plastic?
51. What is the significance of GSM module?
52. Explain about power consumption: -
53. What is its future scope?
54. Why the robotic arms made use of?
55. Explain about MSP430: -



56. How the system will separate the waste into dry, wet, metallic?
57. Explain about conveyer belt used in the system: -
58. What is the significance of relay in the circuit?
59. Explain about the components used: -
60. Can we easily replicate the system?
61. Tell about prose and cones of the system: -
62. Is the system Portable?
63. What is the significance of water sprayer?
64. How it will indicate the overflow of input waste?
65. Can we easily purchase the components for its construction?
66. What is inductance and dielectric constant?
67. Mention the dielectric constant of paper and plastic?
68. How can we differentiate between paper and plastic based on their dielectric constant even though it is same?
69. What is an electromagnetic coil? How it is made?
70. How the metals attracted by the electromagnetic coil?
71. What made you to select this project?
72. What is the current widely used segregation method? How this method is different from that?
73. How many different kinds of wastes can be separated by this method?
74. What is the overall cost of this setup? Whether it is feasible to the common man?
75. What is the durability and efficiency of this setup?
76. Industries and factories are most waste producing. Whether this can be implemented there?
77. What is the capacity of the setup? That is what the amount of waste it can separate is?
78. How the wastes are separated if they are semisolid or molten?
79. What is the total space occupied to implement this setup?
80. What if the size of the waste is greater than the dimensions of the funnel specified?
81. What are the various places this can be implemented?
82. Whether the electronic wastes can be separated by this method?
83. Whether bin size can be altered?
84. What is the approximate power consumed?
85. Whether this system can be implement using solar energy?
86. Whether there is any specified amount of speed that is to be blown by the blower?
87. How many IR sensors are used?
88. Whether IR sensors can be replaced by some other sensor?
89. Up to what distance IR sensor can detect the waste? (Range of IR sensor)
90. What is eddy current principle?
91. Why 3 or only 3 inductive proximity sensors are used?
92. What is the minimum width of the conveyor belt to be used?
93. What is open close mechanism?
94. Which motor is made use of and its input voltage range?
95. How many motors are required?
96. Can this project be implemented by other type of the microcontroller like Arduino?
97. How the waste is fed to the conveyor belt?
98. Why both clockwise and anticlockwise motion of the motor is required?
99. What are the various improvisations that can be done to this project?
100. How to overcome the limitations of this project?



29. SOLAR AUTOMATED DRAINAGE CLEANING SYSTEM

1. What is the impact of litter in waterways?
2. How to remove litter at the basic level?
3. What is the classification of litter?
4. What is solar energy?
5. How does photon to electron energy conversion takes place?
6. Mention the application of solar energy?
7. List out the advantages of solar energy?
8. How is solar energy environmental friendly?
9. Mention the disadvantages of solar energy?
10. Describe the concept behind a solar panel?
11. How does the solar panel work?
12. How much energy does a solar panel produce?
13. Briefly explain the literature of drainage?
14. Explain the construction of drainage cleaning system?
15. What is the working principle of drainage cleaning system?
16. What are the design elements of drainage cleaning system?
17. Define D.C motor?
18. Explain the block diagram of electric motor?
19. Explain about electric generator with block diagram?
20. Define starter?
21. Define rotor?
22. What do you mean by Winding?
23. Explain the basic principle of D.C motor?
24. Explain the equivalent circuit of D.C motor?
25. Write the power transfer equation for D.C motor?
26. Explain the D.C motor performance calculations?
27. What is the speed regulation in D.C motor?
28. Explain torque- speed characteristics?

29. Write equation for D.C motor?
30. What is a bearing?
31. What are the common motions permitted by bearing?
32. What is meant by journal bearing?
33. What is meant by lubrication? Provide examples?
34. Explain about maintenance & lubrication in bearing?
35. Define packing?
36. Why is lubrication necessary?
37. What is a shaft?
38. What is the purpose of a shaft?
39. Classify shafts?
40. What materials are used to make shafts?
41. Explain rack and pinion arrangement?
42. List the types of rack and pinion gears?
43. Explain straight teeth gear?
44. Write a note on helical teeth gear?
45. Explain roller teeth gear?
46. What are the applications of rack and pinion gear?
47. Explain the concept of simple gear train?
48. Explain about gear wheel & chain with neat sketch?
49. Explain about battery storage system?
50. What are the core attributes of energy?
51. What are the different types of battery?
52. Explain lead acid battery?
53. Explain nickel cadmium, nickel metal hybrid?
54. Explain the concept of acid battery?
55. Explain the calculations of solar panel, battery, D.C motor, chain drive?
56. Write a note on the concept of frame fabrication?
57. Write a note on Bucket?
58. How much power does the solar panel produce?
59. List out the advantages of drainage cleaning system?
60. Mention the applications of drainage cleaning system?



61. Write a note on future development of drainage cleaning system?
62. Write a note Molten salt battery?
63. Explain about sodium surface battery?
64. Explain concept of Lithium ion batteries?
65. What do you mean by flow batteries?
66. Write a note on Vanadium flow battery?
67. Describe the types of battery with charges, efficiency & cost table?
68. Write a note on Introduction of Drainage.
69. Give the examples of drainage?
70. Define solar power?
71. Write a note on environmental aspects of solar energy?
72. Mention the energy spectral categories with wave length range?
73. Write a note on safety & environmental issues?
74. Define solar Energy?
75. Explain the solar energy conversion paths & technologies involved?
76. Explain the schematic representation of p-n junction & organic bilayer structure?
77. Is solar energy is independent/ semi-independent?
78. Write a note on solar panel objectives?
79. What are the factors that affects the environment by litter?
80. What is the value of mechanical force in D.C motor?
81. What are the torque developed in D.C motor?
82. Write a note on induced counter voltage of D.C motor?
83. What is the purpose of ball bearing in drainage cleaning system?
84. What are the different ways that friction can be reduced in bearing?
85. With neat sketch explain the sliding & rolling bearing?
86. List out the table of design calculations of sprocket & chain?
87. Define battery.
88. What are the machines used in fabrication of drainage cleaning system?
89. Write a note on design calculations of gear wheel & chain?
90. What is chain drive?
91. Design calculation of battery?
92. Explain the different types of technologies used to convert solar energy into various energies?
93. What are the main policy message of drainage paper literature?
94. Explain the block diagram of solar automated drainage cleaning system?
95. What are the different multilayer devices?
96. Define net metering?
97. How much energy will the sun core releases?
98. Define solar thermal technology?
99. How much the molecules properties are determined explain?
100. Define the tool drain frame?



30. PLASTIC TO ENERGY

1. What is plastic?
2. What are the types of plastic?
3. What is the composition of plastic?
4. How plastic is harmful to environment?
5. What is the difference between bio-degradable and non bio-degradable waste?
6. What is molecular vibration?
7. What is molecular breakdown?
8. Is every plastic waste is collected and recycled?
9. What is fuel?
10. How fuel is important?
11. Can fuel be extracted from plastic?
12. What are stages to convert plastic to energy?
13. What are the advantages of this project?
14. Is the process efficient?
15. What is the need for using the plastic in society?
16. What are the requirements for this project?
17. What is heating?
18. What are the types of heating?
19. What is heat exchange?
20. What are the different modes of heat transfer?
21. What is condenser?
22. What is meant by reactor?
23. What is catalyst?
24. What are the different types of catalyst?
25. Why catalysts are used?
26. What are the different types of condensers?
27. What is insulation?
28. What are the different types of insulation?
29. What is the amount of plastic waste produced in India per year?
30. What is the amount of plastic waste collected in India per year?
31. What percentage of collected plastic is recycled?
32. What is the amount of plastic waste produced in world per annum?
33. Where the most plastic waste is dumped?
34. What is crude oil?
35. What is the chemical composition of crude oil?
36. What is generator?
37. What are the types of generator?
38. What is diesel engine generator?
39. What is the working principle of generator?
40. What is difference between diesel engine generator and prime mover generator?
41. What is the energy crisis in India?
42. What is load shedding?
43. What is meant by 'balance between supply and demand'?
44. What is the risk factor in this project?
45. What are steps to be taken to overcome it?
46. What are the products produced other than oil?
47. Can the oil collected after condensation be used for power generation directly?
48. What do you mean by carbon black?
49. What do you mean by cooling and bagging process?
50. What is a flue gas?



31. Design and Fabrication of Dry Leaves, Plastic, Mud, Grits, and Metal Pieces Sucker and Separator

1. What is the tag line of Swachh Bharath Abhiyaan?
2. How is vacuum created?
3. Define pressure.
4. Define horsepower.
5. What is the dust sucking capacity of the prototype being designed?
6. Describe the specification of prototype.
7. What is the capacity of motor that is used in this prototype?
8. How many motors are used in this design?
9. What is the use of sieve plate?
10. How will the city be cleaned by this project?
11. What is the use of brushes?
12. How are dry leaves separated from plastic and other things?
13. Is this project a solar based or does it work on battery?
14. Why is the magnetic ring used?
15. Is this prototype portable?
16. Based on which principle does this project work?
17. What are the advantage of this prototype over existing systems?
18. What are the disadvantages of this prototype?
19. What are objectives of this project?
20. Why is a fan used?
21. What is suction?
22. How will the sucked metal particles be separated?
23. How are plastic materials separated?
24. Why is the heater used?
25. In what way will it separate the dust particles?
26. Define design.
27. What is the goal of Swachh Bharath Abhiyaan?
28. Who suggested the tag line of Swachh Bharath Abhiyaan?
29. How the separated plastics are disposed?
30. What is role of young Indians in keeping the city clean?
31. What is the use of dry leaves in the field of agriculture?
32. Does this project need a skilled operator?
33. Is operating the prototype simple or complex?
34. Why is it necessary to collect grits and mud?
35. Where is the waste collected?
36. Where is the container placed?
37. Why is the heater coil supplied with less heat?
38. Explain the working of prototype?
39. What are the application of this project?
40. How does mud effect the roads?
41. What is the suction capacity of motor?
42. What is the capacity of motor used for driving the brushes?
43. How many brushes are used?
44. Brushes are made out of which material?
45. What materials the parts of the projects are made of?
46. Why are only these materials used?
47. What is A.C power and D.C power?
48. Where is A.C used and where is D.C
49. What are electrical conductors?
50. Why does electricity flows through conductors?
51. Why are some materials resistant to conduct?
52. How does a solar panel work?
53. How do batteries store electricity?
54. What are the chemicals used in battery?
55. How do chemical reactions take place in battery?
56. How do batteries work as both a power supply and power storage unit simultaneously?
57. Why are the blades so shaped?



58. What is the difference between these blades and the blower blades?
59. Is this an economical project?
60. Why you are involving school students in this project?
61. What is the reason to make school students aware about technical knowledge?
62. What happens when high voltage electricity is applied to these equipment?
63. What is the need of cleaning dust?
64. How dust affect the environment?
65. How do climate conditions get changed by an increase in dust level?
66. How does pollution affect the living beings?
67. How does pollution affect the monuments?
68. Has anyone raised their voice against pollution before?
69. Are any other methods available to control pollution?
70. Does the government take any actions to control pollution?
71. Why do factories produce do much dense gasses?
72. Are there any rules regarding pollution control?
73. Does the government help people in controlling pollution?
74. If so, then how?
75. Is it possible to move our project everywhere?
76. Is it possible to operate this project by remote control?
77. How much money we are spending for this project?
78. What is mean by a working model?
79. What is mean by a demo model?
80. What is mean by a prototype?
81. Why can't we make a model which can be operated manually?
82. Why does this model use a suction mechanism instead of blowing one?
83. Why can't we use a broom?
84. Does it create un employability?
85. Is it environment friendly?
86. How to operate the machine?
87. What are the maintenance measures for this project?
88. What are the precautions to be taken for pollution control?
89. How did you get the idea for this project?
90. What other changes can be done to enhance the operation?
91. What does vacuum mean?
92. How are the magnetic fields created by electric power?
93. What is the need of magnets?
94. Is solar panels supply sufficient power?
95. Is it possible to take power from street lamp poles?
96. What can we do with the collected grids?
97. How are fertilizers produced from the leaves?
98. How do we handle the mud collected?
99. How do we get rid of the plastic?
100. What are the limitations of this project?



32. REMOVAL OF FLOURIDE

1. What is Anveshana?
2. From where did you collect information about Anveshana?
3. What is pollution?
4. What are the types of pollution?
5. What is water pollution?
6. What are the major water pollutants?
7. Where do water pollutants come from?
8. What is water conservation?
9. Why is polluted water harmful to drink?
10. What is a water table?
11. What is ppm?
12. What is pH?
13. What is pH level of drinking water?
14. What is potable water?
15. What is contamination?
16. What are the types of contamination?
17. What are reasons for contamination?
18. What are primary & secondary treatment?
19. What are common methods of disinfections?
20. What is filtration?
21. What is fluoride?
22. Where are fluoride present?
23. What is chemical element of fluoride?
24. What is chemical formula of fluoride?
25. What is atomic number of fluorine?
26. What are other derivatives of fluoride?
27. What are the causes of fluoride in water?
28. What is the estimated daily intake?
29. What are the applications of fluoride?
30. What is fluoridation?
31. What is de-fluoridation?
32. Why is fluoride added to drinking water?
33. What does fluoride do?
34. Who needs fluoride?
35. What are the causes for excess fluoride?
36. What are the health effects of fluoride?
37. What is dental fluorosis?
38. What is skeletal fluorosis?
39. What is the fluoride level above which skeletal fluorosis is seen in drinking water?
40. What is the fluoride level above which dental fluorosis is seen in drinking water?
41. What are the signs of dental fluorosis?
42. What are the signs of skeletal fluorosis?
43. From where does fluoride come in to the water?
44. What are the treatments for de-fluoridation?
45. What can I do to limit my exposure to fluoride?
46. Are there methods I can use to remove fluoride from my drinking water at home?
47. What is the current drinking water standard for fluoride?
48. Are children or adults exposed to too much fluoride?
49. Is fluoridation a valuable public health measure?
50. What is laterite?
51. What are the sources of laterite?
52. Why laterite for de-fluoridation?
53. Principal involved in de-fluoridation using laterite?
54. Methodology adopted in our project?
55. Advantage involved in our project?
56. Reason for choosing this as a project?
57. Is this method efficient/good?
58. Measures to check fluoride content in water?
59. What are different methods available for de-fluoridation?
60. What are the initial symptoms of fluorosis?
61. Will addition of fluoride effects quality of drinking water?



62. How to determine the amount of fluoride that should be added to water?
63. Is laterite a re-usable material?
64. How does this project help the nation?
65. Is this project adoptable in all area?
66. What is the process of constructing the filter media?
67. Are any other elements used other than laterite?
68. Are any other pre-treatments adopted before supply of water in to filter media?
69. How is polluted water responsible for ecological balance?
70. How is drinking water made safe for consumption?
71. How can we reduce, re-use and recycle water?

34. Mobile Water Purifier

1. What is a purifier?
2. What is mean by mobile?
3. What does locomotive mean?
4. What is meant by pumping?
5. Explain the function of pumping?
6. How many types of pumps are there?
7. Explain the working procedure of pumping?
8. What is mean by flow?
9. What is mean by radial flow?
10. What is mean by axial flow?
11. What are the applications of pumping?
12. What are the advantages of pumping?
13. What are the disadvantages of pumping?
14. What is the need for water purifier?
15. What is the aim of this project?
16. What are the main objectives of mobile water purifier?
17. Describe the idea generation for developing the project?
18. Explain the working of a conventional water filter?
19. Explain the basic components of mobile water purifier?
20. Explain the working procedure for mobile water purifier?
21. Explain the basic concept of bicycle frame?
22. What is the storage tank?
23. What is the need of storage tank?
24. What is mean by chain drive?
25. How many teeth are provided on chain sprocket?
26. How many chain drives are needed for the mobile water purifier?
27. What is mean by driver chain sprocket?
28. What is mean by driven chain sprocket?
29. What is mean by primary chain drive?
30. What is the need of a primary chain drive?
31. What is mean by a secondary chain drive?
32. Why do we need a secondary chain drive in the purifier?
33. Explain the working of a secondary chain drive?
34. Explain the selection of the design features?
35. What is mean by carbon filter?
36. What are the layers of the carbon filters?
37. How many types of carbon filters are there?
38. What are the contents of a carbon filter?
39. Why do we need carbon filter for purifying the water?
40. What are the advantages of carbon filters?
41. What are the disadvantages of carbon filters?
42. Why are we using grain size carbon filter in this experiment?
43. What is the difference between carbon and activated carbon?
44. What is mean by sediment filter?
45. What are the contents in sediment filter?
46. Why we need sediment filter for purifying the water?
47. What are the advantages of sediment filter?
48. What are the disadvantages of sediment filter?
49. What is mean by peristaltic?
50. Explain the principle of peristaltic pump?
51. Briefly explain the working of peristaltic pump?
52. What is the need of peristaltic pump?
53. What are the advantages of peristaltic pump?
54. What is mean by nylon wheel?
55. Why we used nylon wheels in this experiment?
56. Why we need clearance between the wheel and body of pump?
57. Is it possible to increase the suction of water by increasing of nylon wheel?
58. What is mean by hose?

59. Explain the specifications of hose?
60. What are the features of tubing?
61. What is mean by UV rays?
62. What is mean by ultra?
63. What is the main function of UV rays?
64. Why we need ultraviolet rays in purifier?
65. What are the advantages of UV rays?
66. What are the disadvantages of UV rays?
67. Different applications of UV rays?
68. What is mean by casing?
69. What are the materials are used to manufacture for casing?
70. Why we need casing for UV rays?
71. Bullet points on UV light source?
72. What is mean by dynamo?
73. What is then main function of dynamo in purifier?
74. How we generate the electricity from bicycle?
75. Explain the working of dynamo?
76. What are the advantages of dynamo?
77. If we positioned the filter in the revers manner, then what will happen?
78. Why we used circular peristaltic pump in filtration?
79. What is mean by static filtration testing?
80. Why we need back wheel lifting stand to purifier water?
81. What is mean by dynamic filtration testing?
82. What is mean by portable sophisticated purifier?
83. What is mean by conventional water filtration?
84. What are the basic component of the conventional filtration?
85. Explain the working of conventional water filtration?
86. What are the advantages of conventional water filtration?
87. What are the disadvantages of conventional water filtration?

88. Why we need primary storage tank infiltration?
89. Why do we need secondary storage tank in purifier?
90. What is the use of charcoal in the portable water filtration?
91. How do we select the design features?
92. What are the advantages of mobile water purifier?
93. What are the disadvantages of mobile water purifier?
94. Why do we need wheel clearance on testing?
95. What is mobility testing.
96. How do we experiment by general operation testing?
97. What are the calculation of testing of water by riders?
98. What is the estimated cost of this project?
99. What are the result of the mobile water purifier?
100. What is the conclusion of experiment?



35. Sustainable Modular House

1. What is a house?
2. What is the difference between house and home?
3. What are the different parts of a house?
4. What are the different elements of a house?
5. What do you mean by construction sequence?
6. What is the sequence of construction of house?
7. What are the conventional materials used to construct house?
8. What are the advanced materials that can be used to construct house?
9. What is the usual cost and time required time to construct house?
10. Why should we think of alternating building materials?
11. What is sustainability?
12. What are the examples of sustainable materials?
13. What is modularity?
14. What do you mean by scaling horizontally and vertically?
15. What is lean construction?
16. What is the need of lean construction?
17. What is prototype?
18. What do you mean by basic needs?
19. What is affordable house?
20. How time and cost is related in construction?
21. How to reduce time and cost in construction?
22. What is tiny house?
23. Why do people live in tiny house?
24. What is construction waste?
25. How to reduce construction waste?
26. What is energy conservation?
27. What do you mean by reduce, reuse and recycle?
28. What are the techniques used to construct house quickly?
29. What is house plan?
30. What are the points to be considered before planning?
31. What do you mean by prefabrication?
32. What is the advantage of prefabrication?
33. How to install prefabricated elements?
34. What do you mean by pre-engineered?
35. What is B.U.S?
36. Who will get benefitted by B.U.S?
37. What do you mean by dismantling and reusing?
38. What do you mean by locally available materials?
39. Why should we use locally available materials?
40. What is aesthetics?
41. What do you mean by socially acceptable?
42. What is ease of construction?
43. How to reduce the effort?
44. What is thermal comfort?
45. Which are the materials that give thermal comfort?
46. What is strength?
47. How to measure strength of blocks?
48. What is durability?
49. Which are the materials that are durable?
50. What is time of construction?
51. What is the reason for delay in construction?
52. What is embodied energy?
53. How to calculate embodied energy?
54. Should we use material with low embodied energy or high embodied energy?
55. Which materials will have low embodied energy?
56. What is mobile house?
57. What is the advantage of mobile house?



58. What are the tools/equipment required for the construction of house?
59. What do you mean by services in home?
60. What are the different types of services?
61. Which are the fitting/fixtures used in home?
62. What do you mean by load bearing system and framed system?
63. Which are the examples for load bearing system?
64. What is the advantage of load bearing system?
65. What are the different alternatives for wall material?
66. What is masonry?
67. What is block (masonry unit)?
68. What is mortar?
69. What is concrete?
70. What is aircrete block?
71. What is SMB?
72. What are the advantages of SMB?
73. How to make SMB?
74. What is interlocking SMB?
75. What are the advantages of interlocking SMB?
76. What is EHCB?
77. What is the difference between EHCB and concrete block?
78. What are the advantages of EHCB?
79. What are the different types of EHCB?
80. Why plastering can be avoided for interlocking SMB and EHCB?
81. What are the advantages of using steel?
82. What are the different alternatives for roof skin?
83. What is prefabricated roof?
84. What is the advantage of prefabricated roof?
85. What is earthquake resistance?
86. What is light weight material?
87. What are the advantages of light weight material?
88. What is corrosion?
89. Which material will get affected by corrosion?
90. What are the checks do be done while laying blocks?
91. What is lintel?
92. Why lintel is provided?
93. What is sill level and lintel level?
94. Which are the different kind of openings to be provided in a house?
95. What is precast material?
96. What is the advantage of using precast material?
97. What do you mean by dismantling and reusing?
98. What do you mean by structural design of a house?
99. What do you mean by financial and environmental concern?
100. What are the outcomes of the alternatives suggested?



36. IOT Based Smart Mop

1. What is the project about?
2. What field does the project focus on?
3. What is a mop?
4. Why is the project centered at a mop?
5. What are the other equipment available for cleaning?
6. Why isn't the other equipment efficient?
7. What are the advantages of a mop?
8. What sort of an environment is the device suited to?
9. What sort of environment is the device not preferred for?
10. What makes it an ideal tool for cleaning?
11. Why does the project focus on sanitation?
12. What is the need of the project?
13. What is the USP of the project?
14. What is the demand for the device?
15. What is the predicted market status of the product?
16. What are the advantages over existing products?
17. What is the predetermined production cost?
18. What is the maintenance requirement of the device?
19. What is the cost of the project?
20. What is the processing time required?
21. How long did it take for the prototype to be ready?
22. What was the initial cost?
23. Is it cost effective?
24. What is the efficiency of the prototype?
25. Is there scope for future enhancements?
26. What are the modifications possible?
27. How many future versions can be expected?
28. How are the versions better than the existing one?
29. What part of the population is it targeted to?
30. What are the overall benefits of the project?
31. Which domain is it impactful to?
32. Which are the areas it is less meant to be utilized?
33. What are its prime advantages?
34. What are its advantages?
35. What are the measures taken in improving the disadvantages?
36. How are these measures helpful?
37. How does the prototype work?
38. What is the technology used?
39. Why isn't any other mode of operation opted?
40. What makes the technology efficient for the device?
41. What is the full form of DTMF?
42. What does DTMF mean?
43. How is the device made automatic?
44. How does the device reduce human effort?
45. What makes the device smart?
46. How does the product fit in the modern world?
47. What is the number of components used?
48. What are the components used?
49. What is the key feature of the circuitry?
50. How are the connections made?
51. How is the circuitry minimized?
52. What is the investment required?
53. What were the modes of assistance required in building the prototype?
54. How much effort does it take in running the device?
55. Why is a relay used?
56. What are the number of PCBs used?
57. What are the complexities involved?
58. What is the area occupied?
59. What is the shape of the device?



60. Why is it designed in this way?
61. How provides the locomotion to the device?
62. How many wheels are used?
63. What drives the wheels?
64. How does the device control the directions?
65. What are the specifications of the motor?
66. How many motors are required?
67. Is the device heavy with all the circuitry?
68. How is the device turned on?
69. What is the interfacing medium?
70. How does a person communicate with the device?
71. What is the range of the device?
72. What are the other possible modes of communication?
73. Is an internet connection mandatory?
74. Is there an unwanted wastage of mobile currency?
75. What is the minimum time required to instruct the device through phone?
76. How is the device turned off?
77. What are the numbers on keypad that turn on the device?
78. What are the numbers on keypad that turn off the device?
79. How are the combinations decided?
80. How can the input combinations be changed?
81. Is the human presence mandatory?
82. How is the device provided with power?
83. What is the voltage required?
84. How many batteries are used?
85. How long can the device run without human intervention?
86. Is the device portable?
87. How is the device protected?
88. What is the casing done?
89. What is the cost of the casing?
90. How is the mop designed?
91. What is the material used for the mop?

92. What is the type of the phone required to be placed with the device?
93. How is the phone call received by the device?
94. How does the device react to obstructions?
95. What is the nature of direction change during obstacle avoidance?
96. Is the device tested appropriately?
97. What kind of dirt is cleaned by the device?
98. Where is the dust collected?
99. What is the marketing standard of the device?
100. What are the stages required to commercialize the product?
101. What will be the estimated profit earned?



37. Smart Electronic Helmet

1. What is a project?
2. What are the steps involved in coming up with a project idea?
3. How do we analyse a problem and come up with a working solution?
4. What is a prototype?
5. What is a demonstration?
6. What is a product?
7. What is the importance of taking feedback from the audience?
8. How to develop a project into a successful product?
9. What is a battery?
10. What is a conductor?
11. What is an insulator?
12. How does an electron flow in a conductor?
13. What is a resistor?
14. What is the importance of a resistor in an electronic circuit?
15. What is a capacitor?
16. What is the importance of a capacitor in an electronic circuit?
17. How does electrons flow through a resistor?
18. How is resistance measured?
19. How is capacitance measured?
20. What is the difference between insulator and conductor?
21. What is power?
22. How is power measured?
23. What is use of multi-meter?
24. What is voltage?
25. What is current?
26. What is the polarity of LED?
27. What is a semiconductor?
28. Why do we have to solder components in electronic circuits?
29. What is ac and dc voltage?
30. How do we purchase components that are not available in India?
31. What are sensors?
32. How do we take readings from the sensors?
33. What is an accelerometer?
34. How does an accelerometer work?
35. How do we detect an accident?
36. What is a bread board?
37. How do we use bread board?
38. How do we charge a battery?
39. Why do we use a camera?
40. How do we control a camera?
41. Where do we store the video?
42. Where do we place the camera?
43. How do we record video and when does to starts recording?
44. Why do we use GPS?
45. To whom does the message go?
46. What does the message contain?
47. Why do we use Bluetooth module?
48. Why do we use relay?
49. How does a relay work?
50. What is a transmitter and a receiver?
51. What are the sensors present in Nature?
52. What is soldering?
53. What are the types of soldering?
54. What are the materials required in soldering?
55. What is flux?



56. What is the importance of flux?
57. What is a micro controller?
58. What is an Arduino?
59. Why there are so many pins in an Arduino?
60. What are analog pins?
61. What are digital pins?
62. Which language is used in Arduino?
63. What is open source?
64. What is clock speed?
65. What is baud rate?
66. What is the difference between analog and digital signal?
67. How much power supply does an Arduino takes?
68. What is adapter and where is its use?
69. What is IDE?
70. What is a voice command?
71. What is a GPS?
72. What is navigation?
73. What is the use of navigation?
74. What is BJT?
75. How does BJT works?
76. Name the terminals of BJT.
77. What is a transformer?
78. What is PCB?
79. What is a rectifier?
80. What are transistors?
81. What is a heat sink?
82. What are the major causes of accidents in India?
83. What is a UART?
84. What is USB device?
85. How does data transmission take place in Bluetooth module?
86. What are the different types of profiles available in Bluetooth modules?
87. What is regulator?
88. Which type of voltage regulator is used?
89. What type of power supply required for system?
90. What is the estimated cost of our system?
91. How do we detect if the strap is worn or not?
92. Why do we use speakers in the helmet?
93. What is the use of alcohol sensor?
94. How does an alcohol sensor works?
95. How does the rider come to know about the current status of the system?
96. What actions will be taken when an accident is detected?
97. How does the call gets connected to the helmet?
98. Will the rider be able to listen to the ambience sound will listening to the music?
99. What is the maximum volume allowed in the helmet to listen to the music?
100. How does pressure sensor work?
101. Why do we use pressure sensor in our project?



38. ATTENDENT ROBOT FOR BED RIDDEN PATIENTS

1. What is a KNN Classifier?
2. Why is video processing used for speech recognition?
3. What is local binary pattern(LBP)?
4. What is amplitude shift key?
5. What is electro-magnetic articulography?
6. What is silent speech interface(SSI)?
7. Why are we using a KNN classifier?
8. What are the other methods for classification of features?
9. What is the resolution at which the videos can be acquired?
10. What is the operating voltage of this module?
11. What type of switching circuit is used?
12. What is the frequency of signal with which the RF module will work?
13. What are frames?
14. What is the software used for the development of the system?
15. How is the feature extraction done?
16. How is the feature detection done?
17. Which is the microcontroller used?
18. How many bits is the microcontroller?
19. What kind of robot is used to bring the carriers?
20. Differentiate between the speaker dependent and speaker independent?
21. How is the robot controlled?
22. Explain the methodology?
23. Which camera is used to take video snaps?
24. What are histograms?
25. How do we train classifiers?
26. How is the comparison done with the newly acquired frames?
27. Through which software the is code written for microcontroller?
28. Through which software is the robot controlled?
29. Which RF module is specifically used?
30. What are the applications of this project?
31. What are the different methods for silent speech recognition?
32. What is the total cost of this project?
33. What is bilinear interpolation?
34. What is the current rating of whole module?
35. How the module is reliable?
36. Can it be implemented for security applications?
37. Does the language matters during lip movement detection?
38. How does the camera need to be placed?
39. Is it harmful to the patient in any way?
40. At what baud rate is the transmission done?
41. What is the difference between image processing and video processing?
42. Will this project work in all environments?
43. Can homonyms effect the accuracy?
44. How is MATLAB interfaced with the micro controller?
45. Does the colour of the lip matters?
46. What are the constraints of this project?
47. What is acoustic signal?
48. What is phonation?
49. What is the difference between invasive and non-invasive technique?



50. How does the movement of articulator effect speech?
51. What is dynamic time wrapping algorithm?
52. What is silent vocoder?
53. What is Eigen tongue decomposition technique?
54. What are neural decoding technique?
55. What are Neurotropic electrodes and Utah electrodes?
56. What are artefacts?
57. What is bipolar measurement configuration?
58. How many axes have been provided for robotic arm?
59. What will be the speed of pick and place robot?
60. What is the battery rating of the robotic vehicle?
61. What are the defects of other methods used apart from silent speech recognition?
62. Will these methods cause irritation to the patients?
63. What is the difference between pic micro controller and Atmel micro controller?
64. What are frames?
65. How many images causes one video?
66. At what rate should the images be taken?
67. What is a pixel?
68. What are the extensions of this project?
69. What is the setup this project requires?
70. How can language constraints be overcome?
71. Is computer interface needed all the time?
72. What is the overall cost of the project?
73. What is USB?
74. Where USB is used?
75. What is MATLAB?
76. Which MATALB version is used?
77. Can this be achieved without using MATLAB?
78. What kind of robot is used in this project?
79. What are the specifications of that robots?
80. What is a ROBOT?

81. What are the applications of ROBOT?
82. What is relay?
83. What kind of relays are used in this project?
84. Why relays are used?
85. What is PCB?
86. Different kinds of PCB?
87. What is soldering?
88. What are the things used in soldering?
89. What is LED?
90. How to communicate with MATLAB and microcontroller?
91. What is the duration or life time of robot battery once it is fully charged?
92. What is unique in this project?
93. How should the patient be positioned to the camera?
94. How will the camera communicate with MATLAB?
95. Which COM port does camera use?
96. What is COM port means?
97. Does this project depend on age of patient from any aspects?
98. What are the specification of camera?
99. What is the video resolution used in this project?
100. What does video resolution mean?



39. Head Movement Controlled Mouse

1. What is a project?
2. What is our project?
3. What is a computer?
4. How are computers used?
5. How are computers operated?
6. Why do we use computers?
7. Where are computers used?
8. What is a CPU?
9. What is a mouse?
10. Why is a mouse used?
11. How does a mouse work?
12. How is the mouse controlled?
13. What is a wireless mouse?
14. How does a wireless mouse work?
15. What are the components of mouse?
16. What is hardware?
17. What is software?
18. Where is the software stored?
19. What is a microcontroller?
20. What are the functions of microcontroller?
21. Why are there so many pins in the microcontroller?
22. What is a sensor?
23. How does a sensor work?
24. What is a motion sensor?
25. What is the cost of a sensor?
26. What are the applications of sensors?
27. How is this model useful?
28. What is abstract and synopsis?
29. How are inputs and outputs given?
30. What is multi-meter?

31. What is a resistor?
32. What is a capacitor?
33. What are the functions of a resistor?
34. What kind of mouse is used in this project?
35. What is an accelerometer?
36. What is a 2D accelerometer?
37. What is a photo sensor?
38. What is a transmitter?
39. What is a receiver?
40. What is a transmission?
41. What is a transceiver?
42. What is an infrared transceiver?
43. Why do we use transceiver?
44. What are the functions of a transceiver?
45. What is the power supply?
46. What is an AC supply??
47. What is a DC supply?
48. What is an analog signal?
49. What is a digital signal?
50. What is an ADC?
51. Why are ADCs used?
52. Which current is provided - AC or DC?
53. What is interfacing?
54. What is RS-232 interface?
55. Why is RS-232 preferred?
56. What is diode?
57. What is LED?
58. What is IF-LED?
59. What is a phototransistor?
60. What is an NPN silicon phototransistor?
61. What is blink detection device?



62. What are the components of blink detection device?
63. What is a G-cell?
64. What does a G-cell consist of?
65. What is a cell?
66. What is a capacitive sensing cell?
67. What is a circuit?
68. What is a voltage?
69. What is a current?
70. What is the symbol of voltage?
71. What is the symbol of current?
72. How is the AC supply converted to a DC supply?
73. What is a transformer?
74. How does a transformer work?
75. What is a step-up transformer?
76. What is a step-down transformer?
77. What is a rectifier?
78. What is a bridge rectifier?
79. What is a load?
80. What is a load current?
81. Why are input capacitor used?
82. What are its functions?
83. How are sensors made?
84. What is a power?
85. Why are multi-meters used?
86. How multi meters are measured?
87. What is PCB board?
88. What is audio board?
89. Which software is used in this project?
90. Which languages are used to write the codes?
91. How does the code gets dumped in to the computer?
92. What is programming?
93. How is the device programmed?
94. What are buses?

95. Why do we need to programme microcontroller?
96. Why is this kind of a mouse used?
97. What are the applications of this mouse?
98. What is the aim of the project?
99. What is the weight of the model?
100. What is the cost of the model?

