

ASN SR SEC SCHOOL
CLASS X-E
Session 2017-18
Physics Holiday Homework (project)

- 1) Working model of green and clean sustainable city comprising of the following:
 - a. **Green school**-which uses solar panel, chillar plates, water irrigation system (by consuming left over water in bottles).
 - b. **Hospital**-effective utilisation of bio-medical waste, segregation on the basis of bio-degradable and non bio-degradable waste, vermi composting.
 - c. **Residential Complex**-with provision of rain water harvesting, kitchen garden,air purifier system.
 - d. **Mall**-escalators working on the IR sensors, SOS garbage sensor,parking in lesser space.
 - e. **Industry**-by using any alternative renewable source of energy in order to reduce the pollution level in city.

- 2) Survey between metros used in India and Maglev Train in UK on the theme 'carbon footprinting'.
 - a. Make a dummy model for the trains (Metro and Maglev Train).
 - b. Survey on the carbon foot printing.
 - c. Make a PPT to show the details of merits and de-merits possessed by the train which can be supported by any other illustrations.

- 3)
 - a. Static Model showing the comparative study between US and India (Developed and Developing country) on the topic fuel consumption and amount of greenhouse gases released.
 - b. Give the suggestive measures in order to curb the same.
 - c. Report to be given in form of bar graph/pie chart.

- 4) Cooling of building with natural means:
 - a. Placing of ventilators (convection).
 - b. Color of building walls (according to black body radiation).
 - c. Accurate size of building according to earthquake safety measures.
 - d. Spacing between the walls.
 - e. Material of tiles used for construction.
 - f. It should involve all the phenomenon. conduction,convection and radiation.

- 5) **Passive solar heating system**-Unlike active solar heating system,it does not involve the use of mechanical and electrical

devices i.e. windows,walls and floors are made in such a manner that they collect,store and distribute solar energy in winter and reject the same in summer.

6) Effects of urea as a feeding agent when:

- a. Provided in excess to the plants.
- b. Provided in appropriate amount to the plants.
- c. Water is provided in comparison to urea.
- d. Hence analyse the effects on different types of plants. eg. floral, neuter plants.
- e. Present the outcomes in a tabular comparison chart.

7) Complete project must be presented through Sway presentation by creating your login on <https://sway.com/> as discussed in the class.