

ASN SR SEC SCHOOL
CLASS IX-C and IX-G
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.