

INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR

Date: 23/4/09 EN / AN Time: 2/3 Hrs. Full Marks: 100 No. of Students: 34
Autumn / Spring Semester, Deptt. Sub. No.
Yr. B.Tech. (H) / B.Arch. (H) / M.Sc. Sub. Name

Instruction

Time:- 3 hrs Total Marks: 100 No. of Students: 34
Sub: Environmental Studies Sub No.: (AR22002) Course: 2nd Yr. B.Arch, B.Tech

- Instructions: i) Answer ANY FIVE questions having equal marks.
ii) Answer briefly and to the point to get extra credit.

Q.1. (a) What are the principle sources of air pollutants and its effect on local environment?
(b) Discuss all the factors which aggravate air pollution level in large metro areas. [10+10]

Q.2. (a) How do you measure community noise?
(b) Describe with sketches how noise level could be controlled by suitable design of roads and open spaces in a residential sector planning. [10+10]

Q.3. (a) What is an "ENVIRONMENTAL IMPACT MATRIX"?
(b) List all the environmental parameters, their relative weight-age and value to be considered while finding the degree of impact on nearby environment during construction and operational phase for a proposed residential complex in an urban area. [10+10]

Q.4. (a) What are five principles of sustainability applied for making green buildings.
(b) Discuss four major techniques to be adopted for utilization of non-conventional energy while designing public buildings in India. [5+15]

Q.5. (a) List seven principles to conserve water, conserve materials and control solid waste respectively for sustainable development.
(b) How do the following elements of building changes with the changes in climatic considerations (hot-dry to warm humid to composite) for adopting energy conservation strategies.
i) Roof form
ii) Walls
iii) Fenestration pattern [10+10]

Q.6. Write short notes on (any four):
i) Agenda 21 of RIO-SUMMIT, 1992
ii) Five major laws for environment protection in India
iii) Future employment sources in sustainable society
iv) Benefits of Industrial zoning Atlas
v) Advantages of rainwater harvesting in urban catchment [4 x 5]