

COLLEGE OF ENGINEERING, PUNE
B. Tech. Civil Engineering
CE-473 - Green Building
End Semester Examination

Year : 2013-14
Max. Marks: 60

Semester : I
Time: 3 Hours

Instructions:

1. All questions are compulsory
2. Use of non programmable calculator is allowed.
3. Mobile phones are strictly prohibited in the hall
4. Assume suitable data wherever necessary and mention it clearly

Q.1 A Mangalore tiled roof is used to span a room of size 3.0m × 6.0m. The roof [10]
slope is 20° and assuming wall thickness of 23 cm and roof overhang of 30 cm at
both ends of the slope. Calculate the energy in the roof per sq.m. Assume energy
in one Mangalore tile = 15.0 MJ.

Q.2 Fill in the blanks [10]

1. Full form of CIR is
2. Types of seeding are &
3. Standard is followed for Erosion & Sedimentation Control is
4. a site with environmental or chemical contamination called
5. Heat Island effect is.....
6. Aerators help in flow fixtures for
7. Ideal orientation for building in terms of energy efficiency is
8. Standard followed for energy calculation / simulation is
9. Broad objective of using low VOC is
10. Embodied energy of virgin steel as compared to recycled steel would be

Q.3

- A Explain in detail steps in water audit. [07]
- B What are the benefits of green building [03]

Q.4 Write the short note on the following [15]

- A IGBC green building rating system criteria
- B Environmental issues related to stone and Mangalore tiles
- C Filler slab

Q.5 Explain the following (draw sketches wherever possible) (Any three) [15]

1. Vegetated roof
2. Eco-housing rating system
3. Embodied energy in building material
4. Stormwater management plan
