

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2015

B. Tech VII Semester, M.Tech I Semester

COURSE CODE: 10M11CE114

MAX. MARKS: 15

COURSE NAME: Construction Safety & Health

COURSE CREDITS: 3

MAX. TIME: 1 HR

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Assume necessary data wherever required.*

1. Iron Worker Dies After Falling Off Beam: - A 42-year-old structural iron worker foreman died when he fell 13m from a steel roof beam to the floor below while working on a warehouse that was under construction. The company was installing the final bar joist (structural steel beam) in the roof of a new cold storage warehouse. After a crane lifted the beam into place, it was not quite straight and the iron worker foreman wanted to use a beater (30# double sided hammer) to straighten it. The area where the foreman needed to work had been barricaded with wire rope safety lines on all four sides but he removed these lines to gain access. He was not using fall protection equipment. The foreman was standing on a portion of roof decking that had already been completed. To get to the beam, he reached his left foot out over an open un-decked area of the roof. He rested his left foot on the nearest joist girder. As he was preparing to strike a blow with the hammer, his foot slipped off the girder. His hands caught the bar joist but he couldn't hold on and fell.
  - a. What went wrong in this situation?
  - b. How could this incident have been prevented? [3]
  
2. Construction Laborer Run Over by Front-end Loader: - A 19-year-old male construction laborer, performing the duties of a grade checker and directing traffic at a construction site, was inadvertently backed over by a front-end loader and killed. The worker had entered the moving equipment's immediate work area. The equipment operator lost sight of him. The frontend loader's backup alarm was not working at the time of the incident. The worker had never received formal comprehensive safety training. The company did not have a written code of safe practices that covered the hazards of working in close proximity to moving heavy equipment.
  - a. What went wrong in this situation?
  - b. How could this incident have been prevented? [3]
  
3. Briefly explain the categories of accident. Discuss the various factors which cause an accident. Also list down the various unsafe acts & unsafe conditions responsible for causes of accidents. [4]
  
4. Why an accidental prevention programme is essential in construction project; explain the techniques and benefits of accident prevention? Also comment upon the Cost of accidents and measurement of accidents. [5]