

Santu Kar

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

SUMMER SEMESTER EXAMINATION, 2016

M.TECH IV SEMESTER

COURSE CODE: 10M13CE432

MAX. MARKS: 50

COURSE NAME: CONSTRUCTION METHODS IMPROVEMENT

COURSE CREDITS: 03

MAX. TIME: 2 HRS

Note: All questions are compulsory. Draw figure, sketches and give suitable example to illustrate your answers. Assume missing data suitably if required. Carrying of mobile phone during examinations will be treated as case of unfair means.

1. Briefly Describe lift slab construction technique and its advantages? [6]
2. Explain the hot weather problems in concrete and describe the different techniques to be adopted for concreting in hot weather condition? [6]
3. What type of curing systems would you adopt for the following situations? Justify your answer. [4]
 - i. In a place where suitable water is scarce
 - ii. When high early strength is desired
4. Briefly describe different types of vibrators used for compaction of concrete. [8]
5. A firm makes two products A and B, and has a total production capacity of 9 tons per day, A and B requiring the same production capacity. The firm has a permanent contract to supply at least 2 tons of A and at least 3 tons of B per day to another company. Each tons of A requires 20 machine hours production time and each tons of B requires 50 machine hours production time. The daily maximum possible number of machine hours is 360. The entire firm's output can be sold, and the profit made is Rs 80 per ton of A and Rs 120 per ton of B. it is required to determine the production schedule for maximum profit and to calculate this profit. Use graphical method to get your solution. [8]
6. Find the lateral pressure using ACI formula for the wall of size 15m x 0.35m and height is 3.3m? Assume Rate of pour is 10 cum/hr. and temperature 30 °C. [3]
7. Briefly describe different methods of transporting and placing of concrete. [9]
8. Write short notes on [6]
 - i. Steam curing technique
 - ii. Pumpability of concrete