

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2024

B.Tech-VI Semester (CE)

COURSE CODE(CREDITS): 18B11CE611(3)

MAX. MARKS: 15

COURSE NAME: CONCRETE TECHNOLOGY

COURSE INSTRUCTORS: Dr. Tanmay Gupta

MAX. TIME: 1 Hour

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*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

*(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

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Q.1 If a trailer mounted pump kept 50 m away from the building and if it is required to pump concrete 120 m vertically, calculate pressure in the pipeline. [1.5] [CO2]

Q.2 A concrete pump is placed 35 m from a building of height 60 m. The placing boom projects 4 m extra height over the building and it can reach a vertical height of another 35 m with four 90° bends and three 30° bends, Calculate the theoretical length of pipeline. [1.5] [CO2]

Q.3 Explain in detail about the hydration product of cement, also explain the phenomenon of heat of hydration. [4] [CO1]

Q.4 What is the difference between gel water and bound water? [1] [CO1]

Q.5 What do you understand by soundness of cement, with a neat diagram explain in detail how it is measured? [3] [CO1]

Q.6 Write a brief note on following: [4] [CO1]

- a) Sulphate resisting cement
- b) Portland puzzolana cement
- c) Various methods of batching of concrete
- d) Steam curing of concrete