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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST-1 EXAMINATION- FEBRUARY -2019

B.Tech IV Semester

COURSE CODE: 11B11CE411

MAX. MARKS: 15

COURSE NAME: Concrete Technology

COURSE CREDITS: 04

MAX. TIME: 1 HRS

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. All questions carry equal marks.

1. Compare the contribution of various compounds in cement to its heat of hydration?
2. Compare and contrast industrial fly ashes and ground iron blast-furnace slag with respect to mineralogical composition and particle characteristics
3. What would be the volume of capillary voids in an 0.2-water-cement ratio paste that is only 50 percent hydrated? Also calculate the water-cement ratio needed to obtain zero porosity in a fully hydrated cement paste
4. The aluminate-sulfate balance in solution is at the heart of several abnormal setting problems in concrete technology. Justify this statement by discussing how the phenomena of quick-set, flash set, and false set occur in freshly hydrated portland cements.
5. Define the terms grading and maximum aggregate size, as used in concrete technology. What considerations control the choice of the maximum aggregate size of aggregate in a concrete? Discuss the reason why grading limits are specified.