

Dr Anudeep

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- December, 2018

M.Tech 3<sup>rd</sup> Semester

COURSE CODE: 11M1WCE332

MAX. MARKS: 35

COURSE NAME: Advances in Construction Materials

COURSE CREDITS: 3

MAX. TIME: Two Hr

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

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1. What are the general requirements for subsurface drainage and sub-base/base of flexible pavements? (5)
2. What do you mean by Latex? Make a list of different types of latex, their use or not to use, applications etc in detail. (5)
3. Please answer the following questions: (6)
  - (a) ..... are being considered as a fire resistant material.
  - (b) The limited time to lay the epoxy is around .....
  - (c) Make a list of different materials used in HPC except cement, sand and aggregate. Also make a list of different properties required for HPC in tabular form.
  - (d) The HRWR was adjusted to obtain a slump spread of at least .....
  - (e) Liquid granite can be withstand temperature up to
    - (i) 1110°C
    - (ii) 1000°C
    - (iii) 1100°C
    - (iv) 1200°C
  - (f) Paper insulation is both insect resistant and fire resistant due to the inclusion of
    - (i) Borium, boric acid and calcium silicate
    - (ii) Borium, calcium carbonate and calcium silicate
    - (iii) Borax, calcium carbonate and boric acid
    - (iv) Boric acid, calcium carbonate and calcium silicate
4. Why there is a need of advanced high-performance materials? (4)

5. What do you mean by Titanium dioxide concrete? Explain in detail with advantages and disadvantages. (5)
6. .... is used as nanoparticle form to coat glazing since it has ..... and ..... (2)
7. Make a note on nanotechnology in Fire-Resistance along with the material description (3)
8. Make a note on the role of superplasticisers and powder material in SCC. (5)