

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- Oct 2017

B.Tech. VII Semester

COURSE CODE: 10B13CE736

MAX. MARKS: 25

COURSE NAME: Underground Technology

COURSE CREDITS: 3

MAX. TIME: One Hour Thirty Minutes

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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] Compare the reverse mud circulation technique of drilling used in diaphragm wall construction with the direct mud circulation technique used in pile construction. [5]
- [2] A 2 km long underground rail tunnel has to be constructed in Delhi at a depth of 25 m below the ground surface. The soil comprises of silty sand of medium density. The water table is 7 m below the ground surface. Dewatering is not feasible along the route due to presence of structures at the ground surface. What shielding tunneling method will you adopt for construction of the rail tunnel? [5]
- [3] In secant piles walls, reinforcement is sometimes provided only in alternate piles. Why? In which piles is the reinforcement avoided: those installed in the first stage or those in the second stage. [4]
- [4] Pipe jacking is used often for installation of horizontal sewage lines beneath buildings in urban areas. However, pipe jacking is not used in case of construction of vertical shafts of small diameter. What in your opinion, is the reason for not adopting pipe jacking in the vertical direction. [5]
- [5] Differentiate between well points and deep wells along with the help of labelled figures. [6]