

**MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL**

Paper Code : CE(PE)601B Foundation Engineering

UPID : 006735

Time Allotted : 3 Hours

Full Marks : 70

*The Figures in the margin indicate full marks.**Candidate are required to give their answers in their own words as far as practicable***Group-A (Very Short Answer Type Question)**

1. Answer any ten of the following :

[1 x 10 = 10]

- (I) Classify shallow foundation
- (II) List out the type of pile based on material used?
- (III) The internal molecular attraction of a soil, the cohesion _____ in well compacted clays.
- (IV) The coefficient of curvature is defined by _____
- (V) If S , L and R are the arc length, long chord and radius of the sliding circle then the perpendicular distance of the line of the resultant cohesive force, is given by _____
- (VI) Precompression method is useful for compacting _____
- (VII) What are assumptions in terzaghi's bearing capacity theory?
- (VIII) Define angle of repose?
- (IX) Minimum size of the particles of silt soil, is _____
- (X) The coefficient of compressibility of soil, is the ratio of _____
- (XI) Define area ratio.
- (XII) In a liquid limit test, the moisture content at 10 blows was 70% and that at 100 blows was 20%. The liquid limit of the soil, is _____

Group-B (Short Answer Type Question)

Answer any three of the following :

[5 x 3 = 15]

2. Classify Foundation. [5]
3. What are the types of pile foundation? [5]
4. Write down the methods of installation of pile foundation. [5]
5. Write down the methods of soil exploration techniques. [5]
6. Describe Vane shear test. [5]

Group-C (Long Answer Type Question)

Answer any three of the following :

[15 x 3 = 45]

7. What are the factors affecting selection of types of Pile Foundation? Classify pile foundation based on function or use. [15]
8. Describe indirect method of subsoil exploration. [15]
9. Briefly describe the selection of length of pile. [15]
10. Describe standard penetration test [15]
11. Write down applications of geo-synthetics. [15]

*** END OF PAPER ***

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