



SF - 6401

B. Arch - II (Sem. IV) Examination

May / June - 2011

**ARC - 402 : Building Materials & Construction
Technology - IV**

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दृष्टावेक निशानीवाणी विगतो उतरवडी पर अवश्य लपवी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :
B. ARCH - 2 (SEM. 4)

Name of the Subject :
ARC - 402 : BUILDING MATERIALS & CONSTRUCTION TECHNOLOGY - 4

Subject Code No. : 6 4 0 1 Section No. (1, 2,.....): Nil

Seat No. :

Student's Signature

- (2) Figures to the right indicate full marks.
(3) All questions have to be attempted in one answer sheet only.
(4) Support your answers with neat and clean sketches wherever necessary.

- 1 (a) Answer in brief : 10
- (i) In which situations pile foundation is suitable ?
(ii) What is a friction pile ?
(iii) Give classification of pile on the basis of function or use.
(iv) What are the different types of hammers used in pile driving ?
(v) Define liquification of soil.
- (b) Fill in the blanks : 5
- (i) The cost of formwork plays a significant role in the cost of concrete, which varies from _____ of the cost of concrete for ordinary structures.
(ii) _____ is a general term used in construction to describe the process of supporting a structure in order to prevent collapse so that construction can proceed.
(iii) The primary difference between pneumatic shoring and hydraulic shoring is that pneumatic shoring uses _____ in place of _____.

- (iv) _____ does not create any obstruction on the ground and it is the most effective as it always provides the optimum level for working.
- (v) In the process of chemical consolidation the solution of _____ in water is injected through the pipes.
- (c) Answer in one or two lines : 5
- (i) Explain vibroflotation
- (ii) Give application of suspended scaffolding
- (iii) Define underpinning
- (iv) Distinguish between pit and trench.
- (v) Define shoring.
- 2** Attempt any **two** : 20
- (i) Explain in detail how driving of pile is different than drilling (or boring) of pile.
- (ii) Explain construction of Raymond pile in detail.
- (iii) (a) Explain timber piles
- (b) What is a pile cap ? Explain its significance.
- 3** Attempt any **two** : 20
- (i) List all the types of retaining wall and explain counter fort in detail.
- (ii) List all the temporary structure and differentiate between them.
- (iii) (a) List all the methods of underpinning and explain pile method.
- (b) What is shoring ? Enlist the circumstances under which the shoring is applicable and explain raking shores with all its journey details.
- 4** Write short notes on : (Any **four**) 20
- (i) Crib Cofferdam
- (ii) Diaphragm type cellular cofferdam
- (iii) Pneumatic caissons
- (iv) Stages of building construction
- (v) Effect of water on soil.
- 5** Write short notes : 20
- (i) Patented scaffolding
- (ii) Pneumatic shores
- (iii) Requirements of a good formwork
- (iv) Retrofitting for columns
- (v) Differentiate between single and double scaffolding
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