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RM-6401

B. Arch. II (Sem. IV) Examination

May / June – 2010

Building Materials & Construction - IV

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. Arch. 2 (Sem. 4)**

Name of the Subject :

☛ **Building Materials & Construction - 4**

☛Subject Code No. : **6 4 0 1** ☛Section No. (1, 2,.....) : **1&2**

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**.

Q.1.

A. Fill in the blanks **(10)**

1. _____is the installation of temporary or permanent support to an existing foundation to provide either additional depth or an increase in bearing capacity.
2. _____is a temporary structure used to support people and material in the construction of buildings.
3. _____scaffolding does not create any obstruction on the ground and it is the most effective as it always provides the optimum level for working.
4. _____are the transverse pieces which are placed on the ledgers and which are supported on the wall at one end.
5. The cost of formwork plays a significant role in the cost of concrete, which varies from _____of the cost of concrete for ordinary structures.
6. Rockfill cofferdam is constructed where the depth of water to be retained by the embankment is _____m.
7. When piles are used to provide anchorage against horizontal pull from sheet piling walls or other pulling forces, they are termed as _____piles.
8. Pneumatic type of caisson is suitable for depths ranging from _____m.
9. In situations where it is desired to have increased frictional resistance between the pile stem and the surrounding, _____type of pile is constructed.
10. The best spacing for timber piles is _____center to center.

B. **Answer in one or two line: (support with sketch if necessary)** **(10)**

1. What is an end bearing pile?
2. What is an earthen cofferdam and in which situation it is constructed.
3. Define caisson and its purpose.
4. Explain vibro flotation.
5. What is form work.

Q.2

A. Explain the need of deep foundation and criteria to select the type of foundation for the building. Elaborate the different types of deep foundation with their specific purpose and application. **(10)**

B. **Attempt any ONE:** **(10)**

What are the different types of cast in situ concrete piles? Explain the construction of Raymond pile in detail.

OR

Explain cellular cofferdam and its types.

Q.3.

A. Explain the different stages of construction for a low rise residential building to be constructed near a river bank. Suggest an appropriate foundation system for the same with due justification. **(10)**

B. **Attempt any ONE:** **(10)**

What are the benefits of temporary excavation shoring walls.

OR

List all the methods of underpinning and explain Pit method.

Q.4. **Write short notes on: (ANY FOUR)** **(20)**

1. Under reamed pile foundation
2. Impact of soil in deciding type of site exploration technique.
3. Composite piles
4. Double walled cofferdam
5. Open caisson with dredging wells

Q.5. **Write short notes on: (ANY FOUR)** **(20)**

1. Differentiate between single and double flying shores
2. Pneumatic shores
3. Cantilever scaffolding
4. Form Work for circular surfaces
5. Raking or inclined shores.