

## KADI SARVA VISHWAVIDYALAYA

### B.E.(CIVIL ENGINEERING) SEMESTER-V EXAMINATION NOVEMBER-2016

Subject Code:CV501

Subject Name: Advanced Construction Technology

Date: 09/11/2016

TIME: 10:30 AM TO 01:30 PM

Total marks: 70

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#### Instruction:

1. Answer each section in separate Answer Sheet.
2. Use of scientific calculator is permitted.
3. All questions are compulsory.
4. Indicate clearly the options you attempted along with its respective question number
5. Use the last page of supplementary for rough work.

#### Section-1

- Q.1 (A) Describe with various stages, for the process of vibrofloatation. 05  
(B) Explain the dewatering method by pumping from open sumps method. 05  
(C) Define a caisson. What are the functions of cassion? 05
- OR**
- (C) What is pneumatic caisson? Describe the procedure for sinking of pneumatic caisson. Describe with sketch. 05
- Q.2 Answer the following Questions:  
(A) Write note on Earthquake resistant construction of building. 05  
(B) Explain Grouting method for underground water control? 05
- OR**
- Q.2 (A) Write short note on slip formwork. Explain their operation, uses, and advantages. 05  
(B) Describe with sketch, the procedure of pumping using well point system for dewatering. 05
- Q.3 Answer the following Questions:  
(A) Explain electro osmosis method to control ground water in excavations. 05  
(B) Why is formwork necessary? What are the requirements of a good formwork? Which are the materials used for preparing form work. 05
- OR**
- Q.3 (A) Discuss various methods for floating of caissons? 05  
(B) What is caisson sickness? How is it caused? What are the precautions to be taken to avoid caisson sickness? 05

**AYA/1 Section-2**

- Q.4 (A) Explain with sketches construction procedure of simplex pile. 05  
(B) Explain with sketches Rock-fill cofferdam. 05  
(C) Discuss the main factors affecting selection of type of piles. 05  
**OR**  
(C) State the factors which influence the choice of a particular type 05  
of cofferdam.
- Q.5 (A) Describe construction of under reamed piles. Under which 05  
condition they are used .  
(B) Explain design features of coffer dams. 05  
**OR**
- Q.5 (A) What are the most common causes of failure of pile? 05  
(B) Differentiate between End bearing pile and Friction pile. 05
- Q.6 Answer the following Questions.  
(A) Write difference between Cast in situ pile and precast pile 05  
(B) Single wall Cofferdam explain with neat sketches. 05

**OR**

- Q.6 (A) Explain with sketches construction procedure of Swage pile. 05  
(B) Describe various pile driving equipments with sketch. 05

-----All the Best-----

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**AVAILA Section-2**

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-----All the Best-----

**KADI SARVA VISHWAVIDYALAYA**  
**B.E. SEMESTER-V EXAMINATION NOVEMBER-2014**

**Subject Code : CV 501**

**Subject Name: Advanced Construction Technology**

**Date : 12/11/2014**

**TIME : 10:30am To 1:30pm**

**Total marks: 70**

**Instruction:**

1. Answer each section in separate Answer Sheet.
2. Use of scientific calculator is permitted.
3. All questions are compulsory.
4. Indicate clearly the options you attempted along with its respective question number
5. Use the last page of supplementary for rough work.

## **SECTION-I**

- Q.1**    (A) Define caisson. What are the functions & uses of caissons? [5]  
      (B) Explain the term "Dewatering for construction". Explain in detail well point system. [5]  
      (C) Narrate the various materials required for the construction of caisson [5]

**OR**

- Q.2**    (C) Write short note on caisson diseases. [5]  
      (A) What is the purpose of cutting edge? Explain with neat sketch. [5]  
      (B) What is pneumatic caisson? where is it adopted? Describe the procedure for sinking. [5]

**OR**

- Q.3**    (A) Differentiate between: Caisson & Pile. [5]  
      (B) Write short note on box caisson with sketch. [5]  
      (A) Describe with neat sketch, the freezing process for dewatering with advantages. [5]  
      (B) Explain the design features of temporary works. [5]

**OR**

- (A)** Enlist the types of well point system with neat sketch. Describe the procedure of pumping from well points for dewatering. [5]  
**(B)** What is the importance of formwork? Why it is necessary? [5]

## **SECTION-II**

- Q.4**    (A) Write a note on selection of pile. [5]  
      (B) What is cofferdam? State its uses. [5]  
      (C) Write short note on pile spacing & Group of piles. [5]

**OR**

- (C)** Write short note on pile driving & pile shoe. [5]  
**Q.5**    (A) Write down the factors of the selection of coffer dams. [5]

- (B) State advantages and disadvantages of pre-cast concrete pile. [5]

OR

- (A) Explain earth filled coffer dam with neat sketch. [5]

- (B) Explain cellular cofferdam with neat sketch. [5]

- Q.3 (A) Discuss important points to be considered while constructing tall structures. [5]

- (B) Explain various design considerations of tall structures. [5]

OR

- (A) Explain general principals of planning of earthquake resistant building. [5]

- (B) Write critical note on: Earthquake resistant Construction. [5]

-----ALL THE BEST-----

## SOLUTION-II

- (A) Define cantilever Wall. What are its types & uses of cantilever? [5]

- (B) Explain "In-situ" & "pre-cast" construction. [5]

- (C) Explain the working of cantilever foundation. [5]

8Q

- (A) Define cantilever wall. What are its types & uses of cantilever? [5]

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## SOLUTION-III

- (A) Define cantilever wall. What are its types & uses of cantilever? [5]

- (B) Explain "In-situ" & "pre-cast" construction. [5]

- (C) Explain the working of cantilever foundation. [5]

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- (A) Define cantilever wall. What are its types & uses of cantilever? [5]

- (B) Explain "In-situ" & "pre-cast" construction. [5]

- (C) Explain the working of cantilever foundation. [5]

# KADI SARVA VISHWAVIDHYALAYA

## B.E. SEMESTER - V EXAMINATION (APRIL 2015)

Subject Code: CV501

Subject Name: Advanced Construction Technology

Date: 20/04/2015

Time: 10:30am to 01:00pm

Total Marks: 70

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**Instructions:**

1. Answer each section in separate Answer sheet
2. Use of Scientific calculator is permitted.
3. All questions are compulsory.
4. Indicate Clearly, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of rough work.

### SECTION – I

- Q-1      (A) Define Pile. What are the uses of piles? Give classification of piles based [05]  
on their function.
- (B) Discuss important points to be considered while constructing tall [05]  
structures.
- (C) What are the effects of seismic forces on buildings? What points do you [05]  
consider while planning of earthquake-resistant building?

**OR**

- (C) What are the suggestive construction methods/measures for improvement [05]  
of masonry walls, R.C.C. columns and beams of buildings against the  
earth quake?

- Q-2      (A) Write short note on “Group action of pile”. [05]
- (B) Explain with sketch, different parts of well foundation along with bridge [05]  
pier in the river.

**OR**

- (A) Explain under which conditions would you prefer pile foundation? Which [05]  
points you will consider while selecting the type of pile?
- (B) Write short note on simplex pile. [05]

- Q-3      (A) Define cofferdam. Explain the uses of a cofferdam. Enumerate the factor, [05]  
which influence the choice of a particular type of cofferdam.
- (B) Describe the method of constructing the single wall coffer dam. [05]

**OR**

- (A) Differentiate between, [05]  
Cellular cofferdam with diaphragm cell and cellular cofferdam with  
circular cells.
- (B) What are the measures employed to prevent leakage in cofferdam? [05]

**[P.T.O.]**

## SECTION - II

**Q-4**      (A) Why formwork is necessary? Explain the requirements of formwork. [05]  
Which are the materials used for preparing formwork?

(B) What is dewatering? Why is it necessary for construction ? Enlist methods [05] of dewatering.

(C) What is slip formwork? Explain their operation, uses, and advantages. [05]

**OR**

(C) Give advantages of steel formwork against timber formwork. [05]

**Q-5**      (A) Write short note on Vibro-Flotation with neat sketch. [05]

(B) What is caisson sickness? How is it caused? What are the precautions to be taken to avoid caisson sickness? [05]

**OR**

(A) Write short note on Electro-osmosis method for dewatering. [05]

(B) What are monoliths? Describe their method of construction and point out their advantages, disadvantages and uses. [05]

**Q-6**      (A) Define a caisson. Point out the factors to be considered while making a choice between cofferdam and caisson. [05]

(B) What is meant by 'Tilt' and 'Shift' of a caisson? What are its causes? How can tilted caisson brought in correct position? [05]

**OR**

(A) What is Box caisson? What are the functions or uses of Box caissons? [05]

(B) Write short note on "Caisson diseases" & "load on caisson". [05]

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# KADI SARVA VISHWAVIDHYALAYA

B.E. SEMESTER - V EXAMINATION (NOV- 2015)

Subject Code: CV501

Subject Name: Advanced Construction Technology

Date: 19/11/2015

Time: 10:30am to 01:30pm

Total Marks: 70

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**Instructions:**

1. Answer each section in separate Answer sheet
2. Use of Scientific calculator is permitted.
3. All questions are compulsory.
4. Indicate Clearly, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of rough work.

## SECTION - I

- Q-1      (A) Write short note on under reamed pile. [05]  
              (B) Explain economic height of cofferdam in detail. [05]  
              (C) Write short note on pile cap & pile shoe. [05]
- OR**
- (C) What is meant by “deep foundation? What are the various types of deep foundations? Draw the sketches of any two of it. [05]
- Q-2      (A) Describe with sketch cellular cofferdam. [05]  
              (B) List the situations where cofferdam is required. [05]

**OR**

- (A) Write short note on suspended cofferdams. [05]  
              (B) Write short note on pile driving. [05]
- Q-3      (A) Explain repair, restoration and retrofitting. [05]  
              (B) What is Tall structure? Give classification. & what is need of tall structure? [05]

**OR**

- (A) Write short note on “Earthquake resistant housing”. [05]  
              (B) What are the causes of damage in masonry structure? [05]

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## SECTION - II

- Q-4      (A) Write short note on Well components with their functions. [05]  
              (B) Explain ‘cement grouting’ to control ground water in excavations. [05]  
              (C) Write short note on pneumatic caisson with sketch. [05]
- OR**
- (C) Write short note on Open caisson with sketch. [05]
- Q-5      (A) Explain in detail: sumps and vacuum method. [05]  
              (B) Write short note on economy in form work. [05]

**OR**

- (A) Give classification of dewatering system. And what is function of dewatering during construction work? [05]
- (B) Give your opinion about necessity of temporary works during construction. [05]
- Q-6 (A) Enumerate formwork for R.C.C. wall with sketch. [05]
- (B) Write short note on removal of formwork. [05]

**OR**

- (A) Enumerate formwork for R.C.C. slab with sketch. [05]
- (B) Which are the general rules to be observed to avoid failure of formwork? [05]

-----End-----