



**PRESIDENCY UNIVERSITY
BENGALURU**

**SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2023**

Semester : Semester III - 2021

Course Code : CIV2038

Course Name : Sem III - CIV2038 - Construction Equipment and Machinery

Program : B.Tech. Civil Engineering

Date : 18-JAN-2023

Time : 1.00PM - 4.00PM

Max Marks : 100

Weightage : 50%

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.

PART A

ANSWER ALL THE FOUR QUESTIONS

4 X 5 = 20M

1. Mention different ways to increase the service life of an equipment.
2. List the classification of Concrete Mixers.
3. What do you mean by sheet piles? Write any 4 advantages of sheet piles.
4. What is damp-proofing? Name few damp proofing materials.

(CO1) [Knowledge]

(CO2) [Knowledge]

(CO3) [Knowledge]

(CO4) [Knowledge]

PART B

ANSWER ALL THE FIVE QUESTIONS

5 X 8 = 40M

5. Blasting is one of the dangerous working conditions in construction of tunnels. Assuming that the blasting is taking place near a quarry, what are some of the measures that you would take to alert the people working at the site and the residents?

(CO1) [Comprehension]

6. To facilitate construction operations, many dewatering methods can be employed during excavation works. The selection of suitable dewatering techniques could help avoid the extra costs and complete the project within the designated time frame. Based on this context, mention the criteria for selection of Dewatering methods.

(CO2) [Comprehension]

7. Shoring is the lateral support for an unsafe structure that is constructed for temporary support. These support a wall laterally. With the help of a neat diagram, explain a Flying shore system.

(CO3) [Comprehension]

8. Slip form construction involves pouring concrete into the top of a continuously moving formwork. Slip-forming enables continuous, non-interrupted, cast-in-place “flawless” concrete structures. Explain the different types of Slip formworks.

(CO3) [Comprehension]

9. Prefabricated panels are a form of building product that can be manufactured off-site and assembled on-site, providing an alternative to traditional site-based construction. The prefabricated panels are lifted and placed one over the other. Write short notes on:

(a) Good practices in Lifting and hoisting of a large panel

(b) Good practices in Grouting

(CO4) [Comprehension]

PART C

ANSWER ALL THE FOUR QUESTIONS

4 X 10 = 40M

10. There are enormous number of dangers involved in any construction site . A person working at a Building Demolition site should take various precautionary measures to prevent accidents at the site. What are the dangers you must foresee to avoid it?

(CO1) [Application]

11. A concrete mixer can be classified into various types. A concrete mixer mechanically different constituents such as cement, aggregates and water. The concrete mixers makes concrete production quick and economical. Explain each type of concrete mixer under the classification.

(CO2) [Application]

12. Shorings are used when a wall bulges out due to bad workmanship or when an adjacent structure is to be dismantled and under various other conditions. Keeping in mind the features of shoring, explain the different types of shoring and draw a neat diagram of any one of these.

(CO3) [Application]

13. A Prefabricated structure is built with parts which have been made in a factory and then quickly put together at the construction area. There are various stages involved while installing the same at the site. Write in detail the installation process of prefabricated structures at the site.

(CO4) [Application]
