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**PRESIDENCY UNIVERSITY
BENGALURU**

**SCHOOL OF ENGINEERING
MID TERM EXAMINATION - OCT 2023**

Semester : Semester I - 2023

Course Code : CIV1008

Course Name : Sem I - CIV1008 - Basic Engineering Science

Program : B. TECH

Date : 2-NOV-2023

Time : 2:00PM - 3:30PM

Max Marks : 50

Weightage : 25%

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.
- (iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS

(5 X 2 = 10M)

1. Write the importance of structural Engineering ?
(CO1) [Knowledge]
2. State the objectives of the foundation.
(CO1) [Knowledge]
3. Classify the bridge based on structural action.
(CO1) [Knowledge]
4. List out the different types of Urban Roads.
(CO1) [Knowledge]
5. Write brief note on "Water Resources and Irrigation Engineering"
(CO1) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS

(4 X 5 = 20M)

6. The railway track is a permanent way for all trains. There are some railway track components in the construction of railway tracks. Explain briefly about the different components of the railway track.
(CO1) [Comprehension]
7. Mechanization is the process of shifting from working largely or exclusively by hand to do that work using machines. Write any five advantages of Mechanisation in the Construction Industry.
(CO2) [Comprehension]

8. Shallow foundations are constructed where soil layer at shallow depth is able to support the structural loads. The depth of shallow foundations are generally less than its width. List out the different types of shallow foundations and Explain any two types of shallow foundation.

(CO1) [Comprehension]

9. Civil engineers build the world we live in. Civil engineers have many roles and responsibilities that make civil engineering an important part in our daily life. Discuss the various role of Civil Engineers.

(CO1) [Comprehension]

PART C

ANSWER THE FOLLOWING QUESTION

(1 X 20 = 20M)

10. a). A bridge is a structure which provides a safe passage for a road or railway track over obstacles, without closing the obstacle below. Bridges are constructed with several components which are responsible for the strength and stability of the structure. Explain in detail the different components of a bridge. (10)

b). Different components of a road play an important part in ensuring the safety and service life of a road. The components of a road are designed to meet the design and functional requirements. Discuss in detail about the various road elements. (10)

(CO1) [Application]