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**PRESIDENCY UNIVERSITY  
BENGALURU**

**SET - A**

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

**Semester :** Semester II - 2022

**Course Code :** CIV1008

**Course Name :** Sem II - CIV1008 - Basic Engineering Science

**Program :** B.Tech - All Programs

**Date :** 16-JUN-2023

**Time :** 1.00PM - 4.00PM

**Max Marks :** 100

**Weightage :** 50%

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**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.*
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**PART A**

**ANSWER ALL THE QUESTIONS**

**(4 X 5 = 20M)**

1. Transportation engineering is the science of safe and efficient movement of people and goods. Transportation contributes to the economic, industrial, social and cultural development of any country. Write down the components of an airport.

(CO1) [Knowledge]
2. Environment is the available nature around us. It includes the life support system such as water, air and land. Environmental Engineering primarily deals with technique of water collection, purification and supply. Write the objectives of Water treatment.

(CO1) [Knowledge]
3. Civil Engineering is the first basic branch of engineering. Its relation to the fulfillment of human needs is direct, whereas the other engineering branches are complementary to the function of civil engineering. List the various fields in Civil Engineering.

(CO1) [Knowledge]
4. Mechanization is the process of shifting from working largely or exclusively by hand to do that work using machines. Write the factors affecting selection of Construction Equipment.

(CO2) [Knowledge]

## PART B

### ANSWER ALL THE QUESTIONS

(5 X 10 = 50M)

5. Construction was one of the least digital and mechanized sectors until recently. Many projects could be finished more quickly with the help of construction robotics, owing to the very repetitive nature of the tasks. Explain the application of robots in construction.  
(CO2) [Comprehension]
6. Construction machineries are used in order to achieve larger output, cost-effective, execution of work that is not feasible by manual efforts, reduce the amount of heavy manual work which would cause fatigue, maintaining large output, and finalize projects on time. Discuss about Hoisting equipment.  
(CO2) [Comprehension]
7. A heat engine is a machine, which converts heat energy into mechanical energy. It converts the chemical energy contained in the fuel into heat energy by the combustion. Write any 5 classification of Internal Combustion Engine with example of each.  
(CO3) [Comprehension]
8. Joining is one of the manufacturing processes by which two or more materials can be permanently or temporarily joined or assembled together. Compare the Welding Process with Soldering/Brazing in tabular form.  
(CO4) [Comprehension]
9. A dam can be a central structure in a multipurpose scheme designed to conserve water resources on a regional basis. Multipurpose dams can hold special importance in developing countries, where a single dam may bring significant benefits. Discuss the purpose of construction of Dams.  
(CO1) [Comprehension]

## PART C

### ANSWER ALL THE QUESTIONS

(2 X 15 = 30M)

10. Railway engineering is a multi-faceted engineering discipline dealing with the design, construction and operation of all types of rail transport systems. Demonstrate the different components/elements of Railway Engineering.  
(CO1) [Application]
11. A bridge helps to connect difficult terrains, enables easy trade and transportation of goods and helps reduce travelling time. Bridges have political and economic importance in addition to its use for military. Illustrate the components of bridge.  
(CO1) [Application]