

Roll No.

23376

**M. Tech. 1st Semester (Civil Engg.)
(Specialization in Structural Engg.)**

Examination – January, 2023

MATERIAL TECHNOLOGY

Paper : CE-601/MTSD-101

Time : Three hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any five questions in all.

1. Explain in detail the Shrinkage, Elasticity, Creep, Durability and Permeability of Concrete. 20
2. Discuss about the chemical composition and mechanical strength of cement gel. 20
3. Explain the Behaviour of common constructional metals in tension and compression. 20
4. Explain the Bi axial strength of concrete and theory of failure. 20

5. What are the factors influencing the fatigue strength ? 20
 6. How will you calculate the fatigue strength with super imposed static stress ? 20
 7. Differentiate between the low temperature properties and high temperature properties. 20
 8. Explain the mechanics of creep in tension. 20
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