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Roll No.

TCE-101

**B. TECH. (FIRST SEMESTER) END
SEMESTER**

EXAMINATION, Dec., 2023

BASICS OF CIVIL ENGINEERING

Time : Three Hours

Maximum Marks : 100

- Note :** (i) All questions are compulsory.
- (ii) Answer any *two* sub-questions among (a), (b) and (c) in each main question.
- (iii) Total marks in each main question are **twenty**.
- (iv) Each sub-question carries 10 marks.
1. (a) Briefly give scope of Disciplines of Civil Engineering. (CO1)
- (b) What is Civil Engineering ? Explain the various scopes for a career in Civil Engineering. (CO1)

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- (c) What are the various civil engineering activities in Infrastructure development ? Also give the importance of Civil Engineering. (CO1)
2. (a) The distance between two stations was 1300 m when measured with a 20 m chain. The same distance when measured with 30 m chain was found to be 1190 m. If the 20 m chain was 0.05 m too long, what was the error in the 30 m chain ? (CO2)
- (b) The magnetic bearing of a line AB was N $59^{\circ} 30'$ W in the year 1965, when the declination was $4^{\circ} 10'$ W. If the present declination is 3°E , then the W.C.B. of the line is. (CO2)
- (c) Convert the following bearings : (CO2)
- (i) $135^{\circ} 25' 25''$
 - (ii) $320^{\circ} 24'$
 - (iii) S $21^{\circ} 25'$ W
 - (iv) N $24^{\circ} 80'$ W
 - (v) $53^{\circ} 53' 22''$

(3)

3. (a) What are the requirements and properties of good building stones ? (CO3)
- (b) What is R. C. C. ? Briefly write on desirable properties and uses of concrete. (CO3)
- (c) Write a short note on prestressed concrete and explain the methods of prestressing. (CO3)
4. (a) Explain the various principles of planning of residential and public buildings. (CO4)
- (b) What are building Bye-Laws ? Give the objectives of bye-laws. (CO4)
- (c) What are the types of drawings ? (CO4)
5. (a) What are traffic signs. What are the functions and importance of traffic signs ? (CO5)
- (b) Explain the methods of treatment of raw water. (CO5)
- (c) Define Air Pollution, Control of Air Pollution and Effects of Air Pollution. (CO5)