Registration No.: | | | | | | | | | | |

Total Number of Pages: 02 **Course: B.Tech**
Sub_Code: RBC2B002

2nd Semester Back Examination: 2024-25
SUBJECT: Basic Civil Engineering
BRANCH(S): CIVIL, CSE, CSEAIML, CSEDS, CSIT, ECE, EEE, ELECTRICAL, ELECTRICAL & C.E, ETC, MANUTECH, MECH, METTA, MINING
Time: 3 Hours
Max Marks: 100
Q.Code: S534

Answer Question No.1 (Part-I) which is compulsory, any eight from Part-II and any two from Part-III.
The figures in the right hand margin indicate marks.

Part-I

Q1 **Answer the following questions:** **(2 x 10)**

a) State the importance of Civil Engineering.
b) Write the standard size of bricks as per BIS.
c) State different types of mortar.
d) Name different building components.
e) Differentiate between Rubble masonry and Ashlar masonry.
f) List out various uses of cement.
g) Name different hhydraulics structures used in irrigation engineering.
h) Define surveying.
i) Write the relationship between fore bearing and back bearing of line.
j) List out the different modes of transportations.

Part-II

Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** **(6 x 8)**

a) Explain about the different broad disciplines of Civil Engineering.
b) Describe the qualities of good bricks.
c) Briefly explain physical and chemical classification of rocks.
d) What is standard consistency of cement? How it is determined in the laboratory?
e) Write short notes on Workability of concrete.
f) Differentiate between direct and indirect ranging with neat sketches.
g) What is a local attraction? How it is detected in the field?
h) A 30 m steel tape was standardised under 60 N pull at 65 ° F. It was suspended in 5 equal spans during measurement. The mean temperature during measurement was 90° F and the pull exerted was 100 N. The area of the cross section of the tape was 8 mm^2. Find the true length of the tape, if, $\alpha = 6.3 \times 10^{-6}/°F$, $E = 2 \times 10^5$ N/mm^2 and unit weight of steel = 78.6 kN/m^3.

i) Describe the classification of soil as per Indian standard.
j) Write short notes on EDM and total station.
k) Briefly describe about planning of transportation engineering.
l) Explain the different railway gauges used in India.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four) **(16 x 2)**

Q3 Discuss the characteristics of good building stones in details. **(16)**

Q4 What is cement concrete? Explain the function of each ingredient and state common proportions of the ingredients used for different works. **(16)**

Q5 Describe different types of foundations with neat sketches. **(16)**

Q6 The following bearings were taken in running a compass traverse: **(16)**

Line	Fore Bearing	Back bearing
AB	124° 30′	304° 30′
BC	68° 15′	246° 00′
CD	310° 30′	135° 15′
DA	200° 15′	17° 45′

At what stations do you suspect local attraction? Find the correct bearings of the lines and also compute the included angles.