Seat No.

Total No. of Pages : 2

OCT-NOV 2025 WINTER EXAMINATION

1154 B.Tech. CBCS

Sub. Name: Basic Civil Engineering

Sub. Code: 71813/72503

Day and Date: Thursday ,29-01-2026 **Total Marks: 70**

Time: 10:30 AM To 01:00 PM

Instructions: **1. Draw neat labelled diagrams wherever necessary**
2. Figures to the right indicate full marks
3. Use of calculator and statistical table is allowed

Special Inst.: **Solve any three questions from question number 1,2,3,4 and any three questions from question number 5,6,7,8.**

Q1) a) Explain co - relevance of civil engineering with other branches of engineering in details. (6) **[12]**

b) What are the principles of planning? Explain in brief any two. (6)

Q2) a) Explain with neat sketch different elements of building and mention their functions. (6) **[11]**

b) What is deep foundation? Explain any one deep foundation with neat sketch. (5)

Q3) a) Differentiate between (6) **[11]**

i)) P.C.C and R.C.C

ii) Load bearing structure and framed structure

b) Explain in brief types of loads considered in the design of building (5)

Q4) Solve any three **[12]**

a) Write a note on orientation of building.(4)

b) What do you mean by strength and stability of building?(4)

c) Write a note on types of soil and rocks as foundation strata.(4)

d) Write a note on Seasoning of timber.(4)

Q5) a) Define surveying. What is the object and principles of surveying?(4) **[11]**

b)

The following bearings were observed while running a closed compass traverse ABCDA. 7

Line	AB	BC	CD	DA
F.B	$44^0\ 30^0$	$124^0\ 30^0$	$181^0\ 0^0$	$289^0\ 30^0$
B.B	$226^0\ 30^0$	$303^0\ 15^0$	$1^0\ 0^0$	$108^0\ 45^0$

1. Draw a sketch of the traverse
2. Determine the included angles.
3. Determine the corrected bearings.
4. Which stations are affected by local attraction? What are the errors?

Q6) a) Write a note on 'Total station' (5) **[12]**

b) The following consecutive readings were taken with a level and a 4 m leveling staff on a continuous sloping ground at a 30 m interval.

0.855 (on A), 1.545, 2.335, 3.115, 3.825, 0.455, 1.380, 2.855, 3.455, 0.585, 1.015, 1.850, 2.755, 3.845 (on B).

The R.L of A was 380.500 m. Make entries in a level book and apply usual checks.Determine gradient of AB. Use any method. Write sample calculations (7)

Q7) a) Write a note on Components of Flexible pavement with a neat sketch (5) **[11]**

b) Along with a neat sketch show various components of railway track (Broad Gauge). (6)

Q8) 7. Solve any three. **[12]**

a. Draw a neat sketch of a metric chain and Explain its construction. (**4**)

b. How will you calculate the area on paper using a mechanical planimeter? (**4**)

c. What is the bearing of a line? Explain the designation systems of bearings. (**4**)

d. Draw a flow diagram of the water treatment plant and explain its components. (**4**)

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -
This Question Paper may be distributed for following Subjects as common code.
सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

1] (1154) B.Tech. CBCS (72503) Basic Civil Engineering Part 1 SEM 2

2] (1154) B.Tech. CBCS (71813) Basic Civil Engineering Part 1 SEM 1