

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION SP2023)

CLASS: BTECH
BRANCH: CIVIL

SEMESTER : IV
SESSION : SP2023

SUBJECT: CE208R SURVEYING

TIME: 02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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|--------|---|-----|-----|----------|
| Q.1(a) | What is an offset? Which instruments are used for taking offsets? | [2] | CO1 | BL
K1 |
| Q.1(b) | The following bearings were observed with a compass. Calculate the interior angles.
AB = $60^{\circ}30'$
BC = $122^{\circ}0'$
CD = $46^{\circ}0'$
DE = $205^{\circ}30'$
EA = $300^{\circ}0'$ | [3] | CO1 | K3 |
| Q.2(a) | What do you understand by closing error? Briefly explain the Bowditch's method of balancing the traverse. | [2] | CO1 | K2 |
| Q.2(b) | What is resection method? Briefly explain a three point problem. How do you solve it using the tracing paper method. | [3] | CO1 | K2 |
| Q.3(a) | Briefly describe the temporary adjustments of a levelling instrument. | [2] | CO2 | K2 |
| Q.3(b) | Differentiate between the height of instrument method and the rise and fall method. | [3] | CO2 | K2 |
| Q.4(a) | What are the uses of contours? | [2] | CO2 | K1 |
| Q.4(b) | An observer standing on the deck of a ship just sees a light-house. The top of the light-house is 42 m above the sea level and the height of the observer's eye is 6 m above sea level. Find the distance of the observer from the light-house. | [3] | CO2 | K4 |
| Q.5(a) | Write the names of different parts of a transit theodolite. | [2] | CO2 | K1 |
| Q.5(b) | Briefly explain the repetition method of measurement of horizontal angle. | [3] | CO2 | K2 |

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