Jharkhand University of Technology, Ranchi

Diploma 1st Semester Examination, 2024 (NEP-2024)

Subject : Basic Surveying   Subject Code : CIV-101

Time Allowed : 3 Hours   Full Marks : 70

Pass Marks : 21

Answer in your own words.
Answer five questions in which Question No. 1 is compulsory.
All questions carry equal marks.

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1. Choose the correct alternative of the following: 14

   (i) The chain having length of 100 feet divided into 100 links is known as _____.
   - (a) Metric chain
   - (b) Engineer's chain
   - (c) Revenue chain
   - (d) All of these

   (ii) The line on which framework of the survey work is built is known as _____.
   - (a) base line
   - (b) main line
   - (c) control line
   - (d) None of these

   (iii) The chain having length of 100 feet divided into 100 links is known as _____.
   - (a) Metric chain
   - (b) Engineer's chain
   - (c) Revenue chain
   - (d) All of these

   (iv) Which instrument/s is/are available for taking offsets?
   - (a) Optical square
   - (b) Indian optical square
   - (c) Open cross staff
   - (d) All of these

   (v) Which of the following is/are type/s of bearing?
   - (a) Magnetic bearing
   - (b) Whole circle bearing
   - (c) Reduced bearing
   - (d) All of these

   (vi) What is the equivalent value in RB of 315° ?
   - (a) 315°
   - (b) N 45° W
   - (c) N 85° W
   - (d) None of these

2. (a) Prepare a list of accessories required for a chain survey. Explain the functions of each.

   (b) Explain in detail about the various errors that occurs during chaining.   7+7

3. (a) List out the various objectives of surveying.

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(2)

(b) Describe about direct and indirect ranging with a neat sketch. 7+7

4. (a) A surveyor measured the distance between two points on the plan drawn to a scale of 1cm = 40m and the result was 468 m. Later he discovered that he used a scale of 1 cm = 20 m. Find the true distance between these two points.

(b) What are the different tape corrections and how they are applied? 7+7

5. (a) What is meant by traverse? Discuss about the errors in compass survey.

(b) The following bearings were observed while traversing with a compass. Mention which stations were affected by local attraction and determine the corrected bearings. 7+7

LINE	F.B	B.B
AB	45° 45'	226°10'
BC	96°55'	277° 5'
CD	29°45'	209°10'
DE	324° 48'	144° 48'

6. (a) Describe briefly about Prismatic Compass. Discuss in detail about the adjustments of Surveyor's compass.

(b) The following bearings were observed with a compass. Calculate the interior angles. 7+7

LINE	FORE BEARING
AB	60° 30'
BC	122°0'
CD	46° 0'
DE	205° 30'
EA	300°0'

7. Write short notes on the following (*any four*): 3.5×4=14

(a) Magnetic meridian, true meridian

(b) Dip and declination

(c) Whole circle bearing and reduced bearing

(d) Closed traverse and open traverse

(e) Fore sight and back sight

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