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BICE-002

B.Tech. CIVIL ENGINEERING (BTCLEVI)

Term-End Examination

December, 2017

00432

BICE-002 : SURVEYING

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **five** questions. All questions carry equal marks. Assume missing data, if any. Use of scientific calculator is permitted.*

1. (a) What is Surveying ? How is it useful for public and civil engineering ? 8

(b) Distinguish between : 6

(i) Plans and Maps

(ii) Geodetic surveying and Plane surveying

2. Discuss with expressions, the following corrections for the measured length of chain : $4 \times 3\frac{1}{2} = 14$

(a) Correction for absolute length

(b) Correction for slope

(c) Correction for pull

(d) Correction for sag

3. (a) Explain with a neat sketch, the working of a prismatic compass. *8*

(b) During a traverse survey ABCDA, the following interior angles were measured with a compass :

$\angle A = 75°$, $\angle B = 120°$, $\angle C = 80°$ and $\angle D = 85°$

If the bearing of the line AB is 99°, what are the bearings of the remaining lines of the traverse ? *6*

4. (a) Describe the rise and fall method of levelling with their merits and demerits in detail. *7*

(b) Differentiate between : *7*

(i) Foresight and Backsight

(ii) Fly levelling and Profile levelling

5. What is Plane Table Surveying ? What are its advantages and disadvantages ? Explain how you would set and orient the plane table. *7+7=14*

6. The following are the lengths and bearings of the sides of a closed traverse ABCD :

Line	Length in m	Bearings
AB	78·2	140°12′
BC	198·0	36°24′
CD	37·8	338°48′
DA	?	?

Calculate the length and bearings of DA. *14*

7. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

(a) Axes of Theodolite

(b) Benchmark

(c) Magnetic Dip

(d) Field Book

(e) Arrows

(f) Invar Tape