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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2016

B.Tech IV Semester

COURSE CODE: 10B11CE412 MAX. MARKS: 15

COURSE NAME: SURVEYING

COURSE CREDITS: 4 MAX. TIME: 1 HR

Note: *All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Notation has its usual meanings.*

Q1. (a) A line of 10 cm shrinks to 9 cm. Determine the shrinkage factor. Also determine the correct area corresponding to a measured area of 800 m^2. [1]

(b) The length of a line measured with a chain of 50 m was found to be 1000 m. If the chain is 25 cm too short, find the true length of the line. [1]

(c) In an old map magnetic bearing of a line is 48°20′. The magnetic declination at that time was 1°40′ *E*. what is the magnetic bearing of line if magnetic declination is 7°30′ *E* now? [1]

(d) The following slope distance was measured along a chain line with a 30 m chain. It was noted further that chain was 3 decimeter too long. Calculate the true horizontal distance. [1]

Sloping distance	28.7 m	23.4m	20.9 m
Angle of slope	5°	7°	10°

Q2. The following are the bearings taken on a closed compass traverse ABCDE. Correct the bearings of the lines and compute the interior angles. [2+2]

Line	F B	B B
AB	S 37°30′E	N 37°30′W
BC	S43°15′W	N44°15′E
CD	N 73°00′W	S 72°15′E
DE	N 12°45′E	S 13°15′W
EA	N 60°00′E	S 60°15′W

Q3. A base line was measured by a steel tape in catenary as 30.84 m under a pull of 7 kg and at temperature of 12 °c. If the tape is standardized at a temperature of 15 °c under a pull of 4.5 kg, what is the length of base line? Tape is exactly 1 kg in weight with steel at 8300kg/m^3. E for steel = 2.1 x 10^7 N/cm^2. α = 11 x 10^{-6} per °c. [3]

Q4. How will you perform a chaining operation if a river interrupts the chaining operation? [2]

Q5. What are the different characteristics of contour lines? [2]