

Dr. Ashish Kumar

**JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY
WAKNAGHAT**

**TEST-2 EXAMINATION- OCT. 2019
B Tech III Semester (Civil Engineering)**

**Course Code: 18B11CE312
Course Name: Surveying
Course credit: 3**

**Max. Marks: 25
Max. Time: 1.5 hrs**

Note: All questions are compulsory. Assume suitable data if required.

Q1. Answer the following briefly.

- (a) Instrument used for centering in plane table survey. [0.5]
(b) Number of offsets required if road crosses chainline obliquely. [0.5]
(c) Operation of fly leveling. [1]
(d) Interpretation of the statement that "FB and BB of a line is not equal to 180° ". [1]

Q2. The following consecutive readings were taken with a level and a 4 m levelling staff on a continuously sloping ground at common interval of 20 m.

0.855 (on P)	1.545	2.335	3.115	3.825	0.45
1.38	2.55	2.855	3.455	0.585	1.15
1.85	2.75	3.85 (on Q)			

Make entries in a level book and apply the usual checks. RL of P was 420.5 m. Determine the gradient of PQ. [4]

Q3. A bubble tube of a level has a sensitiveness of 20 sec per 2 mm division. Find the error in the reading on the staff held at a distance of 200 m from the level when bubble is deflected by 4 divisions from the centre and bubble is facing now towards observer. If staff reading (when bubble is at the centre) is 2.55 m, find the incorrect staff reading due the deflection of bubble (by 4 divisions). [4]

Q4. Explain different characteristics of contour lines. [4]

Q5. Explain the Principle of plane tabling. If an object is inaccessible and you want to do the plane tabling operation, which method you will prefer? Explain the procedure with neat sketch. [1+3]

Q6. (a) Define the term magnetic declination in compass surveying with suitable example. [2]

(b) How will you determine elevation of any point given between two consecutive contour lines? [2]

(c) A 20 m chain was found to be 15 cm too long after chaining a distance of 1600 m. it was found to be 30 cm too long at the end of day's work after chaining a total distance of 3200 m. Determine the correct distance if the chain was correct before the commencement of the work. [2]