

Semester	: II (New)
Course No.	: SWCE 121
Credits	: 3 (1+2)
Day & Date	: Saturday, 30.04.2016
Time	: 09.00 to 11.00
Title	: Surveying and Levelling
Academic Year	: 2015-16
Total Marks	: 40

- Note : 1. Solve ANY EIGHT questions from SECTION "A".  
 2. All questions from SECTION "B" are compulsory.  
 3. All questions carry equal marks.  
 4. Draw neat diagrams wherever necessary.

SECTION "A"

Q.1 What is the object of survey? Explain primary division of survey.  
 Q.2 What is triangulation survey? Explain the procedure for ranging when two points are not visible.

Q.3 The following perpendicular offsets were taken at 10 m interval from a survey line to an irregular boundary line: 3.82, 4.37, 6.82, 5.26, 7.59, 8.90, 9.52, 8.42 and 6.43. Calculate the area in sq. metres enclosed between the survey line, the irregular boundary line and the first and last offsets by the application of Simpsons Rule and Trapezoidal Rule.

Q.4 What is traverse survey? Explain types of traversing.

Q.5 How compensating errors occurs in chaining? Explain in brief about it.

Q.6 Find the corrections in meters per 30 m chain for a line measured along a slope of  
 a)  $8^{\circ}20'$   
 b)  $14^{\circ}40'$

Q.7 Write down the importance of orientation in plane tabling? Explain the methods of orientation in plane tabling.

Q.8 Convert the following whole circle bearing into quadrantal bearing.

Q.9 The following consecutive readings were taken with a level and 4 m leveling staff on a continuously stopping ground at a common interval of 30 m: 0.585 on A, 0.936, 1.953, 2.846, 3.644, 3.938, 0.962, 1.035, 1.689, 2.534, 3.844, 0.956, 1.579, 3.016 on B. The position of level was changed after the sixth and eleventh reading. The elevation of A was 520.450. Make up a level book and the checks. Determine the gradient of line AB.

Q.10 What is contour? Write down the characteristics and use of contour.

SECTION "B"

Q.11 Fill in the blanks.

1) The preliminary inspection of area to be surveyed is known as Reconnaissance.

2) In optical square the mirrors are fixed at an angle of 45.

3) When consecutive contour lines runs close together, it indicates depression/steep ground.

4) The principle of survey is To work from whole to the part.

Q.12 Define the following terms.

1) Base line

2) Fore bearing

3) Local attraction

4) Parallax