Printed Pages: 02   **Sub Code: RAG205**

Paper Id: | **180261** | **Roll No.** | | | | | | | | | | |

B. TECH.
(SEM II) THEORY EXAMINATION 2018-19
SURVEYING & LEVELLING

Time: 3 Hours   *Total Marks: 70*

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. **Attempt *all* questions in brief.**   **2 x 7 = 14**

    a. What is Magnetic declination?
    b. Define principle of plan table surveying?
    c. The magnetic bearing of a line AB is S $28^0 30`$ E. Calculate the true bearing if the declination is $7^0 30`$ west.
    d. Define whole circle bearing
    e. The magnetic bearing of a line is $48^0 24`$. Calculate the true bearing if the magnetic declination is $5^0 38`$ East.
    f. Define ranging?
    g. What do you mean by Line of collimation?

SECTION B

2. **Attempt any *three* of the following:**   **7 x 3 = 21**

    a. What do you understand by Plane table surveying? Explain the principles of Plane table surveying?
    b. Describe how a theodolite is set up at a station and a round of angles is measured at it? What errors are minimized in this procedure?

    c. What is meant by Local attraction? How is it detected and how is the observed bearing corrected for local attraction?
    d. What is three-point problem? How is it solved?
    e. Define plane table surveying. Explain intersection method?

SECTION C

3. **Attempt any *one* part of the following:**   **7 x 1 = 7**

    (a) With the help of sketches, explain the working of dumpy level?
    (b) Define ranging. What do you mean by line ranger? Explain reciprocal ranging with neat diagram?

4. **Attempt any *one* part of the following:**   **7 x 1 = 7**

    (a) Sketch and describe prismatic compass?
    (b) What do you mean by chaining? Explain direct and indirect type chaining?

5. **Attempt any *one* part of the following:**   **7 x 1 = 7**

    (a) What do you understand by orientation of plane table survey? Describe radiation method?
    (b) What is two point problems, how is it solved?

6.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

    (a)   Describe the methods of traversing by theodolite and discuss their advantage and disadvantages?

    (b)   An area actually measures 0.8094 hectares. How much will it measures in m^2 by a 30.48 m chain which was 20.32 cm too short at the start and 60.96 cm too long at the end of the survey?

7.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

    (a)   Describe the various tape corrections with sketches?

    (b)   The magnetic bearing of a line in MNREC, Allahabad was found to be N $60^030'$W in 1992, when the declination was $5^010'$E. Find its present magnetic bearing, if declination is 3^0W?