**Code No.PC303CE**

**METHODIST COLLEGE OF ENGINEERING & TECHNOLOGY (An Autonomous Institution)**

**B.E. (CIVIL) III-Semester (AICTE) (Supplementary) Examination, Aug-2023**

**Subject: SURVEYING**

**Time: 3 hours Max.Marks:60**

**Note: Missing data, if any, maybe suitably assumed.**

**PART-A**

**Answer All the questions.**

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| **Q.No.** | **Questions** | **Marks** | **CO** | **BTL** |
| **1 a** | What are the general principles of surveying? | **2** | **1** | **1** |
| **b** | Distinguish between Absolute Length and Nominal Length of chain? | **2** | **1** | **4** |
| **c** | The back sight and fore sight at points A and Bare 3.465 m and 2.260 m respectively. Determine the difference of level between A and B. State also if there is fall or rise from A to B. | **2** | **2** | **5** |
| **d** | Determine the error due to curvature of earth in the measurement if the distance measurement is limited to 100m | **2** | **2** | **5** |
| **e** | Comparetelescope direct and telescope inverted? | **2** | **3** | **4** |
| **f** | List the fundamental lines of theodolite? | **2** | **3** | **1** |
| **g** | List various types of reverse curves? | **2** | **4** | **1** |
| **h** | Find the radius of a three degree curve from 20m chord definition? | **2** | **4** | **1** |
| **i** | Outline the major advantages of using total station over the conventional surveying instruments? | **2** | **5** | **2** |
| **j** | Categorize the components of GIS? | **2** | **5** | **4** |

**PTO**

**PART-B**

**Answer Any Five questions**.

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| **Q.No.** |  | **Questions** | **Marks** | **CO** | **BTL** |
| **2.** | **a** | Appraise the advantages and disadvantages with plane table surveying? | **3** | **1** | **5** |
| **b** | Classify the surveying and elaborate the principles adopted in each surveying? | **5** | **1** | **6** |
| **3.** | **a** | Explain reciprocal levelling? | **4** | **2** | **5** |
| **b** | Explain the uses of contours? | **4** | **2** | **5** |
| **4.** | **a** | A theodolite was setup at 150m from an electric pole. The angles of depression and elevation to the base and top of the pole respectively are 20 35’ and 7056’. Given that the height of the instrument is 1.45m and that the RL of the ground level is 350.515m, determine height of the pole | **8** | **3** | **5** |
| **5.** | **a** | Explain the procedure to determine the RL of various stations pegs on a vertical curve connecting two uniform grades of +g1% and –g2%. The chainage and RL of point of intersection are given. | **8** | **4** | **5** |
| **6.** | **a** | Categorize and explain various types of photographs used in ariel photogrammetry? | **4** | **5** | **4** |
| **b** | Explain the segments and their relationship in GPS? | **4** | **5** | **5** |
| **7.** | a | Explain temporary adjustments of a level instrument? | **4** | **2** | **5** |
| b | Classify remote sensing and describe various components involved in remote sensing? | **4** | **5** | **4** |
| **8.** | **a** | Explain repetition method of measurement of horizontal angles and state its specific application? | **8** | **3** | **5** |
| **9.** | **a** | Differentiate plane surveying and Geodetic surveying. | **3** | **2** | **5** |
| **b** | Two straights AB and BC intersect at a chainage of 1300meters. The angle of deflection is 1400. It is required to set out a simple circular curve of radius 150meters to connect the straights. Determine (1) Tangent length (2) Length of curve (3) Length of long Chord (4) Apex distance (5) Mid ordinate (6) Chainages of point of curve and point of tangent. | **5** | **5** | **5** |

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