**Code No.PC303CE**

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

**B.E. (CIVIL) III-Semester (AICTE) (Regular) Examination, Feb -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** | The magnetic bearing of a line is 50010’. Determine the true bearing, if the magnetic declination is 1055’ west | **2** | **1** | **5** |
| **b** | What is the check adopted when exterior angles of a closed traverse having six sides are observed? | **2** | **1** | **1** |
| **c** | Write expressions to determine refraction and curvature corrections? | **2** | **2** | **1** |
| **d** | Write any three characteristics of contours? | **2** | **2** | **1** |
| **e** | What are the applications of vernier theodolite? | **2** | **3** | **4** |
| **f** | What are the temporary adjustments of a Theodolite? | **2** | **3** | **1** |
| **g** | Write the expression thatrelates the radius and the degree of curve? | **2** | **4** | **1** |
| **h** | State the essential requirements of anideal transition curve? | **2** | **4** | **1** |
| **i** | Classify remote sensing? | **2** | **5** | **4** |
| **j** | List the segments of GPS? | **2** | **5** | **1** |

**PTO**

**PART-B**

**Answer Any Five questions**.

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| **Q.No.** |  | **Questions** | **Marks** | **CO** | **BTL** |
| **2.** | **a** | Classify traversing in surveying and explain the checks adopted? | **5** | **1** | **5** |
| **b** | List out various bearing systems and illustrate conversions from one system to the other? | **3** | **1** | **2** |
| **3.** | **a** | Explain working principle of EDM? | **4** | **2** | **5** |
| **b** | Explain the use of various parts of total station? | **4** | **2** | **5** |
| **4.** | **a** | Explain the procedure of determining distance and elevation of inaccessible points using double plane method? | **8** | **3** | **5** |
| **5.** | **a** | A circular curve of 250 m radius is to be set out between two straights having deflection angle of 45°20’right, and chainage of the point of intersection as 112 + 10. Calculate the necessary data for setting out the curve by the method of offsets from the chords produced taking the length of one chain as 20 m. | **8** | **4** | **5** |
| **6.** | **a** | Explain various Components of GIS? | **5** | **5** | **5** |
|  | **b** | Explain the uses of GPS measurements | **3** | **5** | **5** |
| **7.** | **a** | Compare Simpsons rule and Trapezoidal rule to determine areas? | **4** | **2** | **5** |
| **b** | Explain different applications of GIS? | **4** | **5** | **5** |
| **8.** | **a** | Explain the advantages and disadvantages of Plane Tabling? | **3** | **4** | **5** |
|  | **b** | The following records are obtained in a traverse surrey, where the length and bearing of last line were not recorded. The lengths of lines AB, BC, CD are 75.50, 180.50, 60.25 mts respectively and bearings of lines AB, BC, CD are 300241, 1100361, 2100301 respectively. Compute the length and bearing of line DA.  | **5** | **4** | **5** |
| **9** | **a** | Explain various methods of computing length of transition curve also cite the expressions? | **5** | **4** | **5** |
| **b** | Differentiate vertical and oblique photographs | **3** | **5** | **5** |

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