Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **17CE1001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **SURVEYING AND LEVELLING** | **Max. Marks :** | **100** |

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| **Q. No.** | **Questions** | **Course Outcome** | **Marks** |
| **PART – A (20 X 1 = 20 MARKS)** | | | |
| 1. | State the difference between Surveying and Levelling. | CO1 | 1 |
| 2. | Mention the principle of chain surveying. | CO1 | 1 |
| 3. | Define ranging. | CO2 | 1 |
| 4. | Define reconnaissance survey. | CO1 | 1 |
| 5. | Differentiate between leader and follower in chain survey. | CO3 | 1 |
| 6. | Define total stations. | CO5 | 1 |
| 7. | Define contouring. | CO4 | 1 |
| 8. | Mention the principle of Compass survey. | CO1 | 1 |
| 9. | Define line of collimation. | CO5 | 1 |
| 10. | Differentiate between foresight and backsight reading. | CO6 | 1 |
| 11. | Define Theodolite Traversing. | CO1 | 1 |
| 12. | Define planimeter. | CO5 | 1 |
| 13. | Define bench-marks. | CO5 | 1 |
| 14. | Write down the Bowditch’s rule in traversing. | CO4 | 1 |
| 15. | Define Reduced level. | CO4 | 1 |
| 16. | Differentiate between triangulation and traversing. | CO2 | 1 |
| 17. | Define ‘base line of survey’. | CO2 | 1 |
| 18. | Compare cross-staff with optical square. | CO5 | 1 |
| 19. | Write the main principle of surveying. | CO1 | 1 |
| 20. | Define Field book. | CO5 | 1 |

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| **PART – B (10 X 5 = 50 MARKS)**  **(Answer any 10 from the following)** | | | |
| 21. | Write a short note on types of compasses with neat sketch. | CO5 | 5 |
| 22. | Convert the following Whole Circle Bearings (WCBs) to Quandrantal Bearings (QBs).   1. WCB of AB = 45o30’ 2. WCB of BC = 125o45’ 3. WCB of CD = 222o15’ 4. WCB of DE = 320o30’ | CO6 | 5 |
| 23. | Draw atleast 10 standard conventional symbols in chain surveying corresponding to some common objects. | CO3 | 5 |
| 24. | Distinguish between different types of levels. | CO5 | 5 |
| 25. | Mention and explain different sources of errors. | CO6 | 5 |
| 26. | Write down the uses of contour map. | CO4 | 5 |
| 27. | Write down the different formulas for calculating the volume. | CO6 | 5 |
| 28. | Explain the Repetition method and Reiteration method in Theodolite traversing. | CO6 | 5 |
| 29. | Explain the classication of surveying. | CO1 | 5 |
| 30. | Explain the different types of staves. | CO5 | 5 |
| 31. | List and write a brief note on types of theodolites. | CO5 | 5 |
| 32. | Explain how to adjust closing error. | CO2 | 5 |

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| **PART – C (2 X 15 = 30 MARKS)**  **(Answer any 2 from the following)** | | | | |
| 33. | a. | Elucidate the permanent adjustments of level. | CO6 | 7 |
| b. | Explain the different types of leveling operation. | CO5 | 8 |
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| 34. | a. | Explain the different characteristics of contours. | CO4 | 7 |
| b. | Elaborate the computation methods of area from plotted plan. | CO2 | 8 |
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| 35. | a. | Write the different equipments used in chain surveying. | CO3 | 7 |
| b. | The following consecutive readings were taken with a dumby level along a chain line at a common interval of 15 m. The first reading was at chainage of 165 m where the RL is 98.085. The instrument was shifted after fourth and nineth readings.  3.150,2.245, 1.125, 0.860, 3.125,2.760, 1.835, 1.470, 1.965, 1.225, 2.390 and 3.035 m  Find the reduced levels by using either Collimation method or Rise and Fall method. | CO5 | 8 |