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

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**End Semester Examination – Nov/Dec – 2018**

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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(20X1=20 MARKS)** | | |
| 1. | Least count of leveling staff is\_\_\_\_\_\_\_\_\_\_\_. | CO5 | 1 |
| 2. | Datum adopted in India is the mean sea level as\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | CO5 | 1 |
| 3. | Hydrographical surveying deal with mapping of\_\_\_\_\_\_\_\_\_\_\_\_\_. | CO3 | 1 |
| 4. | Extend GTS. | CO3 | 1 |
| 5. | The curvature of the earth considered in \_\_\_\_\_\_\_\_\_ Surveying. | CO3 | 1 |
| 6. | A 30m chain is divided into \_\_\_\_\_\_\_ links. | CO2 | 1 |
| 7. | The BM fixed at the end of a day’s work is called the\_\_\_\_\_\_\_\_\_bench mark. | CO6 | 1 |
| 8. | List any two types levelling. | CO5 | 1 |
| 9. | A triangle is said to be well-conditioned when its angles should lie between\_\_\_\_\_\_\_\_. | CO1 | 1 |
| 10. | Define Back sight(BS). | CO5 | 1 |
| 11. | State leveling. | CO5 | 1 |
| 12. | List out the errors in levelling. | CO5 | 1 |
| 13. | Recall LS and CS in levelling. | CO5 | 1 |
| 14. | Define BM. | CO3 | 1 |
| 15. | In chain surveying slope correction is always\_\_\_\_\_\_\_\_\_\_. | CO1 | 1 |
| 16. | The horizontal distance between two consecutive contours is termed as\_\_\_\_\_\_\_\_\_\_. | CO4 | 1 |
| 17. | Sketch the characteristic features of contour lines of a Pond. | CO4 | 1 |
| 18. | The contour interval for a particular map is kept \_\_\_\_\_\_\_\_\_. | CO4 | 1 |
| 19. | In trapezoidal formula, the line joining the top of the ordinates is assumed to be\_\_\_\_\_\_\_. |  | 1 |
| 20. | When the higher values are inside the loop, it indicates a\_\_\_\_\_\_\_\_\_. | CO4 | 1 |

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| **PART B(10 X 5= 50 MARKS)**  **(Answer any 10 from the following)** | | | |
| 21. | Describe briefly how plane surveying differs from geodetic surveying. | CO3 | 5 |
| 22. | Classify the survey.  a. Based on nature.  b. Based on objective. | CO6 | 5 |
| 23. | Explain different methods used in surveying for measuring the horizontal distance. | CO6 | 5 |
| 24. | Complete the temporary adjustment done in leveling instrument with neat sketch. | CO5 | 5 |
| 25. | Illustrate classification of levelling. | CO5 | 5 |
| 26. | State the following terms.  a. Reduced Level  b. Level surface.  c. Level Line  d. Horizontal plane  e. Horizontal line | CO5 | 5 |
| 27. | Recall the precautions against Errors and Mistakes in chaining. | CO1 | 5 |
| 28. | Write different errors in chaining. | CO2 | 5 |
| 29. | The distance between two points, measured with a 25 m chain, was recorded as 412 m. it was afterwards found that the chain was 2.5 cm too long. What was the true distance between the points? | CO3 | 5 |
| 30. | Explain the volume calculation in surveying. | CO4 | 5 |
| 31. | A series of offsets were taken from a chain line to a curved boundary line at a regular interval of 10 meters. The lengths of the offsets are 2.2m, 1.4m, 2.8m, 2m, 2.6m, 4m, 3.2m, 3.4m, 3.8m and 4.2m. Find the area of the strip between chain line and boundary line by using Simpson’s rule. | CO6 | 5 |
| 32. | Describe methods of contouring. | CO4 | 5 |

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| **PART C(2 X 15= 30 MARKS)**  **(Answer any 2 from the following)** | | | | |
| 33. |  | The following consecutive readings were taken with a level and a 4 -meter leveling staff on continuously sloping ground at common interval of 30m:  0.855(onA), 1.545m, 2.335, 3.115, 3.825, 0.455, 1.380, 2.055, 2.855, 3.455, 0.585, 1.015, 1.850, 2.755, 3.845(on B).  The RL of A was 380.500m. Evaluate the reduced levels of a points by using Height of collimation(HOI) method and rise and fall method. Also apply arithmetic check. | CO3 | 15 |
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| 34. |  | Explain different characteristics of contour line with neat Sketch. | CO4 | 15 |
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| 35. |  | An embankment of width 10m and side slopes 1.5 : 1 is required to be made on a ground which is level in a direction transverse to the center line. The central heights at 40 m interval are as follows: 0.90, 1.25, 2.15, 2.50, 1.85, 1.35, and 0.85 Calculate the volume of the earthwork according to trapezoidal formula and prismoidal formula. | CO6 | 15 |