** D.Y. PATIL COLLEGE OF ENGINEERING & TECHNOLOGY**

**Set-: I**

**Q. Paper Code:**

**22CE305505**

**KASABA BAWADA KOLHAPUR-416006**

**(An Autonomous Institute)**

T. Y. B. Tech (Civil), Sem-V

**END SEMESTER EXAMINATION(ESE), Nov. – 2022**

Course Name: **Advanced Surveying** Course Code: **201CEL305**

Seat No:

**Day and Date: 15.12.2022**

**Time: 2.00 pm to 4.00pm Max. Marks- 50**

***Instructions:***

1. *All the questions are compulsory.*
2. *Figure to the right indicate full marks.*

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| --- | --- | --- | --- | --- |
| **BT** | **CO’s** | **Q. No.** |  | **Marks** |
|  |  | **Q.1** | **All Questions are compulsory** | **20** |
| **3** | **CO1** | **a** | The following observations were taken with transit theodolite.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Instrument station | Staff station | Target | Vertical angle | Staff readings | Remarks | | O | A | Lower | +4⁰30ꞌ | 0.95 | RL of instrument axis = 355.5m | |  |  | Upper | +6⁰30ꞌ | 3.25 |   Calculate the horizontal distance between the instrument station and staff; also find RL of staff station A. | **7 M** | |
| **3** | **CO2** | **b** | Two triangulation stations A and B 60 Km apart and have elevations 240 m and 280 m respectively. Find minimum height of signal required at B so that line of sight may not pass near the ground then 2 meters. The intervening ground may be assumed to have uniform elevation of 200 m. | **7 M** | |
| **3** | **CO3** | **c** | Calculate the maximum number of photographs required to cover a fairly level area with the following data: scale of photograph is 1:10,000, area is 100Sq.Km.Longitudinal overlap is 60%, Side lap is 30%, size of photograph is 20 cm x 20 cm. | **6 M** | |
|  | | | | | |
|  |  | **Q.2** | **All Questions are compulsory** | **10** |
| **2** | **CO4** | **a** | Explain briefly raster and vector data. | **4** | |
| **2** | **CO4** | **b** | Write a note on various components of GIS  **Or**  Explain in brief applications of GIS. | **6** | |
|  | | | | | |
|  |  | **Q.3** | **All Questions are compulsory** | **10** |
| **2** | **CO4** | **a** | Explain active and passive remote sensing with neat sketch. | **3** | |
| **2** | **CO4** | **b** | Explain electromagnetic energy and its interaction with mater.  **Or**  Name different systems of remote sensing and give brief description of each of them. | **7** | |
|  | | | | | |
|  |  | **Q.4** | **Attempt any two out of three questions** | **10** |
| **2** | **CO4** | **a** | What is GNSS? Enlist four applications in Civil Engineering field. | **5** | |
| **2** | **CO4** | **b** | Describe in brief the segments in GNSS. | **5** | |
| **2** | **CO4** | **C** | How GPS works? Explain with neat sketch. | **5** | |

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