(Autonomous)<br>Dundigal, Hyderabad - 500043

## CIVIL ENGINEERING

ASSIGNMENT QUESTIONS

| Course Name | $:$ | SURVEYING |
| :--- | :--- | :--- |
| Course Code | $:$ | A30108 |
| Class | $:$ | II- I - B. Tech |
| Branch | $:$ | CIVIL ENGINEERING |
| Year | $:$ | $2016-2017$ |
| Course Faculty | $:$ | Mr. B. Suresh, Assistant Professor Civil Engineering Department |

## OBJECTIVES:

Successful completion of the course will enable the students to:

1. Understand angle and distance measurement; and differential, profile, cross-section, and topographic levelling procedures and apply them to field conditions
2. Prepare proper field notes and data collection approaches
3. Use standard survey tools
4. Understand and apply measurement error, accuracy, precision and techniques to improve accuracy of surveys
5. Work effectively in groups for field survey and data interpretation
6. Analyze and synthesize survey data
7. Understand (introductory level) geographic information systems (GIS)

| S. No. | Question | Blooms Taxonomy Level | Course Outcomes |
| :---: | :---: | :---: | :---: |
| UNIT-1 |  |  |  |
| 1 | State the Principle of surveying | Understanding | 2 |
| 2 | State the two Primary division of surveying | Understanding \& remembering | 1 |
| 3 | Define Magnetic Meridian | Understanding \& remembering | 1 |
| 4 | What is local Attraction | Understanding \& remembering | 2 |
| 5 | A 30 m chain used for a survey was found to be 20.10 m at the beginning and 20.50 m at the end of the work. The area of the plan drawn to a scale of $1 \mathrm{~cm}=6 \mathrm{~m}$ was measured with the help of a planimeter and was found to be $32.56 \mathrm{sq} . \mathrm{cm}$ find the true area of the field. | Apply \& evaluate | 2 |
| 6 | A 20 m chain was found to be 10 cm too long after chaining a distance of 1500 m . It was found to be 18 cm too long at the end of the day's work after chaining a total distance of 2900 m . Find the true distance if the chain was corrected before the commencement of the work. | Apply \& evaluate | 3 |
| 7 | A 30 m chain was found to be 15 cm too long after chaining a distance of 1800 m . It was found to be 18 cm too long at the end of the day's work after chaining a total distance of 3900 m . Find the true distance if the chain was corrected before the commencement of the work | Apply \& evaluate | 3 |


| S. No. | Question |  |  | Blooms Taxonomy Level | Course Outcomes |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 8 | The area of the field was found to be $4000 \mathrm{~m}^{2}$ we measured with a chain of 30 m length if the length of the chain was 0.11 m short. Determine the correct area. |  |  | Apply \& evaluate | 3 |
| 9 | Line | Fore Bearing | Back Bearing | Apply \& evaluate | 3 |
|  | AB | $71^{0} 05^{\prime}$ | $250^{\circ} 20^{\prime}$ |  |  |
|  | BC | $110^{\circ} 20^{\prime}$ | $292^{\circ} 35^{\prime}$ |  |  |
|  | CD | $161^{\circ} 35$, | $341^{\circ} 45$, |  |  |
|  | DA | $220^{\circ} 50$ | $40^{\circ} 05^{\prime}$ |  |  |
|  | EA | $300^{\circ} 50$ | $121^{\circ} 10^{\prime}$ |  |  |
|  | The following bearings were observed in running a closed traverse. Determine the corrected magnetic bearing of the line. |  |  |  |  |
| 10 | Give the classification of surveying in brief. |  |  | Understanding \& remembering | 3 |
| UNIT - II |  |  |  |  |  |
| 1 | Define Levelling |  |  | Understanding | 4 |
| 2 | Define level surface |  |  | Understanding \& remembering | 4 |
| 3 | Define Datum |  |  | Understanding \& remembering | 4 |
| 4 | Define Bench Mark |  |  | Understanding \& remembering | 5 |
| 5 | Define Mean Sea level |  |  | Understanding \& remembering | 5 |
| 6 | Define contours |  |  | Understanding \& remembering | 4 |
| 7 | The following staff readings were observed successively with a level, the instrument having been moved after third, sixth and eight readings 2.228, $1.606,0.988,2.090,2.864,1.262,0.602,1.982,1.044,2.684$ meters. Enter the above readings in a page of a level book and calculate the R L of points if the first reading was taken with a staff held on a bench mark of 432.384 m |  |  | Apply \& evaluate | 4 |
| 8 | Classify the different type of errors in leveling |  |  | Apply \& evaluate | 4 |
| 9 | The following staff readings were observed successively with level, the instrument having moved after the second, fourth and eight readings $0.875,1.235,2.310,1.385,2.930,3.125,4.125,0.120,1.875,2.030,3.765$ The first reading was taken with the staff held upon a benchmark of elevation 132.135 apply usual checks |  |  | Apply \& evaluate | 4,5 |
| 10 | Write the temporary adjustments of a level |  |  | Understanding \& remembering | 4,5 |
| UNIT - III |  |  |  |  |  |
| 1 | Write the formula for an area using mid-ordinate rule |  |  | Understanding \& remembering | 6 |
| 2 | Write the formula for an area using average ordinate rule |  |  | Understanding \& remembering | 6 |
| 3 | Write the formula for an area using trapezoidal rule |  |  | Understanding \& | 6 |



| S. No. | Question | Blooms Taxonomy Level <br> Level | Course Outcomes |
| :---: | :---: | :---: | :---: |
| 4 | Define telescope inverted | Understanding \& remembering | 7 |
| 5 | Define transit theodolite | Understanding | 7 |
| 6 | Define Non-transit theodolite | $\begin{gathered} \text { Remembering } \\ \& \\ \text { Understanding } \end{gathered}$ | 7 |
| 7 | Explain the steps involved in measuring horizontal angle with a theodolite. | Remembering \& Understanding | 7 |
| 8 | Explain briefly the possible instrumental errors in theodolite work and the precautions that should be taken to eliminate them. |  <br> Understanding | 7 |
| 9 | Define the terms  <br> i) transiting <br> ii) swinging of telescope <br> iii) face left observation <br> iv) face Right observation | Remembering \& Understanding | 7 |
| 10 | Define triangulation method in detail |  <br> Understanding | 7 |
| UNIT - V |  |  |  |
| 1 | What is a simple curve | Remembering | 8 |
| 2 | What is a compound curve | $\begin{gathered} \text { Remembering } \\ \& \\ \text { Understanding } \end{gathered}$ | 8 |
| 3 | What is a reverse curve | Remembering \& Understanding | 8 |
| 4 | What is forward tangent | Remembering \& Understanding | 8 |
| 5 | What is backward tangent |  <br> Understanding | 9 |
| 6 | What are the merits and demerits of total station | Remembering \& Understanding | 9 |
| 7 | State the advantages of GPS |  <br> Understanding | 8 |
| 8 | Describe briefly the advantages of electronic theodolite |  <br> Understanding | 8 |
| 9 | Describe briefly the salient features of total station |  <br> Understanding | 8 |
| 10 | Write short notes on electronic theodolite |  <br> Understanding | 9 |

Prepared by: Mr. B Suresh, Assistant Professor

