

Code No: R1621356

R16
SET - 1
II B. Tech I Semester Regular/Supplementary Examinations, October/November - 2018
SURVEYING

(Agricultural Engineering)

Time: 3 hours

Max. Marks: 70

 Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)

 2. Answer **ALL** the question in **Part-A**

 3. Answer any **FOUR** Questions from **Part-B**
PART -A

1. a) Define the term surveying (3 M)
- b) State the relations between the fundamental lines of dumpy level? (2 M)
- c) List the methods of area calculating irregular boundaries? (3 M)
- d) Define the terms(a) Transiting (b) Swinging (2 M)
- e) Explain the Tachometric constants? (2 M)
- f) Define the term "GIS" (2 M)

PART -B

2. a) The following bearings were observed in running a compass traverse. Find out the stations affected by local attraction. Also calculate the corrected bearings (7M)

| Line | F.B | B.B |
|------|----------|----------|
| AB | N46°10'E | S46°10'W |
| BC | S60°40'E | N61°20'W |
| CD | S10°30'E | N8°50'W |
| DA | N79°40'W | S80°40'E |

- b) Bring out the basic principles of Chain Surveying (7M)
3. a) The following consecutive readings were taken with a dumpy level and a 4m leveling staff on a continuously sloping ground at 30 mintervals , 0.680,1.455,1.855,2.330,2.885,3.380,1.055,1.860,2.265, 3.540, 0.835, 0.945, 1.530, and 2.250. The R.L. of the starting point was 100.000m, Determine the gradient of the Line joining the first and last point. (7M)
- b) Define the term Stratum contour? (7M)
4. a) The contour plan of a proposed reservoir areas enclosed by various contours are given below. (7M)

| Contour (m) | 100 | 105 | 110 | 115 | 120 | 125 |
|-------------|-----|-----|-----|-----|-----|-----|
| Area (ha) | 3 | 8 | 10 | 15 | 20 | 25 |

Determine the capacity of the reservoir if the full reservoir level is 125.00

- b) Determine the volume of cut and fill from chainage 0 to 100 m from the three X- sections at chainage 0,45.0 and 100.0 m.? (7M)

Code No: R1621356

R16**SET - 1**

5. a) Describe the reiteration method of measurement of Horizontal angle? (7M)
b) Define the terms "Longitude and Latitude"? (7M)
6. a) Explain the Tachometric constants? (7M)
b) The stadia reading with horizontal sight on a vertical staff held at 50 m from a tachometer are 1.285 and 1.780 m. The focal length of the object glass is 25 cm and the distance between the object glass and vertical axis of the tachometer is 15 cm. Calculate the stadia interval in mm (7M)
7. a) Explain the Principle of working of Total Station Instrument and Draw the Diagram. (7M)
b) Explain the causes of errors and corrections in GPS observations? (7M)