

Code No: R1621356

**R16****SET - 1**

**II B. Tech I Semester Supplementary Examinations, May - 2019**  
**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) State the principle of chain surveying. (3 M)
- b) List the temporary adjustments (2 M)
- c) Derive the formula for Simpson's rule? (3 M)
- d) List the fundamental lines of a transit theodolite (2 M)
- e) List the systems of tachometric survey (2 M)
- f) List the applications of GIS & GPS Technologies in Mining? (2 M)

**PART -B**

2. a) Describe the parts of Prismatic compass with sketch? (7 M)
- b) The length of AB measured with a 20metre chain was found to be 841.5m. (7 M)  
Calculate the true length of the line if (i) the chain was 10cm long and  
(ii) the chain was 10cm short.
3. a) State the purpose of subsidence leveling? (7M)
- b) What advantages and disadvantages of Rise & Fall method to Height of collimation of reducing the RL. (7M)
4. a) The following perpendicular offsets were taken at 5 m intervals from a traverse line to an irregular boundary line (7M)  
**2.10; 3.15; 4.50; 3.60; 4.58; 7.85; 6.45; 4.65; 3.14 m.**  
Compute the area enclosed between the traverse line and the irregular boundary from the first to the last offset.
- b) State the formula for Trapezoid rule? (7M)

Code No: R1621356

**R16****SET - 1**

5. a) In a mine, levels are transferred through inclines. A Theodolite is setup at the mouth of the incline at 'A' and sighted to a thread mark in a plumb line at the station 'B' at the base of the incline. The other data are given under: R.L of ground peg at station 'A' +100 m Height of Instrument at 'A' 1.00 m Inclination of line of sight  $30^\circ$  from horizontal Inclined length from Trunion axis to thread mark 60 m Thread mark to floor station 'B' 1.5 m Calculate the RL of B. (7M)
- b) A roadway dipping 1 in 7 in the full dip direction of a coal -seam strikes an up throw fault (hade  $30^\circ$ ) bearing at right angles thereto. The seam is thrown up 30 m measured from floor to floor along the hade of the fault. Calculate the length of the cross measure drift to win the seam, commencing at the lower side, of the fault and rising at 1 in 6 in the same direction of the roadway. (7M)
6. a) 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 tacheometer is 15 cm. Calculate the stadia interval in mm ? (7M)
- b) State the Principle of tachometric surveying? (7M)
7. a) Explain the use of COGO in developing the spatial information? (7M)
- b) State the basic Principles of Surveying with Electronic instruments? (7M)