

SUBJECT CODE NO: E-100
FACULTY OF ENGINEERING AND TECHNOLOGY
S.E.(Civil Engineering) Examination Nov/Dec 2017
Surveying - II
(Old)

[Time: Three Hours]

[Max.Marks:80]

N.B Please check whether you have got the right question paper.

- i. Q.no.1 and Q.No.6 are compulsory.
- ii. Attempt any two questions from section A and section B separately.
- iii. Figures to the right indicate full marks.
- iv. Assume suitable data if necessary.

SECTION-A

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|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Q.1 | Answer the following (Any Five) | 10 |
| | <ol style="list-style-type: none"> i) What do you meant by weight of observation? ii) Explain phase of signal. iii) Differentiate between base line & stations. iv) Give the classification of triangulation system. v) Enlist types of errors in theory of errors. vi) What are the sequences involved in comprehensive route survey? vii) What is city surveying? viii) What are the methods of equal shifts? ix) What are the elements of simple curve? x) What is even radius & even degree curve? | |
| Q.2 | <ol style="list-style-type: none"> a) Describe the method of setting out circular curve by the method of offsets from the long chord with the help of chain & tape. b) What is meant by satellite station and reduction to Centre? Derive the expression when the satellite station is measured from left of true station. | 08

07 |
| Q.3 | <ol style="list-style-type: none"> a) State laws of weight. b) Explain : i) Systems of triangulation
ii) Elements of reverse curves. | 08

07 |
| Q.4 | <ol style="list-style-type: none"> a) Explain computation of sides of spherical triangle by spherical trigonometry. b) What is phase of signal? Derive formula for the correction to be applied to cylindrical signal when the bright portion is bisected. | 08

07 |

Q.5 Write short notes on the following (Any three)

- i) Signals & Towers.
- ii) Characteristics of transition curve & its components.
- iii) Figure adjustment.
- iv) Route Survey
- v) Principles of least square.

15

SECTION-B

Q.6 Answer the following questions (Any Five)

- i) What is a 5° curve?
- ii) Differentiate between Aerial photograph & map.
- iii) What is hydrographic Surveying?
- iv) Enlist methods of Soundings.
- v) What do you mean by Stereoscope?
- vi) What is geodimeter & tellurometer?
- vii) Explain crab & drift.
- viii) Enlist types of horizontal curve.
- ix) What are the elements of a simple circular curve?
- x) What is trigonometrical leveling?

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Q.7 a) What are the methods by which length of transition curve is determined? Explain rate of change of radial acceleration method.

08

b) Explain step by step procedure for setting out the combined curve by deflection angles.

07

Q.8 a) Derive the setting of simple circular curve by offsets from long chord.

08

b) State the properties of electro manila waves.

07

Q.9 a) Explain transferring the level underground in case of tunnel.

08

b) Compare geodimeter with tellurometer.

07

Q.10 Write a short notes (any three)

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- i) Total station.
- ii) Remote sensing platforms.
- iii) Axis signal corrections.
- iv) Modulation in EDM.
- v) Parallax bar.