

320353(20)

B. E. (Third Semester) Examination,

April-May 2021

(New Scheme)

(Civil Engg. Branch)

SURVEYING-I

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Part (a) of each question is compulsory carries 02 marks. Attempt any two parts from each question from (b), (c) or (d) carries 07 marks.

Unit-I

1. (a) Define spirit levelling.
- (b) Discuss the effects of curvature and retraction in levelling.

[2]

- (c) An observer standing on the deck of a ship just sees a light house. The top of the light house is 42 meters above the sea level and the height of the observer's eye is 6 meters above the sea level. Find the distance of the observer from light house.
- (d) Give a brief account on the sensitivity of bubble tube in levelling and its effect on account of levelling.

Unit-II

2. (a) Define contour?
- (b) Give the properties of contour with proper sketches.
- (c) What is interpolation of contours? Explain any one method of contour interpolation.
- (d) What do you understand by the term contour gradient?

Unit-III

3. (a) Define Telescope normal.
- (b) State what errors are eliminated by repetition method. How will you set out a horizontal angle by method of repetition.

[3]

- (c) Establish the relationship between fundamental lines of a transit theodolite with a neat diagram showing relationship between various components.
- (d) Give a brief account on the source of errors in theodolite work.

Unit-IV

4. (a) Define osicutation of plane tabling.
- (b) Explain three point problem of plane tabling.
- (c) Give advantages and disadvantages of plane tabling.
- (d) Give short notes on :
- (i) Box sentant
 - (ii) Planimeter

Unit-V

5. (a) What is the purpose/function of providing curves.
- (b) Discuss simple curves and its elements.
- (c) What is compound curve? What are its various elements?
- (d) What is transition curve? Mention its utility in civil engg.