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13/11/16 AN

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**Question Paper Code : 21247**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Third Semester

Civil Engineering

CE 2204/CE 37/10111 CE 307 — SURVEYING — I

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the use of reciprocal ranging?
2. What do you mean by plane surveying?
3. Give the reduced bearing values for the whole circle bearings 150° and 270°.
4. State the advantages of plane table surveying.
5. What are the different corrections applied to levelling?
6. Define the terms 'Contour interval' and 'Horizontal Equivalence'.
7. State the temporary adjustment of Theodolite.
8. Give the application of Traverse survey.
9. What is reconnaissance survey?
10. What are vertical controls in setting out works?

PART B — (5 × 16 = 80 marks)

11. (a) Explain in detail how you will carryout surveying of agriculture field using chain surveying. Explain also office and field work involved. (16)  
Or  
(b) (i) Explain reciprocal ranging and setting out perpendicular line. (8)  
(ii) Explain chain survey traversing and also office and field work involved. (8)

12. (a) (i) Explain the field and office work in chain surveying. (8)  
(ii) Explain how you will conduct chain survey to measure a land parcel in agriculture field. (8)

Or

- (b) Explain the traversing and plotting procedures of chain survey. (16)
13. (a) Following are the readings taken successively with a level on a continuously sloping down field. Determine the RL of the staff points, taking the RL of first point as 400.00 m.  
0.535, 1.010, 1.575, 2.115, 2.780, 0.345, 0.905, 1.695, 2.615, 1.020 2.425, 1.405, 2.225.

Or

- (b) Explain the different methods of Contouring.
14. (a) Explain the method of reiteration for horizontal angle measurement.

Or

- (b) The lengths and bearings of lines of closed traverse ABCDE is given below. Determine the length and bearing of line EA.

Line	Length, m	Bearing
AB	194.1	85°30'
BC	201.2	15°00'
CD	165.4	285°30'
DE	172.6	195°30'

15. (a) (i) Explain the double theodolite method of setting out of a simple curve. (9)  
(ii) Draw a neat sketch showing a simple curve and its component features and define each of them. (7)

Or

- (b) Explain the various surveys to be carried out for the effective implementation of a highway project. (16)