SURVEYING-II

Course Code	Course Title	No. of Periods per Week	Total No. of Periods	Marks for Formative Assessment	Marks for Summative Assessment
C-304	SURVEYING-II	04	60	20	80

Model Paper for Unit Test-I:

State Board of Technical Education and Training,
A.P.Diploma in Civil Engineering (DCE)
Third Semester:C-304 SURVEYING-II

Time: 90 Minutes **Unit Test –I** **Maximum Marks : 40**

PART- A **16 Marks**

Instructions :

(i) Answer all questions

(ii) First question carries FOUR marks, each question of remaining carries THREE marks.

1. (a) Swinging the telescope is revolving the telescope through 180° in a vertical plane (True/False) (CO1)

   (b) Horizontal Axis of Theodolite is also called as ---------- (CO1)

   (c)When the base of the object is inaccessible two instrument stations are used (True/False) (CO2)

   (d) When the Horizontal distance between an accessible object and instrument is D and angleof elevations is A then the height of the object is H = ... (CO2)

2. State any three errors that are eliminated by method of repetition. (CO1)
3. State three methods of traversing with a theodolite. (CO1)
4. Define (i) Latitude (ii) Departure (CO1)
5. What do you mean by Trigonometric levelling? When do you use it? (CO2)

PART- B **3 x 8 = 24 Marks**

Instructions :

(i) Answer all questions

(ii) Each question carries EIGHT marks

(iii) Answer should be comprehensive and the criterion for valuation is the content but notthe length ofthe answer.

6. (A) Sketch and explain the parts of a Transit Theodolite. (CO1)

(OR)

(B) Explain the procedure to determine the horizontal angle by reiteration method (CO1)

7. (A) Explain briefly the steps involved in Temporary adjustments of a theodolite. (CO1)

(OR)

(B) Explain the measurement of horizontal angles by repetition method. (CO1)

8. (A) Determine the RL of top of Roof of a building “P”, with the following observations:

Instrument at	Staff reading on	Vertical angle	Remarks
A	2.325	$16^0 45'$	AB = 40 m
B	1.435	$13^0 30'$	RL of BM = 225.00

(CO2)

(OR)

(B) Describe the procedure to find the distance and elevation of the object when the base of theobject is inaccessible and instrument stations and object are not in the same vertical plane.

(CO2)

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Model Paper for Unit Test-II :
State Board of Technical Education and Training,
A.P.Diploma in Civil Engineering (DCE)
Third Semester:C-304 SURVEYING-II

Time: 90 Minutes **Unit Test –II** Maximum Marks : 40

PART- A **16 Marks**

Instructions:

(i) Answer all questions

(ii) First question carries FOUR marks, each question of remaining carries THREE marks.

1. (a) A Tacheometer is used when a Theodolite is not available – True/False (CO3)
   (b) Tacheometer has_____number of horizontal hairs (CO3)

   (c) In linear method of setting out curve, Theodolite is used ------ True/False (CO4)

   (d) The value of Radius if the value of Degree of curve D is given as 23.76m (CO4)

2. State the methods of Tacheometry (CO3)

3. Define the terms (i) Point of intersection (ii) Mid-ordinate (CO4)

4. Briefly explain the working principle of GPS. (CO5)

5. Write the application of drone surveying in agriculture and irrigation (CO5)

PART- B **3 x 8 = 24 Marks**

Instructions:

(i) Answer all questions

(ii) Each question carries EIGHT mark

(iii) Answer should be comprehensive and the criterion for valuation is the content but notthe length ofthe answer.

6. (A) A Tacheometer fitted with anallatic lens was set up at an intermediate station O on a line ABand the following observations were made on a vertically held staff at A and B. Take multiplying constant (f/i) =100.

Instrument at	Staff at	Vertical angle	Stadia readings
O	A	+ $15^0 30'$	1.850, 2.325, 3.225
	B	- $05^0 30'$	1.175, 1.450, 1.655

Compute the RL of B and if the RL of A is +325.50. (CO3)(OR)

(B)Explain the procedure for determining tacheometric constants in the field. (CO3)

7. (A) Two tangents intersect at a change of 1620 m, the deflection angle being 300. Calculate all thenecessary data for setting out a circular curve of radius 320 m by the method of offsets from the chord produced, taking a peg interval of 30 m. (CO 4)

(OR)

(B) Explain the procedure for setting out a curve by any one of the linear methods. (CO4)

8. (A) Explain various segments of GPS and their functioning. (CO5)

(OR)

(B) Discuss various applications of GIS in Civil Engineering. (CO5)

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Model Paper for End Examination:
MODEL PAPER – BOARD DIPLOMA EXAMINATION,
(C–23)DCE—THIRD SEMESTER EXAMINATION
SURVEYING-II (C-304)

Time: 3 hours] **[Total Marks: 80**

PART—A **10 x 3 = 30 Marks**

Instructions: **(1) Answer all questions.**
(2) Each question carries three marks.
(3) **Answers should be brief and straight to the point and shall not exceed *five* simple sentences.**

1) Define the terms (i) Transiting (ii) Swinging (ii) Face left observation (CO1)

2) Define the terms (i) Latitude (ii) Departure. (CO1)

3) State the different cases which come under trigonometric levelling. (CO2)

4) Define the situations where Tacheometry is suitable. (CO3)

5) List the methods of tacheometery. (CO3)

6) Draw neat sketch of simple curve and name its elements. (CO4)

7) State the methods of curve setting using chain and tape. (CO4)

8) Define the terms (i) GPS (ii) GIS . (CO5)

9) Write the application of drone surveying in agriculture and irrigation (CO5)

10) Write any three techniques which are used in drone surveying for controlling errors (CO5)

PART – B **5 x 10 = 50 marks**

Instructions:

i) Answer any FIVE questions
ii) Each question carries TEN marks.
iii) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11) Sketch and explain the parts of a Transit Theodolite. (CO1)

12) Explain various methods of Theodolite Traversing. (CO1)

13) Find the R.L. of top of chimney from the following data. (CO2)

STATION	INSTRUMENT AT	ANGLE	RL	REMARKS
BM	A		1.578	RL OF BM 543.075
C	A	$+10^0 12''$		DIST B/W A&B=30
BM	B		1.269	
C	B	$+8^0 20''$		

14) (B) (i) Explain stadia Tacheometery and its classification.(CO3)

(ii) Find the constants of tacheometery

Inst. Station	staff	distance	Stadia interval
A	C	50	0.495
B	C	75	0.745

15) A Tacheometer fitted with anallatic lens was set up at an intermediate station O on a line ABand the following observations were made on a vertically held staff at A and B. Take multiplying constant (f/i) =100.

Instrument at	Staff at	Vertical angle	Stadia readings
O	A	$+ 15^0 30'$	1.850, 2.325, 3.225
	B	$- 05^0 30'$	1.175, 1.450, 1.655

Compute the RL of B and if the RL of A is +325.50. (CO3)(OR)

16) Two straight intersects at chainage 1060m and the angle of intersection is 120^0 if the radius of the simply curve is 600m find a) tangent distance b) chainage of point of commencement
c) chainage of point of tangency d) length of long cord.(CO4)

17) Explain the procedure for setting out a curve by any one linear method.(CO4)

18) (A) State the merits and demerits of GPS. (CO5)