Code No: P18CET03

R18

HALL TICKET NUMBER

PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE
(AUTONOMOUS)
II B.TECH I SEMESTER END SUPPLEMENTARY EXAMINATIONS, MARCH/APRIL - 2023
SURVEYING
(CE Branch)

Time: 3 hours Max. Marks: 60

Note: Question Paper consists of Two parts (Part-A and Part-B)

PART-A

Answer all the questions in Part-A (5X2=10M)

Q.No.		Questions	Marks	CO	KL
1	a)	State the different types of errors that you will get when measuring the distances between two stations by a chain.	[2M]	1	
	b)	Define magnetic meridian and true meridian.	[2M]	2	
	c)	Compare height of instrument method with rise and fall method	[2M]	3	
	d)	State the different methods that are used to find the area from the offsets at regular intervals from a base line to boundary line, write their formulae.	[2M]	4	
	e)	What is the objective of geodetic surveying?	[2M]	5	

PART-B

Answer One Question from each UNIT (5X10=50M)

Q.No.		Questions	Marks	CO	KL
		UNIT-I			
2.	a)	Briefly explain different type of chains used in survey work.	[5M]	1	
	b)	Explain briefly about the direct ranging and indirect ranging.	[5M]	1	
		OR			
3.	a)	What are the different accessories required for a plane table survey, briefly	[5M]	1	
	b)	Explain the method of traversing in a plane table survey.	[5M]	1	
		UNIT-II			
4.	a)	Differentiate the prismatic compass with surveyors compass	[5M]	2	
	b)	What are the characteristics of contour lines?	[5M]	2	
		OR			
5.		Calculate the interior angle of the closed traverse from the bearings of the lines given below. Line: AB — Bearing: $70^0 30'$; BC — Bearing: $120^0 45'$; CD — Bearing: $223^0 30'$; DA — Bearing: $329^0 47'$	[10M]	2	
		UNIT-III			
6.	a)	What are the temporary adjustments that you will perform at each setup of the levelling instrument explain them.	[5M]	3	
	b)	What are the different sources of errors in levelling, how they can be eliminated?	[5M]	3	
		OR			
7.	a)	What are the temporary adjustments that you will perform at each setup of the theodolite explain them.	[5M]	3	

<table>
<tr><td></td><td>b)</td><td>Explain the method of finding the horizontal angel between the two points by the method of repetition using a theodolite.</td><td>[5M]</td><td>3</td><td></td></tr>
<tr><td colspan="6">UNIT-IV</td></tr>
<tr><td>8.</td><td></td><td>A tacheometer is set up at an intermediate point on a traverse course PQ and the following observations are made on a vertically held staff.

<table><tr><th>Staff station</th><th>Vertical angle</th><th>Staff intercept</th><th>Axial hair readings</th></tr><tr><td>P</td><td>+ $8^0$36’</td><td>2.350</td><td>2.105</td></tr><tr><td>Q</td><td>+ $6^0$6’</td><td>2.055</td><td>1.895</td></tr></table>
The instrument is fitted with an anallactic lens and the constant is 100. Compute the length of PQ and reduced level of Q, that of P being 320.500</td><td>[10M]</td><td>4</td><td></td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td>9.</td><td></td><td>The following perpendicular offsets were taken from a chain line to a hedge

<table><tr><td>Chain age (m)</td><td>0</td><td>15</td><td>30</td><td>45</td><td>60</td><td>70</td><td>80</td><td>100</td><td>120</td><td>140</td></tr><tr><td>Offset (m)</td><td>7.80</td><td>8.30</td><td>11.40</td><td>12.45</td><td>10.95</td><td>9.50</td><td>8.10</td><td>7.90</td><td>7.10</td><td>4.30</td></tr></table>
Calculate the area between the survey line, the hedge and the end offsets by Simpson;s rule.</td><td>[10M]</td><td>4</td><td></td></tr>
<tr><td colspan="6">UNIT-V</td></tr>
<tr><td>10.</td><td></td><td>Calculate the perpendicular offsets at 20m interval to set out a simple circular cure of 300m radius with a deflection angel of 60^0</td><td>[10M]</td><td>5</td><td></td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td>11.</td><td></td><td>What are the steps that are to be followed while setting up of a total station?</td><td>[10M]</td><td>5</td><td></td></tr>
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