O.P.Code:23CE0105

R23

H.T.No.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR (AUTONOMOUS)

B.Tech. II Year I Semester Regular Examinations February-2025 SURVEYING

(Civil Engineering)			™ ~1	70
PART-A		max. marks: 70		ks: 70
(Answer all the Questions $10 \times 2 = 20 \text{ Marks}$)				
a	Define surveying.	CO1	L1	2M
b	Make a note on non-metric chain.	CO1	L1	2M
c	Define contour gradient.	CO2	L1	2M
d	List out the various methods of calculating the volume.	CO2	L1	2M
e	What is departure and latitude?	CO3	L1	2M
f	Define omitted measurement.	CO3	L1	2M
g	How a curve is designated?	CO5	L1	2M
h	List out the applications of total station.	CO5	L1	2M
i	Define focal length.	CO6	L1	2M
j	Mention the various types of photogrammetry.	CO6	L1	2M
	(Answer all Five Units 5 x 10 = 50 Marks) UNIT-I			
	Explain in detail the classifications of surveying. OR	CO1	L2	10M
a	Write short notes on dip and declination.	CO1	L1	6M
b	Define bearing & mention the types of bearing.	CO1	L1	4M
	UNIT-II			
a	Mention the various types of levels and explain briefly tilting level.	CO2	L1	5M
b	Write short notes on methods of leveling.	CO2	L1	5M
OR				
	The following perpendicular offsets were taken at 10m intervals from a survey line to an irregular boundary line: 3.25, 5.60, 4.20, 6.65, 8.75, 6.20, 3.25, 4.20 and 5.65m. Calculate the area enclosed between the survey line, the irregular boundary line and the first and the last offsets, by the application of (i) Average ordinate rule, (ii) Trapezoidal rule, and (iii) Simpson's rule.	CO2	L4	10M
	a b c d e f g h i j	(Answer all the Questions 10 x 2 = 20 Marks) a Define surveying. b Make a note on non-metric chain. c Define contour gradient. d List out the various methods of calculating the volume. e What is departure and latitude? f Define omitted measurement. g How a curve is designated? h List out the applications of total station. i Define focal length. j Mention the various types of photogrammetry. PART-B (Answer all Five Units 5 x 10 = 50 Marks) UNIT-II Explain in detail the classifications of surveying. OR a Write short notes on dip and declination. b Define bearing & mention the types of bearing. UNIT-II a Mention the various types of levels and explain briefly tilting level. b Write short notes on methods of leveling. OR The following perpendicular offsets were taken at 10m intervals from a survey line to an irregular boundary line: 3.25, 5.60, 4.20, 6.65, 8.75, 6.20, 3.25, 4.20 and 5.65m. Calculate the area enclosed between the survey line, the irregular boundary line and the first and the last offsets, by the application of (i) Average ordinate rule, (ii) Trapezoidal rule, and	(Answer all the Questions 10 x 2 = 20 Marks) a Define surveying. CO1 b Make a note on non-metric chain. CO2 d List out the various methods of calculating the volume. CO2 e What is departure and latitude? CO3 f Define omitted measurement. CO3 g How a curve is designated? CO5 h List out the applications of total station. CO5 i Define focal length. CO6 j Mention the various types of photogrammetry. CO6 g Marks) (Answer all Five Units 5 x 10 = 50 Marks) (Answer all Five Units 5 x 10 = 50 Marks) (DNIT-II) a Write short notes on dip and declination. CO1 b Define bearing & mention the types of bearing. CO1 (UNIT-III) a Mention the various types of levels and explain briefly tilting level. CO2 b Write short notes on methods of leveling. CO2 survey line to an irregular boundary line: 3.25, 5.60, 4.20, 6.65, 8.75, 6.20, 3.25, 4.20 and 5.65m. Calculate the area enclosed between the survey line, the irregular boundary line and the first and the last offsets, by the application of (i) Average ordinate rule, (ii) Trapezoidal rule, and	(Answer all the Questions 10 x 2 = 20 Marks) a Define surveying. CO1 L1 b Make a note on non-metric chain. CO2 L1 c Define contour gradient. CO2 L1 d List out the various methods of calculating the volume. CO3 L1 f Define omitted measurement. CO3 L1 g How a curve is designated? CO5 L1 h List out the applications of total station. CO5 L1 i Define focal length. CO6 L1 j Mention the various types of photogrammetry. CO6 L1 Explain in detail the classifications of surveying. CO1 L2 OR a Write short notes on dip and declination. CO1 L1 b Define bearing & mention the types of bearing. CO1 L1 b Write short notes on methods of leveling. CO2 L1 cO3 L1 cO4 L1 cO5 L1 cO6 L1 cO7 L2 cO7 L2 cO7 L2 cO7 L3 cO7 L4 cO7 L4 cO7 L4 cO7 L4 cO7 L5 cO7 L5 cO7 L6 cO7 L7 cO

UNIT-III

Derive an expression to find the height of an object by double plane CO3 6 method. OR Mention the various methods used for the measurement of angles in a CO4 7 10M theodolite traverse. Briefly explain the methods of included angles. **UNIT-IV** Explain the various elements of a simple curve with a neat sketch. **CO5** L2 10M 8 OR A compound curve is made up of two arcs of radii 380 m and 520 m. The CO5 10M L2 9 deflection angle of the combined curve is 105° and that of the first arc of radius 380 m is 58°. The chainage of the first tangent point is 848.55 m. Find the chainage of the point of intersection, common tangent point, and forward tangent point. UNIT-V L1 10 a Write short notes on basic concepts of photogrammetric surveying. **CO6** 5M **b** Discuss about the perspective geometry of aerial photograph. **CO6** L₂ **5M** OR

*** END ***

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Explain in detail about radial triangulation.

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CO6

L2

10M