Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–IV (NEW) EXAMINATION – WINTER 2024

Subject Code:3142202 Date:21-11-2024

Subject Name: Mine Surveying - I

Time:02:30 PM TO 05:00 PM Total Marks:70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			Marks
Q.1	**(a)**	List out any six instruments used in surveying.	**03**
	(b)	Explain principles of surveying.	**04**
	(c)	Define surveying and write its objectives.	**07**
Q.2	**(a)**	List out any six parts of theodolite.	**03**
	(b)	Explain temporary adjustments of theodolite.	**04**
	(c)	Describe procedure to measure horizontal angle by repetition method.	**07**
		OR	
	(c)	Define contour and explain its characteristics.	**07**
Q.3	**(a)**	Give classification of surveying.	**03**
	(b)	Explain permanent adjustments of theodolite.	**04**
	(c)	Explain various method of contouring.	**07**
		OR	
Q.3	**(a)**	Define open traverse and close traverse.	**03**
	(b)	Explain tabular and through compass.	**04**
	(c)	Explain closing error and its adjustment for traverse survey.	**07**
Q.4	**(a)**	Define levelling and list out any two-levelling instrument.	**03**
	(b)	Define tacheometry and its uses.	**04**
	(c)	Explain interpolation of contours.	**07**
		OR	
Q.4	**(a)**	Explain basic concept of triangulation.	**03**
	(b)	Explain determination of tacheometry constants.	**04**
	(c)	Explain the general procedure for fieldwork in tacheometric surveying.	**07**
Q.5	**(a)**	Explain use of planimeter and clinometer.	**03**
	(b)	Draw neat sketch of dumpy level.	**04**
	(c)	Give classification of triangulation survey.	**07**
		OR	
Q.5	**(a)**	List out various method of plane table surveying.	**03**
	(b)	Explain measurement of area and volume by Simpson’s rule.	**04**
	(c)	Explain construction, use and adjustment of Miner’s dial.	**07**

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Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV (NEW) EXAMINATION – WINTER 2023

Subject Code:3142202 Date:17-01-2024

Subject Name: Mine Surveying - I

Time:10:30 AM TO 01:00 PM Total Marks:70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	What is Surveying? Name the instruments are used in mine surveying.	**03**
	(b)	Write a short note on (i) Plans and Maps and (ii) Scales	**04**
	(c)	Write a brief note on plane table surveying.	**07**
Q.2	**(a)**	Write a short note on contour gradient.	**03**
	(b)	Define the terms: (i) Line of collimation (ii) Telescope normal (iii) Transiting (iv) Face right observation	**04**
	(c)	Discuss in brief the principles of surveying.	**07**
		OR	
	(c)	Discuss in brief the temporary adjustment of theodolite with neat sketch.	**07**
Q.3	**(a)**	What is theodolite? Write its types.	**03**
	(b)	Write a short note on closing error of traversing.	**04**
	(c)	Explain the profile levelling with neat sketch.	**07**
		OR	
Q.3	**(a)**	What is compass? Classified it.	**03**
	(b)	Explain the different parts of theodolite.	**04**
	(c)	How to measure a baseline? How to do the selection of site for it?	**07**
Q.4	**(a)**	Write a short note on Planimeter.	**03**
	(b)	Define leveling. Discuss the principle and objectives of leveling.	**04**
	(c)	Explain the stadia method with neat sketch.	**07**
		OR	
Q.4	**(a)**	Narrate the merit and demerit of contouring	**03**
	(b)	What is traversing? Describe methods of traversing.	**04**
	(c)	Describe a miner’s dial with its construction, adjustments and use in mining fields.	**07**
Q.5	**(a)**	Define land surveying. List out the instruments used in land surveying.	**03**
	(b)	List out the methods of determining areas and explain any one from it with sketch.	**04**
	(c)	List out different types of level. Explain Dumpy Level with neat sketch.	**07**
		OR	
Q.5	**(a)**	Discuss the selection of triangulation stations.	**03**
	(b)	What is tacheometry surveying? How is it helpful?	**04**
	(c)	List out the different methods of measurement of horizontal angle. Explain repetition method.	**07**

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Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV(NEW) EXAMINATION – WINTER 2022

Subject Code:3142202 Date:14-12-2022

Subject Name:Mine Surveying - I

Time:10:30 AM TO 01:00 PM Total Marks:70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Explain the divisions and importance of surveying to engineers.	**03**
	(b)	Define the traverse survey. Explain the systems of traversing with theodolite.	**04**
	(c)	Explain the main sources of errors in plane tabling. How can they be kept to the minimum?	**07**
Q.2	**(a)**	Define the term levelling. Discuss the objective of levelling.	**03**
	(b)	Differentiate between tubular and through compass.	**04**
	(c)	Explain the measurement of area and volume by Trapezoidal and Simpson's rule.	**07**
		OR	
	(c)	Describe the construction, use, tests and adjustment of Miner’s dial.	**07**
Q.3	**(a)**	Describe various methods of contouring.	**03**
	(b)	Explain the classification of surveying.	**04**
	(c)	List out different methods of measurement of horizontal angle. Explain repetition methods in brief.	**07**
		OR	
Q.3	**(a)**	Describe with the help of sketches the characteristics of contours.	**03**
	(b)	Discuss in brief the principles of surveying.	**04**
	(c)	Explain the measurement of horizontal and vertical angles.	**07**
Q.4	**(a)**	Define tacheometry. Describe the conditions under which tacheometric surveying is advantageous.	**03**
	(b)	Discuss about the temporary adjustment of theodolite.	**04**
	(c)	Explain the instruments used in leveling.	**07**
		OR	
Q.4	**(a)**	Explain how you would determine the constants of a tacheometer.	**03**
	(b)	Discuss about the permanent adjustment of theodolite.	**04**
	(c)	List out different types of level. Explain dumpy level with neat sketch.	**07**
Q.5	**(a)**	Describe the principles involved in a triangulation survey.	**03**
	(b)	Explain closing error and its adjustment.	**04**
	(c)	Explain the reduction of data with the help of a tacheometric table.	**07**
		OR	
Q.5	**(a)**	Describe the classification of triangulation survey.	**03**
	(b)	Explain omitted measurements and their calculations.	**04**
	(c)	Explain the general procedure for field work in tacheometric surveying.	**07**

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