

 JELRC JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE	Jaipur Engineering college and research centre, Shri Ram ki Nangal, via Sitapura RIICO Jaipur- 302 022.	Academic year-2020-21
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Viva Voce

Year: B. Tech. I Year Semester-I & II

Subject & Code: Basic Civil Engineering Lab (2FY3-27)

Lab Outcomes	
LO1	Conduct Survey and collect field data to interpret and compute distances and areas from the collected data.
LO2	Determine physical characteristics of water and wastewater.
LO3	Understand water supply and sanitary fittings.

Experiment No.	LO	Object of the Experiment
1. (a)	LO1	Linear Measurement by Tape: a) Ranging and Fixing of Survey Station along straight line and across obstacles.
		1. Define surveying. 2. How many types of Chain? 3. What is used after every chain length measured on the ground? 4. What is the length of the Ranging rod commonly used?. 5. What are used to mark the positions of the stations or terminal points of a survey line? 6. How many types of tape? 7. What is the length of each band in the ranging rod?. 8. What type of ranging is done if both ends of surveying lines are visible?
1. (b)	LO1	Linear Measurement by Tape: b) Laying perpendicular offset along the survey line.
		1. What is offset measurement in surveying? 2. How many methods of offset? 3. What is the length of long offsets in Chain surveying? 4. For locating a point by oblique offset, what is the minimum number of distances to be measured? 5. What are the factors on which the accuracy in laying down and measuring of the perpendicular offsets depends? 6. What is the use of oblique offsets? 7. What are the factors depending on the limiting length of an offset? 8. Which instrument is used for setting out an offset at right angle? 9. What instrument is used for the measurement of angles?



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2.	LO1	Compass Survey: Measurement of bearing of lines using Surveyor's and Prismatic compass.
		<ol style="list-style-type: none">1. Define: Compass surveying. What are the objects of compass surveying?2. How many types of compass?3. In which areas does compass surveying is not recommended?4. Which of the following is not affected for compass surveying?5. Which of the following terms is used to denote any influence which prevents the needle from pointing to the north in a given locality?6. Which of the following is not required in compass surveying?7. In which compass needle acts as an index?8. Which compass cannot be used without a tripod?9. What is the QB and WCB system?10. In which compass sighting and reading taking cannot be done simultaneously from one position of the observer?
3.	LO1	Levelling: Using Tilting/ Dumpy/ Automatic Level a) To determine the reduced levels in closed circuits. b) To carry out profile levelling and plot longitudinal and cross sections for road by Height of Instrument and Rise & Fall Method.
		<ol style="list-style-type: none">1. What is Levelling?2. What is the purpose of levelling in surveying?3. Define BS, IS, FS.4. How many methods are used in levelling to find out RL?5. What is a benchmark?6. What are the uses of leveling?7. Define reduced level8. What are the different kinds of bench marks?9. What do you mean by datum surface?10. How many types of instruments are used in levelling?11. Which branch of surveying is used to find the elevations of given points with respect to given or assumed datum?12. Which line lies on a level surface?13. Which line is the tangential to the level line at a point?
4.	LO1	To study and take measurements using various electronic surveying instruments like EDM, Total Station etc
		<ol style="list-style-type: none">1. Where is the data stored in the total station?2. When the total station is sighted to the target, which of the operations acts first?3. Which among the following doesn't indicate the basic calculation of the total station?4. In which direction is it best to place the total station for obtaining the best output?5. The data obtained from the total station can be used in which software directly?6. Which instrument is a combination of EDM, electronic theodolite and microprocessor?



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5.	LO2	To determine pH, hardness and turbidity of the given sample of water.
		<ol style="list-style-type: none">1. What is pH?2. What is a Buffer Solution?3. What is Electrode?4. Explain pH determination Method.5. What is the pH of neutral water6. What is the acceptable value of pH of potable water?7. What is temporary hardness?8. What is permanent hardness?9. What is the other name for temporary and permanent hardness?10. What is the unit of hardness?11. What are the causes of turbidity?12. What is the unit of turbidity?
6.	LO3	To study various water supply Fittings.
		<ol style="list-style-type: none">1. How many types of pipe joints are there?2. What is the diameter of the main service pipe?3. What are various types of fitting? Name them.4. Write types of joints.5. Enlist type of joint with fittings.
7.	LO2	To determine the pH and total solids of the given sample of sewage.
		<ol style="list-style-type: none">1. What is pH?2. What is a Buffer Solution?3. What is Electrode?4. Explain pH determination Method.5. What are the total solids in wastewater?6. What is the TDS value acceptable as per IS Code the?7. Which are the settleable suspended solids with diameter 0.15 to 0.2mm?8. What pore size of the filter paper is used for filtration ?9. Total Suspended Solids are mostly responsible for ?
8.	LO3	To study various Sanitary Fittings.
		<ol style="list-style-type: none">1. What are sanitary fittings?2. What is the standard brick size?3. What is the quantity of powder required in 1000 litres of water for sterilization?4. What is the size of preferred taps for wash basins?5. What are the lengths of bathtubs generally?6. What is the diameter of the flush pipe?