

GOVERNMENT COLLEGE OF ENGINEERING, AMRAVATI
CT-1

NAME OF SUBJECT : ELECTRONICS MEASUREMENT (ETU603)

TIME : 1 HR

MAX MARKS : 15

- 1) Explain with example different types of error. (5)
- 2) Ten measurements of the resistance of a resistor gave 101.2Ω , 101.7Ω , 101.3Ω , 101.0Ω , 101.5Ω , 101.3Ω , 101.2Ω , 101.4Ω , 101.3Ω , 101.1Ω . Assume that only random errors are present. Calculate (a) arithmetic mean; (b) the standard deviation of the readings; (c) probable error (5)
- OR
- A voltmeter having a sensitivity of $1000\Omega/V$, reads $100V$ on its $150V$ scale when connected across an unknown resistor in series with a milliammeter. When the milliammeter reads $5mA$, calculate (a) apparent resistance of the unknown resistor; (b) actual resistance of the unknown resistor; (c) error due to loading effects of the voltmeter (5)
- 3) Explain the principle of working of Digital Voltmeter with its block diagram. (5)

ELECTRONICS AND TELECOMMUNICATION DEPARTMENT

Course Code: ETU 603

Summer 2016

Max. Marks: 15

Course Name: Electronic Measurements

CT-I

Time: 1Hour

Solve any **THREE**

- Q.1 Define the terms: arithmetic mean, average deviation, standard deviation. 5
Calculate standard and average deviation for the given measurement data $x_1=49.7$,
 $x_2=50.1$, $x_3=50.2$, $x_4=49.6$ and $x_5=49.7$ 0-2416
- Q.2 Explain normal and Gaussian distribution of errors in electronic measurements. 5
- Q.3 What is the role of analog to digital and digital to analog conversion in digital 5
voltmeter and explain any one analog to digital conversion technique use in it.
- Q.4 State the three types of systematic errors, giving examples of each. 5