Reg. No._____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FOURTH SEMESTER B.TECH DEGREE EXAMINATION, JUNE 2017

Course Code: **EE208**

Course Name: **MEASUREMENTS AND INSTRUMENTATION (EE)**

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

1. What are the different standards of measurement?
2. How earth resistance is measured using an earth tester?
3. How high voltage is tested using the method of sphere gaps?
4. Explain the measurement of rotational speed using proximity sensor.
5. Explain the working of a co-ordinate type AC potentiometer.
6. How frequency is measured using a Wien's bridge?
7. Explain any three classifications of transducers.
8. Explain any one method of measurement of liquid level using transducers.

PART B

Answer any TWO full questions.

9. Explain the classification of moving iron instruments with the help of figures. (10)
10. a) A moving coil instrument gives full scale deflection of 100mA when the voltage across its terminals is 1V. Calculate (i) the shunt resistance for a full scale deflection corresponding to 100A, (ii) the series resistance for a full scale reading with 500V.(5)

    b) Explain the working of electronic energymeter. (5)
11. Explain the construction, theory and working of an electrodynamometer wattmeter. (10)

PART C

Answer any TWO full questions.

12. Derive the expression for ratio and phase angle error in a potential transformer. (10)
13. a) How high voltage is measured using an electrostatic voltmeter. (5)

    b) Explain the construction of a fluxmeter. (5)

14. What is a Lloyd-Fisher square? Explain the measurement of iron losses in a magnetic material employing Lloyd-fisher square using wattmeter method. (10)

PART D

Answer any TWO full questions.

15. a) How phase difference is measured using Lissajous patterns appearing on a CRO.(5)

    b) Explain any two applications of DC potentiometers. (5)

16. a) With block diagram explain the working of a dual trace oscilloscope. (5)

    b) How an electromagnetic flow meter works? (5)

17. a) How strain is measured using a strain gauge? (5)

    b) What is the principle of temperature measurement using thermo couple? (5)

****