Registration No : | | | | | | | | | | |

Total Number of Pages : 01 **B.Tech.**
PCEE4204

4th Semester Back Examination 2017-18
ELECTRICAL AND ELECTRONICS MEASUREMENT
BRANCH : EEE, ELECTRICAL
Time : 3 Hours
Max Marks : 70
Q.CODE : C586

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.
Answer all parts of a question at a place.

Q1 **Answer the following questions :** **(2 x 10)**

a) What is static error and static correction?
b) Discuss loading effect.
c) What is logarithmic decrement?
d) What is the working principle of a basic potentiometer?
e) Write some application of CRO.
f) Define transformation ratio of a potential transformer.
g) What is total harmonic distortion?
h) What is a digital voltmeter?
i) What are the advantages and disadvantages in MI instruments?
j) How PMMC instrument can be used as an ammeter and voltmeter?

Q2 **a)** Draw the circuit of Kelvin's bridge and find the expression for unknown resistance. **(5)**
b) Discuss various sensitivity of a galvanometer. **(5)**

Q3 **a)** Derive the equation for balance in case of Maxwell's inductance capacitance bridge. Draw the phasor diagram for balanced condition. **(5)**
b) Describe the working of an attraction type MI instrument. Discuss its advantages and disadvantages. **(5)**

Q4 **a)** Explain theory and principle of operation for drysdale polar potentiometer. **(5)**
b) Discuss any one method for measurement of mutual inductance. **(5)**

Q5 **a)** Explain the operation of single phase induction type energy meter. **(5)**
b) Derive the torque equation for a galvanometer. **(5)**

Q6 **a)** Give a comparison between analog and digital storage oscilloscope. **(5)**
b) Describe different parts of a CRT. **(5)**

Q7 **a)** Explain the working of any one differential amplifier. **(5)**
b) Discuss harmonic distortion. **(5)**

Q8 **Write short answer on any TWO :** **(5 x 2)**

a) Q-meter
b) Power factor meter
c) Measurement of high resistance
d) Critical damping resistance external