

C 61581

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Name.....

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**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, APRIL 2014**

**EE 09 406/PTEE 09 405—ELECTRICAL MEASUREMENTS AND
INSTRUMENTATION SYSTEM**

Time : Three Hours

Maximum : 70 Marks



Part A

Answer all questions.

1. Why should we use instrument transformers instead of shunts and multipliers ?
2. Define sensitivity of a moving coil voltmeter.
3. How to identify the correct frequency in a vibrating reed frequency meter ?
4. Define gauge factor.
5. List the different types of recorders.

(5 × 2 = 10 marks)

Part B

Answer any four questions.

6. Compare the features of spring and gravity control.
7. Derive the expression for the Q factor for a Maxwell's inductance capacitance bridge ?
8. Explain primary and secondary transducers with suitable examples.
9. What is a differential amplifier ? Explain its applications.
10. List the advantages of magnetic tape recording.
11. Compare analog and digital storage oscilloscopes.

(4 × 5 = 20 marks)

Part C

Answer all questions.

12. Explain the construction and working of electro-dynamometer instrument. Derive the torque equation.

Or

13. With the help of equivalent circuit and phasor diagram of a current transformer, derive the relationships for transformation ratio and phase angle.

Turn over

14. With a neat diagram explain the construction and working of a Meggar.

Or

15. Describe the method of determination of B-H curve of a magnetic material.

16. Discuss a scheme to measure pressure and torque.

Or

17. Draw the block diagram and explain the digital measurement of phase angle.

18. With neat diagram explain galvanometric recorders.

Or

19. Explain digital recorders with neat block diagrams.

(4 × 10 = 40 marks)