Code: 9A04405		
B.Tech II Year II Semester (R09) Regular & Supplementary Examinations, April/May 2013		
ELECTRONIC MEASUREMENTS (Common to EIE & E.Con.E)		
Time: 3 hours		
		Answer any FIVE questions
		All questions carry equal marks
1		Explain the performance characteristics of measurements.
2		What are the standards of measurement? Explain international standards.
3		Discuss the difference between direct calibration and indirect calibration.
4	(a) (b)	Explain the operation of a.c voltmeter using: Full wave rectifier. Half wave rectifier.
5		Why Kelvin's bridge is preferred? Derive the bridge balance equation for Kelvin's double bridge.
6		Explain the operation hetero-dyne wave analyzer.
7		With a neat block diagram, explain the function of each block of a general purpose oscilloscope.
8		Explain real-time spectrum analyzer and its applications.

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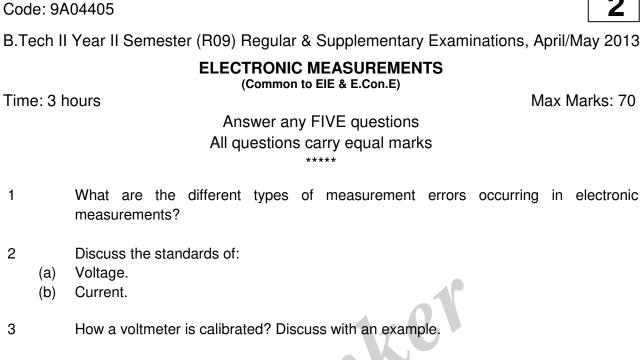
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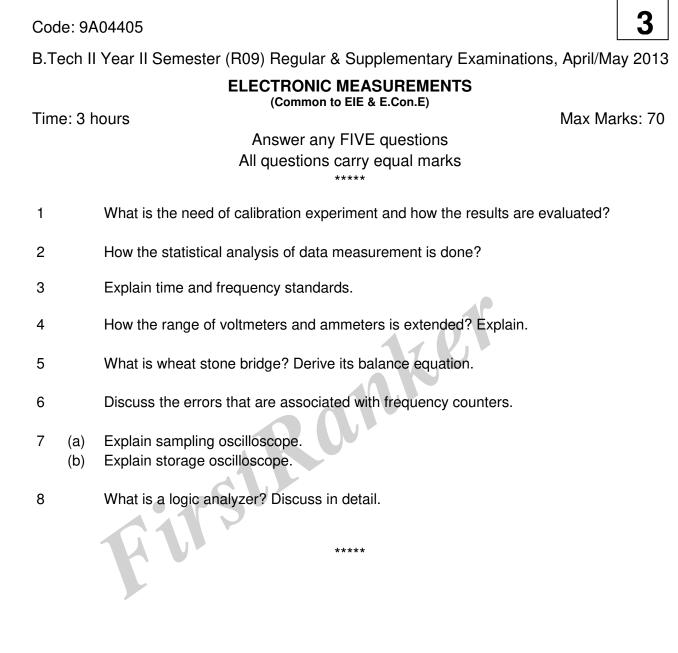
(a)

(b)

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- What is a thermocouple? Explain its operation with neat diagram. 4
- 5 Derive the balance equation for Maxwell's bridge.
- Explain frequency synthesizer, discuss its applications. 6
- 7 Explain CRT with a neat diagram.
- Explain harmonic mixing in a spectrum analyzer. 8





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Max Marks: 70

Answer any FIVE questions

All questions carry equal marks

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- 1 Explain the standards of:
 - (a) Resistance.
 - (b) Capacitance.
- 2 Explain the terms in measurement:
 - (a) Reliability.
 - (b) Traceability.
- 3 With a neat diagram, explain a digital voltmeter.
- 4 What are the forms and methods of measurements?
- 5 (a) Discuss all the types of bridges in detail.
 - (b) Explain Q-meter.
- 6 What is a wave analyzer? Explain frequency selective wave analyzer.
- 7 (a) Explain sweep modes of time-base generator in CRO.
 - (b) What are the standard specifications of CRO?
- 8 (a) What are recorders, Discuss its classification.
 - (b) Explain X-Y plotter.
