

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2172408****Date: 04/05/2017****Subject Name: Advanced Power Electronics Devices & Interface Circuits****Time: 02.30 PM to 05.00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain the Concept of Wide Bang Gap Power Semiconductor Devices. **07**  
(b) Explain the any Non-Isolated Driver ICs used for Half Bridge Rectifier. **07**
- Q.2** (a) Write the Merits and Demerits of Wide Bang Gap Power Semiconductor Devices. **07**  
(b) Explain the any DC Current measurement techniques. **07**
- OR**
- (b) Explain the Hall Effect Current Sensors & Linear Opto coupler. **07**
- Q.3** (a) Explain the Galvanic Isolation & its importance. **07**  
(b) Explain the isolated Gate/Base driver ICs with protection. **07**
- OR**
- Q.3** (a) Write short note on Measuring and Interfacing Analog Signals. **07**  
(b) Explain the Interfacing of Signals Using Galvanic Isolation. **07**
- Q.4** (a) Explain the measurement & interfacing of analog signals with Digital System. **07**  
(b) Explain the measurement of voltage and current using the measurement probes. **07**
- OR**
- Q.4** (a) Explain the Principle of Frequency & Speed Measurement. **07**  
(b) Explain the Voltage Measurement Using Op-Amp. **07**
- Q.5** (a) Explain the F to V Converter in detail. **07**  
(b) Write short note on use of Power Scope for power electronics applications. **07**
- OR**
- Q.5** (a) Explain Grounding for Power Circuits. **07**  
(b) Explain the Differential Voltage Probe & Current Probe. **07**

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