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GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER II (NEW) - • EXAMINATION - SUMMER 2016 Subject Code: 2721108 Date: 24/05/2016 Subject Name: Experimental Techniques and Instrumentations in Automobile Engineering Time:10:30 am to 01:00 pm **Total Marks: 70 Instructions:** 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. 0.1 Discuss important factors affecting Selection and Requirement of Measuring **07** (a) instrument. Discuss different types of measurement errors produced while measuring 07 **(b)** different parameters of an IC engine. **Q.2** Explain data acquisition system with neat sketch. 07 (a) Describe instrumentation required for testing of IC Engine. **(b)** 07 OR **(b)** Describe standard reference condition for testing of constant speed engine and 07 variable speed engine as per IS codes. Enlist instruments used for Dynamic Cylinder pressure measurements. Explain **Q.3** 07 (a) any one with neat sketch. Describe instrumentation required to measure Engine brake power with neat 07 **(b)** sketch. OR 0.3 With neat sketch describe the device used to measure the coolant temperature 07 (a) in IC engine.

Describe construction and working of Wheel Speed sensor with neat sketch. **07 (b)** 07 **Q.4** (a) Explain Brake actuation warning system with neat sketch. **07**

Discuss sources of electromagnetic interference in Automobile. Describe effects **(b)** and remedies of electromagnetic interference in Automobile.

Describe construction and working of Air and Music horn with neat sketch. **Q.4** (a) **07** 07

Explain Engine overheat warning system with neat sketch. **(b)**

Describe and discuss IS Codes for Engine Testing. 07 (a)

Describe Endurance test for an Automobile as per IS code. **(b)**

Enlist and describe different types of collisions in automobile. Q.5 (a)

Describe laboratory test of an Automobile. **(b)**

0.5

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