## GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VII(OLD) • EXAMINATION – WINTER 2016

Subject Code: 171902 Date: 21/11/2016 **Subject Name: 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. **Q.1** (a) Define "Automobile". And classify Auto- vehicle From different aspects. 07 Give comparison of front wheel drive and rear wheel drive in front engine 07 mounted chassis Classify various clutches used in Automobiles. And explain any one with the help 07 **Q.2** of simple diagram. **(b)** Write note on constant mesh gear box. **07** OR **(b)** What are the various defects in clutch? Show methods to rectify same. 07 With the help of neat sketch, explain the working of Wilson gear box. 0.3 07 Enlist various types of propeller shaft. Explain with neat sketch the working of 07 **(b)** two piece propeller shaft. OR Q.3 (a) Write short note on differential Gear box 07 Explain construction and working of telescoping type shock absorber. **(b)** 07 Classify automobile wheels and tyres and explain with neat sketch the 0.4 (a) 07 construction of tyre. Explain the working of wind screen wiper. 07 Discuss in detail the Ackermann steering mechanism. 0.4 (a) 07 Explain ABS with neat sketch. 07 **(b) Q.5** Write short note on (I) Engine analyzer (II) chassis dynamometer 07 (a) Distinguish between full insurance and third party insurance. **(b) 07** Write about hybrid vehicle and concept car. **07** 0.5 (a)

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(b) Explain the following safety provision in cars (I) Air bag (II) Seat belts

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