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B.Tech.(AE) (2012 to 2017) (Sem.-6)**VEHICLE SAFETY ENGINEERING****Subject Code : BTAE-605****M.Code : 71221****Time : 3 Hrs.****Max. Marks : 60****INSTRUCTION TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A**1. Answer briefly :**

- (a) Give any example for a vehicle with engine located at the center.
- (b) What is the full form of ABS?
- (c) Name the four types of Passive safety concepts for a bus.
- (d) What do you mean by telescopic steering adjustment?
- (e) Name any two comfort systems.
- (f) What do you mean by tilt-able steering wheel?
- (g) Name any four safety equipments.
- (h) Is there any difference between the pressure of different wheels of a car?
- (i) What are the different limitations of air bags?
- (j) What is the minimum speed of collision for the activation of air bags?

SECTION-B

2. Explain in detail the crumple zone.
3. A car is moving with a velocity of 20 m/sec. Find out the coefficient of friction between the tires and road if the stopping distance is 500 m.
4. Write short note on Electronic Brake force distribution.
5. Explain in detail with the help of circuit diagram, the interaction of object detection system with breaking system.
6. Explain in detail the environment information system.

SECTION-C

7. **Write short notes on :**
 - (a) Deceleration on impact with stationary and movable obstacle.
 - (b) Active safety concept.
8. **Write short notes on :**
 - (a) Monocoque chassis construction.
 - (b) Electronic stability programme.
9. Explain all the-comfort systems in detail.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.