

Sem VIII / CBSGS / AUTO / ND-19

13/12/2019

[Time: 3 Hours]

[Marks : 80]

Please check whether you have got the right question paper.

- N.B:
1. Question No.1 is compulsory
 2. Attempt any three out of Five questions.

- Q.1. Answer any four from the following :
- a) Explain the injuries observed in frontal impact. 05
 - b) Explain the importance of risk communication. 05
 - c) Explain Whiplash injury occurred during rear impacts. 05
 - d) Explain crush energy in the context of accident reconstruction. 05
 - e) Explain the importance of occupant interaction. 05
- Q.2.
- a) Explain in detail compatibility in the context of vehicle safety. 10
 - b) Explain in detail Self-Aligning Head Restraints and compare them with Normal Head Restraints. 10
- Q.3.
- a) Explain the need for occupation protection. Also explain any one occupant protection system for frontal collisions. 10
 - b) Explain why analysis of collisions is important in the content of accident reconstruction. 10
- Q.4
- a) Compare in detail quasistatic seat test with hyge sled test. 10
 - b) Explain impulse momentum theory in the content of accident reconstruction analysis. 10
- Q.5
- a) Explain the different approaches for universal design. 10
 - b) What are your observations regarding key issues of vehicle safety in India. Also give your suggestions to classify them. 10
- Q.6
- a) What are the design requirements for different vehicle collisions. 10
 - b) Explain in detail Ultra High Retention Seats (UHRS). Compare them with normal seats. 10
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