

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Summer 2021 - 22 Examination

Semester: 8

Date: 28/03/2022

Subject Code: 03102451

Time: 10.30 am to 01: pm

Subject Name: Vehicle Chassis and Body Engineering

Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Draw neat and clean diagram.
4. Start new question on new page.

Q.1 Objective Type Questions.**(15)**

1. Define. Integral frame
2. Define. Body trim
3. Define. Crashworthiness
4. Define. Crumple zone
5. Define. Subframe
6. The lid that covers the engine top in car and situated at the front is called bonnet. (True/False)
7. The central portion of the wheel is called rim. (True/False)
8. A deck is a horizontal surface at the back of a car and serves a lid to the trunk. (True/False)
9. The unsprung mass in a vehicle system is mainly composed of the frame assembly. (True/False)
10. The engine is usually supported by the three or four frames. (True/False)
11. The aerodynamic lift and pitching moment are _____ effects.
(A) Desirable (B) Low (C) Undesirable (D) High
12. Identify which is not a type of frame
(A) Integral frame (B) Semi - integral frame (C) Half – integral frame (D) Conventional frame
13. Vehicle body is a _____.
(A) Super infrastructure (B) Super structure (C) Super design (D) Super color
14. _____ is a main structure of vehicle.
(A) Chassis (B) Body (C) Frame (D) Load
15. Main component of chassis are
(A) Wheel (B) U-Joint (C) Glass (D) Brake

Q.2 Answer the following questions. (Attempt any three)**(15)**

- A) Explain ladder frame chassis design.
- B) Classify types of car body.
- C) Classify types of bus body.
- D) Explain any one.
 - (1) Explain working of airbags used for safety.
 - (2) Explain working of seat belt.

Q.3 A) Explain bus body regulations.**(07)**

- B) Write short note on Car Aerodynamics.

(08)**OR**

- B) Explain water tanker body in details with neat sketch.

(08)**Q.4 A) Explain wind tunnel test of scale model.****(07)****OR**

- A) Write short note on heating and ventilation systems in car body.

(07)

- B) Differentiate between passive and active safety.

(08)