



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

InSem Examination-II Summer 2025	
Exam Seat No.:	
Academic Year: 2024-2025	Semester: VI
Class: TY	Program: B.Tech
Branch Code: ROB	Pattern: 2022
Name of Course: Automobile Engineering	Course Code: ROB223015(D)
Max. Marks: 30	Duration: 1.15 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 1 page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last column indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

Marks CO

Question No. 1

- 1 a) What is the role of government policies in shaping the future of the Indian automobile industry? (7) CO1,
Discuss any recent policies or initiatives that have impacted the sector. CO2

Question No. 2

- 2 a) Explain the concept of (i) front-engine, rear-drive, (ii) front-engine, front-drive, and (iii) all-wheel-drive chassis layouts. Discuss their advantages and disadvantages. (8) CO1,
CO2

OR

- 2 b) Explain how vehicle frame design impacts the comfort, safety, and durability of an automobile. (8) CO1,
CO2

Question No. 3

- 3 a) Draw P-V diagram and T-S diagram for Otto cycle and also derive the expression for thermal efficiency of Otto cycle. (7) CO1,
CO2

Question No. 4

- 4 a) What is the necessity of a gearbox in an automobile? Explain how it allows for efficient power transmission and engine load management. (8) CO1,
CO2

OR

- 4 b) What is an epicyclic gearbox, and how does it differ from traditional gear systems? Discuss its advantages in automotive applications. (8) CO1,
CO2

..... End of question paper.....