



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: MEC	Pattern: 2022
Name of Course: Automobile Engineering	Course Code: MEC223015B
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 01 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) Discuss the challenges faced by the Indian automotive industry (7) CO1

Question No. 2

- 2 a) Explain the necessity of a gearbox in an automobile and Discuss Manual and Automatic Transmission systems (8) CO1

OR

- 2 b) Describe the function of a differential in a vehicle and explain its working with suitable diagram (8) CO1

Question No. 3

- 3 a) Differentiate between full-floating and semi-floating axles with respect to their construction, working, advantages, and applications. (7) CO2

Question No. 4

- 4 a) Explain the function of tyres, and its type with their advantages, limitation and application (8) CO2

OR

- 4 b) Why is a steering system essential in an automobile? Explain the working principle of the Ackermann steering mechanism (8) CO2

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