

Total No. of Questions – [06]

Total No. of Printed Pages: [02]

PRN No.	
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Paper Code	V482-2G2D(ESE)
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MAY 2022 - ENDSEM EXAM
B. TECH. (MECHANICAL) (SEMESTER - II)
COURSE NAME: AUTOMOBILE ENGINEERING
COURSE CODE: MEUA40182D
(PATTERN 2018)

Time: [1 Hr]

[Max. Marks: 30]

Instructions to candidates:

- 1) Answer Q.1 OR Q.2, Q.3 OR Q.4, Q.5 OR Q.6.
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data wherever required

- Q.1 a Explain the Rolling Resistance? [4]
b Illustrate the various thread patterns in tyres? [6]

OR

- Q2 a Interpret the Specification of tyres? [4]
b Identify tires sidewall information with neat sketch? [6]

- Q.3 a A car has 1100 kg mass. Its mass center C is 80cm behind the front wheel axis and it has 240cm wheel base find reaction forces under the wheel? [4]
b Calculate the vertical force under front and rear wheels when car Parked on level road? [6]

OR

- Q.4 a Calculate the position of mass center for a horizontally parked car on a level road having reaction force under the front and rear wheel is 1900N and 1700N with a wheelbase 2.34m? [4]
b Calculate maximum acceleration and maximum tractive effort for front wheel drive? [6]

- Q.5 a Importance of ergonomics in Vehicle Designing? [4]
b Illustrate how the 3 way Catalytic Converter Purify the Air with the help of Chemical Reaction ? [6]

OR

- Q.6 a Different type of sustainable energy sources for driving Automobile? [4]
b Illustrate Bharat Stage Norms? [6]
