

Total No. of Questions – [06]

Total No. of Printed Pages: 2

G.R. No.	
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May 2022 - ENDSEM EXAM
B. TECH. (MECH) (SEMESTER - II)
COURSE NAME: Automobile Engineering
COURSE CODE: MEUA40182D
(PATTERN 2018)

Time: [1Hr]

[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 where ever required

Question No.	Question Description	Marks	CO mapped	Blooms Taxonomy Level
Q.1 a	Explain the Rolling Resistance?	4	4	2
Q.1 b	Illustrate the various thread patterns in tyres.	6	4	3
OR				
Q2 a	Interpret the Specification of tyres?	4	4	4
Q2 b	Relate tires sidewall information with neat sketch?	6	4	4
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	5	5
Q.3 b	Calculate the vertical force under front and rear wheels when car	6	5	3

	Parked on level road?			
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	5	5
Q.4 b	Calculate maximum acceleration and maximum tractive effort for front wheel drive?	6	5	3
Q.5 a	Importance of ergonomics in Vehicle Designing?	4	6	3
Q.5 b	Illustrate how the 3 way Catalytic Converter Purify the Air with the help of Chemical Reaction?	6	6	3
OR				
Q.6 a	Different type of sustainable energy sources for driving Automobile?	4	6	2
Q.6 b	Illustrate Bharat Stage Norms?	6	6	3