G.R. No.	

DECEMBER 2021 - ENDSEM EXAM
B.TECH. (Mechanical) (SEMESTER - I)
COURSE NAME: Automobile Engineering
COURSE CODE: MEUA40182D
(PATTERN 2018)

Time: [1 Hour]   [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

Q.1 a   Classify the tires on the basis of carcass and elaborate any one?   [4 Marks]
    b   Asses the different thread patterns in the tires?   [6 Marks]

OR

Q2 a   Enumerate the important causes of tires?   [4 Marks]
   b   Compare the constructional aspects of conventional, radial and tubeless tires?   [6 Marks]

Q.3 a   Derive the equation for normal reaction force for vehicle parked on a level road?   [4 Marks]
    b   Identify different aerodynamic moments and forces of the vehicle and also mention necessary equations?   [6 Marks]

OR

Q.4 a   Illustrate the general description of vehicle movement with the help of neat figure?   [4 Marks]
    b   Solve the equation for maximum acceleration and maximum tractive effort for front wheel drive?   [6 Marks]

Q.5 a   Identify second wave of active safety system and briefly discuss?   [4 Marks]
    b   What are designs tips for safety/Ergonomic in the passenger car   [6 Marks]

OR

Q.6 a   Categorize the types of vehicle maintenance and elaborate?   [4 Marks]
    b   Justify how three-way catalytic converter will clean the dirty exhaust from the engine with the help of neat sketch?   [6 Marks]

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