Week 3 - Assignment 3.2

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

A vehicle needs to run continuously at 60 kmph and should have a peak torque of 150 Nm. A motor gives peak torque of 25 Nm at 3000 rpm. For the motor to be used by the vehicle:

1) If the gear ratio is given by the expression: \( n_1 \), compute the value of \( n_1 \)

No, the answer is incorrect
Score: 0
Accepted Answers:
(Type: Numeric)

2) What should be the minimum tyre radius in m, correct up to 2 decimal places?

No, the answer is incorrect
Score: 0
Accepted Answers:
(Type: Range) 0.31, 0.32

A EV battery has a capacity of 15 kWh. Assuming 0.9 DoD and 75% end of life, Auxiliary power used is 500 W continuously and the efficiency of motor and controller is 90% each:

3) What is the range that the vehicle (using 80 Wh/km) can support, when the battery is new (in km, correct up to 2 decimal places)?

No, the answer is incorrect
Score: 0
Accepted Answers:
(Type: Range) 105, 110

4) What range will it support at end of life of the battery (in km, correct up to 2 decimal places)?

No, the answer is incorrect
Score: 0
Accepted Answers:
(Type: Range) 75, 100