

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2024

Course: Testing & Certification

Semester: II

Program: M.Tech, E Mobility

Course Code: MEEM 7009

Instructions:

Time : 03 hrs.

Max. Marks: 100

SECTION A
(5Qx4M=20Marks)

S.No.		Marks	CO
Q 1	Enlist the any five-vehicle level and component level testing performed for the BoV- two-wheeler certification	4	CO1
Q.2	What is a chassis dynamometer? What are the different test that can be performed on it to establish the health of the engine?	4	CO1
Q.3	Explain the Constant speed pass by noise test for two wheelers and its significance.	4	CO2
Q.4	Enlist 10 important vehicle level and component level test for COP of IC Engines vehicles.	4	CO2
Q5	What is difference between the BS-IV and BS-VI emission standards?	4	CO2

SECTION B
(4Qx10M= 40 Marks)

Q.6	Explain “The fuel economy” on the basis on following factors (a) Tyre road condition (b) Traffic condition (c) Driving habits	10	CO3
Q.7	(a) Elaborating the influence of turning radius of a vehicle, explain the factors that can change the turning radius of a vehicle. (b) What are different steering efforts tests? Explain.	10	CO2
Q.8	Elaborate the different test for laminated safety glass, side window / door glass, backlight / rear toughened glass in automobiles in India?	10	CO3
Q.9	Explain in detail following tests performed on vehicles for the safety of occupants. (a) Seat belt test (b) Airbag test	10	CO3
OR			
Q.10	Categorize and write in detail the about all safety concerns in a passengers segment vehicle. Also, highlight the new safety updates and mandates for improving the safety standards.	10	CO3

SECTION-C
(2Qx20M=40 Marks)

Q 11	Explain the following tests in reference to NCAP star ratings (a) Full frontal impact test (b) Front offset impact test (c) Side impact test and (d) Side pole tests	20	CO4
Q.12	In reference to the tyre test explain the following (a) Tyre strength test (b) Tyre endurance test (c) Elaborate a typical tire designation: P215/65R15 95H (d) Tyre force test	20	CO4
OR			
Q.13	Write in detail about the following performance tests (a) Ozone test for Windscreen wiper blades (b) Turning circle Diameter test (c) Elaborate Re-Gradeability (d) Tyre performance tests	20	CO4