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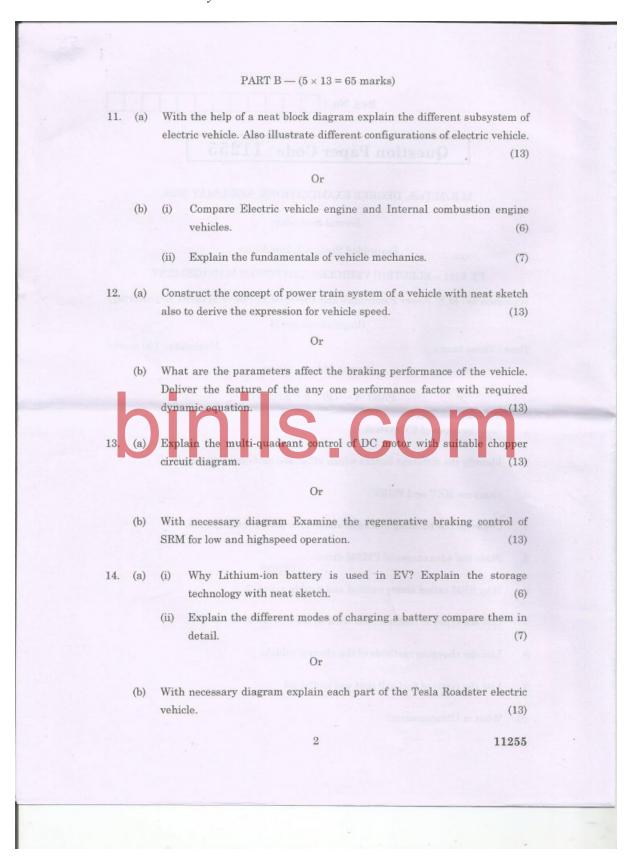
Reg. No.: Question Paper Code: 11255 M.E./M.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023. Second Semester Embedded System Technologies PX 4291 - ELECTRIC VEHICLES AND POWER MANAGEMENT (Common to : M.E. Power Electronics and Drives/M.E. Power Systems Engineering) (Regulations 2021) Time: Three hours Maximum: 100 marks Answer ALL questions.  $-(10 \times 2 = 20 \text{ marks})$ Identify the different factors which affect the movement of vehicle Compare HEV and PHEV. 3. Organize the building blocks of automobile power train system. State the advantages of PMSM drive. Why SRM called singly excited and doubly salient? 6. List the types of batteries are used in the storage system. List the charging methods of the electric vehicle. List the types of fuel cell that use methanol. 10. What is Utracapacitor?

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Explain the fuel cell energy production technology in electric vehicle with neat sketch. Or (b) Explain different methods for storage of hydrogen on-board. (13)PART C —  $(1 \times 15 = 15 \text{ marks})$ Develop the expression for the gear ratio of each gear from manual gear 16. (a) transmission. Explain the battery and ultracapacitor as energy source elements in electric vehicle. binils.com 11255