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Roll No

MMAE-301(A)
M.E./M.Tech., III Semester
 Examination, November 2018
Special Types of Vehicles
 (Elective - I)

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Classify Ignition systems and electrical systems. 7
 b) Briefly explain about the design considerations in a vehicle? 7
2. a) Explain about gyroscopic effect? 7
 b) Mention the differences between two stroke and four stroke engines? 7
3. a) Explain about the types of clutches for 2 and 3 wheelers? 7
 b) Discuss the types of frames used for two wheelers? 7
4. a) Explain the salient features of wheels and tyres? 7
 b) Describe the layout of earthmovers for dumpers? 7
5. a) Explain about bulldozers and excavators in detail? 7
 b) Describe briefly about scrapers and front-end loaders in detail? 7

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6. a) Explain about various characteristics of AC single phase and 3-phase motor? 7
 b) Describe briefly about DC and AC motor speed controllers? 7
7. Give a detailed Design considerations and constraints for pure electric and hybrid engines? 14
8. a) Explain in detail about the capacity and stability of jib cranes. 7
 b) Explain about Harvesting vehicles? 7

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