

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh Semester B.Tech Degree (S, FE) Examination May 2024 (2015 Scheme)

**Course Code: MR407****Course Name: AUTOTRONICS**

Max. Marks: 100

Duration: 3 Hours

PART A*Answer all questions, each carries 5 marks.*

Marks

- | | | |
|---|---|-----|
| 1 | Illustrate and describe about engine ignition system. | (5) |
| 2 | Write a note on manifold pressure sensor. | (5) |
| 3 | Describe fuel injection system with the help of neat block diagram. | (5) |
| 4 | Draw and write about electronic clutch. | (5) |
| 5 | List out the various components of hybrid vehicle also write a small note about each components. | (5) |
| 6 | Write down the recent developments held in hybrid vehicles? | (5) |
| 7 | With the help of an example write the importance of object detection intelligence. | (5) |
| 8 | Write a small note on vehicle intelligence also explain the recent development on vehicle intelligence. | (5) |

PART B*Answer any three full questions, each carries 10 marks.*

- | | | |
|----|--|------|
| 9 | Make a chart of types of engines also explain their applications. | (10) |
| 10 | Describe the importance of braking system used in vehicles and also write a short note on ABS advantages. | (10) |
| 11 | Illustrate high pressure diesel fuel injection system and explain its working. | (10) |
| 12 | List out different types of fuel injection system used in automobiles also explain any one type with relevant diagram. | (10) |
| 13 | Explain all the comfort system made for the traveller for their easement. | (10) |

PART C*Answer any two full questions, each carries 15 marks.*

- | | | |
|----|---|------|
| 14 | Discuss and write about types of hybrid vehicles. | (15) |
|----|---|------|

- 15 Draw and Compare parallel and series hybrid vehicles. Also select the advantages of hybrid vehicle. (15)
- 16 a) Identify the object collision warning and avoidance system. (10)
- b) Give a possible application for mobile robot vision to a vehicle information system. (5)
- 17 Discuss about vision based autonomous road vehicles and their functioning. (15)
