

Reg. No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SIXTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), MAY 2019

Course Code: AU 302

Course Name: AUTOMOTIVE ELECTRICAL AND ELECTRONICS

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any three full questions, each carries 10 marks.

Marks

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| 1 | What are the various battery tests conducted to access the state of charge of battery? Explain any three tests. | (10) |
| 2 | a) What is the purpose of cutout relay in a charging system? Explain its working b) How alkaline battery differs from lead acid battery? Explain | (5) (5) |
| 3 | a) How ultra-capacitor works? Explain with a neat sketch b) What is the purpose of using starting drives? What are the different types of starting drives and starting switches? | (5) (5) |
| 4 | What is the working principle of alternator? Explain its construction and working with neat sketch. | (5) |

PART B

Answer any three full questions, each carries 10 marks.

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| 5 | How magneto coil ignition system works? Explain with a neat sketch | (10) |
| 6 | How directional indicator works? Explain the construction and working of directional signal indicator. | (10) |
| 7 | How Electronically controlled ignition system works? Explain with diagram. | (10) |
| 8 | How electric horn works? Explain with a neat sketch. How the tuning of horn is carried out? | (10) |

PART C

Answer any four full questions, each carries 10 marks.

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| 9 | Explain the working of MAP sensor and Throttle position sensor used in automobile with the help of sketch | (10) |
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- 10 What is lambda? Explain the working of a lambda sensor with a neat sketch (10)
- 11 a) Explain about stepper motor with a neat sketch? (5)
- b) How optical sensor works? Explain with a neat sketch? (5)
- 12 a) How L Jetronic differs from D Jetronic? Explain. (6)
- b) What are the differences between MPFI and GDI? (4)
- 13 How CRDI works? Explain with a neat sketch. State its advantages over (10)
 conventional diesel injection.
- 14 How electronic injector differs with mechanical injectors? Explain the (10)
 construction and working of electronic injector with a neat sketch?
