

1479**Code : 15AT42T**Register
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IV Semester Diploma Examination, April/May-2019**AUTOMOBILE ELECTRICAL & ELECTRONICS
SYSTEMS****Time : 3 Hours]****[Max. Marks : 100****Instruction :** Answer any six questions from Part – A and 7 questions from Part – B.**Published By:****PART – A**

1. State the definition of electrical energy and list the effects of current flow in a conductor. 5
2. With a short note on Ohms law. 5
3. Explain the meaning and need of wiring harness and colour codes of cables. 5
4. Explain the construction of PNP transistor with its symbol. 5
5. Define the term rectification and draw the circuit diagram of half wave rectification with its parts. 5
6. List different automotive electrical systems with their functions. 5
7. Explain the working principle of DC generator. 5
8. Draw the Can type ignition coil and label the parts. 5
9. Draw the circuit diagram of electrical horn and label the parts. 5

PART – B

10. (a) Explain the working principle of capacitor and list its applications in automobiles. 5
- (b) State the definitions of instantaneous value, RMS value and cycle of AC current. 5
11. (a) Write a short note on Zener diode. 5
- (b) State the difference between lead acid battery and nickel alkaline battery. 5
12. Explain full-wave bridge rectifier with a circuit diagram. 10
13. Explain the construction and working of nickel-iron battery with charging and discharging chemical reaction. 10
14. Explain the construction and working of alternator with sketch. 10
15. Explain the construction and working of axial sliding armature drive with a sketch. 10
16. Explain the construction and working of head light with a sketch. 10
17. State the need of speedometer and odometer and also explain the construction and working of speedometer with a sketch. 10
18. Explain the working of high tension rotating magnet type ignition with a circuit diagram. 10
19. Write the complete specification of a spark plug. Explain each and every term in detail. 10