

April 2019

Time – Three hours
(Maximum Marks: 75)

*[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory.
Answer any FOUR questions from the remaining in each PART – A
and PART – B*

(2) Answer division (a) or division (b) of each question in PART – C.

*(3) Each question carries 2 marks in PART – A, 3 marks in Part – B
and 10 marks in PART – C.]*

PART – A

1. Write the unit for charge and current.
2. Write the formula for magnetic flux density and field intensity.
3. Mention any two methods of battery charging.
4. What are the necessary characteristics of spark plug?
5. Mention any two testing for field winding.
6. Write the needs for starting motor.
7. Mention any two types of gauges.
8. Draw the symbols of Zener diode and NPN transistor.

PART – B

9. Define: frequency, amplitude and time period.
10. Write short notes on applications of electromagnetism in an automobile.
11. Write about the functions of any one type of spark plug.
12. Explain briefly about centrifugal advance mechanism.
13. Draw the symbol and truth table for AND, OR & NOT logic gates.
14. Describe the working of cut-out relay.
15. Discuss any three troubleshooting in horn.
16. Write about Growler testing in armature.

[Turn over.....

PART – C

17. (a) Draw and explain about pure and pulsating direct current and sinusoidal and non-sinusoidal alternating current.

(Or)

- (b) (i) Discuss about open circuit and short circuit.
(ii) Write about the importance of earthing on chassis in automotive wiring.

18. (a) Explain about working of lead acid battery.

(Or)

- (b) Describe about battery coil ignition system.

19. (a) Discuss about troubleshooting in alternator.

(Or)

- (b) Explain about coaxial drive mechanism in the heavy vehicles.

20. (a) Describe about any two types of head lamps.

(Or)

- (b) Discuss about wiring harness and cable connection.

21. (a) Discuss in detail about security and warning system.

(Or)

- (b) Describe in detail about throttle position sensor.
