685 Register No.: _____

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. What is the diffe ɔce between dead and live axles?
2. What is the difference between semi floating and full floating rear axles?
3. What is the difference between a centrifugal and semi centrifugal clutch?
4. What are the advantages of the synchromesh mechanism?
5. What are the advantages of suspension system?
6. Name the various types of leaf springs used in suspension system.
7. State any two advantages of tubeless tyre.
8. What is the purpose of spring shackle? What are the types of shackles?

PART – B

9. What is the purpose of front axle? What are the types of front axles?
10. What are the various forces acting on rear axles?
11. What is clutch slippage? State the reasons for clutch slip.
12. Explain briefly the various resistance offered to the motion of the vehicle.
13. What is the purpose of propeller shaft? What is the advantage of a two piece propeller shaft?
14. What are the advantages of disc brakes?

[Turn over.....

15. What are the causes of tyre wear?

16. What is the necessity of power steering? State the types of power steering.

PART – C

17. (a) Explain about the functions of chassis frames with applications.

(Or)

(b) (i) What is a stub axle?
(ii) Explain with neat sketches the reverse Elliot type and Lemoine type stub axle arrangements.

18. (a) Explain the construction and working of a single plate clutch with a neat sketch.

(Or)

(b) With a neat sketch explain the construction and operation of a synchromesh gear box.

19. (a) Explain with a neat sketch, the construction and working of Rzeppa constant velocity universal joint.

(Or)

(b) Explain Hotchkiss drive and torque tube drive with neat sketches.

20. (a) (i) What are the factors of front end geometry?
(ii) Explain any three factors with necessary sketches.

(Or)

(b) Explain the construction and working of a telescopic type shock absorber with a neat sketch.

21. (a) With a neat sketch explain the construction and operation of a hydraulic brake system.

(Or)

(b) What are the different types of wheels used in automobiles? Explain with simple sketches.
