

**PSG POLYTECHNIC COLLEGE, COIMBATORE - 641 004**

DIPLOMA ODD SEMESTER EXAMINATIONS – NOV 2014

**B12501 AUTOMOBILE CHASSIS AND TRANSMISSION****MODEL QUESTION PAPER**

Time : 3 Hours

Max.Marks: 100

**Instructions:**

1. **Group A** and **Group B** questions should be answered in the Main Answer book.
2. Answer any **TEN** questions in **Group A**. Each question carries three marks.
3. Answer **ALL** questions either **(a)** subdivision or **(b)** subdivision in **Group B**. Each question carries 14marks.

**Group – A****Marks: 10 x 3 =30**

1. Draw the layout of transmission system.
2. What is sub frame? Write their advantages.
3. List the requirements of clutch.
4. Mention the purpose of gear box and write their types.
5. What are the various resistance offered to the motion of the vehicle?
6. What are the functions of universal joint and slip joint?
7. What is final drive? List the types of gears used in final drive.
8. Explain the semi floating type rear axle support.
9. What are the types of stub axle?
10. Explain Ackerman steering principle.
11. Draw a simple sketch of leaf spring.
12. What is meant by rigid suspension and independent suspension?
13. Compare drum brake and disc brake.
14. Write short notes on wheel cylinder.
15. Write short notes on antilock braking system.

**Group– B****Marks: 5 x 14 =70**

16. a) What are the loads acting on the frame? Explain the construction of frame with simple sketch.

**(OR)**

- b) Describe the construction and working of multi plate clutch with a neat sketch.

17. a) Explain the construction and working of synchromesh gear box with a neat sketch.

**(OR)**

- b) Explain the construction and working of transfer case with neat sketches.

18. a) What is the necessity of differential unit? Explain its construction and working with neat sketch.

**(OR)**

- b) Explain the Hotchkiss drive and Torque tube drive with neat sketches.

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19. a) Describe the construction and working of re circulating ball type steering gear box with a sketch.

**(OR)**

b) Explain the Wishbone type and Mac Pherson strut type suspension with simple sketches.

20. a) Draw the layout of air brake system and explain its main units in detail.

**(OR)**

b) Explain the construction and working of tandem master cylinder with a neat sketch.