

FACULTY OF ENGINEERING

B.E. 3/4 (Auto. Engg.) I – Semester (Main) Examination, November 2013

Subject : Automotive Chassis Components

Time : 3 hours

Max. Marks : 75

Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.

PART – A (25 Marks)

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| 1. List out the different sections of the chassis commonly used in Automobiles with neat sketches. | 3 |
| 2. What are the different requirements for a body of a motor vehicle? | 3 |
| 3. What is Ackermann steering linkage? | 2 |
| 4. Define i) toe-in ii) toe-out | 2 |
| 5. Why is rear axle in two halves? Explain. | 3 |
| 6. How does a Hotchkiss drive differ from a torque tube drive? | 2 |
| 7. What is the difference between Elliot and reverse Elliot? | 2 |
| 8. Describe Mach-Pherson strut type suspension system. | 3 |
| 9. Sketch Marder cylinder of a braking system. | 2 |
| 10. What is Antilock braking system. | 3 |

PART – B (50 Marks)

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| 11.a) Explain the different types of chassis used in automobile with neat sketches. | 5 |
| b) Describe the Frame alignment checking. | 5 |
| 12.a) Why are stub axles fitted in front axles? Sketch the different types of stub axle. | 5 |
| b) Describe the construction and operation of power steering system. | 5 |
| 13. Explain the different types of Rear Axles with a neat sketches. | |
| 14. Explain the construction and operation of a telescopic type shock absorber. | |
| 15.a) Describe a Air brake system. | |
| b) Explain the parking brake. | |
| 16.a) Explain Vacuum assisted braking system. | 6 |
| b) Describe : | |
| i) King pin inclination | |
| ii) Caster angle | |
| iii) Camber angle | |
| iv) Combined angle | 4 |
| 17. Explain any two of the following : | 10 |
| a) Rigid axle suspension system | |
| b) Different types of loads appearing on frame | |
| c) Steering of Crawler tractors | |
