

Unit 12 - Week 11

Course outline

How does an NPTEL online course work?

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Week 11

Power Steering and Kinematic Steering Analysis - Part 01

Power Steering and Kinematic Steering Analysis - Part 02

Wheel Alignment - Part 01

Wheel Alignment - Part 02

Introduction to Suspension System - Part 01

Introduction to Suspension System - Part 02

Quiz : Assignment 11

Week 11 Feedback

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Week 12

Lecture Material

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Assignment 11

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2020-04-15, 23:59 IST.

1) The amount of steering assist required at low vehicle speeds is _____ that at high vehicle speeds.

1 point

- lower than.
- higher than.
- the same as.

No, the answer is incorrect. Score: 0

Accepted Answers: higher than.

2) Which one of the following is not a component of a hydraulic power steering system?

1 point

- Pump.
- Control Valve.
- Power Cylinder.
- Motor Pump Unit.

No, the answer is incorrect. Score: 0

Accepted Answers: Motor Pump Unit.

3) When the steering wheel is turned right, the control valve of the hydraulic power steering

1 point

- provides pressurized oil to the left chamber of the power cylinder and returns the oil from the right chamber of the power cylinder to the tank.
- provides pressurized oil to both the left and right chambers of the power cylinder.
- provides pressurized oil to the right chamber of the power cylinder and returns the oil from the left chamber of the power cylinder to the tank.
- returns the oil from both the left and right chambers of the power cylinder to the tank.

No, the answer is incorrect. Score: 0

Accepted Answers: provides pressurized oil to the right chamber of the power cylinder and returns the oil from the left chamber of the power cylinder to the tank.

4) The power steering system that has the least fuel consumption is the

1 point

- electric power steering.
- electro hydraulic power steering.
- hydraulic power steering.

No, the answer is incorrect. Score: 0

Accepted Answers: electric power steering.

5) Consider the kinematic bicycle model where only the front wheel is steered. Then, as the front wheel steering angle increases,

1 point

- the sideslip angle and the turning radius increase.
- the sideslip angle and the turning radius decrease.
- the sideslip angle decreases and the turning radius increases.
- the sideslip angle increases and the turning radius decreases.

No, the answer is incorrect. Score: 0

Accepted Answers: the sideslip angle increases and the turning radius decreases.

6) Which one of the following is not a sign of poor wheel alignment?

1 point

- Longer braking distance.
- Uncentered steering.
- Vehicle pulling to one side.
- Uneven tyre wear.

No, the answer is incorrect. Score: 0

Accepted Answers: Longer braking distance.

7) When looked from the front of a vehicle, if the top of a wheel leans towards the vehicle body, then it has _____ camber.

1 point

- zero.
- positive.
- negative.

No, the answer is incorrect. Score: 0

Accepted Answers: negative.

8) A self-aligning torque is created by _____ caster.

1 point

- positive.
- negative.
- zero.

No, the answer is incorrect. Score: 0

Accepted Answers: positive.

9) Toe in results in

1 point

- faster steering response.
- better straight line stability.
- better maneuverability.
- no scrubbing of tyres.

No, the answer is incorrect. Score: 0

Accepted Answers: better straight line stability.

10) The angle between the steering axis and the central wheel plane when viewed from the front of the vehicle is called as

1 point

- steering axis inclination.
- camber.
- caster.
- included angle.

No, the answer is incorrect. Score: 0

Accepted Answers: included angle.

11) The process of switching tyres between the various wheels to ensure uniform wear is called as

1 point

- wheel alignment.
- tyre balancing.
- tyre rotation.

No, the answer is incorrect. Score: 0

Accepted Answers: tyre rotation.

12) Excessive wear on one side of the tyre when viewed from the front of the vehicle is indicative of

1 point

- excessive camber.
- incorrect toe.
- under inflation.
- unbalanced wheel.

No, the answer is incorrect. Score: 0

Accepted Answers: excessive camber.

13) Among the following suspension elements, which one is most susceptible to sag with operation?

1 point

- Coil spring.
- Torsion bar.
- Leaf spring.

No, the answer is incorrect. Score: 0

Accepted Answers: Leaf spring.

14) Among the following suspension elements, which one is compact but requires other elements to support it along longitudinal and lateral directions?

1 point

- Coil spring.
- Torsion bar.
- Leaf spring.

No, the answer is incorrect. Score: 0

Accepted Answers: Coil spring.