

Student Name: _____ Roll No: _____

1. What is the use of compact spare tyres?

- A) Used for breakdown B) Withstand heavy load
C) Used for high altitude D) Withstand high temperature

- A) Reduce the suspension weight B) Used for leveling purpose
C) Reduce the space occupation D) Increase the directional stability

2. What is the effect of weak suspension?

- A) Directional unstability of vehicle B) Carrying excessive payload of vehicle
C) Vibration damping is more effective D) Unequal weight distribution of weight

10. Why vibration damper are not used inside the helical spring?

- A) Not economical B) Fitting and removing time consuming
C) Possibility of stuck in one position D) No effect on load carrying capacity

3. Which steering system will provide assistance even when the engine is not running?

- A) Electronic power steering B) Linkage power steering
C) Manual steering D) Integral power steering

11. What is the cause of 'Poor self centering' in a vehicle?

- A) Filter choked B) Low oil level
C) Loose wheel level D) Improper wheel alignment

4. What is the permitted brake pedal travel in the hydraulic brake system?

- A) 7 to 12 mm B) 2 to 12 mm
C) 6 to 12 mm D) 9 to 12 mm

12. Which system provided between axles and chassis frame?

- A) Suspension system B) Steering system
C) Cooling system D) Braking system

5. What will be the result of improper brake adjustment?

- A) Steering wheel play B) Vehicle pulling to one side
C) Hard steering D) Wheel wobbling

13. How the tyre is specified?

- A) Shoulder width, Boad circle dia. Ply rating B) Shoulder width, Tyre thickness
C) Ply rating, tyre inner circle dia, shoulder width D) Shoulder dia, Bead circle dia, Ply rating

6. How the EBD (Electronic Brake Force Distribution) failure indicated to the driver?

- A) Indication lamp the dash board B) Peep sound in the cabin
C) Flickering the tail lamp D) Glowing the parking lamp

14. What is the recommended valve of combined angle in the steering system?

- A) 9 - 10 Degree B) 5 - 8 Degree
C) 12 - 15 Degree D) 15 - 18 Degree

7. Which type of shock absorber is easy for replacement and handling?

- A) Piston type B) Vane type
C) Mechanical type D) Telescopic type

15. What is the purpose of brake proportioning valves in the braking system?

- A) Provide balanced braking B) Prevent front wheel lockup
C) Increase braking efficiency D) Reduces brake pedal effort

8. What is the advantage of using nitrogen in the tyres?

- A) Increase the tyre life B) Provide cushioning effect on the vehicle
C) Provide positive road grip D) Observe shocks and vibration

16. What is the purpose of 'G' sensor

- A) Locking pressure inside wheel cylinder B) Measuring deceleration rate of vehicle
C) Reduce pressure at wheel cylinder D) Detect wheel lock up condition

9. What is the purpose of air suspension?

17. Which type of independent suspension system simple in construction and allow more deflection of the front wheel without effect on the steering?

- A) Torsion bar suspension
- B) Coil spring suspension
- C) Conventional suspension
- D) Strut type suspension

18. Which type of suspension spring can not transfer wheel guidance forces?

- A) Compression springs
- B) Leaf springs
- C) Helical springs
- D) Coil springs

19. What is the function of EBD (Electronic Brake - Force Distribution) in anti lock brake system?

- A) It control the slip of the front wheel
- B) It controls the slip of the rear wheel
- C) It improve directional stability of vehicle
- D) It increase brake pressure to the rear wheel

20. Which part of coil spring allows angular movement of linkages?

- A) Lower control arm
- B) Stabiliser bar
- C) Torsion bar
- D) Ball joint

21. What is the steering linkage ratio if the pitman arm length twice of steering arm length?

- A) 01:02
- B) 02:03
- C) 02:01
- D) 02:01

22. What is the reason of steering wheel play excess?

- A) Low oil level
- B) Improper pre load defective steering
- C) Drop in pressure
- D) Wornout sealing rings

23. What is the range of steering ratio available in general?

- A) 8 : 2 to 22 : 2
- B) 11 : 1 to 24 : 1
- C) 11 : 2 to 22 : 2
- D) 10 : 1 to 18 : 1

24. Why tyre wear found abnormal in the vehicle?

- A) Loose wheel nut
- B) Improper tyre pressure
- C) Improper tol-in and tol - out
- D) Improper linkage adjustment

25. How the tyre height is calculated?

- A) Rim dia - tyre outer dia
- B) Tyre width + Bead circle dia
- C) Thread width + Tyre width
- D) Tyre outer dia - Rim dia

26. What is the material constituent of semi metallic brake lining?

- A) Carbon composite
- B) Aluminium oxide

- C) Fine polished steel wool
- D) Carbon fiber

27. Which type of wheel consist two separate discs are clamped together?

- A) Heavy vehicle
- B) Split wheel
- C) Disc wheel
- D) Wire wheel

28. Which rating indicate the braking capabilities of the tire to the consumer?

- A) Ply rating
- B) Temperature rating
- C) Tyre rating
- D) Traction rating

29. Which device in electronic power steering converts the steering torque input and its direction in to voltage signals?

- A) Torque sensor
- B) Hall effect sensor
- C) Rotation sensor
- D) Temperature sensor

30. Which factor affecting suspension?

- A) More shocks, uncomfortable riding
- B) Abnormal tyre wear
- C) Wornout spring
- D) Damaged chassis frame

31. Which part of electronic power steering revert back to manual steering in case of failure in power steering?

- A) Solenoid valve
- B) Fail safe relay
- C) Phase compensator
- D) Current controller

32. What is the advantage of coil spring?

- A) Provide greater pay load
- B) Good load carrying capacity
- C) Low space requirement
- D) High steering and stability

33. What is the purpose of beads and plies provided in the tyre?

- A) Provide grippness on the surface
- B) Prevent tyre slip
- C) Provide strength to tyre
- D) Resist vibration

34. What will effect in case of over inflated tyres?

- A) Tyre will wearout at centre
- B) Tyre will wear out at edges
- C) Tyre will crack at centre
- D) Tyre will crack at edges

35. Which is the heart of integral power steering system?

- A) Pressure relief valve
- B) Flow control valve
- C) Unloading valves
- D) Rotary control valve

36. Which part of integral power steering reduce fluid pressure?

- A) Flow control valve
- B) Torsion bar

C) Rotary valve

D) Unloading valve

37. What is the advantage of using non reactive suspension arrangement on multi-axle vehicles?

A) Better riding comfort

B) Good braking efficiency in both rear wheels

C) Increased spring life

D) Prevention of ratting

38. What is the main cause for wear on one side of tyre?

A) Improper camber

B) Under inflation

C) Improper caster

D) Over inflation

39. What is the advantage of using run flat tyres?

A) Eliminate head for spare tyre and jack

B) Less cost and maintance

C) Resist vibration

D) Provide equal distribution of load

40. Which type of spring will have good load carrying capacity and do not have noise in the suspension system?

A) Multiple - leaf spring

B) Fibre composite springs

C) Coil spring

D) Monoleaf springs

41. Which material is used for brake rotors and brake pads for aircraft and racing cars?

A) Copper, brass, steel

B) Carbon fiber reinforced carbon composite

C) Sintered alloy

D) Asbestos

42. Which type of shock absorber absorbs shocks with the help of friction disc and spring?

A) Pneumatic type

B) Mechanical type

C) Electrical type

D) Hydraulic type

43. What is the disadvantage of independent suspension system?

A) More maintanance cost

B) Vibration damping is less effective

C) Spring weight is more

D) Shocks transmitted from one wheel to other

44. What does the no: 14PR denotes in the tyre specification 9? x 14 - 14PR?

A) Tyre thickness

B) Shoulder width

C) Bead circle dia

D) Ply rating

45. What is the average power steering gear ratio followed in general?

A) 20% less than manual steering

B) Equal to manual steering

C) 10% more than manual steering

D) 40% less than manual steering

46. What is the disadvantage of excessive positive camber in the wheel aslignment?

A) Tyre thread wear out

B) Tyre centre will wearout

C) Tyre bleeding wire wear out

D) Tyre outer edge will wearout fast

47. What is the impact of larger scrub radius?

A) Unequal braking on the front wheel

B) Bending of steering linkage point

C) Wear on the centre part of tyre

D) Wear on the outer edge of tyre

48. What causes the deffect of ?Hard steering? in the hydraulic power steering system?

A) Improper size of tyre

B) Tie rod loose fitting

C) Improper position of drop arm

D) Band axle beam

49. Which type of suspension spring made of fibre glass, laminated and bonded together by tough polyster resins?

A) Coil springs

B) Fiber composite springs

C) Multiple leaf springs

D) Monoleaf springs

50. Why the alternate spokes are screwed to slope forward and backward towards the rim in the wire wheel?

A) To distribute the load evenly

B) To provide cusioning effect

C) To observe braking and driving torque

D) To take the uneven load

51. What is the binding material used in organic brake lining?

A) Asbestos

B) Mica

C) Resin

D) Fibre glass

52. Where the non-return valve is located in the centre feed master cylinder?

A) On the cylinder head

B) On the pistons head

C) On the bypass port

D) On the reservoir

53. What is the advantage of using independent suspension system?

A) This is simple arrangement

B) Shocks are transmitted from one wheel to other

C) Spring weight is less

D) Maintance cost is less

54. What is the aspect ratio in the tyre structure?

A) Percentage ratio of tyre height to tyre width

B) Ratio between tyre width to Rim width

C) Percentage ratio of tyre height to Rim width D) Ratio between tyre height to tyre dia

55. Which device permits air to the air brake system?

A) Spring brake actuator B) Brake valve
C) Hand control valve D) System protection valve

56. What is the purpose of castor in wheel alignment?

A) Reduce tyre wear B) Maintain directional stability and control
C) Reduce abnormal vibration D) Convert steering torque input into voltage signal

57. Which type of spring suspension responds quickly to road shocks? |

A) Compression spring B) Coil spring
C) Transverse spring D) Helical spring

58. What will be the effect of negative camber excessive in the wheel alignment?

A) Centre of tyre wearout faster B) Inner edge of tyre wear out faster
C) Cracks developed in the tyre tread D) Outer edge of tyre wearout faster

59. How to rectify the defect of noise in hydraulic steering?

A) Replace the flow control valve B) Fill fluid to correct level and bleed the system
C) Replace the with new fluid D) Adjust the torsion bar linkage

60. What is the purpose of spokes provided in the wheel?

A) Distribute pre load evenly B) Provide directional stability of vehicle
C) Support the chassis frame of vehicle D) Provide accurate rounds of rim

61. What is the material used to make brake drum?

A) Special type cast iron B) High speed steel
C) Stainless steel D) High carbon steel

62. What is the advantage of electronic power steering?

A) Number of components are less B) Compact in size
C) Energy being consumed only while steering D) Less occupation of space

63. Where the tyre pressure sensor secured in the wheel assembly?

A) Secured in the wheel hub B) Bolted to the rim centre
C) Bolted to metal valve D) Secured in the tyre outer edges

64. What is the cause of noise in steering?

A) High fluid level B) Presence of air in the fluid
C) Defective torsion bar D) Defective flow control valve

65. What is the function of Rim in the wheel construction?

A) Support the axle B) Distribute the load equally
C) Holds the tyre in correct position D) Provides balancing of vehicle

66. Which principle is applicable for hydraulic brakes?

A) Hooke's law B) Pascal's law
C) Boyle's law D) Newton's law of motion

67. Which advantage does not suit to wheel alignment?

A) Minimise tyre wear B) Reduce driver effort
C) Achieve easy torque transmission D) Achieve self centering after turning

68. Which type of shock absorber maintain vehicle ride at a pre - set level according to the load placed over the rear axle?

A) Automatic load adjustable shock absorber B) Gas pressurised shock absorber
C) Hydraulic shock absorber D) Mechanical shock absorber

69. What causes 'Air suction' in pump of hydraulic power steering system?

A) Steering wheel play B) Low pressure
C) Noise D) High fluid level

70. What is the disadvantage of rigid axle suspension system?

A) This is a complicated arrangement B) Maintenance cost is more
C) Vibration damping is less effective D) Spring weight is less

71. When the driver is warned of difference in tyre pressure?

A) Difference in pressure exceeds 40% B) Difference in pressure more than 20%
C) Difference in pressure exceeds 30% D) Difference in pressure more than 10%

72. What will be the effect of negative scrub radius?

A) The tyre centre portion wear out B) Wheel is caused to toe - in
C) Wheel is caused to toe - out D) Wheel is kept in straight position

73. What is the precautionary measures to be adapted while

removing secondary piston to prevent damage

- A) Remove the stopper bolt before
- B) Remove the retaining spring before
- C) Remove the return spring before
- D) Remove the circlip before

74. What is the function of traction control system?

- A) Reduce steering effort
- B) Reduce the engine torque
- C) Release the pressure to expansion tank
- D) Prevent wheel spinning

75. Which device detect the driven wheel spin through sensor?

- A) TCS
- B) ELSD
- C) ECU
- D) EBD

76. What is the advantage of TCS/ELSD brake circuit of wheel?

- A) Automatic adjustment of engine torque to the grip rates
- B) Reduce fluid pressure rates
- C) Avoid wheel lockup by releasing pressure
- D) Reduce the pressure at wheel cylinder

77. What is the reason of faster wear out of tyre edges?

- A) Over inflated tyre
- B) Defective suspension system
- C) Un equal load distribution
- D) Under inflated tyre

78. What is the role of recirculating balls in the integral power steering?

- A) Prevent control in event of hydraulic failure
- B) Combine high mechanical efficiency with smooth operation
- C) Provide hard steering
- D) Affect steering stability

79. What is the cause of 'Wheel wobbling'?

- A) Wrong hose size
- B) Improper tyre pressure
- C) King pin wornout
- D) Drop in pressure

80. What is the maximum air pressure supplied by the compressor in the air suspension system?

- A) 100 to 115 PSI
- B) 200 to 215 PSI
- C) 180 to 210 PSI
- D) 120 to 125 PSI

81. Why light weight cars use low steering ratio?

- A) To obtain constant steering effect
- B) To obtain low steering effect
- C) To obtain no steering effect
- D) To obtain large steering effect

82. Which is not the function of suspension system?

- A) It maintains body level
- B) It gives cushioning effects
- C) It increase steering stability
- D) It transfer braking torque to the chassis

83. What will be effect of unequal castor in the vehicle?

- A) Driver have to use less effort on steering
- B) Vehicle will not move
- C) Increase steering stability
- D) Vehicle pull to one side wheel

84. What is the cause of ? low pressure? in the hydraulic power steering system?

- A) Wrong flow control valve setting
- B) Air in the system
- C) Low oil level
- D) Wornout sealing ring

85. Which part of tyre referred as 'Crown'?

- A) Thread radius
- B) Thread width
- C) Rim width
- D) Tyre width

86. What is the brake pedal free play range permitted while adjusting?

- A) 13 mm to 18 mm
- B) 6 mm to 12 mm
- C) 8 mm to 10 mm
- D) 4 mm to 8 mm

87. What is the name of distance between most protruding portions on both sides of tyre?

- A) Tyre height
- B) Tyre outer diameter
- C) Thread radius
- D) Tyre width

88. Which is not the benefit of power steering?

- A) Positive breaking system
- B) Effort less steering
- C) Absolute control during driving
- D) Quick response

89. Which angle helps in self centering of wheels after negotiating a turn?

- A) King pin inclination
- B) Castor angle
- C) Included angle
- D) Camber angle

90. Why rubber buffer is provided in the main spring of suspension system?

- A) Transfer the load equally
- B) Provide steering control stability
- C) Protect chassis frame from heavy jerk
- D) Transfer pay load smoothly

91. Which device in the air suspension system observe vibration of low amplitude and high frequency?

- A) Air bags in the system
- B) Suspension spring
- C) Shock absorber
- D) Leaf spring

92. What causes abnormal tyre wear, tyre slip and poor steering stability?

- A) Incorrect toe - in and toe - out
- B) Presence of air in the break fluid
- C) Front axle bend/twist
- D) Malfunctioning of torsion bar

93. Where the airbags are located in the air suspension system?

- A) Between frame and vehicle axle
- B) Between high control valve and frame
- C) Between brake tank and vehicle axle
- D) Between air pressure regulator and front axle