

Duration: 30 Mins

Total Marks: 93

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Student Name: _____ Roll No: _____

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

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

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

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

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

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

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

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

- A) Mechanical type B) Pneumatic type
C) Electrical type D) Hydraulic type

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

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

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

- A) Bead circle dia B) Ply rating
C) Tyre thickness D) Shoulder width

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

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

5. Which is not the benefit of power steering?

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

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

- A) Fibre composite springs B) Multiple - leaf spring
C) Coil spring D) Monoleaf springs

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

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

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

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

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

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

15. What is the advantage of electronic power steering?

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

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

- A) Copper, brass, steel B) Asbestos
C) Carbon fiber reinforced carbon composite D) Sintered alloy

16. How the tyre is specified?

- A) Shoulder dia, Bead circle dia, Ply rating B) Ply rating, tyre inner circle dia, shoulder width

C) Shoulder width, Tyre thickness

D) Shoulder width, Boad circle dia. Ply rating

C) 6 to 12 mm

D) 2 to 12 mm

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

A) Castor angle

B) Included angle

C) Camber angle

D) King pin inclination

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

A) Leaf spring

B) Shock absorber

C) Suspension spring

D) Air bags in the system

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

A) Centreof tyre wearout faster

B) Inner edge of tyre wear out faster

C) Outer edge of tyre wearout faster

D) Cracks developed in the tyre tread

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

A) Provide steering control stability

B) Protect chassis frame from heavy jerk

C) Transfer pay load smoothly

D) Transfer the load equaly

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

A) Under inflation

B) Improper caster

C) Over inflation

D) Improper camber

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

A) Transverse spring

B) Coil spring

C) Compression spring

D) Helical spring

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

A) Automatic adjustment of engine torque to the grip rates

B) Reduce the pressure at wheel cylinder

C) Reduce fluid pressure

D) Avoid wheel lockup by releasing pressure

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

A) Low oil level

B) Loose wheel level

C) Filter chocked

D) Improper wheel alignment

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

A) 9 to 12 mm

B) 7 to 12 mm

26. Which principle is applicable for hydraulic brakes?

A) Hooke's law

B) Boyle's law

C) Pascal's law

D) Newton's law of motion

27. 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

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

A) Coil spring suspension

B) Strut type suspension

C) Conventional suspension

D) Torsion bar suspension

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

A) Prevent front wheel lockup

B) Reduces brake pedal effort

C) Increase braking efficiency

D) Provide balanced braking

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

A) Provide cusioning effect on the vehicle

B) Increase the tyre life

C) Oberve shocks and vibration

D) Provide positive road grip

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

A) Provide hard steering

B) Affect steering stability

C) Combine high mechanical efficiency with smooth operation

D) Prevent control in event of hydraulic failure

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

A) Shocks are transmitted from one wheel to other

B) Spring weight is less

C) This is simple arrangement

D) Maintance cost is less

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

A) Vehicle pulling to one side

B) Steering wheel play

C) Wheel wobbling

D) Hard steering

34. What will be the effect of negative scrub raious?

A) Wheel is caused to toe - in

B) Wheel is kept in straight position

- C) The tyre centre portion wear out
D) Wheel is caused to toe - out

35. Why light weight cars use low steering ratio?

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

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

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

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

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

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

- A) Aluminium oxide
B) Fine polished steel wool
C) Carbon composite
D) Carbon fiber

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

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

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

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

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

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

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

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

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

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

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

- A) Provide directional stability of vehicle
B) Distribute pre load evenly

- C) Support the chassis frame of vehicle
D) Provide accurate rounds of rim

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

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

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

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

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

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

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

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

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

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

50. Which is not the function of suspension system?

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

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

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

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

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

53. What is the effect of weak suspension?

- A) Unequal weight distribution of weight
B) Carrying excessive payload of vehicle

C) Directional instability of vehicle
D) Vibration damping is more effective

54. 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

55. What is the purpose of 'G' sensor

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

56. Which factor affecting suspension?

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

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

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

58. What is the function of traction control system?

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

59. What is the cause of noise in steering?

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

60. What is the purpose of air suspension?

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

61. Which advantage does not suit to wheel alignment?

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

62. What is the disadvantage of excessive positive camber in the wheel alignment?

A) Tyre centre will wearout
B) Tyre bleeding wire wear out
C) Tyre thread wear out
D) Tyre outer edge will wearout fast

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

A) Monoleaf springs
B) Multiple leaf springs
C) Coil springs
D) Fiber composite springs

64. Why tyre wear found abnormal in the vehicle?

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

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

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

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

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

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

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

68. How the tyre height is calculated?

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

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

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

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

A) 20% less than manual steering
B) 40% less than manual steering
C) Equal to manual steering
D) 10% more than manual steering

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

A) Asbestos
B) Resin

C) Mica

D) Fibre glass

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

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

73. Which system provided between axles and chassis frame?

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

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

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

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

- A) Provide equal distribution of load B) Resist vibration
C) Eliminate head for spare tyre and jack D) Less cost and maintenance

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

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

77. What is the disadvantage of independent suspension system?

- A) Spring weight is more B) Vibration damping is less effective
C) Shocks transmitted from one wheel to other D) More maintenance cost

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

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

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

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

80. What is the purpose of beads and plys provided in the tyre?

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

81. What is the use of compact spare tyres?

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

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

- A) To provide cushioning effect B) To distribute the load evenly
C) To observe braking and driving torque D) To take the uneven load

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

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

84. 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

85. What is the advantage of coil spring?

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

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

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

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

- A) Rotary valve B) Flow control valve
C) Torsion bar D) Unloading valve

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

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

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

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

90. Where the non-return valve is located in the centre feed

master cylinder?

- A) On the pistons head
- B) On the cylinder head
- C) On the reservoir
- D) On the bypass port

91. What is the impact of larger scrub radius?

- A) Bending of steering linkage point
- B) Wear on the outer edge of tyre
- C) Unequal braking on the front wheel
- D) Wear on the centre part of tyre

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

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

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

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