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Q. ID: ITISKILL9388V6

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Question Paper

Duration: 120 Mins **Total Marks: 93** **ID: ITISKILL9388V6**

Student Name: _____ Roll No: _____

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

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

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

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

3. What is the function of traction control system?

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

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

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

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

A) Increase the tyre life
B) Oberve shocks and vibration
C) Provide cusioning effect on the vehicle
D) Provide positive road grip

6. 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) Malfunctioning of torsion bar
D) Incorrect toe - in and toe - out

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

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

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

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

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

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

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

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

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

A) Increased spring life
B) Good braking efficiency in both rear wheels
C) Better riding comfort
D) Prevention of ratting

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

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

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

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

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

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

15. Which system provided between axles and chassis frame?

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

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

A) Vibration damping is less effective
B) Maintanance cost is more

C) This is a complicated arrangement
D) Spring weight is less

17. Which is not the benefit of power steering?

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

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

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

19. What is the purpose of 'G' sensor

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

20. What is the advantage of coil spring?

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

21. 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) Conventional suspension
C) Torsion bar suspension
D) Strut type suspension

22. How the tyre is specified?

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

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

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

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

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

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

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

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

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

27. Which rating indicate the braking capablities of the tire to the consumer?

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

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

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

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

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

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

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

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

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

32. Why light weight cars use low steering ratio?

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

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

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

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

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

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

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

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

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

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

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

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

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

39. What is the advantage of electronic power steering?

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

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

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

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

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

42. What is the precautionary measures to be adapted while removing secondary piston to prevent damage

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

43. 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

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

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

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

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

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

A) Mica
B) Fibre glass
C) Asbestos
D) Resin

47. Why tyre wear found abnormal in the vehicle?

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

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

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

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

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

50. 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) Avoid wheel lockup by releasing pressure
D) Reduce fluid pressure

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

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

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

A) Improper size of tyre
B) Improper position of drop arm

C) Band axle beam
D) Tie rod loose fitting

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

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

54. Which advantage does not suit to wheel alignment?

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

55. What is the impact of larger scrub radious?

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

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

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

57. What is the disadvantage of independent suspension system?

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

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

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

59. Which facor affecting suspension?

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

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

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

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

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

62. Which type of suspension spring can not transfer wheel guidence forces?

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

63. How the tyre height is calculated?

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

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

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

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

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

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

A) Shocks are transmitted from one wheel to other
B) This is simple arrangement
C) Spring weight is less
D) Maintance cost is less

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

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

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

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

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

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

70. 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

71. What is the effect of weak suspension?

A) Vibration damping is more effective
B) Unequal weight distribution of weight

C) Directional unstability of vehicle
D) Carrying excessive payload of vehicle

72. Which principle is applicable for hydraulic brakes?

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

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

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

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

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

75. What will be the effect of negative scrub radious?

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

76. Which is not the function of suspension system?

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

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

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

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

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

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

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

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

A) Over inflation
B) Improper camber
C) Under inflation
D) Improper caster

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

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

82. What is the cause of noise in steering?

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

83. 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

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

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

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

A) To observe braking and driving torque
B) To provide cusioning effect
C) To distribute the load evanly
D) To take the uneven load

86. What is the purpose of air suspension?

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

87. What is the use of compact spare tyres?

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

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

A) Thread radious
B) Tyre width
C) Thread width
D) Rim width

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

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

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

A) Flow control valve
B) Rotary valve

C) Torsion bar D) Unloading valve

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

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

92. 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 the load equaly D) Transfer pay load smoothly

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

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