Trade Theory MMV
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Govt. ITI Bidkalkatte

Q. ID: ITISKILL7825VF
Question Paper

Student: Harsha
Score: 70/93 (75.27%)

Code: 1568

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

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

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

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

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

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

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

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

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

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

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

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

7. How the tyre height is calculated?

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

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

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

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

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

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

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

11. How the tyre is specified?

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

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

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

13. Which advantage does not suit to wheel alignment?

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

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

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

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

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

16. What is the advantage of electronic power steering?

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

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

A) Integral power steering
B) Linkage power steering

C) Electronic power steering (Correct) D) Manual steering

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

A) Torsion bar B) Rotary valve

C) Unloading valve D) Flow control valve (Incorrect)

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

A) Affect steering stability B) Prevent control in event of hydraulic failure

C) Combine high mechanical efficiency with smooth operation (Correct) D) Provide hard steering

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

A) Flow control valve **B) Rotary control valve (Correct)**

C) Pressure relief valve D) Unloading valves

21. Which is not the benefit of power steering?

A) Effort less steering B) Quick response

C) Absolute control during driving **D) Positive breaking system (Correct)**

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

A) Helical springs B) Coil springs

C) Leaf springs (Incorrect) D) Compression springs

23. What is the advantage of coil spring?

A) Good load carrying capacity B) High steering and stability

C) Low space requirement (Correct) D) Provide greater pay load

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

A) Coil springs B) Multiple leaf springs

C) Monoleaf springs **D) Fiber composite springs (Correct)**

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

A) Monoleaf springs B) Coil spring

C) Multiple - leaf spring D) Fibre composite springs (Incorrect)

26. Which system provided between axles and chassis frame?

A) Braking system **B) Suspension system (Correct)**

C) Steering system D) Cooling system

27. Which is not the function of suspension system?

A) It maintains body level B) It gives cushioning effects

C) It transfer braking torque to the chassis **D) It increase steering stability (Correct)**

28. Why light weight cars use low steering ratio?

A) To obtain low steering effect **B) To obtain large steering effect (Correct)**

C) To obtain constant steering effect D) To obtain no steering effect

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

A) Castor angle (Incorrect) **B) King pin inclination**

C) Camber angle D) Included angle

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

A) Maintain directional stability and control (Correct) B) Reduce tyre wear

C) Reduce abnormal vibration D) Convert steering torque input into voltage signal

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

A) Good braking efficiency in both rear wheels (Correct) B) Better riding comfort

C) Increased spring life D) Prevention of ratting

32. 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) Strut type suspension (Correct)**

C) Coil spring suspension D) Conventional suspension

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

A) Ball joint (Correct) B) Stabiliser bar

C) Torsion bar D) Lower control arm

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

A) Compression spring **B) Coil spring**

C) Helical spring (Incorrect) D) Transverse spring

35. Which type of shock absorber maintain vehicle ride at a

pre - set level according to the load placed over the rear axle?

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

36. What is the effect of weak suspension?

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

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

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

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

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

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

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

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

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

41. What is the purpose of air suspension?

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

42. What is the disadvantage of independent suspension system?

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

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

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

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

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

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

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

46. What is the use of compact spare tyres?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

58. What is the cause of noise in steering?

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

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

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

60. What is the impact of larger scrub radious?

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

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

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

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

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

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

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

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

A) Transfer pay load smoothly	**B) Protect chassis frame from heavy jerk (Correct)**
C) Transfer the load equaly	D) Provide steering control stability

65. Which facor affecting suspension?

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

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

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

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

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

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

A) To take the uneven load	B) To provide cusioning effect

C) To observe braking and driving torque (Correct) D) To distribute the load evanly

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

A) Filter chocked **B) Improper wheel alignment (Correct)**

C) Loose wheel level D) Low oil level

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

A) Hard steering B) Wheel wobbling

C) Steering wheel play **D) Vehicle pulling to one side (Correct)**

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

A) Improper pre load defective steering (Correct) B) Low oil level

C) Drop in pressure D) Wornout sealing rings

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

A) Improper tyre pressure (Incorrect) **B) King pin wornout**

C) Drop in pressure D) Wrong hose size

73. Why tyre wear found abnormal in the vehicle?

A) Loose wheel nut B) Improper linkage adjustment

C) Improper tol-in and tol - out (Correct) D) Improper tyre pressure

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

A) Improper position of drop arm (Incorrect) B) Tie rod loose fitting

C) Band axle beam D) Improper size of tyre

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

A) Noise (Correct) B) High fluid level

C) Low pressure D) Steering wheel play

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

A) Low oil level **B) Wrong flow control valve setting (Correct)**

C) Air in the system D) Wornout sealing ring

77. Which principle is applicable for hydraulic brakes?

A) Pascal's law (Correct) B) Boyle's law

C) Newton's law of motion D) Hooke's law

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

A) Hand control valve B) Spring brake actuator

C) System protection valve **D) Brake valve (Correct)**

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

A) Sintered alloy **B) Carbon fiber reinforced carbon composite (Correct)**

C) Asbestos D) Copper, brass, steel

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

A) Carbon fiber B) Aluminium oxide

C) Fine polished steel wool (Correct) D) Carbon composite

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

A) Resin (Correct) B) Mica

C) Asbestos D) Fibre glass

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

A) 2 to 12 mm B) 6 to 12 mm (Incorrect)

C) 7 to 12 mm D) 9 to 12 mm

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

A) Stainless steel B) High carbon steel

C) Special type castiron (Correct) D) High speed steel

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

A) Reduces brake pedal effort B) Increase braking efficiency

C) Provide balanced braking D) Prevent front wheel lockup (Incorrect)

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

A) On the reservoir B) On the cylinder head

C) On the bypass port **D) On the pistons head (Correct)**

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

A) 4 mm to 8 mm (Incorrect) B) 8 mm to 10 mm

C) 6 mm to 12 mm D) 13 mm to 18 mm

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

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

88. What is the purpose of 'G' sensor

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

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

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

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

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

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

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

92. What is the function of traction control system?

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

93. 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 increase brake pressure to the rear wheel
D) It improve directional stability of vehicle (Incorrect)