

February 2026

Question Paper

Duration: 30 Mins

Total Marks: 93

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Student Name: _____	Roll No: _____
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1. What is the advantage of using nitrogen in the tyres?

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

2. 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 |

3. Which system provided between axles and chassis frame?

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

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

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

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

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

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

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

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

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

8. Why light weight cars use low steering ratio?

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

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

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

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

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

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

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

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

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

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

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

14. Which principle is applicable for hydraulic brakes?

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

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

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

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

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

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

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

18. What is the purpose of air suspension?

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

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

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

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

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

21. How the tyre height is calculated?

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

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

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

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

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

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

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

25. What is the function of traction control system?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- A) Improper size of tyre
C) Band axle beam
- B) Tie rod loose fitting
D) Improper position of drop arm

33. Which facor affecting suspension?

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

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

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

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

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

36. What is the cause of noise in steering?

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

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

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

38. What is the disadvantage of independent suspension system?

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

39. What is the advantage of coil spring?

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

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

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

41. Which is not the function of suspension system?

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

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

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

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

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

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

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

45. What is the advantage of electronic power steering?

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

46. Which device detect the driven wheel spin through

sensor?

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

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

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

48. Which is not the benefit of power steering?

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

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

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

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

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

51. Why tyre wear found abnormal in the vehicle?

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

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

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

53. 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

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

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

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

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

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

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

A) Reduce the pressure at wheel cylinder

B) Automatic adjustment of engine torque to the grip rates

C) Reduce fluid pressure

D) Avoid wheel lockup by releasing pressure

57. 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) Mechanical shock absorber
- C) Hydraulic shock absorber
- D) Automatic load adjustable shock absorber

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

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

58. Which advantage does not suit to wheel alignment?

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

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

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

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

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

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

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

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

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

68. What is the purpose of 'G' sensor

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

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

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

69. 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 crack at edges
- D) Tyre will wearout at centre

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

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

70. How the tyre is specified?

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

63. 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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

80. 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) Percentage ratio of tyre height to tyre width
- D) Ratio between tyre height to tyre dia

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

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

82. What is the disadvantage of excessive positive camber in

the wheel alignment?

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

83. What is the impact of larger scrub radius?

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

84. 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

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

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

86. What is the effect of weak suspension?

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

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

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

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

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

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

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

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

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

91. 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 cushioning effect
- C) To take the uneven load
- D) To observe braking and driving torque

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

- A) Defective suspension system
- B) Over inflated tyre

C) Under inflated tyre

D) Un equal load distribution

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

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