

1. In a differential with a gear ratio of 4 : 1 the drive pinion would revolve four times to cause the ring gear to rotate

- (a) 1 time
- (b) 2 times
- (c) 4 times
- (d) 6 times

Ans: a

2. More often, the condition that draws attention to trouble in the differential is

- (a) Rough operation
- (b) Noise
- (c) Power loss

Ans: a

3. To correct heavy toe contact on ring gear teeth, move the

- (a) Ring gear towards pinion
- (b) Ring gear away from pinion
- (c) Drive pinion out and back lash

Ans: c

4. On a straight road, the ring gear

- (a) Rotates at the same speed as wheels
- (b) Rotates faster than wheels
- (c) Rotates slower than wheels
- (d) Does not rotate

Ans: a

5. In a passenger car a typical arrangement of braking with drum brakes will be

- (a) Two leading shoes at front and leading & trailing at rear
- (b) All the wheels having leading and trailing shoes
- (c) All the wheels having two leading shoes
- (d) Front leading and trailing, rear two leading shoes

Ans: b

6. Brake efficiency is a term which denotes

- (a) Efficiency of the braking system as a whole
- (b) Efficiency of the braking linings
- (c) The deceleration as percentage of gravity
- (d) Efficiency of the operating linkage

Ans: c

7. The most widely used brakes are operated

- (a) Electrically
- (b) Hydraulically
- (c) By air pressure
- (d) By vacuum

Ans: b

8. As a rule when comparing the front and rear wheel cylinder pistons it will be found that the pistons in the front wheel cylinders are

- (a) The same size
- (b) Smaller in diameter
- (c) Larger in diameter

Ans: c

9. The type of braking system referred to as power brake, makes use of

- (a) Electromagnets
- (b) Compressed air
- (c) Vacuum

Ans: b

10. In the vacuum suspended system, the brakes are applied when
- (a) Atmospheric pressure is applied to one side of the diaphragm
 - (b) Vacuum is applied to both sides of diaphragm
 - (c) Atmospheric pressure is applied to both sides of the diaphragm

Ans: a

11. In the atmospheric suspended system the brakes are applied when
- (a) Vacuum is applied to both sides of the diaphragm
 - (b) Atmospheric pressure is applied to both sides of the diaphragm
 - (c) Atmospheric pressure is applied to one side of the diaphragm

Ans: a

12. In a vacuum suspended unit, when the brakes are on, the piston or diaphragm has on both sides of it

- (a) Atmospheric pressure
- (b) Vacuum
- (c) Hydraulic pressure

Ans: a

13. The function of the relay valve in a compressed air brake system is to

- (a) Limit the maximum pressure reached in brake chambers
- (b) Relieve air pressure in brake chambers when it reaches a maximum value
- (c) Reduce the effort required at the brake pedal
- (d) Speed up the supply of air to brake chambers located at a distance from brake valve

Ans: a

14. In the hydraulic braking system, the piston in the master cylinder is connected by mechanical linkage to the

- (a) Wheel cylinders
- (b) Brake shoes
- (c) Brake pedal
- (d) Wheel pedal

Ans: c

15. In the hydraulic braking system, the movement of the pistons in the wheel cylinder is transmitted to the brake shoes by

- (a) Actuating pins
- (b) Springs
- (c) Cables
- (d) Trunnion
- (e) Joints

Ans: a

16. Two general types of vacuum assisted power brakes are (a) Vacuum suspended and power suspended

- (b) Integral and pressure suspended
- (c) Atmospheric suspended and vacuum suspended

Ans: c

17. In the integral type of power brake, the diaphragm acts directly on the hydraulic piston in the

- (a) Master cylinder
- (b) Wheel cylinder
- (c) Multiplier unit

Ans: a

18. In the multiplier type of brake, the diaphragm acts directly on the hydraulic piston in the

- (a) Master cylinder
- (b) Wheel cylinder

(c) Multiplier unit

Ans: c

19. In the power assisted type of brake the bellows applies force to the master cylinder piston

(a) Through diaphragm linkage

(b) Directly

(c) Through mechanical linkage

Ans: c

20. In the air brake, air pressure is supplied by

(a) Engine manifold

(b) A compressor

(c) The diaphragm valve

Ans: b

21. Power brakes in general operate making use of the pressure differential between the vacuum from the

intake manifold and

(a) Compressed air

(b) Atmospheric pressure

(c) Venturi vacuum

Ans: b

22. In the multiplier power brake system, movement of the brake pedal

(a) Increases the hydraulic pressure which actuates the control valve

(b) Actuates the valve in the bellows through linkage

(c) Actuates the valve to admit atmospheric pressure to one side of the diaphragm

Ans: c

23. In the power assisted brake system, movement of the brake pedal

(a) Increases the hydraulic pressure which actuates the control valve

(b) Actuates the valve in the bellows through linkage

(c) Actuates the valve to admit atmospheric pressure to one side of the diaphragm

Ans: c

24. The metal used for the brake drum is

(a) Aluminium alloy

(b) Cast steel

(c) Pressed steel

(d) Cast iron

Ans: d

25. Bleeding of brakes means

(a) Filling the master cylinder with brake oil

(b) Adjusting the brake shoe

(c) Removing air between master cylinder and each wheel unit

Ans: c

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26. In trucks the system of wheel braking employed is

(a) Mechanical

(b) Hydraulic

(c) Pneumatic

Ans: c

27. In jeeps we use

(a) Mechanical brakes

(b) Hydraulic brakes

(c) Air brakes

Ans: b

28. In a vacuum type servo-assisted brake system, vacuum is available in is made use of

- (a) Exhaust manifold
- (b) Combustion chamber
- (c) Water jackets
- (d) Inlet manifold

Ans: d

29. The approximate ratio of effort applied : effort available from servo system is (a) 1:1

- (b) 3:1
- (c) 1:4
- (d) 10:1

Ans: b

30. Due to continuous running on a hot day the temperature of the braking fluid will increase, hence some braking torque is applied on brake shoes, to avoid this a small quantity of fluid will be allowed to escape

into the master cylinder through

- (a) Intake port
- (b) Exhaust port
- (c) Secondary port

Ans: c

31. As the load on the vehicle increase it demands

- (a) Increased braking torque
- (b) Decreased braking torque
- (c) Same braking torque

Ans: a

32. In the hydraulic brake system, the movement of a piston in the master cylinder produces hydraulic pressure which causes movement of

- (a) Brake shoe
- (b) Brake pedal
- (c) Brake cam

Ans: a

33. In the case of brake linings saturants and bonding materials are used to

- (a) Facilitate moulding and curing of brake linings
- (b) To improve the heat dissipating capacity of linings
- (c) To give a constant coefficient of friction up to 800 C
- (d) To make the lining material impervious to moisture and oil and to ensure a steady coefficient of friction up to 3000 C

Ans: a

34. Brake lining area required for shoe brakes for trucks is mainly based on

- (a) Average truck speed
- (b) Frequency of brake applications
- (c) Gross vehicle weight
- (d) Material used for brake drums

Ans: c

35. The working fluid normally used in hydraulic brake systems is

- (a) High speed diesel oil along with alcohol
- (b) SAE 20 oil with anti-corrosion additives
- (c) A mixture of vegetable oil and SAE 10 oil
- (d) A solution of castor oil in alcohol along with neutralizer

Ans: d

36. Movement of the brake pedal forces brake fluid from the master brake cylinder through brake lines and into the

- (a) Brake shoes
- (b) Wheel cylinders
- (c) Brakes cables
- (d) Pedal rod

Ans: b

37. During braking the brake shoe is moved outward to press against the

- (a) Wheel piston or cylinder
- (b) Brake lining
- (c) Brake drum or disc
- (d) Wheel rim or axle

Ans: c

38. In the hydraulic brake system, movement of a piston in the master cylinder produces hydraulic pressure which causes movement of the

- (a) Wheel cylinder pistons
- (b) Brake pedal
- (c) Brake cam

Ans: a

39. The radius of a pneumatic tyre is

- (a) The radius of unloaded fully inflated tyre
- (b) The height of centre of tyre from the ground when it is loaded
- (c) Imaginary radius found by measuring the distance per revolution of the loaded tyre
- (d) It is fixed radius, based on the dimensions of the tyre

Ans: a

40. For a through inspection a tyre should be

- (a) On the car
- (b) On the wheel
- (c) Off the wheel
- (d) Inflated

Ans: d

41. If a tube of large size than required is installed in a tyre then

- (a) The tyre will over expand
- (b) The tyre and tube will not fit the rim
- (c) The tube will overlap and wear

Ans: c

42. Of the four tyres on a car, the one that wears most is the

- (a) Right front tyre
- (b) Right rear tyre
- (c) Left front tyre
- (d) Left rear tyre

Ans: b

43. To equalize tyre wear, it is suggested that tyres be rotated from one wheel to another every

- (a) 80 kms
- (b) 8000 kms
- (c) 800 kms

Ans: b

44. The distance between dual tyres of vehicles is to be correctly spaced to

- (a) Ensure proper distribution of load between dual wheels
- (b) Reduce over-steering effect
- (c) Reduce the slippage between tyre and road while taking a turn

(d) Ensure effective braking

Ans: c

45. When an automobile takes a turn to avoid the skidding and over turning

- (a) Each wheel will roll independently
- (b) Front two wheels will have a common centre during a turning
- (c) All the 4 wheels will roll on arcs having a common centre

Ans: b

46. Wheels must be balanced

- (a) On the car only
- (b) Either on or off the car
- (c) Off the car only

Ans: c

47. Weight can be attached to wheel rim to correct

- (a) Wheel alignment
- (b) Wheel run out
- (c) Wheel balance

Ans: c

48. Toe out on turns

- (a) Is adjusted by shims
- (b) Is adjusted by changing the effective length of the tie rods
- (c) Cannot be adjusted

Ans: c

49. Caster is defined as the inclination of

- (a) Front wheel to the vertical
- (b) The king pin axis in the fore and aft plane
- (c) The king pin axis in the transverse vertical plane
- (d) The axis of stub axle to the horizontal

Ans: b

50. The Ackermann steering layout

- (a) Makes for safer driving
- (b) Enables the driver to feel ahead position
- (c) Gives minimum tyre wear
- (d) Reduces load on the kingpins and stub axle

Ans: a