

MOT Training - NTTA Sample Questions

Brakes

1. How would you check that a hydraulic braking system vacuum servo is assisting foot brake pedal effort ?
A = listen for a change in engine speed when applying the foot brake.
B = measure the brake application time lag.
C = feel for an increase in brake pedal movement as the servo vacuum builds up after being emptied.
D = look for a change in the brake fluid reservoir level when the foot brake is applied.
2. Which one of the following foot brake efficiency ranges should a properly maintained modern four wheeled car be expected to achieve in an EMERGENCY BRAKING situation on a dry tarmac road ?
A = 100% to 105%
B = 80% to 85%
C = 50% to 55%
D = 25% to 30%
3. A car is accidentally fitted with O/S/F wheel cylinders that have pistons 2.0mm GREATER in DIAMETER than the N/S/F wheel cylinders pistons. This is likely to cause ?
A = excessive brake bind at the O/S
B = the brakes to pull to the O/S
C = the brakes to pull to the N/S
D = no difference in the braking
4. What causes 'sponginess' in a hydraulic braking system ?
A = air in the hydraulic fluid
B = partially seized wheel cylinders
C = new unused brake discs
D = excessive play in wheel bearings
5. Which one of the following is true about hydraulic brake fluid ?
A = it is always a red colour
B = it repels water
C = it freezes at approximately 0 degrees C
D = it absorbs water
6. Hydraulic brake fluid ?
A = compresses very easily
B = expands considerably when heated
C = is virtually incompressible
D = contracts considerably when cooled
7. Which one of the following is NOT a type of disc brake calliper ?
A = sliding
B = swinging
C = expanding
D = twin piston
8. Which one of the following is true ?
A = brake linings are always riveted to brake shoes
B = brake linings are always bonded to brake shoes
C = brake linings can absorb oil
D = brake linings cannot absorb oil
9. Excessive brake disc 'run-out' indicates that a brake disc is ?
A = buckled
B = not circular
C = too small
D = worn thin
10. Which one of the following does NOT change the braking effectiveness of a car ?
A = wheel cylinder piston length
B = wheel cylinder piston diameter
C = brake pedal pressure

D = brake linings or disc pads hardness

Steering

11. A track control arm is for ?

- A = reducing body roll
- B = locating the position of a road wheel
- C = providing the means for adjusting toe in/out
- D = adjusting camber angle

12. What is steering castor ?

- A = a steering joint lubricant
- B = a front hub grease slinger
- C = a steering geometry feature
- D = a constant velocity joint component

13. The camber angle setting of a road wheel determines ?

- A = the plane of a road wheel in relation to the vertical
- B = The wheel bearing type
- C = the maximum amount that the steering can be turned towards locks
- D = the maximum rebound action

14. Steering self centring (or self righting) is mainly produced by ?

- A = king pin inclination
- B = toe in or toe out
- C = camber
- D = castor

15. Which unit is a sector shaft a part of ?

- A = rack and pinion assembly
- B = steering box assembly
- C = power steering pump assembly
- D = Steering idler assembly

16. Which force is a steering column most subjected to in normal use ?

- A = torsion
- B = sheer
- C = bending
- D = compression

17. Which one of the following determines the amount of steering 'toe out' (Ackerman effect) on locks ?

- A = steering arm to stub axle angle
- B = castor
- C = rack and pinion gear ratio
- D = drop arm length

18. What is meant by the term 'over steer' ?

- A = the tendency for a vehicle to steer on a smaller turning circle than is expected
- B = the steering wheel is situated in front of the first axle
- C = the steering wheel is situated directly over the first axle
- D = the tendency for a vehicle to steer on a larger turning circle than is expected

19. Steered wheels tracking adjustment is normally made by ?

- A = fitting a different length drag link
- B = adjusting suspension link arms
- C = adjusting steering column end float
- D = adjusting track rod length

20. If a steering power assistance pump stops working it will cause ?

- A = total loss of steering control
- B = restricted steering towards locks
- C = the steering to feel heavy
- D = the steering to feel light

Suspension

21. A transverse leaf spring is one which has its greatest length ?

- A = in line with the length of the vehicle
- B = across the vehicle
- C = to the front of the driving axle
- D = to the rear of the driving axle

22. A leaf spring 'swinging shackle' is for ?

- A = securing the spring to the axle
- B = preventing the spring leaves from splaying
- C = limiting the spring thickness
- D = allowing the spring to alter its effective length when flexing

23. A suspension bump stop is for ?

- A = securing spring 'U' bolts
- B = limiting suspension vertical movement
- C = limiting suspension lateral movement
- D = reducing road wheel vibration

24. Which type of shock absorber (damper) is usually used with a MacPherson strut suspension ?

- A = lever
- B = friction
- C = telescopic
- D = hydrolastic

25. The eye of a leaf spring is for ?

- A = locating the spring on an axle
- B = attaching a spring to a chassis or body
- C = attaching a shock absorber (damper) to the spring
- D = checking spring alignment

26. A suspension torsion bar is usually made from ?

- A = mild steel
- B = spring steel
- C = silver steel
- D = cast iron

27. When a suspension coil spring is 'coil bound' it usually indicates that ?

- A = the spring is over loaded
- B = the spring is encased in a weatherproof jacket
- C = the vehicle weight has been reduced
- D = the vehicle has the wrong wheel clearance

28. What fluid is normally in hydraulic shock absorbers (dampers) ?

- A = water
- B = a water / anti-freeze mixture
- C = alcohol
- D = oil

29. In which direction does a 'panhard rod' control suspension movement in relation to a vehicle longitudinal axis ?

- A = laterally
- B = vertically
- C = towards the front
- D = towards the rear

30. Which one of the following front suspension system must have TWO combined steering & suspension swivel joints and TWO pivot joints for EACH front wheel ?

- A = MacPherson strut
- B = semi-elliptic leaf
- C = double wishbone
- D = leading arm

Wheels and Tyres

31. Which types of tyre construction have the most flexible side walls ?

- A = cross ply
- B = bias belted
- C = radial
- D = cross ply remoulds

32. What does a tyre 'ply rating' indicate ?

- A = load carrying capacity
- B = inflation pressure
- C = maximum safe road speed
- D = tread rubber thickness

33. The correct wheel rim diameter for a 185 x 13 size tyre is ?

- A = 13cm
- B = 185mm
- C = 13 inches
- D = 6.5 inches

34. Where on a tyre are tread wear indicators located ?

- A = in the tread
- B = on the side wall
- C = on each shoulder
- D = at the bead

35. A tyre that is run under inflated will wear more rapidly ?

- A = at the tread centre
- B = on the outer side wall
- C = at the tread shoulders
- D = on the inner side wall

Wheels and Tyres

36. What is the approximate voltage produced from ONE CELL of a Lead / Acid battery ?

- A = 2 volts
- B = 4 volts
- C = 6 volts
- D = 12 volts

37. What minimum fuse rating is needed for a 12 volt circuit with just one 48 watt bulb ?

- A = 0.4 Amp
- B = 2.0 Amp
- C = 3.0 Amp
- D = 4.0 Amp

38. For vehicle wiring, the expression "Earth Return" means ?

- A = the circuit earths to ground via the vehicle wheels or an earth strap
- B = all circuits must have over load cut-out switches
- C = relays are needed on all circuits
- D = the vehicle body or chassis is a part of the circuit

39. The beam image pattern emitted by some modern headlamps is determined by ?

- A = its lens
- B = the supply voltage
- C = the circuit amperage
- D = its height from the ground

40. An alternator has a diode rectifier for ?

- A = boosting voltage
- B = cooling
- C = converting output to AC
- D = converting output to DC

Body & Corrosion

41. The corrosion process of steel car bodies is known as ?

- A = oxidation
- B = carbonisation
- C = ionisation
- D = hydration

42. Steel car bodies can be protected from corrosion by ?

- A = galvanising
- B = tempering
- C = normalising
- D = annealing

43. Which metal is most resistant to rusting ?

- A = iron
- B = high carbon steel
- C = low carbon steel
- D = stainless steel

44. The corrosion of mild steel is increased by the addition of ?

- A = alcohol
- B = oil
- C = nitrogen
- D = salt

45. The evidence of corrosion on aluminium and its alloys is seen on the metal as ?

- A = a red stain
- B = a white powder
- C = a brown stain
- D = a brown powder

Exhaust Emissions

46. When a petrol engine is running rich the exhaust gas hydrocarbon (HC) will be ?

- A = higher than it should be
- B = lower than it should be
- C = the same as when the engine is running weak
- D = the same as the exhaust gas carbon monoxide content

47. Petrol is mainly composed of ?

- A = nitrogen and oxygen
- B = oxygen and hydrogen
- C = oxygen and carbon
- D = carbon and hydrogen

48. The colour of the exhaust gas emitted from a petrol engine that is running very rich is likely to be?

- A = black
- B = white
- C = dark blue
- D = light blue

49. A 4 cylinder petrol engine has an exhaust gas hydrocarbon content of 600 ppm (parts per million). What is the hydrocarbon content likely to be when a plug lead is removed ?

- A = over 900 ppm
- B = 600 ppm
- C = 500 ppm
- D = under 400 ppm

50. The CO (carbon monoxide) content of the exhaust gas emitted from a properly maintained non-cat 4 cylinder petrol engine in good condition is most likely to be ?

- A = 3.0%
- B = 9.0%
- C = 12.0%
- D = 15.0%

Exhaust Emissions

51. Which one of the following petrol / air mixtures is closest to the theoretical best for the most complete combustion in a petrol engine ?
A = 20 air units to 1 petrol unit
B = 15 air units to 1 petrol unit
C = 20 petrol units to 1 air unit
D = 15 petrol units to 1 air unit
52. Which one of the following fuels should be used when there is a catalytic converter in the exhaust system ?
A = 100 octane petrol having 1.4% Tetraethyl-lead
B = 92 octane petrol having 0.4% Tetraethyl-lead
C = 92 octane petrol without any Tetraethyl-lead
D = a blend of 85 octane petrol and paraffin
53. Which one of the following situations is the correct one for measuring the normal 'in use' exhaust emissions from a petrol engine ?
A = when the engine is cold
B = when the engine coolant water is hot and the sump oil is still cool
C = when the engine coolant water and sump oil are both at normal working temperature
D = when the air cleaner is removed and both the sump oil and engine water coolant are at working temperature
54. Which is the correct procedure when using an exhaust gas analyser for determining the exhaust emissions from a V6 petrol engine that has two totally separate exhaust systems ?
A = add together the readings from each tail pipe
B = average the readings from the tail pipes
C = take the readings from only one tail pipe
D = multiply together the readings from each tail pipe
55. Which element in the atmosphere aids combustion ?
A = Nitrogen
B = Carbon dioxide
C = Carbon monoxide
D = Oxygen

General

56. An exhaust system expansion box is for ?
A = removing harmful gases
B = reducing exhaust noise
C = controlling hydrocarbon emissions
D = controlling carbon monoxide emissions
57. A petrol engine exhaust system catalytic converter is for ?
A = removing certain harmful exhaust emissions
B = condensing steam to water
C = extra silencing
D = preventing an exhaust system from over heating
58. An 'inertia reel' seat belt is one which ?
A = unwinds to allow body movement in a head-on collision
B = locks to restrict body movement in a head-on collision
C = is only fitted with lap type seat belts
D = is only fitted with full harness type seat belts
59. A 'lap' type seat belt is one which ?
A = has a 3 point mounting
B = has a single point mounting
C = has a 2 point mounting
D = does not need a mounting
60. Which type of windscreen will crack without shattering ?
A = toughened
B = laminated
C = tinted

D = wrap around