

Q1. Which refrigerant replaced R-134a in most modern car HVAC systems due to environmental concerns?

- A. R-12
- B. R-22
- C. R-1234yf
- D. R-410A

Answer: C

Q2. The main environmental problem caused by old refrigerants like R-12 was:

- A. Global warming only
- B. Ozone layer depletion
- C. Acid rain
- D. Water pollution

Answer: B

Q3. Which gas from car AC systems contributes to global warming?

- A. Oxygen
- B. Carbon dioxide
- C. Refrigerant gas
- D. Nitrogen

Answer: C

Q4. The Global Warming Potential (GWP) of R-1234yf is:

- A. Very high

B. Moderate

C. Very low

D. Zero

Answer: C

Q5. Which safety device protects the AC system from over-pressure?

A. Evaporator

B. Condenser

C. Pressure relief valve

D. Receiver drier

Answer: C

Q6. Refrigeration is the process of:

A. Heating a space

B. Cooling a space below atmospheric temperature

C. Removing humidity

D. Supplying hot air

Answer: B

Q7. The working fluid in refrigeration is called:

A. Coolant

B. Refrigerant

C. Lubricant

D. Water

Answer: B

Q8. In an air conditioning system, the main function of the evaporator is to:

- A. Compress gas
- B. Absorb heat
- C. Reject heat
- D. Pump refrigerant

Answer: B

Q9. Which component increases the pressure of the refrigerant?

- A. Condenser
- B. Compressor
- C. Evaporator
- D. Expansion valve

Answer: B

Q10. Air conditioning controls all except:

- A. Temperature
- B. Humidity
- C. Air cleanliness
- D. Fuel consumption

Answer: D

Q11. The vapour compression cycle has how many main components?

- A. 2
- B. 3
- C. 4
- D. 5

Answer: C

Q12. The function of the expansion valve is to:

- A. Increase pressure
- B. Decrease pressure
- C. Absorb heat
- D. Reject heat

Answer: B

Q13. In which component does refrigerant absorb heat?

- A. Condenser
- B. Compressor
- C. Evaporator
- D. Expansion valve

Answer: C

Q14. Heat rejection occurs in the:

- A. Evaporator
- B. Compressor
- C. Condenser
- D. Expansion device

Answer: C

Q15. COP of a refrigeration system is defined as:

- A. Work done / Heat absorbed
- B. Heat rejected / Work input
- C. Heat absorbed / Work input
- D. Work input / Heat rejected

Answer: C

Q16. The main function of the compressor in a car AC system is to:

- A. Store refrigerant
- B. Increase pressure of refrigerant
- C. Cool the refrigerant
- D. Absorb heat from cabin

Answer: B

Q17. Which component converts high-pressure refrigerant gas into liquid?

- A. Evaporator
- B. Compressor
- C. Condenser
- D. Receiver drier

Answer: C

Q18. The expansion valve in the AC system:

- A. Increases refrigerant temperature
- B. Reduces refrigerant pressure
- C. Removes moisture
- D. Compresses gas

Answer: B

Q19. The evaporator is usually located:

- A. In front of the radiator
- B. Inside the dashboard
- C. Near the engine block

D. Under the car

Answer: B

Q20. Which component removes moisture from refrigerant?

- A. Condenser
- B. Receiver drier
- C. Expansion valve
- D. Compressor

Answer: B

Q21. The blower motor is used to:

- A. Cool engine
- B. Circulate air in the cabin
- C. Reduce fuel consumption
- D. Lubricate compressor

Answer: B

Q22. The cabin air filter is located:

- A. Before the compressor
- B. In air intake duct
- C. Inside the condenser
- D. In refrigerant pipe

Answer: B

Q23. The mode door in HVAC system controls:

- A. Refrigerant flow
- B. Engine speed

C. Direction of airflow

D. Pressure of refrigerant

Answer: C

Q24. In heating mode, warm air is produced using:

A. Hot exhaust gases

B. Hot engine coolant

C. Hot compressor oil

D. Hot radiator fan air

Answer: B

Q25. Recirculation flap helps to:

A. Increase fuel efficiency

B. Prevent refrigerant leakage

C. Recirculate cabin air

D. Increase compressor speed

Answer: C

Q26. The heater core works as:

A. A compressor

B. A small radiator

C. An expansion valve

D. A condenser

Answer: B

Q27. Hot engine coolant flows from which part to the heater core?

A. Fuel tank

- B. Exhaust pipe
- C. Engine block / cylinder head
- D. Brake lines

Answer: C

Q28. The main source of heat for automobile heating system is:

- A. Battery
- B. Engine waste heat
- C. Outside air
- D. Exhaust muffler

Answer: B

Q29. The function of heater control valve is to:

- A. Control refrigerant pressure
- B. Control coolant flow to heater core
- C. Control speed of blower
- D. Control temperature sensor

Answer: B

Q30. The purpose of ventilation in a car is to:

- A. Heat the engine
- B. Supply fresh air
- C. Increase tyre pressure
- D. Improve acceleration

Answer: B

Q31. Which component removes dust before air enters the cabin?

- A. Expansion valve
- B. Condenser
- C. Cabin air filter
- D. Radiator

Answer: C

Q32. The blower motor in ventilation system is used to:

- A. Push refrigerant into condenser
- B. Draw in and circulate air
- C. Compress air
- D. Cool engine oil

Answer: B

Q33. The comfortable temperature range for most people is:

- A. 10–15°C
- B. 18–27°C
- C. 30–40°C
- D. 0–10°C

Answer: B

Q34. The ideal relative humidity for human comfort lies between:

- A. 10–20%
- B. 20–30%
- C. 40–60%
- D. 80–100%

Answer: C

Q35. Human comfort mainly depends on:

- A. Temperature only
- B. Humidity only
- C. Air motion only
- D. Temperature, humidity and air motion

Answer: D

Q36. High air velocity in a room causes:

- A. Better comfort
- B. Skin dryness
- C. Feeling of cold discomfort
- D. No effect

Answer: C

Q37. The comfort zone is shown on:

- A. T-S diagram
- B. P-V diagram
- C. Psychrometric chart
- D. Mollier diagram

Answer: C

Q38. Which refrigerant is most commonly used in modern car AC systems?

- A. R-12
- B. R-134a
- C. R-22
- D. R-410A

Answer: B

Q39. Which refrigerant is widely used now due to its low global warming potential?

- A. R-12
- B. R-1234yf
- C. R-404A
- D. R-717

Answer: B

Q40. Which property is important for a good refrigerant?

- A. High boiling point
- B. High toxicity
- C. High latent heat of vaporization
- D. High viscosity

Answer: C

Q41. Which refrigerant has zero ozone depletion potential?

- A. R-12
- B. R-134a
- C. R-1234yf
- D. Both B and C

Answer: D

Q42. Before charging refrigerant, the system should be:

- A. Heated
- B. Pressurized
- C. Evacuated
- D. Oiled

Answer: C

Q43. Why is vacuum created before charging refrigerant?

- A. To increase pressure
- B. To remove air and moisture
- C. To cool the pipes
- D. To test compressor speed

Answer: B

Q44. Which instrument is used to measure high and low side pressure?

- A. Thermometer
- B. Manifold gauge set
- C. Hydrometer
- D. Voltmeter

Answer: B

Q45. Overcharging refrigerant causes:

- A. Low pressure
- B. No cooling
- C. Higher system pressure
- D. Freezing of evaporator

Answer: C

Q46. The main function of the temperature control system is to:

- A. Control vehicle speed
- B. Maintain desired cabin temperature
- C. Control fuel injection

D. Reduce engine load

Answer: B

Q47. The temperature sensor in a car HVAC system senses:

- A. Engine temperature
- B. Outside temperature only
- C. Cabin air temperature
- D. Tyre temperature

Answer: C

Q48. In automatic climate control, temperature is controlled by:

- A. Driver manually
- B. ECU and sensors
- C. Expansion valve only
- D. Radiator

Answer: B

Q49. Which component controls mixed hot and cold air?

- A. Compressor
- B. Condenser
- C. Blend door
- D. Evaporator

Answer: C

Q50. The thermostat in an HVAC system is used to:

- A. Control refrigerant pressure

- B. Sense cabin temperature
- C. Control compressor ON/OFF
- D. Control blower speed

Answer: C

Q51. Increasing blower speed will generally:

- A. Decrease cooling
- B. Increase cooling
- C. Stop compressor
- D. Increase humidity

Answer: B

Q52. Which component helps in dehumidification in AC?

- A. Condenser
- B. Evaporator
- C. Compressor
- D. Expansion valve

Answer: B

Q53. Dehumidification occurs when:

- A. Air passes over warm coil
- B. Air passes over cold evaporator coil
- C. Air passes through radiator
- D. Air flows at high speed

Answer: B

Q54. Moist air loses its moisture due to:

- A. Increase in pressure
- B. Condensation of vapor
- C. Increase in temperature
- D. Air compression

Answer: B

Q55. High humidity inside car cabin causes:

- A. Better comfort
- B. Faster cooling
- C. Fogging of glass
- D. Lower temperature

Answer: C

Q56. The device used to measure relative humidity is:

- A. Barometer
- B. Hygrometer
- C. Anemometer
- D. Manometer

Answer: B

Q57. Lower evaporator temperature results in:

- A. Poor humidity control
- B. Better dehumidification
- C. No cooling
- D. Compressor failure

Answer: B

Q58. The main purpose of a keyless entry system is to:

- A. Improve engine power
- B. Enable remote locking/unlocking of doors
- C. Increase fuel efficiency
- D. Control HVAC system

Answer: B

Q59. Which component sends the signal in a keyless entry system?

- A. Door actuator
- B. Car ECU
- C. Key fob (transmitter)
- D. Receiver motor

Answer: C

Q60. Keyless entry systems generally operate using:

- A. Infrared waves
- B. Bluetooth only
- C. Radio frequency signals
- D. Sound waves

Answer: C

Q61. Rolling code technology is used to:

- A. Increase signal range
- B. Reduce battery usage
- C. Prevent theft by code duplication
- D. Improve motor speed

Answer: C

Q62. The main function of an anti-theft system is to:

- A. Increase car speed
- B. Prevent unauthorized vehicle use
- C. Improve braking
- D. Improve suspension

Answer: B

Q63. An engine immobilizer works by:

- A. Locking steering wheel
- B. Cutting fuel or ignition system
- C. Locking doors
- D. Activating horn

Answer: B

Q64. Which sensor detects unauthorized entry into a car?

- A. Oxygen sensor
- B. Door sensor
- C. Temperature sensor
- D. MAF sensor

Answer: B

Q65. A vehicle immobilizer compares:

- A. Engine RPM
- B. Fuel pressure
- C. Key code with ECU data

D. Door position

Answer: C

Q66. Automatic door lock system locks doors when:

A. Car reaches certain speed

B. Engine starts

C. AC turns ON

D. Headlights turn ON

Answer: A

Q67. Automatic door locking usually activates at:

A. 5 km/h

B. 10–15 km/h

C. 40 km/h

D. 80 km/h

Answer: B

Q68. Which sensor supports automatic door locking?

A. Oxygen sensor

B. Speed sensor

C. Rain sensor

D. Temperature sensor

Answer: B

Q69. Central locking system is controlled by:

A. Radiator

B. Body Control Module (BCM)

C. Alternator

D. Fuel pump

Answer: B

Q70. The main function of a park assist system is to:

A. Increase braking power

B. Help driver park safely

C. Increase engine RPM

D. Boost battery power

Answer: B

Q71. Park assist system commonly uses:

A. Temperature sensors

B. Ultrasonic sensors

C. Pressure sensors

D. Oxygen sensors

Answer: B

Q72. Park assist warning is given by:

A. Engine sound

B. Dashboard lights only

C. Beeps and display

D. Horn only

Answer: C

Q73. Park assist sensors are mounted on:

A. Roof

B. Side mirrors

C. Front and rear bumpers

D. Inside tyres

Answer: C

Q74. Automatic headlight dimming prevents:

A. Battery discharge

B. Dazzling of oncoming vehicles

C. Engine overheating

D. Fuel loss

Answer: B

Q75. Automatic headlight dimming works based on:

A. Vehicle speed

B. Ambient light and oncoming light

C. Engine temperature

D. Steering angle

Answer: B

Q76. Which sensor is used for automatic headlight dimming?

A. Ultrasonic sensor

B. Light sensor

C. Oxygen sensor

D. Speed sensor

Answer: B

Q77. Headlights switch from high beam to:

A. Parking light

B. Fog light

C. Low beam

D. OFF

Answer: C

Q78. GPS stands for:

A. Global Position Sensor

B. Global Position System

C. General Position Satellite

D. Geographical Position System

Answer: B

Q79. GPS is used for:

A. Engine tuning

B. Vehicle location tracking

C. Fuel injection

D. Airbag deployment

Answer: B

Q80. GPRS stands for:

A. Global Packet Radio Service

B. General Packet Routing System

C. Global Position Radio Service

D. General Position Routing System

Answer: A

Q81. GPS requires minimum how many satellites?

- A. 1
- B. 2
- C. 3
- D. 4

Answer: D

Q82. Which system works without mobile network?

- A. GPRS
- B. Bluetooth
- C. GPS
- D. Wi-Fi

Answer: C

Q1. The primary purpose of an automobile body is to:

- A. Increase engine efficiency
- B. Carry passengers and payload safely
- C. Reduce rolling resistance
- D. Improve fuel injection

Answer: B

Q2. The term “vehicle overhang” refers to:

- A. Distance between wheels
- B. Distance between front and rear axle
- C. Portion of body beyond wheelbase
- D. Height of the vehicle body

Answer: C

Q3. Which body construction offers better crash energy absorption?

- A. Ladder frame
- B. Body-on-frame
- C. Monocoque
- D. Tubular frame

Answer: C

Q4. Which parameter directly affects vehicle stability during cornering?

- A. Body color
- B. Center of gravity height
- C. Engine displacement
- D. Fuel type

Answer: B

Q5. A semi-monocoque body mainly uses:

- A. Wooden frame
- B. Separate chassis
- C. Reinforced sheet metal panels
- D. Plastic body shell

Answer: C

Q6. Which material is preferred for crumple zones?

- A. Cast iron
- B. High carbon steel
- C. Mild steel
- D. Brittle alloys

Answer: C

Q7. Which manufacturing process is commonly used for body panel shaping?

- A. Forging
- B. Casting
- C. Press forming
- D. Extrusion

Answer: C

Q8. Which defect is most likely after poor accidental repair?

- A. Increased torque
- B. Misalignment of body panels
- C. Better aerodynamics
- D. Reduced vibration

Answer: B

Q9. Which body part contributes maximum aerodynamic drag?

- A. Roof
- B. Front profile
- C. Doors
- D. Underbody

Answer: B

Q10. Streamlining of a vehicle body mainly improves:

- A. Cabin comfort
- B. Engine power

C. Fuel efficiency at high speed

D. Brake performance

Answer: C

Q11. Rolling resistance mainly depends on:

A. Engine speed

B. Tyre pressure and road surface

C. Air density

D. Vehicle color

Answer: B

Q12. Air resistance increases with:

A. Square of speed

B. Linear speed

C. Vehicle weight

D. Road gradient

Answer: A

Q13. Gradient resistance acts when vehicle:

A. Accelerates

B. Brakes

C. Moves on inclined road

D. Moves on flat road

Answer: C

Q14. Tractive effort must overcome:

A. Only rolling resistance

- B. Only air resistance
- C. All motion resistances
- D. Engine losses only

Answer: C

Q15. Which motion causes side-to-side tilting of vehicle body?

- A. Pitching
- B. Bouncing
- C. Rolling
- D. Yaw

Answer: C

Q16. Yaw motion occurs about:

- A. Longitudinal axis
- B. Vertical axis
- C. Lateral axis
- D. Wheel axis

Answer: B

Q17. Bouncing is mainly due to:

- A. Poor steering
- B. Uneven road surface
- C. Engine imbalance
- D. Brake failure

Answer: B

Q18. Sway is most noticeable during:

- A. Straight motion
- B. Sudden lane change
- C. Constant speed driving
- D. Engine idling

Answer: B

Q19. Which resistance exists even when vehicle is stationary?

- A. Rolling resistance
- B. Air resistance
- C. Gradient resistance
- D. Static resistance

Answer: C

Q20. Lower center of gravity improves:

- A. Fuel consumption
- B. Vehicle handling
- C. Engine power
- D. Brake wear

Answer: B

Q21. Which accessory improves aerodynamics?

- A. Mud flap
- B. Roof carrier
- C. Spoiler
- D. Side step

Answer: C

Q22. Vehicle drag coefficient depends on:

- A. Engine size
- B. Body shape
- C. Fuel quality
- D. Tyre size

Answer: B

Q23. Which panel protects engine compartment from cabin?

- A. Bonnet
- B. Firewall
- C. Fender
- D. Cowl

Answer: B

Q24. Galvanization of body panels is done to:

- A. Increase strength
- B. Improve appearance
- C. Prevent corrosion
- D. Reduce weight

Answer: C

Q25. Which coating is applied first during body painting?

- A. Clear coat
- B. Base coat
- C. Primer
- D. Enamel

Answer: C

Q26. Underbody coating is mainly applied to:

- A. Improve mileage
- B. Reduce corrosion
- C. Increase weight
- D. Reduce engine noise

Answer: B

Q27. Which body type offers maximum cargo space?

- A. Coupe
- B. Sedan
- C. Station wagon
- D. Convertible

Answer: C

Q28. Accident repair quality affects:

- A. Engine efficiency only
- B. Vehicle safety and alignment
- C. Fuel type
- D. Gear ratio

Answer: B

Q29. Spot welding is commonly used for:

- A. Engine block
- B. Body panel joining
- C. Suspension arms

D. Gear casing

Answer: B

Q30. Which metal offers best strength-to-weight ratio?

- A. Cast iron
- B. Mild steel
- C. Aluminum alloy
- D. Copper

Answer: C

Q31. Body rigidity helps in:

- A. Better noise insulation
- B. Improved handling and safety
- C. Higher fuel consumption
- D. Lower torque

Answer: B

Q32. Vehicle stability is least affected by:

- A. Wheelbase
- B. Track width
- C. Body color
- D. Center of gravity

Answer: C

Q33. Aerodynamic lift mainly affects:

- A. Braking
- B. Cornering stability

C. Engine cooling

D. Fuel injection

Answer: B

Q34. Which resistance dominates at low speed?

A. Air resistance

B. Rolling resistance

C. Gradient resistance

D. Wind resistance

Answer: B

Q35. Which body material reduces overall vehicle weight?

A. Cast iron

B. Steel

C. Aluminum

D. Brass

Answer: C

Q36. Which body structure improves passenger safety?

A. Rigid frame only

B. Crumple zone design

C. Thin panels

D. Open structure

Answer: B

Q37. Vehicle pitching occurs during:

A. Sudden acceleration or braking

B. Cornering

C. Side wind

D. Idling

Answer: A

Q38. Which force keeps tyres in contact with road?

A. Drag force

B. Traction

C. Lift force

D. Centrifugal force

Answer: B

Q39. Which shape offers minimum air drag?

A. Cubical

B. Rectangular

C. Streamlined

D. Cylindrical

Answer: C

Q40. Increased frontal area causes:

A. Lower air resistance

B. Higher drag force

C. Better stability

D. Lower fuel consumption

Answer: B

Q41. Which parameter affects tractive effort most?

A. Tyre-road friction

B. Paint quality

C. Cabin volume

D. Seat arrangement

Answer: A

Q42. Body accessories should not:

A. Increase drag excessively

B. Improve comfort

C. Improve safety

D. Improve utility

Answer: A

Q43. Which motion causes nose left-right movement?

A. Pitch

B. Roll

C. Yaw

D. Bounce

Answer: C

Q44. Vehicle resistance always opposes:

A. Engine torque

B. Vehicle motion

C. Fuel injection

D. Wheel rotation

Answer: B

Q45. Better streamlining mainly benefits:

- A. City driving
- B. Highway driving
- C. Parking
- D. Idling

Answer: B

Q46. Which body material is recyclable and lightweight?

- A. Steel
- B. Aluminum
- C. Cast iron
- D. Lead

Answer: B

Q47. Which panel reduces splash from wheels?

- A. Bonnet
- B. Mudguard
- C. Roof
- D. Door

Answer: B

Q48. Which resistance depends on slope angle?

- A. Rolling
- B. Air
- C. Gradient
- D. Tractive

Answer: C

Q49. Which force enables vehicle acceleration?

- A. Drag
- B. Resistance
- C. Traction
- D. Lift

Answer: C

Q50. Automobile body design directly influences:

- A. Gear ratios
- B. Engine firing order
- C. Safety and efficiency
- D. Fuel octane number

Answer: C

Q51. The main drawback of carbureted SI engines is:

- A. High fuel pressure requirement
- B. Poor fuel-air mixture control
- C. Complex electronics
- D. High initial cost

Answer: B

Q52. MPFI system injects fuel:

- A. Into carburetor
- B. Into exhaust manifold
- C. Near each intake valve

D. Directly into cylinder

Answer: C

Q53. Throttle Body Injection (TBI) is similar to:

- A. Diesel injection
- B. Carburetor system
- C. Direct injection
- D. CRDI

Answer: B

Q54. Port Fuel Injection (PFI) improves:

- A. Engine weight
- B. Fuel atomization
- C. Cooling loss
- D. Mechanical friction

Answer: B

Q55. MPFI system is controlled by:

- A. Mechanical governor
- B. ECU
- C. Fuel pump only
- D. Ignition coil

Answer: B

Q56. Which sensor measures throttle opening?

- A. MAP sensor
- B. TPS

C. Oxygen sensor

D. Knock sensor

Answer: B

Q57. Oxygen sensor is mounted in:

A. Intake manifold

B. Fuel rail

C. Exhaust manifold

D. Cylinder head

Answer: C

Q58. MAP sensor measures:

A. Air velocity

B. Manifold pressure

C. Fuel temperature

D. Coolant level

Answer: B

Q59. MAF sensor directly measures:

A. Air mass entering engine

B. Fuel quantity

C. Exhaust pressure

D. Engine speed

Answer: A

Q60. Knock sensor detects:

- A. Engine overheating
- B. Detonation
- C. Fuel leakage
- D. Low oil pressure

Answer: B

Q61. CRDI stands for:

- A. Controlled Rail Diesel Injection
- B. Common Rail Direct Injection
- C. Constant Rail Diesel Ignition
- D. Central Rail Direct Injection

Answer: B

Q62. The main advantage of CRDI engine is:

- A. Low injection pressure
- B. Mechanical simplicity
- C. Precise fuel control
- D. Carburetor use

Answer: C

Q63. In CRDI system, fuel pressure is generated by:

- A. Injector
- B. Fuel tank
- C. High-pressure pump
- D. ECU

Answer: C

Q64. Common rail acts as:

- A. Fuel return line
- B. Fuel storage and distributor
- C. Injector holder
- D. Pressure relief valve

Answer: B

Q65. CRDI injectors are operated by:

- A. Mechanical cam
- B. ECU-controlled solenoid
- C. Centrifugal force
- D. Vacuum pressure

Answer: B

Q66. Injection pressure in CRDI engines can exceed:

- A. 100 bar
- B. 300 bar
- C. 1000 bar
- D. 10 bar

Answer: C

Q67. Pilot injection in CRDI engines helps to:

- A. Increase noise
- B. Reduce knocking
- C. Reduce power
- D. Increase emissions

Answer: B

Q68. Multiple injections per cycle result in:

- A. Rough engine operation
- B. Better combustion control
- C. Fuel wastage
- D. Injector damage

Answer: B

Q69. CRDI engines are mostly used in:

- A. Petrol cars
- B. Two-wheelers
- C. Diesel vehicles
- D. Electric vehicles

Answer: C

Q70. CRDI system improves:

- A. Emissions and efficiency
- B. Engine size
- C. Vehicle weight
- D. Fuel viscosity

Answer: A

Q71. VGT stands for:

- A. Variable Gear Transmission
- B. Variable Geometry Turbocharger
- C. Variable Gas Technology
- D. Variable Gradient Turbine

Answer: B

Q72. VGT improves engine performance by:

- A. Controlling exhaust gas flow
- B. Reducing fuel pressure
- C. Cooling intake air
- D. Increasing engine size

Answer: A

Q73. VGT reduces:

- A. Turbo lag
- B. Fuel injection
- C. Compression ratio
- D. Engine torque

Answer: A

Q74. VVT system controls:

- A. Fuel pressure
- B. Ignition timing
- C. Valve opening timing
- D. Piston stroke

Answer: C

Q75. Main benefit of VVT is:

- A. Reduced engine speed
- B. Improved efficiency and power

C. Increased emissions

D. Higher friction

Answer: B

Q76. GDI stands for:

A. Gasoline Direct Injection

B. Gas Direct Ignition

C. General Diesel Injection

D. Gasoline Dual Injection

Answer: A

Q77. In GDI engines, fuel is injected:

A. In intake manifold

B. In carburetor

C. Directly into cylinder

D. In exhaust port

Answer: C

Q78. Stratified charge combustion helps in:

A. High fuel consumption

B. Lean burn operation

C. Engine overheating

D. Knocking

Answer: B

Q79. GDI engines mainly improve:

A. Vehicle weight

B. Fuel economy

C. Noise level

D. Lubrication

Answer: B

Q80. GDI engines require:

A. Low pressure pump only

B. High pressure fuel system

C. Carburetor

D. Mechanical governor

Answer: B

Q81. EGR stands for:

A. Engine Gas Reduction

B. Exhaust Gas Recirculation

C. Emission Gas Regulation

D. Exhaust Gas Release

Answer: B

Q82. EGR reduces:

A. CO emissions

B. HC emissions

C. NOx emissions

D. SO2 emissions

Answer: C

Q83. EGR works by:

- A. Increasing combustion temperature
- B. Reducing oxygen concentration
- C. Increasing air flow
- D. Increasing fuel flow

Answer: B

Q84. PCV system prevents:

- A. Fuel leakage
- B. Oil sludge formation
- C. Brake failure
- D. Injector clogging

Answer: B

Q85. Evaporative emission control system reduces:

- A. Exhaust smoke
- B. Fuel vapor loss
- C. Engine noise
- D. Oil consumption

Answer: B

Q86. Main advantage of electric vehicles is:

- A. High emissions
- B. Zero tailpipe emissions
- C. High noise
- D. Complex gearbox

Answer: B

Q87. EV propulsion system uses:

- A. Internal combustion engine
- B. Electric motor
- C. Turbine
- D. Hydraulic pump

Answer: B

Q88. Most commonly used EV battery is:

- A. Lead acid
- B. Nickel cadmium
- C. Lithium-ion
- D. Zinc air

Answer: C

Q89. Battery Management System (BMS) is used to:

- A. Increase vehicle speed
- B. Monitor and protect battery
- C. Charge fuel
- D. Reduce vehicle weight

Answer: B

Q90. Regenerative braking converts:

- A. Heat to sound
- B. Electrical energy to heat
- C. Kinetic energy to electrical energy
- D. Chemical energy to heat

Answer: C

Q91. Electric motors in EVs are preferred because they:

- A. Require gearboxes
- B. Provide instant torque
- C. Produce noise
- D. Use fuel

Answer: B

Q92. Charging infrastructure for EVs includes:

- A. Fuel pumps
- B. Charging stations
- C. Carburetors
- D. Injectors

Answer: B

Q93. EVs generally have:

- A. Higher maintenance than IC engines
- B. Fewer moving parts
- C. Complex transmissions
- D. Exhaust systems

Answer: B

Q94. Range of EV mainly depends on:

- A. Vehicle color
- B. Battery capacity
- C. Tyre size

D. Headlamp type

Answer: B

Q95. One limitation of EVs is:

- A. High torque
- B. Quiet operation
- C. Charging time
- D. Zero emissions

Answer: C

Q96. Lithium-ion batteries are preferred due to:

- A. High weight
- B. Low energy density
- C. High energy density
- D. Memory effect

Answer: C

Q97. Thermal management of EV battery is important to:

- A. Improve aesthetics
- B. Prevent overheating
- C. Increase noise
- D. Increase voltage

Answer: B

Q98. EV layout eliminates:

- A. Electric motor
- B. Fuel tank

C. Battery pack

D. Power electronics

Answer: B

Q99. Electric motor efficiency is generally:

A. Lower than IC engine

B. Same as IC engine

C. Higher than IC engine

D. Negligible

Answer: C

Q100. EVs contribute to:

A. Higher pollution

B. Sustainable transportation

C. Increased noise

D. Fuel dependency

Answer: B

Q101. HVAC system in a car is mainly designed to:

A. Cool the engine

B. Improve fuel economy

C. Maintain cabin comfort

D. Control exhaust emissions

Answer: C

Q102. The term HVAC stands for:

A. High Velocity Air Cooling

B. Heating, Ventilation and Air Conditioning

C. Hot Vapor Air Circulation

D. Hydraulic Ventilation and Cooling

Answer: B

Q103. Refrigeration in car AC system works on:

- A. Heat addition principle
- B. Heat absorption principle
- C. Heat radiation principle
- D. Heat conduction principle

Answer: B

Q104. The refrigerant absorbs heat in:

- A. Condenser
- B. Compressor
- C. Evaporator
- D. Receiver drier

Answer: C

Q105. The main objective of ventilation is to:

- A. Reduce engine heat
- B. Supply fresh air to cabin
- C. Increase cooling capacity
- D. Improve fuel efficiency

Answer: B

Q106. Vapour compression cycle consists of how many main components?

A. Two

B. Three

C. Four

D. Five

Answer: C

Q107. Which component compresses low-pressure refrigerant?

A. Condenser

B. Compressor

C. Evaporator

D. Expansion valve

Answer: B

Q108. Heat is rejected to atmosphere in:

A. Evaporator

B. Compressor

C. Condenser

D. Receiver

Answer: C

Q109. Expansion valve causes:

A. Increase in pressure

B. Decrease in pressure

C. Increase in temperature

D. Compression of refrigerant

Answer: B

Q110. Refrigerant enters the evaporator as:

- A. High-pressure liquid
- B. Low-pressure liquid
- C. High-pressure vapor
- D. Superheated vapor

Answer: B

Q111. Compressor in AC system is driven by:

- A. Electric motor only
- B. Crankshaft pulley
- C. Cooling fan
- D. Battery directly

Answer: B

Q112. Condenser is usually located:

- A. Inside dashboard
- B. Under car floor
- C. In front of radiator
- D. Near fuel tank

Answer: C

Q113. Receiver-drier performs which function?

- A. Compress refrigerant
- B. Absorb heat
- C. Remove moisture and impurities
- D. Control air flow

Answer: C

Q114. Evaporator is installed:

- A. In engine compartment
- B. Inside passenger cabin
- C. Near exhaust system
- D. Below fuel tank

Answer: B

Q115. Expansion valve controls:

- A. Air flow rate
- B. Refrigerant flow rate
- C. Blower speed
- D. Compressor speed

Answer: B

Q116. Car heating system utilizes heat from:

- A. Exhaust gases
- B. Engine coolant
- C. Battery
- D. Radiator fan

Answer: B

Q117. Heater core functions similar to:

- A. Condenser
- B. Evaporator
- C. Radiator

D. Compressor

Answer: C

Q118. Heater control valve regulates:

- A. Refrigerant pressure
- B. Coolant flow to heater core
- C. Air velocity
- D. Blower motor speed

Answer: B

Q119. Heating system is most effective when:

- A. Engine is cold
- B. Engine reaches operating temperature
- C. AC is OFF
- D. Vehicle is stationary

Answer: B

Q120. Heating system does NOT require:

- A. Coolant circulation
- B. Heater core
- C. Compressor
- D. Blower motor

Answer: C

Q121. Blower motor is used to:

- A. Compress refrigerant
- B. Circulate air inside cabin

C. Cool condenser

D. Control humidity

Answer: B

Q122. Cabin air filter removes:

A. Moisture

B. Dust and pollen

C. Refrigerant

D. Exhaust gases

Answer: B

Q123. Fresh air mode allows:

A. Cabin air circulation

B. Outside air intake

C. No air circulation

D. Only hot air

Answer: B

Q124. Recirculation mode is preferred:

A. During heavy traffic

B. During rain

C. During parking

D. During engine warm-up

Answer: A

Q125. Ventilation system mainly improves:

- A. Engine efficiency
- B. Passenger comfort
- C. Fuel quality
- D. Brake performance

Answer: B

Q126. Human comfort depends mainly on:

- A. Temperature only
- B. Humidity only
- C. Temperature, humidity and air motion
- D. Noise level

Answer: C

Q127. Comfortable temperature inside car cabin is:

- A. 5–10°C
- B. 15–18°C
- C. 18–27°C
- D. 30–40°C

Answer: C

Q128. Ideal relative humidity for comfort is:

- A. 10–20%
- B. 20–30%
- C. 40–60%
- D. 80–90%

Answer: C

Q129. High humidity causes:

- A. Better cooling
- B. Faster sweat evaporation
- C. Discomfort and fogging
- D. No effect

Answer: C

Q130. Comfort zone is represented using:

- A. PV diagram
- B. TS diagram
- C. Psychrometric chart
- D. Mollier diagram

Answer: C

Q131. Refrigerant used should have:

- A. High toxicity
- B. High flammability
- C. Chemical stability
- D. High viscosity

Answer: C

Q132. Eco-friendly refrigerants are selected based on:

- A. Color
- B. Cost only
- C. Low ODP and GWP
- D. Odor

Answer: C

Q133. R-1234yf is preferred due to:

- A. High pressure
- B. High toxicity
- C. Low global warming potential
- D. High cost

Answer: C

Q134. Refrigerant leakage is dangerous because it:

- A. Increases cooling
- B. Reduces oxygen in closed spaces
- C. Improves AC efficiency
- D. Reduces noise

Answer: B

Q135. Refrigerant should never be released into:

- A. Condenser
- B. Receiver
- C. Atmosphere
- D. Compressor

Answer: C

Q136. Refrigerant charging is done after:

- A. Heating the system
- B. Evacuating the system
- C. Removing compressor
- D. Opening condenser

Answer: B

Q137. Vacuum pump is used to:

- A. Add refrigerant
- B. Remove air and moisture
- C. Increase pressure
- D. Test cooling

Answer: B

Q138. Overcharging refrigerant leads to:

- A. Low pressure
- B. Compressor overload
- C. Improved cooling
- D. No effect

Answer: B

Q139. Under-charging refrigerant results in:

- A. Excess cooling
- B. Reduced cooling
- C. Higher pressure
- D. Compressor damage

Answer: B

Q140. Temperature control system maintains:

- A. Engine temperature
- B. Cabin temperature

C. Fuel temperature

D. Battery temperature

Answer: B

Q141. Dehumidification occurs when air passes over:

A. Hot heater core

B. Cold evaporator

C. Condenser

D. Radiator

Answer: B

Q142. Moisture removal prevents:

A. Engine overheating

B. Glass fogging

C. Fuel loss

D. Battery damage

Answer: B

Q143. Humidity control improves:

A. Engine power

B. Passenger comfort

C. Tyre life

D. Fuel quality

Answer: B

Q144. Lower evaporator temperature results in:

A. Poor cooling

B. Better dehumidification

C. Higher humidity

D. Compressor failure

Answer: B

Q145. HVAC system integrates heating, cooling and:

A. Ignition

B. Ventilation

C. Fuel injection

D. Braking

Answer: B

Q146. Keyless entry systems mainly improve:

A. Engine performance

B. Driver convenience

C. Fuel efficiency

D. Brake response

Answer: B

Q147. The transmitter used in keyless entry is powered by:

A. Vehicle battery

B. Alternator

C. Coin cell battery

D. ECU

Answer: C

Q148. Keyless entry receiver is generally mounted:

- A. Inside key fob
- B. Inside BCM
- C. Near door actuator
- D. Near fuel tank

Answer: B

Q149. Rolling code system enhances:

- A. Signal strength
- B. Security against hacking
- C. Door motor speed
- D. Battery life

Answer: B

Q150. Immobilizer system prevents:

- A. Door unlocking
- B. Unauthorized engine start
- C. Fuel filling
- D. Battery charging

Answer: B

Q151. Automatic door lock system is activated based on:

- A. Engine RPM
- B. Vehicle speed
- C. Fuel level
- D. AC operation

Answer: B

Q152. Central locking system locks:

- A. Only driver door
- B. All doors simultaneously
- C. Bonnet only
- D. Boot only

Answer: B

Q153. The main controller of central locking system is:

- A. ECU
- B. BCM
- C. Alternator
- D. Fuse box

Answer: B

Q154. Automatic unlocking in accidents is triggered by:

- A. Speed sensor
- B. Airbag control unit
- C. ABS sensor
- D. GPS module

Answer: B

Q155. Door actuator converts:

- A. Electrical energy into mechanical motion
- B. Mechanical motion into electrical energy
- C. Heat into motion
- D. Pressure into voltage

Answer: A

Q156. Park assist system helps mainly during:

- A. Highway driving
- B. Overtaking
- C. Parking maneuver
- D. Acceleration

Answer: C

Q157. Park assist sensors operate on:

- A. Infrared waves
- B. Ultrasonic waves
- C. Radio waves
- D. Light waves

Answer: B

Q158. The distance is measured by park assist using:

- A. Signal frequency change
- B. Echo time delay
- C. Voltage variation
- D. Resistance change

Answer: B

Q159. Park assist warning intensity increases when:

- A. Speed increases
- B. Distance decreases
- C. Engine heats

D. Fuel reduces

Answer: B

Q160. Park assist improves:

A. Fuel efficiency

B. Parking safety

C. Engine power

D. Gear shifting

Answer: B

Q161. Automatic headlight dimming avoids:

A. Battery drain

B. Driver fatigue

C. Dazzling effect

D. Headlamp heating

Answer: C

Q162. Automatic headlight dimming is based on:

A. Engine speed

B. Ambient light intensity

C. Fuel pressure

D. Brake force

Answer: B

Q163. Photodiode sensor is used to detect:

A. Temperature

B. Pressure

C. Light

D. Humidity

Answer: C

Q164. High beam is automatically changed to low beam when:

A. Road is empty

B. Oncoming vehicle is detected

C. Speed increases

D. Rain occurs

Answer: B

Q165. Automatic headlight ON/OFF system improves:

A. Driving convenience

B. Fuel economy

C. Engine cooling

D. Tyre life

Answer: A

Q166. GPS helps in:

A. Engine diagnostics

B. Vehicle navigation

C. Brake control

D. Fuel injection

Answer: B

Q167. GPS works using:

A. Mobile towers

B. Satellites

C. Bluetooth signals

D. Wi-Fi network

Answer: B

Q168. Minimum satellites required for accurate GPS position are:

A. Two

B. Three

C. Four

D. Five

Answer: C

Q169. GPRS is mainly used for:

A. Offline maps

B. Internet-based data transfer

C. Satellite communication

D. Voice calls only

Answer: B

Q170. GPS system accuracy depends on:

A. Vehicle speed

B. Number of satellites

C. Fuel type

D. Battery voltage

Answer: B

Q171. Seat belts are classified as:

- A. Active safety
- B. Passive safety
- C. Electronic safety
- D. Structural safety

Answer: B

Q172. Airbags deploy during:

- A. Normal braking
- B. Minor collision
- C. Severe impact
- D. Engine overheating

Answer: C

Q173. Airbag sensors detect:

- A. Vehicle speed
- B. Sudden deceleration
- C. Fuel leakage
- D. Engine temperature

Answer: B

Q174. ABS prevents:

- A. Brake overheating
- B. Wheel locking
- C. Fuel wastage
- D. Engine stall

Answer: B

Q175. ABS mainly improves:

- A. Straight-line speed
- B. Steering control during braking
- C. Engine torque
- D. Suspension travel

Answer: B

Q176. Electronic Stability Control (ESC) prevents:

- A. Engine knocking
- B. Skidding
- C. Overheating
- D. Brake fading

Answer: B

Q177. ESC works using:

- A. Engine sensors only
- B. Brake and yaw sensors
- C. Fuel injectors
- D. AC sensors

Answer: B

Q178. Collapsible steering column is used to:

- A. Improve steering feel
- B. Absorb impact during crash
- C. Increase rigidity
- D. Reduce weight

Answer: B

Q179. Crumple zones are designed to:

- A. Increase stiffness
- B. Absorb collision energy
- C. Improve aerodynamics
- D. Reduce drag

Answer: B

Q180. Central locking contributes to:

- A. Passenger safety
- B. Engine efficiency
- C. Fuel economy
- D. Suspension performance

Answer: A

Q181. Active safety systems aim to:

- A. Reduce injury after crash
- B. Prevent accidents
- C. Improve aesthetics
- D. Reduce emissions

Answer: B

Q182. Passive safety systems are effective:

- A. Before accident
- B. During accident
- C. After engine start

D. During parking

Answer: B

Q183. Safety devices increase:

- A. Vehicle cost only
- B. Driving risk
- C. Occupant protection
- D. Engine load

Answer: C

Q184. Advanced safety systems rely heavily on:

- A. Mechanical linkages
- B. Sensors and electronics
- C. Carburetors
- D. Manual controls

Answer: B

Q185. Combination of ABS and ESC improves:

- A. Ride comfort
- B. Vehicle stability
- C. Engine output
- D. Fuel quality

Answer: B

Q186. The primary function of an oxygen sensor is to:

- A. Measure engine temperature
- B. Monitor air-fuel ratio

C. Detect engine speed

D. Measure fuel pressure

Answer: B

Q187. Oxygen sensor output is generally in the form of:

A. Current

B. Resistance

C. Voltage

D. Frequency

Answer: C

Q188. Engine coolant temperature sensor is usually a:

A. Capacitive sensor

B. Hall effect sensor

C. Thermistor

D. Piezo sensor

Answer: C

Q189. Intake air temperature sensor mainly affects:

A. Ignition timing

B. Fuel quantity calculation

C. Brake operation

D. Gear shifting

Answer: B

Q190. Throttle Position Sensor (TPS) detects:

- A. Air velocity
- B. Throttle angle
- C. Engine temperature
- D. Fuel pressure

Answer: B

Q191. MAP sensor measures:

- A. Mass air flow
- B. Absolute intake manifold pressure
- C. Fuel pressure
- D. Exhaust pressure

Answer: B

Q192. Vehicle Speed Sensor (VSS) provides input to:

- A. Fuel pump only
- B. Speedometer and ECU
- C. Battery charging system
- D. Ignition coil

Answer: B

Q193. MAF sensor malfunction can cause:

- A. Brake failure
- B. Poor fuel economy
- C. Steering stiffness
- D. AC failure

Answer: B

Q194. Knock sensor is used to protect engine from:

- A. Overheating
- B. Detonation
- C. Oil leakage
- D. Valve damage

Answer: B

Q195. Crankshaft Position Sensor helps ECU to determine:

- A. Engine load
- B. Piston position and speed
- C. Fuel pressure
- D. Exhaust composition

Answer: B

Q196. Multimeter is used in sensor testing to measure:

- A. Only voltage
- B. Only resistance
- C. Voltage, current and resistance
- D. Pressure only

Answer: C

Q197. An open-circuit sensor will show:

- A. Zero resistance
- B. Infinite resistance
- C. Normal voltage
- D. Low temperature

Answer: B

Q198. A faulty TPS can cause:

- A. Hard steering
- B. Hesitation during acceleration
- C. Battery discharge
- D. Brake locking

Answer: B

Q199. Incorrect sensor signals may lead to:

- A. Wrong ECU decisions
- B. Improved mileage
- C. Higher engine power
- D. Reduced emissions

Answer: A

Q200. Sensor failure is commonly detected using:

- A. Screwdriver
- B. Scan tool
- C. Hammer
- D. Feeler gauge

Answer: B

Q201. Actuators convert:

- A. Mechanical energy into electrical
- B. Electrical signals into mechanical action
- C. Heat into electricity
- D. Pressure into temperature

Answer: B

Q202. Fuel injector is an example of:

- A. Sensor
- B. Actuator
- C. Controller
- D. Switch

Answer: B

Q203. Injector opening is controlled by:

- A. Fuel pump
- B. ECU
- C. Battery
- D. Ignition switch

Answer: B

Q204. Injector “click” sound test checks:

- A. Fuel quality
- B. Electrical operation of injector
- C. Fuel pressure
- D. Spray pattern

Answer: B

Q205. Injector resistance is measured using:

- A. Ammeter
- B. Ohmmeter

C. Voltmeter

D. Pressure gauge

Answer: B

Q206. OBD stands for:

A. On-Board Device

B. On-Board Diagnostics

C. Open Board Diagnostics

D. Output Based Diagnostics

Answer: B

Q207. OBD-II system monitors:

A. Only engine speed

B. Only emissions

C. Vehicle systems and emissions

D. Battery condition only

Answer: C

Q208. Malfunction Indicator Lamp (MIL) glows when:

A. Fuel tank is empty

B. A fault is detected by ECU

C. Engine is cold

D. Headlights are ON

Answer: B

Q209. OBD-II connector is used to:

A. Charge battery

- B. Read fault codes
- C. Tune engine mechanically
- D. Replace ECU

Answer: B

Q210. Flash codes were used in:

- A. OBD-III
- B. Pre-OBD systems
- C. EV systems
- D. GPS systems

Answer: B

Q211. DTCs are standardized under:

- A. ISO standards
- B. SAE J2012
- C. BS standards
- D. AIS standards

Answer: B

Q212. A 5-digit DTC consists of:

- A. Letters only
- B. Numbers only
- C. Letters and numbers
- D. Symbols only

Answer: C

Q213. First letter of DTC indicates:

- A. Severity of fault
- B. Vehicle manufacturer
- C. System affected
- D. Repair cost

Answer: C

Q214. DTC starting with “P” relates to:

- A. Body system
- B. Chassis system
- C. Powertrain
- D. Network system

Answer: C

Q215. DTC starting with “B” indicates fault in:

- A. Engine
- B. Body system
- C. Braking system
- D. Transmission

Answer: B

Q216. ECU stores DTCs in:

- A. RAM
- B. ROM
- C. Non-volatile memory
- D. Cache memory

Answer: C

Q217. Clearing DTCs without repair may:

- A. Permanently solve fault
- B. Hide actual problem temporarily
- C. Improve engine power
- D. Reduce fuel consumption

Answer: B

Q218. Diagnostic scan tool communicates with ECU using:

- A. Mechanical link
- B. Pneumatic line
- C. Digital communication protocol
- D. Hydraulic system

Answer: C

Q219. Proper diagnosis reduces:

- A. Repair accuracy
- B. Repair time and cost
- C. Engine efficiency
- D. Vehicle safety

Answer: B

Q220. Correct diagnosis mainly depends on:

- A. Guesswork
- B. Sensor data interpretation
- C. Trial-and-error replacement
- D. Vehicle color

Answer: B