- 1. Which of the following is not a type of automobile emission?
- a) Hydrocarbons (HC)
- b) Carbon Dioxide (CO2)
- c) Nitrous Oxide (N2O)
- d) Sulfur Dioxide (SO2)

Answer: b) Carbon Dioxide (CO2)

Explanation: Carbon dioxide is a greenhouse gas emitted by automobiles, but it is not considered a primary pollutant directly emitted from vehicle engines.

- 2. What is the primary mechanism of hydrocarbon (HC) formation in a spark ignition (SI) engine?
- a) Incomplete combustion of fuel
- b) Exhaust gas recirculation
- c) Catalytic conversion
- d) Fuel evaporation

Answer: a) Incomplete combustion of fuel

Explanation: Hydrocarbons (HC) in automobile emissions primarily result from fuel that hasn't burned completely during the combustion process in the engine.

- 3. Which of the following factors does not affect exhaust emissions from automobiles?
- a) Engine temperature
- b) Fuel quality
- c) Vehicle weight
- d) Tire pressure

Answer: d) Tire pressure

Explanation: Tire pressure doesn't directly affect exhaust emissions. Engine temperature, fuel quality, and vehicle weight can all influence emissions.

- 4. What is the main component responsible for evaporative emissions in automobiles?
- a) Carbon monoxide (CO)
- b) Nitrogen oxides (NOx)
- c) Volatile organic compounds (VOCs)
- d) Particulate matter (PM)

Answer: c) Volatile organic compounds (VOCs)

Explanation: Evaporative emissions from automobiles primarily consist of volatile organic compounds (VOCs) evaporating from the fuel system and other vehicle components.

- 5. Crankcase emissions in automobiles primarily result from:
- a) Fuel combustion in the engine cylinders
- b) Engine oil evaporation
- c) Exhaust gas recirculation
- d) Catalytic conversion

Answer: b) Engine oil evaporation

Explanation: Crankcase emissions occur when engine oil evaporates and is released from the engine crankcase into the atmosphere.

- 6. What is the main cause of smoke formation in compression ignition (CI) engine emissions?
- a) Incomplete combustion of fuel
- b) Overly rich fuel mixture

- c) Exhaust gas recirculation
- d) Fuel injection timing

Answer: a) Incomplete combustion of fuel

Explanation: Smoke in CI engine emissions primarily results from incomplete combustion of fuel, leading to the emission of particulate matter.

- 7. Which of the following factors does not affect the formation of smoke in CI engine emissions?
- a) Fuel quality
- b) Engine temperature
- c) Exhaust gas recirculation
- d) Tire pressure

Answer: d) Tire pressure

Explanation: Tire pressure doesn't directly affect the formation of smoke in CI engine emissions. Factors like fuel quality, engine temperature, and exhaust gas recirculation can influence smoke production.

- 8. Unburned hydrocarbons (UHC) in CI engine emissions primarily result from:
- a) Incomplete combustion of fuel
- b) High engine compression ratio
- c) Lean fuel-air mixture
- d) Catalytic conversion

Answer: a) Incomplete combustion of fuel

Explanation: Unburned hydrocarbons (UHC) are formed in CI engine emissions when fuel

does not combust completely during the combustion process.

- 9. Carbon monoxide (CO) in automobile emissions primarily results from:
- a) Incomplete combustion of fuel
- b) Exhaust gas recirculation
- c) Catalytic conversion
- d) Fuel evaporation

Answer: a) Incomplete combustion of fuel

Explanation: Carbon monoxide (CO) is produced in automobile emissions when fuel combustion is incomplete, leading to the formation of this poisonous gas.

- 10. What is the primary source of nitrogen oxides (NOx) in automobile emissions?
- a) Fuel combustion
- b) Tire wear
- c) Engine oil evaporation
- d) Exhaust gas recirculation

Answer: a) Fuel combustion

Explanation: Nitrogen oxides (NOx) primarily result from high-temperature combustion processes in automobile engines, where nitrogen and oxygen in the air react.

- 11. Smog formation is primarily attributed to the presence of which pollutant in automobile emissions?
- a) Carbon dioxide (CO2)
- b) Volatile organic compounds (VOCs)
- c) Particulate matter (PM)

d) Nitrogen oxides (NOx)

Answer: d) Nitrogen oxides (NOx)

Explanation: Nitrogen oxides (NOx) contribute to the formation of smog when they react with volatile organic compounds (VOCs) in the presence of sunlight, forming ground-level ozone and other pollutants.

- 12. How do diesel emissions generally compare to petrol emissions in terms of particulate matter (PM) production?
- a) Diesel emissions produce more PM than petrol emissions
- b) Petrol emissions produce more PM than diesel emissions
- c) Diesel and petrol emissions produce equal amounts of PM
- d) PM production is unrelated to the type of fuel used

Answer: a) Diesel emissions produce more PM than petrol emissions

Explanation: Diesel engines typically produce higher levels of particulate matter (PM)

compared to petrol engines due to differences in combustion processes and fuel properties.

- 13. Which of the following is not a factor affecting exhaust emissions from automobiles?
- a) Engine temperature
- b) Altitude
- c) Vehicle speed
- d) Paint color

Answer: d) Paint color

Explanation: Paint color doesn't directly affect exhaust emissions from automobiles. Factors like engine temperature, altitude, and vehicle speed can influence emissions.

- 14. What role does exhaust gas recirculation (EGR) play in reducing automobile emissions?
- a) It increases the production of nitrogen oxides (NOx)
- b) It reduces the production of carbon monoxide (CO)
- c) It enhances fuel evaporation
- d) It decreases the formation of hydrocarbons (HC)

Answer: b) It reduces the production of carbon monoxide (CO)

Explanation: Exhaust gas recirculation (EGR) reduces automobile emissions by recirculating a portion of exhaust gas back into the engine cylinders, which helps lower combustion temperatures and reduce the production of carbon monoxide (CO).

- 15. Which of the following pollutants is not a primary emission from automobiles?
- a) Particulate matter (PM)
- b) Carbon monoxide (CO)
- c) Ozone (O3)
- d) Nitrogen oxides (NOx)

Answer: c) Ozone (O3)

Explanation: While ozone (O3) can be a secondary pollutant formed from reactions involving automobile emissions, it is not directly emitted from vehicle engines as a primary pollutant.

Related posts:

- 1. Steam generators and boilers MCQs
- 2. Vapour Cycles MCQs
- 3. Gas Dynamics MCQs
- 4. Air Compressors MCQs
- 5. Nozzles and Condensers MCQs

- 6. Introduction to stress in machine component MCQs
- 7. Shafts MCQS
- 8. Springs MCQs
- 9. Brakes & Clutches MCQs
- 10. Journal Bearing MCQs
- 11. Energy transfer in turbo machines MCQs
- 12. Steam turbines MCQs
- 13. Water turbines MCQs
- 14. Rotary Fans, Blowers and Compressors MCQs
- 15. Power transmitting turbo machines MCQs
- 16. Energy transfer in turbo machines MCQs
- 17. Steam turbines MCQs
- 18. Water turbines MCQS
- 19. Rotary Fans, Blowers and Compressors MCQs
- 20. Power transmitting turbo machines MCQs
- 21. Introduction to Computer Engineering MCQs
- 22. Types of Analysis MCQS
- 23. Heat Transfer and Conduction MCQs
- 24. Extended Surfaces (fins) MCQs
- 25. Convection MCOs
- 26. Thermal and Mass Transfer MCQs
- 27. Thermal Radiation & Boiling/Condensation MCQs
- 28. Mechanical processes MCQs
- 29. Electrochemical and chemical metal removal processes MCQs
- 30. Thermal metal removal processes MCQs
- 31. Rapid prototyping fabrication methods MCQs
- 32. Technologies of micro fabrication MCQs

- 33. Power Plant Engineering MCQs
- 34. Fossil fuel steam stations MCQs
- 35. Nuclear Power Station MCQs
- 36. Hydro-Power Station MCQs
- 37. Power Station Economics MCQs
- 38. Design of Belt, Rope and Chain Drives MCQS
- 39. Spur and Helical Gears MCQs
- 40. Bevel Gears MCQs
- 41. Design of I.C. Engine Components MCQs
- 42. Linear system and distribution models MCQs
- 43. Supply chain (SCM) MCQs
- 44. Inventory models MCQs
- 45. Queueing Theory & Game Theory MCQs
- 46. Project Management & Meta-heuristics MCQs
- 47. Overview of Systems Engineering MCQS
- 48. Structure of Complex Systems MCQs
- 49. Concept Development and Exploration MCQs
- 50. Engineering Development MCQs
- 51. Basic Concepts & Laws of Thermodynamics MCQs
- 52. Properties of Steam MCQs
- 53. Air standard cycles MCQS
- 54. Fuels & combustion MCOs
- 55. Materials Science MCQs
- 56. Alloys and Materials MCQs
- 57. Metal Heat Treatment MCOs
- 58. Material Testing and Properties MCQs
- 59. Chemical Analysis of Metal Alloys MCQs

- 60. Stress and strain MCQs
- 61. Bending MCQs
- 62. Torsion in shafts MCQs
- 63. Theories of failures MCQs
- 64. Columns & struts MCQs
- 65. Manufacturing Process MCQs