1. What is the primary component of biogas?
a) Methane
b) Carbon dioxide
c) Hydrogen
d) Oxygen

Answer: a) Methane

Explanation: Biogas primarily consists of methane (CH4), which is the main combustible component responsible for its use as a fuel.

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2. Which process is involved in the formation of biogas?
a) Fermentation
b) Combustion
c) Photosynthesis
d) Distillation

Answer: a) Fermentation

Explanation: Biogas is produced through the anaerobic digestion of organic matter, such as agricultural waste, sewage, or food waste, by microorganisms in a process called fermentation.

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3. What factor has the most significant impact on biogas formation?
a) Temperature
b) pH level
c) Pressure
d) Oxygen concentration

Answer: a) Temperature

Explanation: Temperature plays a crucial role in biogas formation as it affects the activity of microorganisms responsible for anaerobic digestion. Optimal temperature ranges between 35°C to 40°C for mesophilic bacteria and 50°C to 60°C for thermophilic bacteria.

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4. Which type of engines can utilize biogas as fuel?
a) Spark Ignition (SI) engines
b) Compression Ignition (CI) engines
c) Both SI and CI engines
d) None of the above

Answer: c) Both SI and CI engines

Explanation: Biogas can be used as fuel in both Spark Ignition (SI) engines, where ignition occurs by a spark plug, and Compression Ignition (CI) engines, where ignition is initiated by

the heat of compression.

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5. Which gas is the primary constituent of natural gas?
a) Methane
b) Carbon dioxide
c) Nitrogen
d) Oxygen

Answer: a) Methane

Explanation: Natural gas primarily consists of methane (CH4), which typically accounts for around 70-90% of its composition.

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6. What is the primary component of hydrogen gas (H2)?
a) Helium
b) Hydrogen
c) Oxygen
d) Nitrogen

Answer: b) Hydrogen

Explanation: Hydrogen gas (H2) consists of diatomic molecules composed of two hydrogen

atoms.

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7. Which of the following is a commonly used abbreviation for Liquefied Petroleum Gas?
a) LNG
b) LPG
c) CNG
d) H2

Answer: b) LPG

Explanation: LPG stands for Liquefied Petroleum Gas, which is a common abbreviation used for gases like propane and butane.

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8. In which form is natural gas typically stored and transported?
a) Liquid
b) Solid
c) Gas
d) Plasma

Answer: c) Gas

Explanation: Natural gas is typically stored and transported in its gaseous form under high

pressure in pipelines or compressed natural gas (CNG) cylinders.

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9. Which property of gaseous fuels is crucial for their efficient combustion in engines?
a) Density
b) Viscosity
c) Ignition temperature
d) Stoichiometric ratio

Answer: d) Stoichiometric ratio

Explanation: The stoichiometric ratio, which refers to the ideal ratio of air to fuel required for complete combustion, is crucial for efficient combustion of gaseous fuels in engines.

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10. What is the primary safety concern associated with handling gaseous fuels?
a) Flammability
b) Corrosiveness
c) Toxicity
d) Radioactivity

Answer: a) Flammability

Explanation: The primary safety concern associated with handling gaseous fuels is their

flammability, which poses a risk of fire or explosion if not handled properly.

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