1. What instrument is commonly used to measure blood pressure?
A) Spirometer
B) Oxymeter
C) Sphygmomanometer
D) Plethysmograph

Answer: C) Sphygmomanometer
Explanation: A sphygmomanometer is the standard instrument used to measure blood pressure. It consists of an inflatable cuff and a pressure gauge. When the cuff is inflated, it temporarily stops the flow of blood through the artery. The pressure is then gradually released, and the healthcare provider listens for the return of blood flow using a stethoscope or electronic sensor.

2. Which of the following parameters does a pulse oximeter measure?
A) Blood pressure
B) Heart rate
C) Oxygen saturation
D) Carbon dioxide levels

Answer: C) Oxygen saturation
Explanation: A pulse oximeter measures the saturation of oxygen in the blood by shining light through a translucent part of the body, typically a fingertip. The device detects the absorption of different wavelengths of light by oxygenated and deoxygenated hemoglobin to determine the oxygen saturation level.

3. What is the main function of a spirometer in pulmonary function testing?
A) Measure oxygen saturation

B) Assess lung volumes and airflow
C) Analyze blood gas levels
D) Determine cardiac output

Answer: B) Assess lung volumes and airflow
Explanation: A spirometer is a device used to measure lung function, including lung volumes and airflow rates. It is commonly used in pulmonary function testing to diagnose and monitor respiratory conditions such as asthma, chronic obstructive pulmonary disease (COPD), and pulmonary fibrosis.

4. Which instrument is used to measure the pH of blood?
A) Spirometer
B) Sphygmomanometer
C) Blood gas analyzer
D) Oxymeter

Answer: C) Blood gas analyzer
Explanation: Blood gas analyzers are used to measure the pH, partial pressure of oxygen (pO2), partial pressure of carbon dioxide (pCO2), and other parameters in arterial blood samples. These measurements provide valuable information about the acid-base balance and respiratory function of the patient.

5. What does ESR stand for in medical measurements?
A) Erythrocyte Sedimentation Rate
B) Electrocardiogram Signal Ratio
C) Echocardiography Systolic Rate
D) Electrolyte Serum Ratio

Answer: A) Erythrocyte Sedimentation Rate
Explanation: Erythrocyte Sedimentation Rate (ESR) is a test that measures the rate at which red blood cells settle at the bottom of a tube over a certain period. It is a non-specific marker of inflammation and is often used to help diagnose conditions such as infections, autoimmune diseases, and certain cancers.

6. Which technique is commonly used to measure cardiac output?
A) Spirometry
B) Electrocardiography
C) Pulse oximetry
D) Thermodilution

Answer: D) Thermodilution
Explanation: Thermodilution is a technique used to measure cardiac output by injecting a cold saline solution into the bloodstream and measuring the change in temperature at a specific point. This method relies on the principle that cardiac output is directly proportional to the rate of temperature change.

7. What is the primary purpose of a photo plethysmograph?
A) Measure lung volumes
B) Assess oxygen saturation
C) Monitor heart rate
D) Analyze blood gas levels

Answer: C) Monitor heart rate
Explanation: A photo plethysmograph is a device that uses light to monitor changes in blood volume in a particular area, typically a fingertip or earlobe. It is commonly used to measure

heart rate by detecting the pulsatile blood flow associated with each heartbeat.

8. Which parameter is NOT typically measured by a body plethysmograph?
A) Lung volumes
B) Airflow rates
C) Blood pressure
D) Lung compliance

Answer: C) Blood pressure
Explanation: A body plethysmograph is a device used to measure lung volumes and other respiratory parameters by enclosing the entire body or a specific body part (usually the chest) in a sealed chamber. It is primarily used to assess lung function in conditions such as asthma, COPD, and restrictive lung diseases.

9. What does GSR stand for in medical measurements?
A) Gas Saturation Ratio
B) Glucose Serum Ratio
C) Galvanic Skin Response
D) Gastrointestinal Secretion Rate

Answer: C) Galvanic Skin Response
Explanation: Galvanic Skin Response (GSR) is a measure of the electrical conductivity of the skin, which changes in response to emotional arousal or stress. It is commonly used in psychology and psychiatry to assess emotional states and stress levels.

10. Which parameter is NOT typically measured by a finger-tip oximeter?
A) Heart rate

B) Oxygen saturation
C) Blood pressure
D) Pulse waveform

Answer: C) Blood pressure
Explanation: Finger-tip oximeters are portable devices used to measure oxygen saturation and pulse rate non-invasively. They clip onto a fingertip and use light absorption to determine the oxygen saturation level of arterial blood. However, they do not measure blood pressure, which typically requires a cuff and pressure gauge.