11-The laboratory provides the following report on a patient' s arterial blood: pH, 7.25; Pco2 , 32 mm Hg; and HCO3- concentration, 25 mmol/L. You conclude that there is:

A. Respiratory alkalosis with metabolic compensation.
B. Acute respiratory acidosis.
C. Metabolic acidosis with respiratory compensation.
D. Metabolic alkalosis with respiratory compensation.
E. A laboratory error.

12- A 56-year-old woman complains of dyspnea on exertion over a several month period. Her pulmonary function tests show an FEV1/FVC ratio of 0.83, TLC 85% predicted, and a diffusing capacity for carbon monoxide of 53% predicted. A chest radiograph shows a normal heart size and no focal opacities or effusions. A CT pulmonary angiogram shows no evidence of pulmonary embolism. Which of the following diagnoses could account for the findings on her evaluation thus far?

A. Asthma
B. Chronic obstructive pulmonary disease
C. Idiopathic pulmonary fibrosis
D. Iron deficiency anemia
E. Sarcoidosis

13- A 48-year-old man is brought into the emergency department with decreased level of consciousness. An arterial blood gas shows pH 7.25, PaCO2 25, PaO2 62, and HCO3- 15. Which of the following could account for the observed abnormalities on his blood gases?

A. Chronic obstructive pulmonary disease exacerbation
B. Diabetic ketoacidosis
C. Gastroenteritis with severe vomiting
D. Morbid obesity
E. Opiate overdose

14- A healthy 21-year-old woman flies from Lima (sea level) to Cuzco, Peru (altitude 3,350 m), on her way to Machu Picchu. Which of the following would likely occur immediately following arrival at Cuzco?

A. Decreased diffusing capacity for carbon monoxide
B. Decreased rate of rise of Po2 in the pulmonary capillary
C. Hypoventilation
D. Increased shunt (Qs/Qt)
E. Metabolic alkalosis

15- In the upright human lung, which of the following is greater at the apex than the base?

A. Blood flow
B. Ventilation
C. Alveolar Pco2
D. Alveolar size
E. Capillary blood volume