



**CPFT Examination Matrix**

**Content Area**

**Cognitive Level  
Analysis**

	Application			Number of Items
	Recall			
<b>I. INSTRUMENTATION/EQUIPMENT</b>	<b>11</b>	<b>11</b>	<b>3</b>	<b>25</b>
A. Set Up, Maintain, Calibrate	4	4	1	9
B. Troubleshoot	4	4	1	9
C. Perform Quality Control	3	3	1	7
<b>II. DIAGNOSTIC PROCEDURES</b>	<b>14</b>	<b>15</b>	<b>11</b>	<b>40</b>
A. Select Test Protocols and Equipment	3	4	3	10
B. Perform Procedure	5	6	4	15
C. Evaluate Validity of Procedure	6	5	4	15
<b>III. DATA MANAGEMENT</b>	<b>12</b>	<b>14</b>	<b>9</b>	<b>35</b>
A. Calculate and Select Data	4	3	3	10
B. Evaluate Reliability of Results	4	6	3	13
C. Evaluate Clinical Implications	4	5	3	12
<b>Totals</b>	<b>37</b>	<b>40</b>	<b>23</b>	<b>100</b>



An "X" denotes the examination does NOT contain items for the given task at the cognitive level indicated in the respective column

	Application		
	Recall		
<b>I. INSTRUMENTATION/EQUIPMENT</b> .....	<b>11</b>	<b>11</b>	<b>3</b>
<b>A. Set Up, Maintain, Calibrate</b> .....	<b>4*</b>	<b>4*</b>	<b>1*</b>
1. Blood gas analyzers .....			X
2. Spirometers (e.g., volume displacement, flow sensing) .....			X
3. Peakflow meters .....			X
4. Aerosol delivery devices (e.g., bronchodilator/bronchial challenge, dosimeters) .....			X
5. Metered dose inhalers .....			X
6. Valves (e.g., directional, demand) .....			X
7. Oxygen analyzers (e.g., paramagnetic, polarographic, fuel cell) .....		X	X
8. Gas delivery systems (e.g., blenders, flowmeters) .....		X	X
9. Pressure measuring devices (e.g., manometers, transducers, strain gauges) .....		X	X
10. Gas and water absorbers .....			X
11. Plethysmographs (e.g., body box) .....		X	X
12. Exercise equipment (e.g., treadmill, cycle or arm ergometers) .....		X	X
13. Electrocardiograph monitors .....			X
14. Oximeter monitors .....			X
15. Blood pressure monitors .....			X
16. Arterial/venous blood collection equipment .....			X
17. Information management equipment (e.g., computers, interfaces, modems, networks, printers, security) .....		X	X
18. Quality control devices and materials (e.g., calibration syringes, isothermal bottle, gas exchange validation device) .....			X
19. Infection control materials/methods (e.g., sterilization devices, gowns, gloves, masks) .....			X
<b>B. Troubleshoot</b> .....	<b>4</b>	<b>4</b>	<b>1</b>
1. Blood gas analyzers .....			X
2. Spirometers (e.g., volume displacement, flow sensing) .....			X
3. Peakflow meters .....			X
4. Aerosol delivery devices (e.g., bronchodilator/bronchial challenge, dosimeters) .....			X
5. Metered dose inhalers .....			X
6. Valves (e.g., directional, demand) .....		X	X
7. Oxygen analyzers (e.g., paramagnetic, polarographic fuel cell) .....		X	X
8. Gas delivery systems (e.g., blenders, flowmeters) .....		X	X
9. Pressure measuring devices (e.g., manometers, transducers, strain gauges) .....			X
10. Gas and water absorbers .....			X
11. Plethysmographs (e.g., body box) .....		X	X
12. Exercise equipment (e.g., treadmill, cycle or arm ergometers) .....		X	X
13. Electrocardiograph monitors .....			X
14. Oximeter monitors .....			X
15. Blood pressure monitors .....			X
16. Arterial/venous blood collection equipment .....			X
17. Information management equipment (e.g., computers, interfaces, modems, networks, printers, security) .....		X	X
18. Quality control devices and materials (e.g., calibration syringes, isothermal bottle, gas exchange validation device) .....		X	X
19. Infection control materials/methods (e.g., sterilization devices, gowns, gloves, masks) .....			X
<b>C. Perform Quality Control</b> .....	<b>3</b>	<b>3</b>	<b>1</b>
1. Blood gas analyzers .....			X
2. Spirometers (e.g., volume displacement, flow sensing) .....			X
3. Aerosol delivery devices (e.g., bronchodilator/bronchial challenge, dosimeters) .....		X	X
4. Infrared analyzers (e.g., CO <sub>2</sub> , CO, CH <sub>4</sub> ) .....		X	X
5. Oxygen analyzers (e.g., paramagnetic, polarographic, fuel cell) .....		X	X
6. Plethysmographs (e.g., body box) .....		X	X
7. Oximeter monitors .....			X

\* The number in each column is the number of items in that content area and cognitive level contained in each examination. Specified items in each section could be asked relative to any tasks listed.

	Application		
	Recall		
<b>II. DIAGNOSTIC PROCEDURES</b> . . . . .	<b>14</b>	<b>15</b>	<b>11</b>
<b>A. Select Test Protocols and Equipment</b> . . . . .	<b>3</b>	<b>4</b>	<b>3</b>
1. Delivery of bronchodilators (e.g., MDI, small volume nebulizers) . . . . .			
2. Arterial blood sample collection . . . . .			
3. Blood gas analysis (e.g., pH, PO <sub>2</sub> , PCO <sub>2</sub> ) . . . . .			X
4. CO-oximetry/hemoximetry (e.g., CaO <sub>2</sub> , SaO <sub>2</sub> , COHb) . . . . .			X
5. Spirometry (e.g., VC, FVC, FEV <sub>T</sub> , MVV, flow-volume loop) . . . . .			
6. Gas dilution methods (e.g., N <sub>2</sub> , He) for static lung volumes (e.g., FRC, RV, TLC) . . . . .			X
7. Body plethysmography (e.g., body box) for static lung volumes (e.g., FRC, RV, TLC) . . . . .		X	X
8. Peak expiratory flow . . . . .			X
9. Lung diffusion studies (D <sub>LCO</sub> ) . . . . .			X
10. Patient education (e.g., medication use, travel, nutrition, asthma) for pulmonary rehabilitation . . . . .		X	X
11. Airway clearance for pulmonary rehabilitation . . . . .		X	X
12. Timed walking test for exercise (stress) testing . . . . .			X
13. Monitored (e.g., ECG, blood pressure, SpO <sub>2</sub> ) exercise (stress) testing . . . . .			X
14. CPR . . . . .			X
15. Noninvasive blood pressure monitoring . . . . .			X
16. Pulse oximetry . . . . .			
17. Bronchodilation studies of airway response . . . . .			
18. Bronchial provocation studies (e.g., methacholine, exercise hyperventilation) of airway response . . . . .		X	X
19. Inspiratory/expiratory pressures (e.g., MIP, MEP) . . . . .			X
20. Laboratory safety (e.g., electrical, mechanical, infectious) . . . . .			X
21. Universal precautions and patient safety . . . . .			
22. Hazardous materials and patient safety . . . . .			X
<b>B. Perform Procedure</b> . . . . .	<b>5</b>	<b>6</b>	<b>4</b>
1. Delivery of bronchodilators (e.g., MDI, small volume nebulizers) . . . . .			
2. Arterial blood sample collection . . . . .			
3. Blood gas analysis (e.g., pH, PO <sub>2</sub> , PCO <sub>2</sub> ) . . . . .			X
4. CO-oximetry/hemoximetry (e.g., CaO <sub>2</sub> , SaO <sub>2</sub> , COHb) . . . . .			X
5. Spirometry (e.g., VC, FVC, FEV <sub>T</sub> , MVV, flow-volume loop) . . . . .			
6. Gas dilution methods (e.g., N <sub>2</sub> , He) for static lung volumes (e.g., FRC, RV, TLC) . . . . .			X
7. Body plethysmography (e.g., body box) for static lung volumes (e.g., FRC, RV, TLC) . . . . .		X	X
8. Peak expiratory flow . . . . .			
9. Lung diffusion studies (D <sub>LCO</sub> ) . . . . .			X
10. Home testing (e.g., spirometry, peak flow, patient education, set-up, and evaluation) . . . . .		X	X
11. Oxygen prescription for pulmonary rehabilitation . . . . .		X	X
12. Patient education (e.g., medication use, travel, nutrition, asthma) for pulmonary rehabilitation . . . . .		X	X
13. Airway clearance for pulmonary rehabilitation . . . . .		X	X
14. Timed walking test for exercise (stress) testing . . . . .			X
15. Monitored (e.g., ECG, blood pressure, SpO <sub>2</sub> ) exercise (stress) testing . . . . .			X
16. CPR . . . . .			
17. Noninvasive blood pressure monitoring . . . . .			X
18. ECG analysis (e.g., arrhythmia, rate, pattern) . . . . .		X	X
19. Pulse oximetry . . . . .			X
20. Bronchodilation studies of airway response . . . . .			
21. Bronchial provocation studies (e.g., methacholine, exercise hyperventilation) of airway response . . . . .		X	X
22. Airway resistance/conductance by plethysmography . . . . .			X
23. Inspiratory/expiratory pressures (e.g., MIP, MEP) . . . . .			X
24. Laboratory safety (e.g., electrical, mechanical, infectious) . . . . .			X
25. Universal precautions and patient safety . . . . .			
26. Hazardous materials and patient safety . . . . .			
<b>C. Evaluate Validity of Procedure</b> . . . . .	<b>6</b>	<b>5</b>	<b>4</b>
1. Delivery of bronchodilators (e.g., MDI, small volume nebulizers) . . . . .			
2. Arterial blood sample collection . . . . .			
3. Blood gas analysis (e.g., pH, PO <sub>2</sub> , PCO <sub>2</sub> ) . . . . .			
4. CO-oximetry/hemoximetry (e.g., CaO <sub>2</sub> , SaO <sub>2</sub> , COHb) . . . . .			X
5. Spirometry (e.g., VC, FVC, FEV <sub>T</sub> , MVV, flow-volume loop) . . . . .			

	Application		
	Recall		
6. Gas dilution methods (e.g., N <sub>2</sub> , He) for static lung volumes (e.g., FRC, RV, TLC) . . . . .			X
7. Body plethysmography (e.g., body box) for static lung volumes (e.g., FRC, RV, TLC) . . . . .			X
8. Peak expiratory flow . . . . .			
9. Lung diffusion studies (D <sub>LCO</sub> ). . . . .			X
10. Home testing (e.g., spirometry, peak flow, patient education, set-up, and evaluation) . . . . .			X
11. Oxygen prescription for pulmonary rehabilitation. . . . .			X
12. Patient education (e.g., medication use, travel, nutrition, asthma) for pulmonary rehabilitation. . . . .		X	X
13. Airway clearance for pulmonary rehabilitation . . . . .		X	X
14. Timed walking test for exercise (stress) testing . . . . .			X
15. Monitored (e.g., ECG, blood pressure, SpO <sub>2</sub> ) exercise (stress) testing . . . . .			X
16. CPR . . . . .			
17. Noninvasive blood pressure monitoring . . . . .			X
18. Pulse oximetry . . . . .			
19. Bronchodilation studies of airway response. . . . .			
20. Bronchial provocation studies (e.g., methacholine, exercise hyperventilation) of airway response. . . . .		X	X
21. Airway resistance/conductance by plethysmography . . . . .			X
22. Inspiratory/expiratory pressures (e.g., MIP, MEP) . . . . .			X
23. Laboratory safety (e.g., electrical, mechanical, infectious). . . . .			X
24. Universal precautions and patient safety . . . . .			
25. Hazardous materials and patient safety. . . . .			
<b>III. DATA MANAGEMENT . . . . .</b>	<b>12</b>	<b>14</b>	<b>9</b>
<b>A. Calculate and Select Data . . . . .</b>	<b>4</b>	<b>3</b>	<b>3</b>
1. Measured and calculated blood gas results . . . . .			
2. Spirometry data (e.g., VC, FVC, FEV <sub>1</sub> , MVV, flow-volume loops) . . . . .			
3. Gas dilution data (e.g., N <sub>2</sub> , He) for static lung volumes (e.g., FRC, RV, TLC) . . . . .			
4. Body plethysmography data (e.g., body box) for static lung volumes (e.g., FRC, RV, TLC) . . . . .		X	X
5. Peak expiratory flow . . . . .			
6. Lung diffusion studies (D <sub>LCO</sub> ). . . . .			X
7. Timed walking test for exercise (stress) test data . . . . .			X
8. Monitored (e.g., ECG, blood pressure, SpO <sub>2</sub> ) exercise (stress) test data . . . . .			X
9. Noninvasive blood pressure data . . . . .		X	X
10. ECG waveforms (e.g., arrhythmia, rate, pattern) . . . . .			X
11. Pulse oximetry data . . . . .			
12. Bronchodilation studies of airway response. . . . .			
13. Bronchial provocation studies (e.g., methacholine, exercise, hyperventilation) of airway response. . . . .		X	X
14. Inspiratory/expiratory pressures (e.g., MIP, MEP) . . . . .			X
15. Reference values regarding statistical and graphical methods for quality control and pulmonary function data . . . . .		X	X
16. Clinical history and demographics (e.g., height, weight, age, race, gender, smoking and occupational history, vital signs, medical/surgical history, medications, respiratory care). . . . .			X
17. Laboratory quality management . . . . .		X	X
<b>B. Evaluate Reliability of Results . . . . .</b>	<b>4</b>	<b>6</b>	<b>3</b>
1. Measured and calculated blood gas results . . . . .			
2. Measured and calculated CO-oximetry/hemoximetry results . . . . .			X
3. Spirometry data (e.g., VC, FVC, FEV <sub>1</sub> , MVV, flow-volume loops) . . . . .			
4. Gas dilution data (e.g., N <sub>2</sub> , He) for static lung volumes (e.g., FRC, RV, TLC) . . . . .			X
5. Body plethysmography data (e.g., body box) for static lung volumes (e.g., FRC, RV, TLC) . . . . .		X	X
6. Peak expiratory flow . . . . .			
7. Lung diffusion studies (D <sub>LCO</sub> ). . . . .			X
8. Timed walking test for exercise (stress) test data . . . . .			X
9. Monitored (e.g., ECG, blood pressure, SpO <sub>2</sub> ) exercise (stress) test data . . . . .			X
10. Blood gas analysis for exercise (stress) test data . . . . .		X	X
11. Noninvasive blood pressure data . . . . .			X
12. ECG waveforms (e.g., arrhythmia, rate, pattern) . . . . .			X
13. Pulse oximetry data . . . . .			
14. Bronchodilation studies of airway response data. . . . .			
15. Bronchial provocation studies (e.g., methacholine, exercise, hyperventilation) of airway response data. . . . .		X	X

	Application		
	Recall		
16. Airway resistance/conductance data by plethysmography . . . . .		X	X
17. Inspiratory/expiratory pressures (e.g., MIP, MEP) . . . . .			X
18. Reference values regarding statistical and graphical methods for quality control and pulmonary function data . . . . .		X	X
19. Means, standard deviations, confidence intervals (e.g., Levy-Jennings) for statistical and graphical methods for quality control and pulmonary function data . . . . .		X	X
20. Clinical history and demographics (e.g., height, weight, age, race, gender, smoking and occupational history, vital signs, medical/surgical history, medications, respiratory care). . . . .			X
21. Laboratory quality management . . . . .			X
<b>C. Evaluate Clinical Implications . . . . .</b>	<b>4</b>	<b>5</b>	<b>3</b>
1. Measured and calculated blood gas results . . . . .			X
2. Measured and calculated CO-oximetry/hemoximetry results . . . . .			X
3. Spirometry data (e.g., VC, FVC, FEV <sub>1</sub> , MVV, flow-volume loops) . . . . .			
4. Gas dilution data (e.g., N <sub>2</sub> , He) for static lung volumes (e.g., FRC, RV, TLC) . . . . .			
5. Body plethysmography data (e.g., body box) for static lung volumes (e.g., FRC, RV, TLC) . . . . .			X
6. Peak expiratory flow . . . . .			
7. Lung diffusion studies (D <sub>LCO</sub> ). . . . .			X
8. Timed walking test for exercise (stress) test data . . . . .			X
9. Monitored (e.g., ECG, blood pressure, SpO <sub>2</sub> ) exercise (stress) test data . . . . .			X
10. Blood gas analysis for exercise (stress) test data . . . . .		X	X
11. Noninvasive blood pressure data . . . . .			X
12. ECG waveforms (e.g., arrhythmia, rate, pattern) . . . . .			X
13. Pulse oximetry data. . . . .			
14. Bronchodilation studies of airway response data. . . . .			
15. Bronchial provocation studies (e.g., methacholine, exercise, hyperventilation) of airway response data. . . . .		X	X
16. Airway resistance/conductance data by plethysmography . . . . .		X	X
17. Inspiratory/expiratory pressures (e.g., MIP, MEP) . . . . .		X	X
18. Reference values regarding statistical and graphical methods for quality control and pulmonary function data . . . . .			X
19. Means, standard deviations, confidence intervals (e.g., Levy-Jennings) for statistical and graphical methods for quality control and pulmonary function data . . . . .		X	X
20. Clinical history and demographics (e.g., height, weight, age, race, gender, smoking and occupational history, vital signs, medical/surgical history, medications, respiratory care). . . . .			
21. Laboratory quality management . . . . .			X
<b>TOTALS</b>	<b>37</b>	<b>40</b>	<b>23</b>