1. Lung compliance is decreased in
   a) emphysema
   b) COPD
   c) lung fibrosis
   d) bradypnoea

2. Lack of lung surfactant
   a) decreases the work of breathing
   b) increases the likelihood of lung oedema formation
   c) facilitates the formation of atelectases
   d) participates in the pathogenesis of ARDS and RDS

3. Increased airway resistance
   a) can be due to congestion of airway mucosa
   b) increases work of breathing
   c) is present in an attack of bronchial asthma
   d) is typical sign of restrictive lung diseases

4. A decrease of the lung diffusion area is found
   a) after numerous lung microemboli
   b) in interstitial lung oedema
   c) in emphysema
   d) in carbon monoxide intoxication

5. Decreased diffusion capacity and V/Q mismatch could be best distinguished by
   a) 6-MWT
   b) inhalation of O₂ in high concentration
   c) transfer factor estimation only
   d) evaluation of AB balance

6. Pneumothorax is accompanied by
   a) decreased residual volume
   b) decreased lung distension on the affected side
   c) decreased or missing costal movements on the affected side
   d) decreased vital capacity

7. Positive bronchoconstriction test
   a) indicates the presence of lung emphysema
   b) is in bronchial hyperreactivity
   c) is after inhalation of parasympatholytic drugs
   d) is after inhalation of sympathomimetic drugs

8. Bronchodilation test
   a) uses stimulation of nicotinic receptors
   b) is used to indicate reversibility of airway obstruction
   c) evaluates changes of FEV₁
   d) anticholinergic drugs are used as a bronchodilating stimulus

9. In emphysematic patients
   a) FRC increases
   b) static lung compliance increases
   c) hypoxemia and hypercapnia may occur
   d) duration of expiration decreases
   e) ventilation/perfusion mismatch appears
10. Treatment of bronchial asthma attack includes
a) immediate specific desensitization by the identified allergen
b) inhalation of 100% oxygen
c) administration of bronchial spasmolytics
d) administration of antitussives

11. Ventilatory response to hypoxia
a) is mediated by central chemoreceptors
b) depends on intact carotid bodies
c) is depressed in hypercapnia
d) is stimulated in mild anemia

12. The sleep apnoea
a) can be central
b) can be peripheral
c) does not affect systemic BP
d) does not affect Hb saturation

13. Diagnosis of respiratory insufficiency is based on
a) patient’s productive cough
b) PaO$_2$ below 8 kPa
c) PaCO$_2$ above 6 kPa
d) signs of increased work of breathing

14. A patient with ketoacidosis was given infusion of bicarbonate. His ventilation
a) decreased
b) increased
c) remained unchanged
d) stopped

15. Hyperventilation means that
a) subject breathes intensively with maximum effort
b) ventilation results in hypcapnia
c) increased alveolar ventilation corresponds to increased metabolism
d) ventilation results in respiratory alkalosis

16. Global respiratory insufficiency is characterized by
a) increased PaCO$_2$ only
b) increased PaCO$_2$ and decreased PaO$_2$
c) increased PaCO$_2$ and normal PaO$_2$
d) normal PaCO$_2$ and decreased PaO$_2$

17. A direct stimulating effect on respiratory centres has
a) increase of pH and decrease of PCO$_2$
b) decrease of pH and increase of PCO$_2$
c) increase of HCO$_3^-$
d) decrease of PO$_2$

18. Hypercapnia
a) results from alveolar hypoventilation
b) results in decreased neuromuscular excitability
c) is associated with respiratory acidosis
d) is associated with a decrease of ionized plasmatic calcium
19. The causes of hypoxemia include
a) alveolar hypoventilation
b) venous admixture in arterial blood
c) intrapulmonary right-to-left shunts
d) prolongation of diffusion path
e) restriction of diffusion area

20. Cough
a) is a reflex originating by mechanical stimulation of alveoli
b) is suppressed during general anaesthesia
c) is always treated by antitussives
d) is associated with fluctuations of cardiac output

21. High PN₂ (diving) may cause
a) symptoms similar as in alcohol intoxication
b) narcosis
c) decompression sickness after too fast ascent
d) microembolization

22. Spontaneously breathing patient had PaCO₂ 20 mmHG, pH 7, 2 and PaO₂ 81 mmHg, the cause is likely
a) disorder of ventilation
b) V/Q mismatch
c) diffusion problem
d) breathing dysregulation

23. Oxygenotherapy is most effective in treatment of
a) V/Q mismatch
b) impairment of diffusion
c) hypoventilation
d) right to left shunt

24. Artificial ventilation
a) can induce tetany, if excessive
b) should use a humidifier
c) is indispensable in a patient with spinal cord lesion at the level of C-2
d) assumes administrating air mixture with at least 60% O₂

25. In carbon monoxide poisoning
a) exposed person is cyanotic
b) hyperbaric oxygen therapy is suitable
c) administration of breathing stimulating substances are recommended
d) exposed person is pink

26. Artificial ventilation with constant pressure
a) eliminates effect of leaks
b) eliminates volumotrauma
c) ensures constant ventilation
d) does not affect pulmonary blood flow

27. During constant minute ventilation, ventilation of the dead space
a) depends on the rate of breathing
b) depends on tidal volume
c) results always in hypoventilation
d) increases in airway obstruction
28. Possible causes of pulmonary hypertension include
a) increased flow in pulmonary circulation
b) decreased resistance of pulmonary vessels
c) decreased viscosity of blood
d) left heart insufficiency

29. FEV1
a) increases in emphysematic patients
b) is age dependent
c) in healthy man is more than 60 % VC
d) needs body box for ascertainment

30. Decreased VC is typical for
a) restrictive lung disease
b) incipient obstructive lung disease
c) incipient chronic bronchitis
d) pneumoconiosis