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1. In a normal man breathing quietly at sea level the partial pressure of:- P163 in old Book

a. carbon dioxide in the alveolar air is greater than that in room air ✗

b. oxygen in the alveolar air is greater than that in room air ✓

c. water vapour in the alveolar air is about zero mmHg ✗ 47 mmHg

d. water vapour in room air is about zero mmHg ✗ 3.7 mmHg

2. respiratory center: medulla P 131, 132

a. is located in the pons and hypothalamus ✗

b. is stimulated during swallowing and vomiting ✗

c. sends out regular bursts of impulses to inspiratory muscles during quiet respiration, ✓

d. is not active during forced expiration

3. The surfactant material lining the iung alveoli: P 141, 142

a. increases ✗ Decrease the surface tension of the alveolar fluid

b. decreases the work of breathing ✓

c. prevents alveolar collapse during expiration ✓

d. b and c are correct ✓

4. Expiration is active in: P.130

a. emphysema P 130

b. normal expiration ✗

c. deep forced expiration ✓ P129

d. a and c are correct ✓

5. In shallow rapid breathing:

a. alveolar ventilation is decreased

b. anatomical dead space is increased

c. tidal volume is increased

d. a and b are correct ✓

6. Voluntary hyperventilation leads to:

a. a decrease in arterial PCO2

b. an increase in arterial P02

c. a and b are correct ✓ 138

d. none of the above is correct

7. The oxygen-hemoglobin dissociation curve is shifted to the left by:

a. decrease in PCO2 in blood ✓

b. an increase in core body temperature Decrease

c. an increase in H+ concentration in blood Decrease

d. none of the above is correct

8. in stagnant hypoxia :-

a. the arterial PO_2 decreases Normal

b. the arterial oxygen content decreases Normal

c. the oxygen % saturation of atrial blood is normal ✓

d. . the venous oxygen content is normal Decrease

9. The residual volume:

a. is the volume of air remaining in the lung at the end of normal expiration

b. prevents marked changes in the concentration of CO2 and O2 in alveolar air and blood ✓

c. can be measured by dilution method only ✓

d. b and c are correct

10. compliance of the lung:

a. is expressed as = $\Delta P/\Delta V$

b. greater in old age ✓

d. is increased in lung fibrosis Decrease

c. is decreased in emphysema Increase

11. The afferent impulses of the sneezing reflex pass through the:

a. trigeminal nerve

b. vagus nerve

c. glossopharyngeal nerve

d. carotid sinus nerve

12. Ventilation perfusion ratio:

a. is not affected by gravity

b. is uniform (same) throughout the lung in the standing position

c. it is about 1.0 for the whose lung

d. none of the above is correct

P159

13. Regarding intrapleural pressure

a. positive at the end of deep expiration with closed glottis

b. positive at the end of deep inspiration with a closed glottis

c. zero mmHg during the expiratory pause

d. none of the above is correct

P139

+40 mm Hg

-30 mm Hg

14. Regarding the surfactant material lining the lung alveoli:

a. it prevents alveolar collapse during expiration P142

b. its formation is stimulated by hypothyroidism P143

c. it prevents pulmonary edema

d. a and c are correct

15. Expiration becomes active

a. during the expiratory pause

b. when Lung elasticity is decreased

c.when airway resistance is decreased P130

d. none of the above is correct

16. The function of the respiratory center is regulated by afferent impulses (input) from:

a. muscle and joint proprioceptors P134

b. juxta-pulmonary capillary receptors P136

c. none the above is are correct

d. a and b are correct

17. Regarding the oxygen-hemoglobin dissociation curve:

a. it shows the relation between P02 and % saturation of Hb with O2

b. it shows the relation between Hb content and % saturation of Hb with oxygen

c. is shifted to the left by an increase in H^+ concentration in blood

d. none of the above is correct

18. Regarding lung volumes and capacities , which of the following statements is correct?

a. are lower in athletes

b. are higher in old age

c. are higher in chest wall diseases such as muscle paralysis

d. none of the above is correct

19. which of the following may decrease lung volume and capacities ?

a. exercise

b. lunge congestion ✓

c. depression of the respiratory center ✓

d. b and c are correct

20. If a lung containing the minimal amount of air is placed in water it:

a. will float

b. will sink

c will swell

c. woll swe;; and rupture

21. Which of the following is correct?

a. the PCO2 of arterial blood is 46 mmHg

b. the P02 of arterial blood is 100 mmHg ✓

c. the P02 of venous blood is 40 mmHg ✓

d. b and c are correct

22. During normal respiration, the alveolar pressure:

a. is lower than the atmospheric pressure during expiration

b. is lower than the intrapleural pressure during expiration

c. Equals the atmospheric pressure between breaths P139

d. is higher than the atmospheric pressure during inspiration lower

23. Which of the following Increases the work of breathing?

a. increased surfactant

b. increase surface tention P156

C. decreased airway resistance

d. increase compliance

24. carbon dioxide is not carried in blood as:

a. bicarbonate ✓

b. Carbonic acid ✓ P166

c. carboxyhemoglobin ✓ carbaminohemoglobin.

d.carbamino compounds ✓

25. Peripheral chemoreceptors respond mainly to:

a. acidosis } weaker stimulus

C. hypercapnea }

b. CO-poisoning

c. hypoxia main. P135

26. Surfactant is secreted from:

a. type II alveolar epithelial cells P103 40

b. bronchial mucosa ✗

c. nasal mucosa

d. type II endothelial cells

27. Which of the following increase during deep inspiration?

a. intrapleural pressure (39)

b. atmospheric pressure

c. lung volume ✓ P199

d. arterial oxygen partial pressure

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28. during normal expiration:-

a. alveolar pressure is negative (+) P139

b. intrapleural pressure becomes more negative

c. alveolar pressure equals atmospheric pressure ✗ positive. P129

d. the diaphragm is relaxed

29. Concerning the composition of air: ✗ in old Book P163

a. atmospheric air has more CO2 than alveolar air ✗ (0.04 / 5.3)

b. expired air has less CO_2 than alveolar air ✓ (3.6 / 5.3)

C. alveolar air has more O2 than expired air ✗ (13.6 / 15.7)

d. alveolar air has less CO2 than atmospheric air ✗ (5.3 / 0.04)

30. Concerning the respiratory center:

a. apneustic center stimulates the inspiratory center ✓ P132.

b. autonomic control of respiration arises from the hypothalamus ✗ Brain stem.

c. voluntary control of respiration arises from the cerebral cortex P138

d. respiratory center is found in the lung and bronchi

31. the following are function of the conducting zone of the respiratory system except:-

a. humidification

b. filtration

c. air conditioning

d. gas exchange P126

32. which of the following is higher at the bade than at the apex of th lung?

a. blood flow –

b. ventilation

c. V/Q ratio ✗

d. only a and b are correct P159

33 . Which of the following leads to anemic hypoxia?

a. ascending to high altitude

b. congestive heart faillure

c. blood loss ✓ anemia P170

d. polycythemia vera

34. if the TV of a person is 450 ml, the IRV Is 2200 ml and the ERV is 1800 ml, his IC should be:-

TV+IRV P143

a. 1750 ml (b) 2650 ml c. 4000 ml d. 4450 ml

35. If the FEV or (FVC) of a subject is 5 L , and the FEV_1 is 2.5 L, the FEV_1% should be :-

P147

a. 75% b. 80% (c) 50% a 0.5%

$\frac{FEV_1 \times 100}{FEV}$

36. The volume of air remaining In the lung after forces and complete expiration is called:-

a. FRC ∝ normal. not maximal. b. TLC ∝ after inspiration C. VC ∝ expired not remaining (d) RV ✓ P143,144.

37- The volume of air remaining in the lung after normal expiration called

a- tidal volume b- inspiratory reserve volume

(c) functional residual capacity ✓ d- total lung capacity

P143

38. The alveolar pressure

a. is less than the atmospheric pressure during expiration (x)

b- is less than the intrapaeural pressure during expiration (x)

P139

(c) equals the atmospheric pressure between breaths ✓

d- is more than the atmospheric pressure during inspiration

39. The oxyhemoglobin curve shows the relation between

a. alveolar pressure and pulmonary ventilation ✓ b. O_2 tension ∝ and CO_2 tension

c- alveolar PO_2 and O_2 content (d) none of the above ✓

40. Ascending to high altitude may cause:

a- stagnant hypoxia b. histotoaxic hypoxia

c- anemic hypoxia (d) hypoxic hypoxia ✓

P170

Dr. H... MS... H... F...

41. Central chemoreceptors respond mainly to

a- hypoxia b. hypercapnea c- alkalosis d. hyperthermia

P134

42. Which of the following is not a function of the repiratory system

a. regulation of the ionic composition of body fluids

b-.gas exchange

C- formation of angiotesin II ACE

d- regulation of The PH Of body fluids

P126

43. Surfactant

a. is secreted from endothelial cells

b. is secreted-from type II epithelial cells

c- increases the work of breathing

d. secretion decreases if lung volume increases

P141,140

44. Compliance of the lung:

a. is expressed as change in pressure per unit change in volume

b. is the measure of the ease by which the lung can be deflated inflated

c. is about 500 ml /mmHg in normal people

d. is highest during tidal breathing

P153

45. Which of the following is not a function of the conducting zone of the respiratory system

a. gas exchange b. filtration

c- humidification d- air conditioning

P126

46. The site of gas exchange is

a. trachea

b. bronchi

c. alveoli

d. nose

P 97



47. The volume of air remained in the lung after maximal expiration is

a- TLC b- RV c- FRC d- VC

P 143

48 Central chemoreceptors respond mainly to :

a. hypercapnea b- alkalosis c- acidosis d- hypoxia

49.Voluntary type of respiration originates from

a. cerebellum b- medulla c- lungs d- cerebral cortex P 138

50. Severe decrease in blood flow may causes

a- hypoxic hypoxia

b- anemic hypoxia c

c- stagnant hypoxia

d- histotaxic hypoxia

51. inspiration occurs when the alveolar pressure is :

a- positive b- zero c- negative d- more (less) than the atmospheric P. P 129.

52. If the tidal volume is 400 ml , respiratory rate is 10 / min and dead space volume is 100 ml ,the pulmonary ventilation is

TV x respiratory rate

a. 3000 ml/min b- 4000 ml/min c- 5000 ml/min d- 6000 ml/min P 148

53. if lung compliance is 400 ml/mmHg and chest wall compliance is 400ml/mmHg the total thoracic compliance is:

P 154

a. 800 ml b. 800 ml/mmHg c. 200 ml/mmHg

d. 100 ml/mmHg e. zero ml/mmHg

54. Carbon dioxide is not carried in the blood as:-

a. carbaminohemoglobin b. carboxyhemoglobin

C. bicarbonate d. carbonic acid e. free gas P 164, 165

55. Hyperventilation causes:

a. stagnant hypoxia

b. anemic hypoxia

c. histotaxic hypoxia

d.hypoxic hypoxia

e. none of the above is correct

56. which of the following increases the work of breathing?

a. decreased surfactant

b. increased compliance

c. decreased surface tension at the alveolar membrane

d. increased lung elasticity

e. decreased airway resistance

57. Which of the following is not part of the vital Capacity?

a. inspiratory reserve volume ✓

b. expiratory reserve volume ✓

c. residual volume

d. tidal volume ✓

e. inspiratory capacity

58. Which of the following decreases during deep inspiration?

a. intrapleural pressure

b. atmospheric pressure

c. arterial oxygen tension

d. lung volume

e. none of the above is correct

59. Which of the following is correct?

a. the atmosphferic (barametric) pressure increases at high altitude the

b. the % composition of air at sea level is not the same as in high altitude

c. the P02 of arterial blood is lower than the P02 of venous blood

d.P02 of arterial blood is 90 mmHg and the P02 of venous bloos is 40 mmHg

e. none of the above is correct

60. Filtration may increase by a decrease in

a. capillary hydrostatic pressure.

b. venous pressure.

c. capillary osmotic pressure

d. interstitial osmotic pressure

61. Pulmonary surfactant:

a. increases surface tension.

b. is secreted by type I alveolar cells.

c. consists of proteins only.

d. is deficient in respiratory distress syndrome

62. Contraction of the diaphragm:

a. decreases the volume of the chest cavity

b. is caused by stimulation of the vagus nerve

c. occurs at the start of expiration

d. causes reduction of the intra-alveolar P

63. The oxyhemoglobin dissociation curve is shifted to the left by:

a. ↑ PH = ↓ H^+

b. ↑ temperature

c. ↑ 2,3 DPG

d. ↑PCO2

64. The peripheral chemoreceptors are stimulated by,

a. a decrease in PCO2 ✗

b. a decrease in H^+ ✗

c. an increase in PO2 ✗

d. a decrease in PO2 ✓ main stimulus.

P135

65. which of the following decreases at 18000 feet above sea level

a. the % of orygen in the air ✗ composition of Air remains constant. P176

b. the PO2

c. the atmospheric P,

d. b and c are correct ✓

P177

66. . Which of the following has a value of 46 mmHg old Book

a. PO2 of venous blood

b. PCO2 of venous blood ✓

c. PCO2 of arterial blood

d. po2 of tissue

P163

67. Concerning lung compliance:

a. its normal value is 200 ml/mmHg

b. it is not affected by the surface tension

c. it decreases in lung fibrosis ✓

d. $C = \Delta P / \Delta V$ ✗

P154

68. Compliance of the lung

a. measures the recoil tendency of the lung .

b. is expressed as $\Delta V / \Delta P$

c. is expressed as $\Delta P / \Delta V$

P153

d. is less than the total thoracic compliance

e. is about 5 L / Cm H20 in normal lung

69. Which of the following is correct

a- alveolar pressure is positive during inspiration

b- alveolar pressure is negative during expiration

C- .alveolar pressure is positive between breaths

d- intrapleural pressure is Positive during normal inspiration

P139

e. intrapleural pressure is negative during normal inspiration.

70. Concerning ventilation perfusion ratio:

a. there is more ventilation than perfusion at the base of the lung.

P159

b- the ratio is constant throughout the lung.

C-their ratio is 8.0 for the whole lung.

3

0.6

d. the ratio is less at the base than at the apex of The lung.

e- non of the above is correct.

71. Which of the following is correct about the pulmonary circulation?

a- at the top of the lung Pa > Pv > PA.

b. at the base of the lung Pa > Pv > PA.

c. the pressure in the pulmonary capillaries are higher than in the systemic capillaries

d. the pulmonary circulation is a low compliance system

e. the bronchial circulation is fir gas exchange

72. Concerning dead space:

a. normal dead space volume is 150 ml. P151

b- anatomical dead space greater than physiological dead space in normal persons.

c- physiological dead space equals anatomical dead space in healthy persons

d-dead space volume decreases in old age

e- fernales have greater dead space volume then males of same age

73. the volume of air inspired above the tidal volume is the :-

a. total lung capacity.

b- inspiratory reserve volume

c. residual volume P113

d- expiratory reserve volume.

e. functional residual capacity

74. Voluntary act of respiration is from :

a- the cerebral cortex. (b

b. the hypothalamus

c. the respiratory center

d- the apneustic center.

e. the lung

75 - Concerning CO poisoning:

a- hemoglobin content is normal P171

b. oxygen tension is below normal

C- oxygen content is normal.

d- the oxyhemoglobin dissociation curve is shifted to the right. left

e. non of the above is correct

a- hypothalamus .

b- cerebral cortex.

c. aortic bodies

d- carotid bodie

P131

e) pneumotaxic center.

77. It is correct to say:

a- the intrapleural pressure is positive during inspiration.

b) the periphral chemoreceptors are mainly stimulated by hypoxia.

c. C02 is transported mainly as carbonic acid.

d- compliance of the lung is greater when the breath near the residual volume.

e- impulses from the carotid bodies are transported through the vagus nerve.

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