Memory Test - Respiratory System & GP_Class Test_Online_Foundation_1

Total Mark: 100
Time: 90 Min

1. Bronchial smooth muscle contracts in response to?
A) Bronchial mucosal irritation
B) Local beta adrenoceptor stimulation
C) A fall in bronchial PCO2
D) Inhalation of cold air
E) Circulating noradrenaline
Answer: T, F, T, T, F
Discussion:
Reference: (Ref: Roddie 6th / Q-149)

2. Followings are respiratory acidosis laboratory findings?
A) High Co2
B) High plasma HCO3
C) Low PH
D) Hypokalaemia
E) Alkaline urine
Answer: T, T, T, F, F
Discussion: TTTF(Hyperkalaemia)F(Acidic urine)
Reference: (Ref: Ganong 26th, / P=634)

3. If the carotid and aortic chemoreceptors are denervated
A) Increasing alveolar PCO2 by 25 per cent fails to stimulate ventilation
B) Halving the alveolar PO2 fails to stimulate ventilation
C) The resting ventilation rate is depressed by more than 40 per cent
D) Ventilation does not increase during exercise
E) The ability to adapt to life at high altitude is impaired
Answer: F, T, F, F, T
Discussion:
Reference: (Ref: Roddie 6th / Q-158)

4. In percentage terms, arterial PCO2 is more affected than arterial O2 content by?
A) Carbon monoxide poisoning.
B) Anaemia
C) A 20 per cent fall in inspired PO2.
D) Ascent to 2000 metres (about 6500 feet) above sea level
E) Increasing the oxygen pressure in the air breathed to three atmospheres.
Answer: F, F, T, T, T
Discussion:
Reference: (Ref: Roddie 6th / Q-613)

5. On lying down there is a decrease in the?
A) Central venous volume
B) Total systemic peripheral resistance
C) Ventilation/perfusion ratio in lung apices
D) Vital capacity
E) Rate of formation of urine
Answer: F, T, T, T, F
Discussion:
Reference: (Ref: Roddie 6th / Q-591)

6. The Valsalva manoeuvre is followed by a decrease in?
A) Intrapleural pressure
B) Intra-abdominal pressure
C) Cardiac output
D) Arterial blood pressure
E) Heart rate
Answer: T, T, F, F, F
Discussion:
Reference: (Ref: Roddie 6th / Q-593)

7. A raised blood pH and bicarbonate level is consistent with?
A) Metabolic acidosis
B) Partly compensated respiratory alkalosis
C) A reduced PCO2
D) Chronic renal failure with a raised PCO2
E) A history of persistent vomiting of gastric contents
Answer: F, F, F, F, T
Discussion:
Reference: (Ref: Roddie 6th / Q-41)

8. About coughing reflex?
A) Begins with a deep expiration followed by forced inspiration
B) Contraction narrows airway & increased velocity of flow
C) Depends on expiratory muscle, particularly abdominal muscle
D) It is less explosive than sneezing
E) Reflex helps to expel irritants and keep airways clear
Answer: F, T, T, F, T
Discussion:
Reference: (Ref: Ganong's 26,P=652 + Roddie 6th/ Q-181)

9. About dead space?
A) Normally, the volume (in mL) of this is approximately equal to the body weight in pounds

B) Anatomic dead space from nostril to terminal bronchiole
C) Physiologic dead space = Anatomic + Alveolar dead space
D) Anatomical dead space indicates ventilation perfusion ratio
E) Physiologic dead space saturates the inspired air by water vapor
Answer: T, T, T, F, F
Discussion:
Reference: [Ref: Ganong's 26th / P=621]

10. ACCLIMATIZATION results in?
A) Hyperventilation
B) Shifting of o2 hemoglobin dissociation curve to left
C) Increased 2, 3 - DPG concentration
D) Pulmonary vasoconstriction
E) Respiratory alkalosis
Answer: T, F, T, T, T
Discussion:
Reference: [Ref: Ganong's 26 th/ P-637]

11. As people age, there is usually a decrease in their?
A) Ratio of RV to VC
B) Percentage of vital capacity expelled in 1 second
C) Lung volume level at which small airways start to close during expiration
D) Lung elasticity
E) Resting arterial blood Po2
Answer: F, T, F, T, T
Discussion:
Reference: [Ref: Roddie 6th / P-144]

12. Compliance of the lungs is greater?
A) When they are expanded above their normal tidal volume range
B) In adults than in infants
C) Than the compliance of the lungs and thorax together
D) When they are filled with normal saline than when they are filled with air
E) In standing than in recumbent subjects
Answer: F, T, T, T, T
Discussion:
Reference: (Ref: Roddie 6th / Q-151)

13. Cyanosis?
A) May be caused by high levels of carboxyhaemoglobin in the blood
B) May be caused by high levels of methaemoglobin in the blood
C) Is seen in fingers of hands immersed in iced water
D) Occurs more easily in anaemic than in polycythaemic patients
E) Is severe in cyanide poisoning
Answer: F, T, F, F, F
Discussion:
Reference: [Ref: Roddie 6th / P-178]

14. During early inspiration there is an increase in?
A) Heart rate
B) Central venous pressure
C) Intrapulmonary pressure
D) Abdominal girth
E) Afferent impulse traffic in the vagus nerves.
Answer: T, F, F, T, T
Discussion:
Reference: (Ref: Roddeie 6th/ Q-589)

15. Following factors increase vital capacity?
A) Upright position
B) Increase airway resistance
C) Pregnancy
D) Physical training
E) Pulmonary fibrosis
Answer: T, F, F, T, F
Discussion:
Reference: (Ref: Ganong's 26th/ P-617)

16. In case of restrictive airway disease there is a decrease in?
A) FEV1
B) PEFR
C) FEV1/FVC
D) Residual volume
E) TLC
Answer: T, F, F, T, T
Discussion:
Reference: (Ref: Ganong 26th / P=618)

17. In the days following a major surgical operation there is?
A) An increase in plasma cortisol level.
B) A negative nitrogen balance)
C) Potassium retention.
D) A negative sodium balance)
E) A decreased tendency for the blood to clot.
Answer: T, T, F, F, F
Discussion:
Reference: (Ref: Roddie 6th / Q-609)

18. Membrane ion channels?
A) Consist mainly of carbohydrate and lipid
B) Have a specific structure for each ion species
C) For sodium may be blocked by tetrodotoxin
D) May be opened by a given change in transmembrane potential
E) Remain open as long as the activating signal is present
Answer: F, F, T, T, F
Discussion:
Reference: (Ref: Roddie 6th / Q-596)

19. Obstructive airways disease (COPD) is similar to restrictive lung disease (RLD) in that it reduces?
A) Vital capacity (VC)
B) The forced expiratory volume in one second (FEV1)
C) The ratio FEV1/VC
D) Residual volume
E) Peak expiratory flow rate to the same degree
Answer: T, T, F, F, F
Discussion:
Reference: [Ref: Roddie 6th/ P-176]

20. Pulmonary?
A) Arterial mean pressure is about one-sixth systemic mean arterial pressure
B) Blood flow/minute is similar to systemic blood flow/minute
C) Vascular resistance is about 50 per cent that of systemic vascular resistance
D) Vascular capacity is similar to systemic vascular capacity
E) Arterial pressure increases by about 50 per cent when cardiac output rises by 50 percent
Answer: T, T, F, F, F
Discussion:
Reference: (Ref: Roddie 6th / Q-159)

21. Respiratory alkalosis differs from metabolic alkalosis in that the?
A) Likelihood of tetany is less
B) Urine is alkaline
C) Arterial blood [HCO3] is normal or low
D) Arterial blood PCO2 is reduced
E) Reduction in cerebral blood flow is greater
Answer: F, F, T, T, T
Discussion:
Reference: (Ref: Roddie 6th / Q-45)

22. The cell membranes in skeletal muscle?
A) Are impermeable to fat-soluble substances
B) Are more permeable to sodium than to potassium ions
C) Become more permeable to glucose in the presence of insulin
D) Become less permeable to potassium in the presence of insulin
E) Show invaginations which connect to a system of intracellular tubules involved in excitation contraction coupling
Answer: F, F, T, F, T
Discussion:
Reference: (Ref: Roddie 6th / Q-18)

23. The endoplasmic reticulum?
A) Is a complex system of intracellular tubules
B) Is a component of the Golgi apparatus
C) Has a membrane structure similar to the cell membrane
D) Is associated with ribonucleoprotein
E) Is well developed in secretory cells
Answer: T, F, T, T, T
Discussion:
Reference: (Ref: Roddie 6th / Q-584)

24. The Golgi apparatus is?
A) Found in all eukaryotic cells.
B) A collection of complex tubules and vesicles.
C) Well developed in cells with secretory activity.
D) Associated with endoplasmic reticulum.
E) Not conspicuous in neurones.
Answer: T, F, T, T, F
Discussion:
Reference: (Ref: Roddie 6th / Q-604)

25. The mammalian cell membrane?
A) Is seen as an optically dense line using light microscopy
B) Consists mainly of protein
C) Is more permeable to fat- than to water-soluble particles
D) Contains enzymes
E) Contains the receptors for steroid hormones
Answer: F, F, T, T, F
Discussion:
Reference: (Ref: Roddie 6th / Q-588)

26. A medical student was working in a neurophysiology lab and was learning factors that determine the resting membrane potential of a neuron. Which of the following statements correctly explains how a change in concentration of an ion inside or outside of the neuron would change its resting membrane potential?
A) A decrease in extracellular Ca2+ concentration would stabilize the membrane and reduce its excitability
B) A decrease in the extracellular Na+ concentration would reduce the size of the resting membrane potential
C) An increase in the extracellular K+ concentration would move the resting membrane potential from a normal value of –90 mV to –70 mV
D) A decrease in the extracellular K+ concentration increases the gradient for K+ to leak out of the neuron, making the cell more hyperpolarized
E) A decrease in intracellular Na+ concentration would make the resting membrane potential more negative)
Answer: D
Discussion:
Reference: (Ref: Ganong's 26th/ p-98)

27. A person IRV=3800 ml, RV=400ml, ERV=1300ml, TV=500ml then his vital capacity will be?
A) 6000 ml
B) 5500 ml
C) 5600 ml
D) 4200 ml
E) 5700 ml
Answer: C
Discussion:
Reference: (VC=IRV+ERV+TV) So VC=3800+1300+500=5600ml

28. Airway resistance?
A) Is increased if the lungs are removed and inflated with saline
B) Does not affect the work of breathing
C) Is increased in paraplegic patients
D) Is increased following bronchial smooth muscle contraction
E) Makes up 80% of the work of breathing
Answer: D
Discussion:
Reference: [Ref: Ganong 26th/ P-627]

29. Biologically active substances partially removed from the bloodby the lungs are followings except?
A) Prostaglandins
B) Bradykinin
C) Adenine nucleotides
D) Histamine
E) Norepinephrine
Answer: D
Discussion:
Reference: [Ref: Ganong's 26th/ P-626]

30. Effects of exercise on respiration are following except?
A) Increase pulmonary blood flow
B) Increase CO2 excretion
C) Increase arterial PCO2
D) Increase CO2 formation
E) Almost normal arterial PO2
Answer: C
Discussion: (Remains almost normal)
Reference: [Ref: Ganong's 26th / P-654]

31. Factors shifting the O2 –Hb dissociation curve to the left except?
A) □PH
B) Hb F
C) Hyperthyroidism
D) Hypothyroidism
E) Decrease temperature
Answer: C
Discussion:
Reference: [Ref: Ganong's 26th / P-630]

32. Intravenous lactic acid increases ventilation. The receptors responsible for this effect are located in the?
A) medulla oblongata
B) carotid bodies
C) lung parenchyma
D) Aortic baroreceptors
E) trachea and large bronchi
Answer: B
Discussion:
Reference: [Ref: Ganong's 26th P=657]

33. Most of the CO2 transported in the blood is in the form of?
A) dissolved in plasma
B) in carbamino compounds formed from plasma proteins
C) in carbamino compounds formed from hemoglobin
D) bound to Cl-
E) in HCO3-
Answer: E
Discussion:
Reference: (Ref: Ganong's 26th, / P-0643)

34. Surfactant lining the alveoli?
A) Helps to prevent alveolar collapse
B) Is produced in alveolar type I cells and secreted into the alveolus
C) Is increased in the lungs of heavy smokers
D) Is an only glycolipid complex
E) None of above
Answer: A
Discussion:
Reference: (Ref: Ganong's 26th/ P-627)

35. The action potential of skeletal muscle
A) Has a prolonged plateau phase
B) Spreads inward to all parts of the muscle via the T tubules
C) Causes the immediate uptake of Ca2+ into the lateral sacs of the sarcoplasmic reticulum
D) Is longer than the action potential of cardiac muscle
E) Is not essential for contraction
Answer: B
Discussion:
Reference: (Ref: Ganong's 26th/ P-118)

36. The electrogenic Na, K ATPase plays a critical role in cellular physiology by?
A) Using the energy in ATP to extrude 3 Na+ out of the cell in exchange for taking two K+ into the cell
B) Using the energy in ATP to extrude 3 K+ out of the cell in exchange for taking two Na+ into the cell
C) Using the energy in moving Na+ into the cell or K+ outside the cell to make ATP
D) Using the energy in moving Na+ outside of the cell or K+ inside the cell to make ATP
E) None of above
Answer: A
Discussion:
Reference: (Ref: Ganong's 26th/ P-66)

37. The Golgi complex
A) Is an organelle that participates in the breakdown of proteins and lipids.
B) Is an organelle that participates in posttranslational processing of proteins.
C) Is an organelle that participates in energy production.
D) Is an organelle that participates in transcription and translation.
E) Is a subcellular compartment that stores proteins for trafficking to the nucleus
Answer: B
Discussion:
Reference: (Ref: Ganong's 26th/ P-66)

38. The tidal volume is?
A) The amount of air that normally moves into (or out of) the lungs with each respiration.
B) The amount of air that enters the lungs but does not participate in gas exchange)
C) The amount of air expired after maximal expiratory effort.
D) The amount of gas that can be moved into and out of the lungs in 1 min
E) None of above
Answer: A
Discussion:
Reference: [Ref: Ganong 's 26th/ P-617]

39. Variations in which of the following components of blood or CSF do not affect respiration?
A) Arterial HCO3- concentration
B) Arterial H+ concentration
C) Arterial Na+ concentration
D) CSF CO2 concentration
E) CSF H+ concentration
Answer: C
Discussion:
Reference: [Ref: Ganong's 26th / P-658]

40. Which of the following has the greatest effect on the ability of blood to transport oxygen?
A) Capacity of the blood to dissolve oxygen
B) Amount of hemoglobin in the blood
C) pH of plasma
D) CO□2 content of red blood cells
E) Temperature of the blood
Answer: B
Discussion:
Reference: (Ref: Ganong's 26th/ P-643)

41. Which one of following is not example of secondary active transport?
A) Na-Ca
B) Na-K
C) Na-amino acid
D) Na-glucose
E) Na-H
Answer: B
Discussion:
Reference: (Ref: Ganong's 26th/ p-52)

42. A-65- years-old - female with H/O fall followed by unable to walk came to you with sudden respiratory distress ,her VA/Q will be?
A) 1
B) 0
C) 0.8
D) 0.1
E) Infinity
Answer: E
Discussion:
Reference: [Ref: Ganong's 26th/ P=624]

43. Characteristics of apex of lung includes following all except?
A) Greater transmural pressure
B) More negative intra-pleural pressure
C) Lesser blood flow
D) Ventilation less
E) Smaller alveoli
Answer: E
Discussion:
Reference: [Ref: Ganong's 26th, / P- 626]

44. Gap junctions?
A) Are absent in cardiac muscle
B) Are present but of little functional importance in cardiac muscle
C) Are present and provide the pathway for rapid spread of excitation from one cardiac muscle fiber to another
D) Are absent in smooth muscle
E) Connect the sarcotubular system to individual skeletal muscle cells
Answer: C
Discussion:
Reference: (Ref: Ganong's 26th/ P-119)

45. Highest air inflow to the lungs occur during which phase of respiration?
A) End of expiration
B) End of inspiration
C) Midpoint of expiration
D) Mid pointof inspiration
E) Start of expiration
Answer: D
Discussion:
Reference: [Ref: Ganong's 26th / P=616]

46. Incorrect about lysosomes is?
A) Are membrane-bound organelles in the cytoplasm
B) Contain enzymes known as lysozyme
C) Are absent in serous salivary glands
D) Enable neutrophil granulocytes to digest phagocytosed material
E) Can digest cellular contents
Answer: C
Discussion:
Reference: (Ref: Rodde 6th/ Q-590)

47. Spontaneous respiration ceases after?
A) transection of the brainstem above the pons
B) transection of the brainstem at the caudal end of the medulla
C) bilateral vagotomy
D) bilateral vagotomy combined with transection of the brainstem at the superior border of the pons
E) transection of the spinal cord at the level of the first thoracic segment
Answer: B
Discussion:
Reference: Ref: Ganong 's 26th/ P-657]

48. The main respiratory control neurons?
A) Send out regular bursts of impulses to expiratory muscles during quiet respiration
B) Are unaffected by stimulation of pain receptors

C) Are located in the pons
D) Send out regular bursts of impulses to inspiratory muscles during quiet respiration
E) Are unaffected by impulses from the cerebral cortex
Answer: D
Discussion:
Reference: (Ref: Ganong's 26th/ p-657)

49. Which one of following is features of Type-I pneumocytes?
A) Contain lamellar inclusion bodies
B) Produce surfactant
C) Makes up 95% of alveolar epithelial surface area
D) Simple cuboidal
E) Helps in alveolar repair
Answer: C
Discussion:
Reference: [Ref: Ganong's 26th/ P-611]

50. Characteristicsof Pneumotaxic center includes following all except?
A) Increases respiratory rate
B) Nucleus name - Para brachialis
C) Shortens the duration of inspiration
D) Located at upper pons
E) Its damage along with vagus nerve leads to increase RR and duration of inspiration shortens

Answer: E
Discussion: (Reduce RR &□ duration of inspiration)

Reference: (Ref: Ganong's 26th, / P-647)