

1. Which of the following statements is false regarding the pancreas?

- A. Pancreatic islets consist of endocrine cells that secrete hormones into blood.
- B. Pancreatic acini produce digestive enzymes.
- C. Enterokinase is involved in the activation of pancreatic trypsinogen.
- D. Proteolytic enzymes are secreted as active enzymes from the pancreas.
- E. Cholecystokinin stimulates secretion of pancreatic digestive enzymes.

Ans :D

2. In a person who is looking attentively at an external stimulus or is thinking hard about something, the alpha rhythm in his EEG is replaced by:

- A. Theta waves
- B. Beta waves
- C. Alpha waves
- D. Slow waves
- E. Delta waves

Ans :B

3. A patient with language impairment who can see the question in this page and can talk with his instructor but is unable to interpret and understand the meaning of the question most likely has:

- A. Wernicke's aphasia
- B. Damage in occipital area
- C. Broca's aphasia
- D. Damage in somatosensory region
- E. Damage in primary motor cortex

Ans :A

4. Insulin stimulates glucose uptake by:

- A. all tissues
- B. renal tubular cells
- C. pituitary gland cells
- D. Adipose (fat)
- E. brain cells

Ans :D

5. Which of the following vessels has the largest effect on total peripheral resistance?

- A. Veins
- B. Capillaries
- C. Arterioles
- D. Venules
- E. Arteries

Ans :C

6. Which of the following statements is false regarding the pancreas?

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Ans :A

7. Vasopressin hormone is synthesized in theand secreted from the(fill in the blank):

- A. Hypothalamus, Posterior pituitary
- B. Blood vessel wall, Anterior pituitary
- C. Posterior pituitary, Anterior pituitary
- D. Anterior pituitary, Thyroid gland
- E. Anterior pituitary, Posterior pituitary

Ans :A

8. Which of the following statements is not true about cholecystokinin hormone?

- A. Stimulates alkaline secretions from the pancreas.
- B. Is secreted from duodenal mucosa.
- C. Stimulates pancreatic acinar cells to produce digestive enzymes.
- D. Is stimulated by presence of fat and protein in the chyme.
- E. All of the choices are not true.

Ans :A

9. Which of the following neuroglial cells have the same function?

1- Astrocytes; 2- Satellite cells; 3- Oligodendrocytes; 4- Ependymal cells; 5- Schwann cells

- A. 4 & 5
- B. 3 & 5
- C. No two cells have same function
- D. 2 & 4
- E. 1 & 2

Ans :B

10. Which one of the following is NOT a function of the urinary system?

- A. Excretion of foreign compounds
- B. Maintenance of proper acid-base balance in the body
- C. Regulation of blood glucose levels
- D. Excretion of metabolic waste Maintenance of proper body fluid volume and osmolarity

Ans :C

11. Which part of the limbic system is involved in an animal's feeling of hunger?

- A. hippocampus
- B. pons
- C. hypothalamus
- D. Amygdala
- E. thalamus

Ans :C

12. Sodium reabsorption through the nephron will drive the passive reabsorption of

- A. Urea, glucose, Chloride
- B. Water, glucose, amino acids
- C. None of the mentioned
- D. Chloride, water, urea
- E. Glucose, chloride, water

Ans :D

13. Which of the following is CORRECT about the "Target cell" for a hormone?

- A. It has a receptor specific for that hormone
- B. It stores the hormone
- C. It inactivates the hormone
- D. It is near the gland that secretes the hormone
- E. It generates the hormone

Ans :A

14. The main function of the small intestine is

- A. Excretion of cholesterol.
- B. Storing fecal material.
- C. Synthesis of plasma proteins.
- D. Nutrient digestion and absorption.
- E. Detoxification of blood.

Ans :D

15. When stimulated to secrete, the gastric parietal cells release

- A. Hydrochloric acid and intrinsic factor.
- B. Hydrochloric acid and HCO_3^- into the plasma.
- B. Somatostatin,
- D. Mucus and pepsinogen.
- E. Hydrochloric acid and pepsinogen.

Ans :A

16. Hormone "A" stimulates the release of hormone "B". As levels of hormone "B" increase, the secretion of hormone "A" is increased. This is an example of:

- A. Neuroendocrine control
- B. Negative feedback
- B. Positive feedback
- D. Circadian rhythm
- E. Diurnal control

Ans :C

17. A person has a stroke on her occipital lobe. What might happen to her?

- A. Loss of touch sensation
- B. Coma
- C. Blindness
- D. Deafness
- E. Reduced planning abilities

Ans :C

18. Which of the following statements is true about somatostatin?

- A. Is released by D cells of the stomach and stimulates histamine release.
- B. Is released by G cells of the stomach and inhibits gastrin release.
- C. Is released by D cells of the stomach and inhibits gastrin release.
- D. Is released by D cells of the stomach in response to low acidity and inhibits acid production.
- E. Is released by G cells of the stomach and inhibits acid production.

Ans :C

19. What is the physiological importance of the negative intrapleural pressure?

- A. It increases capillary blood flow
- B. It facilitates (makes easy) inflation of the lungs
- C. It is important for fast flow of air out of the lungs
- D. It decreases compliance of the lungs
- E. It increases the air velocity into the lung

Ans :B

20. One is true regarding atrial natriuretic peptide. Selects one:

- A. It is released due to increased total peripheral resistance
- B. It is released from right atrium in response to increase venous return
- C. Its secretion enhances sodium water retention
- D. Its action resembles that of aldosterone
- E. Its action resembles that of ventricular natriuretic peptide

Ans :B

21. Carbon dioxide
Select one:

- A. Uptake by the blood increases affinity of oxygen to bind to haemoglobin
- B. Has greater affinity to haemoglobin
- C. Is more soluble in blood plasma than Oxygen
- D. Stimulates ventilation when breathed at a concentration above 20 per cent.
- E. It is carried as carboxyhaemoglobin on the haemoglobin molecule

Ans :C

22. During exercise, all of the following occur EXCEPT Select one:

- A. increased vasoconstriction of coronary arteries.
- B. increased filling pressure & dC&cgT affects the threshold of action potential
- B. increased cardiac rate.
- D. increased stroke volume
- E. shunting of blood from visceral organs to skeletal muscle and heart

Ans :A

23. A shift of the oxygen dissociation curve of blood to the right Select one:

- A. Could be seen in fetus blood
- B. Indicates more oxygen is carried by blood
- C. Favours oxygen delivery to the tissues
- D. Could be produced by cold temperature
- E. Favours oxygen uptake from the lungs by alveolar capillary blood

Ans :C

24. Improper timing and scaling of motor movements suggest a lesion involving Select one:

- A. thalamus
- B. basal ganglia
- C. cerebellum
- D. cerebral cortex
- E. hippocampus

Ans :B

25. Which of the following is the property of a cardiac cell to initiate and fire an action potential on its own without external stimulation? Ans :C

- A. Spontaneity.
- B. Selectivity
- C. Automaticity.
- D. Conductance.
- E. Rhythmicity.

26. Which of the following is not a component of saliva? Select one:

- A. electrolytes.
- B. mucus.
- C. water.
- D. pepsin.
- E. amylase.

Ans :D

27. Resting tremor is seen in diseases of the
Select one:

- A. cerebral cortex
- B. reticular activating system
- C. cerebellum
- D. basal nuclei
- E. spinal cord

Ans :D

28. Astrocytes
Select one:

- A. cannot divide
- B. form the neural scar
- C. can generate action potentials
- D. line brain cavities containing CSF
- E. supply glucose to brain cells

Ans :B

29. What is the importance of Hering-Breuer Reflex? Select one:

- A. It prolongs expiration when needed
- B. it increases depth of inspiration during exercise
- C. it increases rate of breathing during exercise
- D. It depresses breathing upon CO₂ elevation
- E. It prevents over-inflation of lungs

Ans :E

30. Thyroid hormones are not known to: Select one:

- A. Increase heat production.
- B. Stimulate rate of cellular respiration.
- C. Increase cholesterol levels
- D. Increase consumption of glucose & fatty acids.
- E. Increase active transport by Na⁺/K⁺ pump.

Ans :C

31. Increased blood pressure stimulates. Select one:

- A. decreased outflow from the baroreceptors.
- B. increased parasympathetic outflow of the heart
- C. decreased parasympathetic outflow to the heart.
- D. postural hypotension.
- E. decreased sympathetic outflow to the heart.

Ans :E

32. Which of the following statements regarding the cells types in nervous system is TRUE? Select one:

- A. cell bodies of both afferent and efferent neurons are found inside the CNS
- B. the majority of cells in CNS are neurons
- C. microglia are lining brain spaces that filled with CSF
- D. motor neurons lie completely outside CNS
- E. astrocytes take up the excessive extracellular potassium.

Ans :E

33. Damage to the cerebellum could be diagnosed by observing:

- A. a lack of smell sensation
- B. an inability to regulate body temperature
- C. ataxia, or loss of balance
- D. Loss of planning function
- E. an inability to understand words, although individual letters may be recognizable

Ans :C

34.is transported in intestinal epithelial cells by sodium-dependent cotransport process:

- A. Oligopeptides.
- B. Triglycerides.
- C. Fructose.
- D. Fatty acids.
- E. Alanine.

Ans :E

35. Parkinson's disease is due to deficiency in in the basal nuclei of the brain:

- A. Norepinephrine
- B. GABA
- C. Glutamate
- D. Acetylcholine
- E. Dopamine

Ans :E

36. Activation of the sympathetic nervous system leads to the 'fight and flight' response. Which of these is part of this process?

- A. Decreased opening of respiratory airways
- B. Decreased heart rate
- C. Decreased blood pressure
- D. Increased gastrointestinal functions
- E. Increased sweating

Ans :E

37. In processing of visual sensation, information from the retina is relayed in before it is sent to relevant cortical area. The

- A. Cerebellum
- B. Hypothalamus
- C. Basal nuclei
- D. Thalamus
- E. Brain stem

Ans :D

38. How does the hypothalamus cause the release of anterior pituitary hormones?

- A. Nerve endings directly connect to anterior pituitary
- B. Nerve ending hormones release hormones that follow the portal blood supply into the anterior pituitary
- C. Nerve ending hormones release hormones that follow the systemic blood supply into the anterior pituitary
- D. Nerve ending hormones release hormones directly into the anterior pituitary
- E. Nerve stimulation of the posterior pituitary causes hormone secretion that activates the anterior pituitary

Ans :B

39. Which of the following is INCORRECT regarding the metabolic effects of growth hormone?

- A. It increases plasma glucose level
- B. It increases plasma fatty acid level
- C. It increases muscle uptake of glucose
- D. It increases cell division
- E. It increases tissue protein synthesis

Ans :C

40. Which of the following has the strongest effect of ventilation? Select one:

- A. The effect of 10 % decrease in oxygen saturation
- B. The effect of plasma H⁺ elevation on central chemoreceptors
- C. The effect of rise of CO₂ on central chemoreceptors
- D. The effect of plasma H⁺ elevation on peripheral chemoreceptors
- E. The effect of rise of CO₂ on peripheral chemoreceptors

Ans :C

41. Which of the following is CORRECT about aldosterone?

- A. It is a major glucocorticoid hormone
- B. It is secreted by the zona reticularis of the adrenal cortex
- C. It increases potassium concentration in the blood
- D. It increases blood acidity
- E. It increases sodium amount in the blood

Ans : E

42. The protein digestion begins in the:

- A. Liver.
- B. Pancreas.
- C. Small intestine.
- D. Large intestine.
- E. Stomach.

Ans : E

43. Which of the following statements is true?

- A. Bile salts help in the digestion of proteins.
- B. Secretin inhibits alkaline secretion from the bile canaliculi.
- C. Bile is produced by the pancreas.
- D. Cholecystokinin stimulates the relaxation of gallbladder.
- E. Parasympathetic stimulation increases the bile secretion.

Ans : E

44. Regulation of breathing and the cardiovascular system is primarily controlled by:

- A. Cerebellum
- B. Reticular activating system
- C. Pons
- D. Medulla
- E. Thalamus

Ans : D

45. Which of the following pituitary hormones stimulates T3 and T4 secretion from the thyroid gland?

- A. GH
- B. Prolactin
- C. ACTH
- D. FSH
- E. TSH

Ans : E

46. If breathing rate is 20 /min, tidal volume is 450 ml and dead space is 150 ml. The total pulmonary ventilation is: Select one:

- A. 9 L/min
- B. 12 L/min
- C. 4.5 L/min
- D. 15 L/min
- E. 3.5 L/min

Ans :A

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