

Sample Questions

1. Cell membrane
 - a. formed entirely of protein molecules
 - b. are impermeable to fat soluble substances
 - c. in some tissues permit transport of glucose at a greater rate in the presence of insulin
 - d. are not changed through out the life
2. The substance that contributes maximally to the osmolality inside the cell is
 - a. protein
 - b. phosphate
 - c. urea
 - d. potassium
3. The unique feature in mitochondria is
 - a. myosin
 - b. actin
 - c. DNA
 - d. prothrombin
4. The resting membrane potential of a cell
 - a. is dependant on the permeability of the cell membrane to K^+ being greater to Na^+
 - b. falls to zero if Na^+/K^+ ATPase in membrane is inhibited
 - c. is equal to the equilibrium potential for K^+
 - d. is equal to the equilibrium potential of Na^+
5. In some cases DM is due to
 - a. excessive receptors
 - b. antibodies against receptors
 - c. deficiency of receptors for extra cellular proteins
 - d. deficiency of nucleotide regulatory G proteins
6. An action potential in a nerve
 - a. is terminated by influx of Na^+ excessive receptors
 - b. is terminated by efflux of K^+
 - c. is initiated by efflux of Na^+
 - d. is initiated by influx of K^+
7. An example of co-transport is
 - a. Na^+-K^+ pump
 - b. Ca^{++} pump
 - c. Na^+-H^+ pump
 - d. Na^+ glucose transport
8. Saltatory conduction
 - a. is seen only in myelinated nerve fibres
 - b. is slower than non saltatory conduction
 - c. is not affected if a local anesthetic is applied to the node of Ranvier
 - d. none of the above
9. The action potential of skeletal muscle
 - a. has a prolonged plateau phase
 - b. spreads inwards to all parts of the muscle via T tubules
 - c. is longer than the action potential of cardiac muscle
 - d. is not essential for muscle conduction

10. The likely mechanism through which neostigmine acts in improving muscular weakness is
 - a. blocks action of acetylcholine
 - b. it interferes with action of mono-amine oxidase
 - c. it enhances the action of catecholamines
 - d. it blocks the action of acetyl choline esterase
11. Osmotic pressure of plasma is mainly maintained by
 - a. albumin
 - b. alpha globulin
 - c. beta globulin
 - d. gamma globulin
12. Parathyroid hormone (PTH)
 - a. Is a 184 amino acid peptide hormone
 - b. Acts on a cell surface receptor that increases intracellular cyclic AMP
 - c. Increases calcium release from bone
 - d. Increases production of 1,25 dihydroxy-vitamin D3 in the kidney
 - e. Reduces calcium absorption from the gastrointestinal tract
13. Anti-diuretic diuretic hormone (ADH)
 - a. Is produced by the anterior lobe of the pituitary gland
 - b. Is released by neurosecretion
 - c. Serum levels are increased by a low plasma osmolality
 - d. Secretion is increased in the early post-operative period
 - e. Acts by increasing the permeability of the distal convoluted tubule
14. Solitary thyroid nodules
 - a. Are more prevalent in women
 - b. In the adult population less than 10% are malignant
 - c. More than 50% of scintigraphically cold nodules are malignant
 - d. The risk of a hot module being malignant is negligible
 - e. Should be surgically removed in all patients
15. The following cause hypercalcaemia
 - a. Sarcoidosis
 - b. Primary hyperparathyroidism
 - c. Acute pancreatitis
 - d. Metastatic bronchial carcinoma
 - e. Milk-Alkali syndrome
16. Thyroid hormone:
 - a. increases the absorption of carbohydrate from the intestine
 - b. exerts a negative feedback action on TSH production
 - c. increases the concentration of 2,3-DPG within the red blood cells
 - d. indirectly increases the nitrogen excretion
 - e. has a beta like action on the cardiac muscle
17. Aldosterone:
 - a. increases mRNA synthesis
 - b. deficiency results in hypotension
 - c. increases sodium reabsorption from sweat
 - d. release is stimulated by an increase in angiotensin II
 - e. is secreted by the zona glomerulosa
18. Insulin:
 - a. has a half-life of 60 minutes
 - b. stimulate glycolysis in liver and muscle
 - c. stimulate lipogenesis in liver and fat tissues
 - d. is synthesized in the endoplasmic reticulum of the b cells
 - e. receptors are decreased in the presence of uraemia

19. Calcitonin:
- a. is a steroid hormone
 - b. is produced by the parafollicular cells within the thyroid glands
 - c. is increased in the presence of hypercalcaemia
 - d. inhibits osteoclast activity
 - e. increases incorporation of calcium into bone matrix
20. Parathyroid hormone:
- a. is a peptide hormone
 - b. is released in response to hypocalcaemia
 - c. increases phosphate reabsorption in the kidneys
 - d. increases calcium excretion in the kidneys
 - e. indirectly increases the calcium absorption from the gut

Sample Question for Cell Physiology and Body Fluids

21. Which of the following substance is used for measuring the plasma volume?
- a. Antipyrine
 - b. Inulin
 - c. PAH
 - d. Evan's blue
22. Which of the following criterion is not included for suitability of the substance for measuring ECF?
- a. The substance must distribute itself only in the ECF
 - b. Should not diffuse into the cell
 - c. Should be non-toxic
 - d. Should be sweet to taste
23. Which of the following is an example of trans-cellular fluid?
- a. Interstitial fluid
 - b. CSF
 - c. Plasma
 - d. Intra-vascular fluid
24. Total Body Water (TBW) - Extra-cellular Fluid (ECF) gives:
- a. Interstitial fluid
 - b. Intra-vascular fluid
 - c. Intra-cellular fluid
 - d. Plasma volume
25. The body fluid compartment with the highest protein concentration is the:
- a. Extra-cellular fluid.
 - b. Intracellular fluid.
 - c. Plasma.
 - d. Interstitial fluid.
26. Primary force moving water molecules from the blood plasma to the interstitial fluid is:
- a. Filtration.
 - b. Active transport.
 - c. Facilitated diffusion.
 - d. Co-transport with sodium.
27. In a subject TBW is 42 liters and ECF is 14 liters. This means the intra-cellular fluid volume is:
- a. 56 L
 - b. 28 L
 - c. 7 L
 - d. 9 L

28. The property of primary active transport includes all of the following EXCEPT:
- Uphill movement from lower to higher concentration.
 - Uphill movement from lower to higher electrochemical potential.
 - Coupled directly to continuous supply of energy.
 - Independent of the downhill movements of any other solute or water.
29. Which one of the following statements is NOT true for carrier-mediated transport?
- Is always active.
 - May require ATP.
 - May be electrogenic.
 - Faster than simple diffusion.

Sample Question for Blood

True or False Quiz

30. Plasma is about 45% of total blood volume
- True
 - False
31. Male has more RBC than female
- True
 - False
32. Monocytes become macrophages as they leave the blood and enter the tissue spaces
- True
 - False
33. Iron deficiency anemia is characterized by the presence of small red blood cells
- True
 - False
34. A large reticulocyte count in the blood reflects a slow production of erythrocytes from the bone marrow
- True
 - False
35. Hypoxia will cause the production of more red blood cells
- True
 - False
36. In pernicious anemia, the lack of vitamin Vit. B12 results in red blood cells having larger size than normal (macrocytic)
- True
 - False
37. Pregnancy requires the addition of supplements containing iron to meet the increase demand due to fetal growths
- True
 - False
38. High erythrocyte count (physiological) is found in people living at high altitude
- True
 - False
39. Vessel spasm can be an effective method of haemostasis
- True
 - False
40. Damage to tissues initiates the intrinsic phase of clotting
- True
 - False
41. Persons with type A agglutinin will have anti-B agglutinin in their blood also
- True
 - False

Put (T) for true statement and (F) for false statement:

42. Erythrocytes formation:
- a. Takes place in the liver and spleen during adult life ()
 - b. Increases at high altitude ()
 - c. Is stimulated by reduction in arterial oxygen content ()
 - d. Is increased in renal disease ()
43. The main feature of erythrocytes maturation from stem cells includes:
- a. increased size ()
 - b. Segmentation of the nucleus ()
 - c. Enlargement of mitochondria ()
 - d. Appearance of hemoglobin ()
44. Iron:
- a. Is stored in the form of haemosiderin ()
 - b. Absorption is reduced by ascorbic acid ()
 - c. Deficiency causes anemia characterized by larger red cell volume (MCV) ()
 - d. Is transported in the blood to the bone marrow after combining with apoferritin ()
45. Anemia results from the following conditions:
- a. Hemolytic disease of newborn ()
 - b. Depression of bone marrow ()
 - c. Deficiency of folic acid ()
 - d. Living at high altitudes ()
46. All of the following statements are correct about the mechanism of the Coagulation
- a. factor VIII is essential for the intrinsic pathway ()
 - b. factors X and V are involved in both the intrinsic and extrinsic pathways ()
 - c. Tissue thromboplastin active factor XII and the intrinsic pathway ()
 - d. Removal of calcium ion from the blood inhibits clot formation ()

Sample Questions for Muscle and Nerve

47. The following statements about Resting Membrane Potential (RMP) are true EXCEPT:
- a. The resting membrane potential in nerve is about -70mV.
 - b. Is such that ions carry current into and out of the cell at the same rate.
 - c. Is solely due to K⁺ diffusion potential.
 - d. Would be expected to decrease (become less negative) if the extracellular K⁺ concentration (K⁺ out) increased.
48. Which of the following statement about action potential in nerves is correct?
- a. Has a rapid depolarizing phase owing to inward sodium current.
 - b. Depolarization is due to a rapid increase in inward K⁺ current.
 - c. Depend on voltage-dependent activation and inactivation of both Na⁺ and K⁺ channels.
 - d. Has no threshold.
49. The propagation or conduction of action potentials in myelinated axons share all of the following properties EXCEPT.
- a. Occurs at about the same speed for the same diameter axon.
 - b. Occur in either direction if stimulation occurs in the center of along nerve fiber.
 - c. Occur only if currents bring the adjacent regions to threshold.
 - d. Accomplished by flow of local circuit currents.

50. In a patient the amount of acetylcholine contained in each vesicle at the neuromuscular junction is decreased from normal value. A drug which would relieve the effect of the condition is:
- A curare-like drug.
 - A local anesthetic.
 - Hemicholinium (block uptake of choline by nerve terminals).
 - An anti acetylcholinesterase.
51. These are four events during skeletal muscle contraction EXCEPT:
- The myofilaments do not change length.
 - Cross bridges are formed between myosin and actin.
 - The A and I bands don't change in length.
 - Maximal tension can be generated when the muscle is close to its normal resting length.
52. All of the following statements are true for the myosin head EXCEPT:
- It has an actin binding site.
 - It has an ATP binding site.
 - It has a Ca^{2+} binding site.
 - It has capacity for movement.

Sample Questions for Autonomic Nervous System

53. Administration of atropine-like drug is likely to cause:
- decrease in heart rate
 - intestinal colic
 - blurred vision
 - excessive salivation
54. Nicotine, in low doses:
- acts directly on the smooth muscle of the urinary bladder, causing urination
 - blocks the discharge of post-ganglionic parasympathetic neurons
 - increases the discharge of post-ganglionic sympathetic nerves
 - decreases the release of acetylcholine in sympathetic ganglia
55. Propranolol is a drug that can:
- block cholinergic transmission at ganglia
 - cause diarrhea (or diarrhea ← American)
 - be used in treatment of bronchial asthma
 - can help in treatment of pathologic tachycardia
56. In the sympathetic nervous system:
- the cell-bodies of pre-ganglionic nerves are located in the dorsal root ganglia
 - the axons of pre-ganglionic neurons are in the ventral roots of spinal nerves in
 - the sacral region
 - pre-ganglionic nerves are myelinated
 - pre-ganglionic nerves are generally longer than post-ganglionic nerves
57. An increase in acetylcholine activity:
- can worsen (or aggravate) the pain of peptic ulcer
 - may be associated with generalized arteriolar constriction
 - leads to decreased production of sweat
 - causes constipation

Sample Questions for Cardiovascular Physiology

58. The second heart sound is caused by
- closure of the aortic and pulmonary valves
 - vibrations in the ventricular wall during systole
 - ventricular filling
 - closure of the mitral and tricuspid valve
 - retrograde flow in the vena cava
59. The fourth heart sound is caused by:
- closure of the aortic and pulmonary valves
 - vibrations in the ventricular wall during systole
 - ventricular filling
 - closure of the mitral and tricuspid valve
 - Atrial contraction
60. The dicrotic notch on the aortic pressure curve is caused by:
- closure of the mitral valve
 - closure of the tricuspid valve
 - closure of the aortic valve
 - closure of the pulmonary valve
 - rapid filling of the left ventricle
61. Which of the following normally has a prominent prepotential?
- Sinoatrial node
 - Atrial muscle cells
 - Bundle of His
 - Purkinje fibers
 - Ventricular muscle cells
62. Currents caused by opening of which of the following channels contribute to the repolarization phase of the action potential in ventricular muscle fibers?
- Na⁺ channels
 - Cl⁻ channels
 - Ca²⁺ channels
 - K⁺ channels
63. When the radius of the resistance vessels is increased, which of the following is increased?
- Systolic blood pressure
 - Diastolic blood pressure
 - Viscosity of the blood
 - Hematocrit
 - Capillary blood flow
64. When the viscosity of the blood is increased/ which of the following is increased?
- Mean blood pressure
 - Radius of the resistance vessels
 - Radius of the capacitance vessels
 - Central blood flow
 - Capillary blood flow

Sample Questions for Gastrointestinal and Hepatobiliary Physiology

65. Secretin hormone:
- is a GIT hormone secreted from the pylorus
 - stimulates pancreatic secretion rich in enzymes
 - act as a powerful cholagogues
 - is released as a result of contact of acid chyme to duodenal mucosa

66. Bile salts:
- are essential for vitamin B12 absorption
 - are formed from fatty acids
 - are essential for protein digestion
 - undergo enterohepatic circulation
67. Which of the following hormones tends to stimulate pancreatic secretion that is rich in bicarbonate?
- somatostatin
 - secretin
 - CCK
 - gastrin
68. Which of the following hormones cause the gall bladder to contract?
- gastrin
 - secretin
 - somatostatin
 - CCK
69. Salivary secretion is inhibited by:
- atropine
 - VIP
 - Cimetidine (H₂ receptor antagonist)
 - aspirin
70. Which of the following secretions is exclusively under neural control?
- gastric secretion
 - intestinal secretion
 - pancreatic secretion
 - salivary secretion
71. Secretion of acid by the stomach can be inhibited by:
- acidification of the antrum
 - acidification of the duodenum
 - blocking histamine receptors
 - inhibition of the H⁺ -K⁺ ATPase
72. Diarrhea can be caused by:
- excessive secretion
 - decreased colonic motility
 - increased motility of the small intestine
 - osmotic agents trapped within the lumen
 - destruction of enterocyte function

Sample Questions for Respiratory Physiology

73. A low lung diffusion capacity (DL) could be caused by:
- increased diffusion distance
 - decreased surface area
 - decreased capillary blood flow
 - all of the above
74. Which of the following is true regarding cerebrospinal fluid:
- it is freely accessible to blood hydrogen ions
 - its protein content is equal to that of plasma
 - its pH is a functional of Pa CO₂
 - its Pa CO₂ is equal to that of systemic arterial blood

75. In which of the following disorders is the lung most likely to show a steep compliance curve?
- edema
 - fibrosis
 - emphysema
 - congestion
76. Arterial PO₂ will decrease with which of the following?
- anemia
 - carbon monoxide poisoning
 - hemorrhage
 - alveolar hypoxia
77. Transpulmonary pressure is equal to:
- alveolar pressure minus pleural pressure
 - airway pressure minus pleural pressure
 - pleural pressure minus atmospheric pressure
 - atmospheric pressure minus alveolar pressure
78. Oxygen unloading:
- increases with increased p_a CO₂
 - decreases with increase in temperature
 - decreases with increase in 2,3 DPG
 - increases with increase pH
79. In acclimatization to altitude:
- P₅₀ is reduced, improving O₂ uptake in the lungs
 - P₅₀ is increased, improving O₂ off loading in the tissues
 - 2,3 DPG levels are reduced, improving O₂ offloading in the tissues
 - Alkalaemia reduces the affinity for O₂, increasing p₅₀.
 - increases in 2, 3 DPG and a decrease in p₅₀.
80. Central chemoreceptors:
- are bathed in CSF
 - respond to increase in CSF pH
 - are bathed in ECF
 - are located in medullary respiratory center
81. Surfactant:
- is produced by type I pneumocytes
 - is commonly deficient in full term neonates
 - acts like detergent in water
 - increases the amount of negative intrapleural pressure
 - increases pulmonary compliance
82. The normal arterio-venous difference for CO₂ is:
- 2ml/100
 - 4ml/100
 - 6ml/100
 - 10ml/100
83. The lung:
- removes/inactivates serotonin (5HT)
 - activates bradykinin
 - converts angiotensin II to I
 - inactivates aldosterone
 - takes up noradrenaline

84. Which of the following substances is removed (Inactivated) by the lung?
- serotonin
 - noradrenaline
 - angiotensin I
 - bradykinin
 - all of the above
85. For normal Hb- O₂ dissociation curve, the most correct relationship is:
- P a_{O2} 340mmHg, Sa_{O2} 99%
 - Pa_{O2} 132mmHg, Sa_{O2} 98%
 - Pa_{O2} 68mmHg, Sa_{O2}?
 - Pa_{O2} 60mmHg, Sa_{O2} 91%
 - none of the above
86. Carbon dioxide carriage:
- 10% dissolved
 - 30% carbaminohemoglobin
 - 85 bicarbonate
 - 60 bicarbonate
 - unaffected by pO₂

Sample Questions for Renal and Acid Base Balance

87. What is the minimum amount of water a day the kidneys are “obliged” to put out?
- 0 liters
 - 0.5 liters
 - 1.0 liters
 - 3 Liters
88. Which vitamin do the kidneys convert to its active form?
- Vitamin C
 - Vitamin K
 - Vitamin D
 - Vitamin E
89. Which part of the kidney collects urine after it has been formed?
- The renal cortex
 - The renal medulla
 - The renal pyramid
 - The renal pelvis
90. What channel transports urine from the kidneys to the bladder?
- The urethra
 - The ureter
 - The glomerulus
 - The renal pyramid
91. What component of a nephron collects glomerular filtrate?
- Bowman’s capsule
 - The loop of Henle
 - The distal tubule
 - The juxtaglomerular apparatus
92. Urine composition is further altered by the bladder.
- True
 - False

93. What percentage of the plasma that actually enters the glomerulus is filtered?
- 10%
 - 20%
 - 80%
 - 90%
94. Once substances are filtered out by glomerular filtration they cannot be recovered.
- True
 - False
95. What are fenestrae?
- Flattened endothelial cells in the glomerular capillary walls
 - Large pores in the glomerular capillary walls
 - Large pores in the walls of the proximal tubule
 - Glycoproteins sandwiched between the glomerulus and Bowman's capsule
96. What prevents 99% of albumin escaping into Bowman's capsule?
- Fenestrae
 - Negatively charged glycoproteins
 - Collagen
 - Podocytes
97. Of the three forces involved in glomerular filtration, which "favors" rather than "opposes" filtration?
- Bowman's capsule hydrostatic pressure
 - Plasma-colloid osmotic pressure
 - Glomerular capillary blood pressure
 - All of the above
98. What cells forming the walls of the distal tubule in the juxtaglomerular apparatus can detect changes in the rate at which fluid flows past them?
- Granular cells
 - Podocytes
 - Endothelial cells
 - Macula densa cells
99. It has been suggested that release of the vasoactive chemical bradykinin can help return GFR to normal after it has declined.
- True
 - False
100. What are mesangial cells?
- Cells that hold together glomerular capillaries and have the ability to contract and relax so as to alter the filtration coefficient.
 - Cells in the inner membrane of Bowman's capsules that can contract or relax and so alter the filtration coefficient.
 - Cells which can trigger the release of chemicals capable of inducing vasoconstriction.
 - Cells which can trigger the release of chemicals capable of inducing vasodilation.
101. What blood vessels are involved in the reabsorption of materials that the body does not want to lose?
- The efferent arterioles
 - The afferent arterioles
 - The peritubular capillaries
 - The proximal! Tubules
102. To be reabsorbed from the kidney tubules back into the blood, how many distinct barriers must a substance cross?
- 2
 - 3
 - 8
 - 5

103. What percentage of filtered glucose is reabsorbed?
- 100%
 - 99%
 - 10%
 - 50%
104. In what part of the nephron is sodium reabsorption an important aspect of the reabsorption of glucose and amino acids?
- The loop of Henle
 - The distal tubule
 - The proximal tube
 - All of the above
105. The net transport of Na^+ from the tubular lumen into the blood can be considered passive reabsorption:
- True
 - False
106. In the renin-angiotensin-aldosterone system, where does the aldosterone originate from?
- The liver
 - The kidneys
 - The lungs
 - The adrenal cortex
107. What triggers the atria to release atrial natriuretic peptide?
- Na^+ retention
 - Expansion of ECF volume
 - Increase in the arterial blood pressure
 - All of the above
108. The co-transport of glucose and amino acids with Na^+ from the tubular lumen to the tubular cells demands additional energy than that already used to transport the Na^+ .
- True
 - False
109. Which is the only substance not to have a tubular maximum?
- Phosphate
 - Glucose
 - Na^+
 - Amino acids
110. Under normal conditions, how high must the plasma glucose concentration be before glucose would start escaping in urine?
- Over 100 mg/ml
 - Over 375 mg/ml
 - Over 300 mg/ml
 - Over 125 mg/ml
111. The point at which the plasma concentration of a particular substance is high enough to cause it to appear in the urine is called:
- The tubular maximum
 - The renal threshold
 - The tubular threshold
 - The renal maximum
112. Which two substances can parathyroid hormone regulate the reabsorption of?
- Phosphate and calcium
 - Calcium and chloride
 - Calcium and urea
 - Phosphate and chloride

113. What causes variable water reabsorption in the distal region of the nephron?
- Regulation of channels by parathyroid hormone
 - Regulation by atrial natriuretic peptide
 - Regulation by vasopressin
 - Regulation by aldosterone
114. Which waste product can be passively reabsorbed back into the blood?
- Urea
 - Creatinine
 - Phenol
 - All of the above
115. Which process truly regulates K^+ content in the plasma?
- Glomerular filtration
 - Tubular reabsorption
 - Tubular secretion
 - All exert an equally regulatory influence
116. Increased acidity of body fluids leads to a reduction in K^+ secretion.
- True
 - False
117. Monitoring which substance can give the most accurate measure of GFR?
- Insulin
 - Creatinine
 - Para-aminohippuric acid
 - Inulin
118. Which part of the juxtamedullary nephron establishes the vertical osmotic gradient?
- The loop of Henle
 - The vasa recta
 - The collecting tubules
 - The proximal tubule
119. The presence of vasopressin causes the distal and collecting tubules to become permeable to water:
- True
 - False
120. What results from alcohol ingestion?
- Suppression of vasopressin leading to water diuresis
 - Elevation of vasopressin leading to water diuresis
 - Suppression of vasopressin leading to osmotic diuresis
 - Elevation of vasopressin leading to osmotic diuresis
121. What is the maximum concentration of solutes in urine?
- 500 mosm/liter
 - 800 mosm/liter
 - 1.200 mosm/liter
 - 1.500 mosm/liter
122. The distal portion of the tubule is highly permeable to urea:
- True
 - False
123. In chronic renal failure, how much loss of kidney tissue can occur before loss of function becomes apparent?
- 25%
 - 40%
 - 75%
 - 90%

124. What aspect of renal failure can lead to changes in cardiac and neural excitability?
- Uremic toxicity
 - Potassium retention
 - Metabolic acidosis
 - Inability to vary urine concentration

Sample Questions for Endocrine and Reproduction

125. Which one of the following glands is not under the hypophyseal control?
- Thyroid.
 - Adrenal cortex.
 - Parathyroid.
 - The Gonad.
126. All the following hormones act on their target cells via second messenger mechanism EXCEPT:
- Growth hormone.
 - Prolactin.
 - Glucagon.
 - Thyroxin.
127. Parathyroid hormone:
- Is secreted by cells of the thyroid gland.
 - Is not essential for life.
 - Increase plasma phosphorus.
 - Convert vitamin -D into its form in the kidney.
128. The hormones secreted by islets of Langerhans are likely to have the following actions EXCEPT:
- Elevating blood glucose level.
 - Lowering blood glucose level.
 - Causing salt and water retention.
 - Inhibiting GIT secretion, motility and absorption.
129. Which of the following is a neurohormone?
- Growth hormone.
 - Glucagon.
 - Antidiuretic hormone.
 - Aldosterone.
130. Glucocorticoids:
- Are not essential for life.
 - Are synthesized in the zona fasciculata and reticularis.
 - Are proteins in nature.
 - Decrease blood glucose level.
131. Thyroid hormones:
- Are free (unbound) to plasma proteins.
 - Produced their effect on target cells by causing gene expression.
 - Inhibit glucose absorption.
 - Are only regulated by the hypothalamic thyrotropin releasing hormone.
132. The secretion of sex hormones from the adrenal cortex is controlled by:
- The gonadotropin hormones.
 - The luteinizing releasing hormone.
 - ACTH.
 - Aldosterone.

133. Estrogen produces all the following effects EXCEPT:
- Uterine development at puberty.
 - Development of acini of mammary glands.
 - Union of the epiphysis of long bones.
 - The secondary sexual characteristic in females.
134. The functions of sertoli cells include all the following EXCEPT:
- Secretion of inhibin.
 - Secretion of androgen binding protein.
 - Nutrition of sperms.
 - Secretion of testosterone.
135. The motility of human sperm:
- Is acquired in the epididymis and vas deferens.
 - Is stimulated in acid pH.
 - Is complete in the seminiferous tubules.
 - Is not required for process of fertilization.
136. About ovulation, all the following is true EXCEPT:
- It normally occurs on the 13th – 17th day of uterine cycle.
 - It occurs as a result of the LH surge.
 - It is due to rupture of the corpus luteum.
 - It leads to a rise in the body temperature of about 0.5 Celsius.
137. A list of endocrine glands should include the heart, liver, hypothalamus and kidneys since these organs all secrete hormones that affect target cells around the body:
- True
 - False
138. Secreted hormones generally do not remain in blood stream and accumulate since they are rapidly removed by the liver or the target organs themselves.
- True
 - False
139. A “Physiological” dose refers to an abnormally high concentration of substance than is normally present in the bloodstream:
- True
 - False
140. A pharmacological dose of the sex steroids is present in contraceptive pills:
- True
 - False
141. The priming effect of hormones may actually decrease the number of receptor protein their cells causing down regulation:
- True
 - False
142. To prevent desensitization of receptors from occurring under normal circumstances many polypeptide and glycoprotein hormones are secreted in a pulsatile fashion, rather than being secreted continuously:
- True
 - False
143. Adrenal cortex is controlled by the blood to every cell in the body, but only the target cells with specific receptor protein for that hormone are able to respond:
- True
 - False
144. Hormones bind to receptor proteins with high capacity and low affinity:
- True
 - False
145. The anterior pituitary develops as a down of the brain, while the posterior pituitary is derived from embryonic epithelium from Rathke’s pouch:
- True
 - False

146. The pars nervosa of the pituitary gland is poorly understood, producing different form of melanocyte-stimulating-hormone (MSH) and large amount of B- endorphin:
a. True b. False
147. The axons of the hypothalamo-hypophyseal tract join the hypothalamus to the anterior pituitary:
a. True b. False
148. The anterior lobe of the pituitary is more a storage organ for hormones than a true gland:
a. True b. False
149. If any tissue deserves the title, the hypothalamus rather than the anterior pituitary should be considered the “Master gland” in the body:
a. True b. False
150. The vascular link between the hypothalamus and the anterior pituitary is called the hypothalamo-hypophyseal system, transporting releasing and inhibiting hormones of the hypothalamus toward specific target cells in the adenohypophysis:
a. True b. False
151. Anterior pituitary secretion of ACTH, TSH, and the gonadotropins (FSH and LH) is controlled by negative feedback loops from hormones by target cells.
a. True b. False
152. During the menstrual cycle rising levels of estradiol causes a temporary “surge” in the blood levels of LH that results in ovulation of an ovum from the Graafian follicle-an example of positive feedback control of target gland secretion:
a. True b. False
153. When individuals are under stressful condition, there is increased secretion of ACTH and, thus increased secretion of adrenal corticoids:
a. True b. False
154. Hormones secreted from the adrenal medulla are expected to increase cardiac rate and cardiac output, respiratory rate, and other major functions:
a. True b. False
155. Pheochromcytoma is a tumor of the adrenal cortex, releasing large quantities of epinephrine and norepinephrine:
a. True b. False
156. The thyroid gland is the only gland in the body that spends metabolic energy in the active transport of iron atoms from the blood and into the colloid of the thyroid follicles:
a. True b. False
157. Hypo-secretion of thyroxine (hypothyroidism) in infants results in myxedema, whereas hypothyroidism in adult causes cretinism:
a. True b. False
158. Between the follicles of the thyroid gland are epithelial cells called parafollicular cells that secrete the hormone known as Calcitonin, (or thyrocalcitonin).
a. True b. False
159. When most of the patient’s thyroid gland surgically removed, the blood levels of thyroxine drop rapidly since it has extremely short half-life:
a. True b. False
160. The major action of parathyroid hormone (PTH) is to control the iodine levels of the blood control the secretion of thyroxine from the thyroid glands:
a. True b. False