



## Admission 2018 – Medicine (in English)

### Sample grid test questions

#### BIOLOGY

Reference: *Anatomy and Physiology*, Betts, J. G., DeSaix, P., & Johnson, E., et al. (2013)

For the questions below, choose the only correct answer:

**1. The frontal plane:**

- A. divide the body into right and left sides
- B. produce images referred to as cross sections
- C. divide the body into upper and lower portions
- D. divide the body into cranial and caudal portions
- E. is often referred to as a coronal plane

Answer: E (page 26)

**2. The nucleus and mitochondria share one of the following features:**

- A. are involved in the synthesis of proteins
- B. have a membrane that consist in two adjacent lipid bilayers membranes
- C. are organelles that produce cellular energy
- D. are used in the phagocytosis
- E. are lacking in neurons

Answer: B (pages 101, 102 and 107)

**3. The body cavities closed to the exterior of the organism are lined by:**

- A. cutaneous membranes
- B. synovial membranes
- C. serous membranes
- D. mucosal membranes
- E. fibrous membranes

Answer: C (page 139, 140)

**4. Which of the following does NOT represent a layer of epidermis:**

- A. stratum lucidum
- B. stratum spinosum
- C. stratum basale
- D. stratum corneum
- E. pigmentation

Answer: E (pages 183, 187)

**5. Patella is:**

- A. a sesamoid bone
- B. a long bone
- C. a short bone
- D. a flat bone
- E. an irregular bone

Answer: A (page 219)



**6. A freely mobile joint is classified as:**

- A. asynarthrosis
- B. an amphiarthrosis
- C. a diarthrosis
- D. a cartilaginous joint
- E. a fibrous joint

*Answer: C (page 358)*

**7. The sarcoplasmicreticulum stores, releases and retrieves:**

- A. proteins
- B. actin
- C. myosin
- D. calcium ions
- E. acetylcholine

*Answer: D (page 409)*

**8. The antagonist muscle of biceps brachii is:**

- A. tricepsbrachii
- B. quadiceps femorii
- C. extensor digitorum
- D. flexor digitorumsuperficialis
- E. flexor digitorumprofundus

*Answer: A (page 447)*

**9. A group of neuron cell bodies (somata) will form in the peripheral nervous system:**

- A. a nerve
- B. a tract
- C. a nucleus
- D. a ganglion
- E. a lymph node

*Answer: D (page 508)*

**10. The pituitary gland is attached to the:**

- A. thalamus
- B. hypothalamus
- C. epithalamus
- D. subthalamus
- E. brain stem

*Answer: B (page 563)*

**11. The cranial nerve X (vagus nerve) does NOT innervate:**

- A. the heart
- B. the larynx
- C. the stomach
- D. the adrenal gland
- E. the small intestine

*Answer: D (page 662)*



**12. Which of the following hormones is NOT produced by the anterior pituitary:**

- A. adrenocorticotrophic hormone
- B. follicle-stimulating hormone
- C. prolactin
- D. growth hormone
- E. antidiuretic hormone

*Answer: E (pages 735, 736)*

**13. The least abundant plasma protein is represented by:**

- A. albumin
- B. alpha globulins
- C. beta globulins
- D. immunoglobulins
- E. fibrinogen

*Answer: E (page 786)*

**14. From the right ventricle, the blood flows into:**

- A. the coronary sinus
- B. the superior vena cava
- C. the aorta
- D. the pulmonary trunk
- E. the inferior vena cava

*Answer: D (page 836)*

**15. From the stomach and the intestines, the blood flows into:**

- A. the aorta
- B. the hepatic vein
- C. the portal hepatic vein
- D. the inferior vena cava
- E. the lumbar veins

*Answer: C (page 957)*

**16. The largest lymphatic trunk of the human body is:**

- A. the right lymphatic duct
- B. the right subclavian vein
- C. the left lymphatic duct
- D. the left subclavian vein
- E. the thoracic duct

*Answer: E (page 979, 980)*

**17. The respiratory zone begins where the terminal bronchioles join:**

- A. a bronchial tree
- B. a capillary vessel
- C. a respiratory bronchiole
- D. an alveolar duct
- E. a cluster of alveoli

*Answer: C (page 1041)*

**18. Which of the following does NOT represent a function of the stomach:**

- A. begins chemical breakdown of proteins
- B. lubricates food and passageways



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- C. possesses antimicrobial functions
- D. absorbs some fat-soluble substances
- E. secretes intrinsic factor required for vitamin B12 absorption in small intestine

*Answer: B (page 1093)*

**19. In humans, the normal urine volume is:**

- A. < 50 mL/day
- B. 50 – 500 mL/day
- C. 300 – 500 mL/day
- D. 1 – 2 L/day
- E. > 2.5 L/day

*Answer: D (page 1204)*

**20. The blood–testis barrier is created by:**

- A. the tunica albuginea
- B. the tunica vaginalis
- C. the scrotum
- D. the Sertoli cells
- E. the spermatogonia

*Answer: D (page 1283)*



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## CHEMISTRY

**Reference: The Free High School Science Texts: Textbooks for High School Students Studying the Sciences. Chemistry. Grades 10 – 12, November 2008**

**For the questions below, choose the only correct answer:**

**1. In what form is glucose stored?**

- A. Glucagon
- B. Vitamins
- C. Glycogen
- D. Nucleotides
- E. Fatty acids

*Answer: C (page 198)*

**2. The charge on any ion depend upon the gain or loss of**

- A. Electron
- B. Protons
- C. Neutrons
- D. Positrons
- E. Atoms

*Answer: A (page 54)*

**3. Double covalent bond refers to the sharing of**

- A. One electron
- B. One pair of electron
- C. Two electrons
- D. Three electrons
- E. Two pairs of electron

*Answer: E (page 67)*

**4. Which one of the following will make a basic solution when added to water?**

- A. Carbon dioxide
- B. Sulfur dioxide
- C. Sodium hydroxide
- D. Sodium chloride
- E. Potassium fluoride

*Answer: C (page 268)*

**5. Reaction  $\text{HBr} + \text{KOH} \rightarrow \text{H}_2\text{O} + \text{KBr}$  represents:**

- A. Redox reaction
- B. Acid-base reaction
- C. Addition reaction
- D. Polymerization reaction
- E. Elimination reaction

*Answer: B (page 270)*



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**6. Reaction  $\text{CH}_4 + \text{Cl}_2 \rightarrow \text{CH}_3\text{Cl} + \text{HCl}$  represents:**

- A. Redox reaction
- B. Acid-base reaction
- C. Addition reaction
- D. Substitution reaction
- E. Elimination reaction

*Answer: D (page 282)*

**7. When two amino acid monomers are close together, they may be joined to each other by:**

- A. Covalent bond
- B. Ionic bond
- C. Peptide bond
- D. Hydrogen bond
- E. Metallic Bond

*Answer: C (page 200)*

**8. In a 111.7 gram sample we have.....number of moles of iron (Fe):**

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

*Answer: B (page 236)*



## PHYSICS

**Reference: The Free High School Science Texts: Textbooks for High School Students Studying the Sciences. Physics. Grades 10-12**

**For the questions below, choose the only correct answer:**

- 1. Parallel incident rays become parallel reflected rays after hitting a surface that is:**

- A. with bumps
- B. curved
- C. flat
- D. uneven
- E. rough

*Answer C (page 135)*

- 2. When light moves from one medium into another, it changes of:**

- A. speed
- B. composition
- C. color
- D. surface normally
- E. frequency

*Answer: A (page 137)*

- 3. A resistor convert electrical energy into other forms of energy that are producing:**

- A. rearrangements inside the ionic lattice
- B. variations of the cross-section area
- C. variations of the length of the resistor
- D. waves
- E. heat

*Answer: E (page 202)*

- 4. The force to move the charge through an electric circuit is provided by:**

- A. the light bulb
- B. the lens
- C. the resistors
- D. the potential difference
- E. the connecting wires

*Answer: D (page 192)*

- 5. Converging lenses are:**

- A. not transparent
- B. thicker at the edges than in the middle
- C. spreading out the light rays after passing through
- D. thicker in the middle than at the edges
- E. thinner in the middle than at the edges

*Answer: D (page 327)*



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**6. Considering the microscope compounds we confirm that a microscope has:**

- A. a two-lens system
- B. a three-lens system
- C. a convergent–divergent lens system
- D. a divergent lens system
- E. a four- lens system

*Answer: A (page 350)*

**7. What can you say about real electric batteries?**

- A. they lightens
- B. they are sources of potential difference
- C. they do not possess internal resistance
- D. they provide changes to the circuit
- E. they do not oppose to the charge flow

*Answer: B (page 440)*

**8. There are some electric conductors we call non-ohmic conductors because they:**

- A. not change resistance as their temperature changes
- B. they are like nichrome wires conductors
- C. have plots of voltage against current diagrams that are curved
- D. have plots of voltage against current diagrams that are linear
- E. are different from the light bulbs

*Answer: C (page 431)*