

**1. Select the correct associations regarding the body's directional terms:**

- A. The hand – proximal to the forearm – distal to the arm
- B. Left hand – right foot – ipsilateral
- C. Right hand – right foot – ipsilateral
- D. Left arm – right foot – contralateral
- E. Foot – distal to thigh – distal to shin/calf

**2. Choose the correct answers referring to enzymes:**

- A. With a few exceptions, the name of the enzymes ends in the suffix „-ase”
- B. Most enzymes are polynucleotides
- C. At high temperatures, enzyme reactions are much faster
- D. The thermal activation energy of an endergonic or exergonic reaction is produced by enzymes
- E. The heat excess may trigger changes in an enzyme's protein structure and its alteration

**3. Which of the following are elements of the cell cytoskeleton?**

- A. Intermediate filaments and microfilaments
- B. Fibres, filaments and combined molecules
- C. Macrofilaments and cilia
- D. Macrotubules and flagella
- E. Microtubules and microfilaments

**4. Select the correct associations referring to the subdivisions of anatomy:**

- A. Cytology – the study of cells and their functions
- B. Developmental anatomy – the study of the structural changes of an individual from fertilization to adulthood
- C. Macroscopic anatomy – the study of the structures of the body visible without the use of a microscope
- D. Microscopic anatomy – the study of cells, tissues and organs visible under a microscope
- E. Reproduction physiology – the study of reproductive organs and methods of reproduction

**5. Choose the correct statement(s) from below:**

- A. The solute is a chemical substance dissolved in a fluid called solvent
- B. The solvent is a chemical substance dissolved in a fluid called solute
- C. A solution that has a higher salt concentration than the cytoplasm is called hypertonic solution
- D. A solution that has a higher water concentration than the cytoplasm is called hypertonic solution
- E. A solution that has a higher sodium chloride concentration than the cytoplasm is called a hypertonic solution

**6. Choose the correct statement(s) referring to the cells of the nervous system:**

- A. They are represented by two types of cells: neurons and glial cells
- B. Glial cells are supporting cells
- C. The number of glial cells is ten times less than that of neurons
- D. Neurons receive and transmit biochemical signals
- E. Neurons can be differentiated from one another due to their cellular organelles

**7. Choose the correct statement(s) referring to cerebral hemispheres:**

- A. They contain more than 10 billion neurons
- B. They represent the largest part of the encephalon
- C. The shallow groove of the hemispheres is called fissure
- D. Each hemisphere is divided into five lobes
- E. Each hemisphere is divided into four lobes

**8. Choose the correct statement(s) referring to the nervous system:**

- A. It coordinates complex processes which take place outside the body
- B. It coordinates complex processes which take place inside the body
- C. It ensures the integration of tissues and organs in the external environment
- D. It responds to stimuli coming from the internal or external environment
- E. It facilitates the senses (visual, auditory, taste, tactile, olfactory)

**9. A cross section of the spinal cord reveals:**

- A. The nervous tissue enveloped by three meningeal layers
- B. The central canal also called ependymar canal
- C. A grey matter on the outside, consisting of horns (anterior, lateral and posterior)
- D. A grey matter on the inside consisting of horns
- E. A white mater on the outside consisting of myelinated nerve fibres

**10. Choose the correct statement(s) referring to the cerebral hemispheres:**

- A. They contain neurons which interpret the nervous impulses coming from sense organs
- B. They contain neurons which initiate voluntary responses to stimuli
- C. Certain areas of the parietal lobe are associated with reasoning and learning
- D. Certain areas of the parietal lobes are responsible for understanding speech and expressing ideas
- E. Visual sensations are not interpreted in the occipital lobes

**11. The accessory structures of the eye are:**

- A. Refractory structures represented by the crystalline, cornea, aqueous humour and vitreous humour
- B. Eyebrows and lashes which protect the pupil from foreign bodies
- C. Lacrimal glands whose secretion washes the eyeball and maintains it wet
- D. Eyelids which protect the posterior part of the eye
- E. The conjunctiva which lines the internal part of the eyelids

**12. The following are components of the external ear:**

- A. The external auditory orifice representing the entrance to the external auditory canal
- B. The auricle
- C. The external auditory canal which transmits sound vibrations
- D. The malleus, incus and stapes which transmit vibrations to the tympanic membrane
- E. The Eustachian tube which connects the pharynx to the middle ear

**13. The following statements are true referring to the external wall of the eyeball:**

- A. It is richly vascularized
- B. It contains the visual receptors
- C. It is resistant and fibrous
- D. It contains the cornea and sclera
- E. It contains the choroid and the ciliary bodies

**14. The cone cells of the retina:**

- A. Are receptor neurons
- B. Are located predominantly at the periphery of the retina
- C. Are concentrated in the central fovea
- D. Are responsible for day vision and for perceiving details and colours
- E. Is responsible for twilight vision

**15. Choose the correct statement(s) referring to taste:**

- A. It is also called gustation
- B. It requires the contact between receptor connective cells and the molecules of substances
- C. Its receptors are situated in the taste buds
- D. It is involved in the stimulation of proprioceptors of the pharynx
- E. The receptors of the taste buds detect chemical substances after they have been dissolved

**16. It is true that long bones:**

- A. Belong to the skeleton of the limbs
- B. Have extensive surfaces for the insertion of tendons
- C. Have a diaphysis or shaft
- D. Have two epiphyses and a diaphysis
- E. Have two diaphyses and an epiphysis

**17. The perforating canals connect the central canals in the:**

- A. Epiphyseal plate
- B. Periosteum
- C. Compact bone
- D. Osteon
- E. Spongy bone

**18. The following statement(s) is/are true about the bone tissue:**

- A. In order to carry out their functions, bones must be hard and rigid
- B. In order to carry out their functions, bones shouldn't be flexible
- C. Bone flexibility is the ability of a bone to bend to a certain degree
- D. Short bones include the tarsals and carpals
- E. Characteristics such as hardness and flexibility are given by osteoclasts

**19. Choose the true statements from below:**

- A. Abduction is the pulling of a limb away from the midline of the body
- B. Abduction, also called protraction, is the vertical raising of the arm
- C. Adduction is the rotation of a limb towards or away from the midline of the body
- D. In supine position, the palm lies in anatomical position facing forward
- E. Raising the shoulders (shrugging) is an example of elevation

**20. The compact bone tissue:**

- A. Can be found in flat and short bones and in the epiphyses
- B. Is absent from the diaphysis of long bones
- C. Contains cavities with red hematopoietic marrow
- D. Is a component of the diaphysis of long bones
- E. Is less dense than spongy tissue

**21. The muscle tissue will form:**

- A. Skeletal striated muscles
- B. The organs responsible for body movements
- C. The organs which prevent the movement of body segments, but ensure the movement of the body as a whole
- D. Bones which provide insertion points for muscles
- E. Joints which mobilise bones and muscles

**22. The following statement(s) is/are true referring to the smooth muscle:**

- A. It can be unitary and multi-unit
- B. The fibres of unitary smooth muscle have gap junctions
- C. The fibres of the multi-unit smooth muscle act in a coordinated, tightly interdependent fashion
- D. The smooth muscle fibre receives nerve impulses from the vegetative (autonomic) nerves
- E. It contains intermediate, contractile filaments, attached to the dense bodies in the entire cell

**23. The red muscle:**

- A. Contains a large quantity of myoglobin, an oxygen-storing protein
- B. Is a slow or oxidative muscle
- C. Is a glycolytic, fast muscle which contains a large quantity of glucose
- D. It can contract repeatedly but it can't withstand muscle fatigue
- E. It can withstand muscle fatigue, due to the oxygen stored in the myoglobin, which will be used in cellular respiration

**24. Choose the true statement(s) referring to the muscle tissue:**

- A. It is one of the four main tissues in the body
- B. It has the ability to contract
- C. It has the ability to perform mechanical work
- D. The muscle cell (fibre) is the structural unit of the muscle tissue
- E. The muscle cell can be cubical or cylindrical, being called muscle fibre

**25. Myoglobin:**

- A. Is present in large quantities in red muscle fibres
- B. Is present in large quantities in white muscle fibres
- C. Is the muscle pigment which stores oxygen necessary for cellular respiration
- D. Is the muscle molecule which stores adenosine triphosphate
- E. Is one of the muscle contractile proteins, together with adenosine

**26. Dental pulp:**

- A. Is the hardest substance in the body
- B. Is located inside the tooth, in the pulp cavity
- C. Is surrounded by dentin, covered by enamel
- D. Mainly consists of hydroxyapatite
- E. Contains blood vessels, nerves and the tooth's connective tissue

**27. Dentin:**

- A. Is one of the tooth's main components
- B. Is softer than dental enamel
- C. Lies on the tooth's external surface
- D. Mainly consists of organic components and does not contain hydroxyapatite
- E. Surrounds the tooth's pulp

**28. In the oral cavity:**

- A. The tongue turns food into food bolus with the help of saliva
- B. Teeth turn food into food bolus with the help of saliva
- C. Teeth carry out the mechanical digestion of food
- D. The tongue carries out the mechanical digestion of food
- E. Food is mixed with salivary secretions

**29. The following statement(s) referring to the pancreas is/are true:**

- A. It is an accessory organ of the digestive system, together with the salivary glands (sublingual, submandibular and parathyroid) and the liver
- B. It is situated in the abdominal cavity, posterior to the stomach
- C. It has both a digestive and an immune function
- D. It contains cells that contribute to digestion and are organised in acini
- E. Communicates with the duodenum via two ducts (the pancreatic duct and the accessory duct)

**30. Dentin – false statements:**

- A. Surrounds the tooth's pulp, which is vascularised and innervated
- B. Is softer than dental enamel
- C. Lies under the enamel and represents the tooth's largest part
- D. Mainly consists of hydroxyapatite, having the same hardness as enamel
- E. Contains blood vessels, nerves and the tooth's connective tissue

**31. Choose the correct statement(s) referring to blood group B:**

- A. It has B antigen in the serum
- B. It has B antigen on the erythrocyte surface
- C. Can donate blood to blood group 0
- D. Can donate blood to blood group B
- E. Has anti-A antibodies in the serum

**32. Blood contains the following elements:**

- A. Figurative elements embedded in blood serum, a yellowish watery fluid
- B. Blood plasma which contains water and several dissolved substances
- C. Red blood cells or erythrocytes
- D. White cells (leukocytes) and platelets (fragments from the cytoplasm of megakaryocytes)
- E. Fragments from the nucleus of megakaryocytes

**33. Choose the correct statement(s) about the portal hepatic system:**

- A. It carries blood from the gastrointestinal tract and spleen to the liver
- B. Hepatic portal circulation takes place in two opposite directions
- C. It carries nutrients to the liver in order to be processed, the main vessel being the portal vein
- D. It carries low-oxygen blood as it has supplied the gastrointestinal tract
- E. After passing through the liver, the blood leaves it through the hepatic arteries, branches of the coeliac trunk

**34. Choose the true statement(s) referring to whole blood:**

- A. Its two major components are: plasma and figurative elements
- B. Its components are represented by plasma, blood cells (erythrocytes and leukocytes) and platelets
- C. The greatest part of its figurative elements is represented by erythrocytes or red blood cells
- D. The smallest part of its figurative elements is represented by erythrocytes or red blood cells
- E. The greatest part of figurative cells is represented by thrombocytes or platelets

**35. Choose the correct statement(s) referring to blood group 0:**

- A. It has both types of antigen, A and B, on the erythrocyte membrane
- B. It has both types of antibodies, anti-A and anti-B, in the serum
- C. Can receive blood from blood group A
- D. Can donate blood to the blood group A
- E. Can donate blood to the blood group B

**36. In the lungs:**

- A. Oxygen passes from the alveoli into the bloodstream, to be transported to the cells
- B. Oxygen passes from the bloodstream into the alveoli, to be expelled by breathing
- C. Carbon dioxide passes from the alveoli into the bloodstream
- D. Carbon dioxide passes from the bloodstream to the alveoli, to be expelled by breathing
- E. Both oxygen and carbon dioxide can move bilaterally between the bloodstream and alveoli

**37. In relation to the diaphragm, the kidneys lie:**

- A. Superior to the diaphragm, in the abdominal cavity
- B. Inferior to the diaphragm, in the abdominal cavity
- C. The upper extremity is higher (close to the diaphragm), in the left kidney
- D. The upper extremity is higher (close to the diaphragm), in the right kidney
- E. The upper extremity is higher (close to the diaphragm), in both kidneys

**38. Choose the correct statement(s) referring to the kidneys:**

- A. There are two kidneys, situated retroperitoneally
- B. They lie laterally to the spinal column
- C. They lie medially to the spinal column
- D. Superiorly, they are in contact with the adrenal glands
- E. They are supported by fatty and connective tissue

**39. The pharynx has three parts:**

- A. The nasopharynx, located posterior to the nasal cavities and inferior to the palate veil
- B. The oropharynx, situated posterior to the oral cavity
- C. The oropharynx where the digestive and respiratory tracts meet
- D. The laryngopharynx, situated posterior to the larynx
- E. The nasopharynx, situated posterior to the nasal cavities

**40. Choose the correct statement(s) referring to the trachea:**

- A. It is a semi-rigid tube, approximately 10 – 12 millimetre long
- B. It branches in two main bronchi
- C. It continues the larynx
- D. It is lined with ciliary cells which filter air before it enters the bronchi
- E. It is a passageway for air and it houses the vocal cords

**41. Referring to the uterus, which of the following statements are true?**

- A. It is a pear-shaped hollow organ, except during pregnancy when it shrinks considerably
- B. It is situated medially, in the posterior part of the pelvic cavity, above the vagina and the urinary bladder
- C. It is situated in the anterior part of the pelvic cavity, above the vagina and the urinary bladder
- D. Its roles consist of ensuring the protection and the nutrients for the development of the embryo and the foetus
- E. It is pear-shaped, except during pregnancy when it enlarges considerably

**42. Choose the correct associations from below:**

- A. Testicle – oval shape – situated in the pelvis
- B. Scrotum – two compartment – the dartos muscle
- C. Scrotum – one compartment for each testicle – perineal raphe
- D. Inguinal canal – high resistance point of the anterior abdominal wall – abdominal hernia
- E. Inguinal canal – low resistance point of the anterior abdominal wall – inguinal hernia

**43. Which of the following associations are correct?**

- A. Ectoderm – nervous system – the epidermis and its accessories (nails, hair)
- B. Mesoderm – excretory system – digestive tract mucosa
- C. Mesoderm – circulatory system – skeleton – cardiac muscle
- D. Endoderm – hypophysis – dermis – respiratory system
- E. Endoderm – digestive tract mucosa – respiratory tract mucosa

**44. Choose the true statement(s) referring to the male reproductive system:**

- A. Its reproductive cells are called gametes
- B. Testicles are paired organs which secrete oestrogens and progesterone, but do not secrete testosterone
- C. It is responsible for producing, storing, maintaining and transporting gametes
- D. Testicles are also called male gametes or gonads
- E. It consists of glands and accessory organs (the prostate, seminal vesicles)

**45. Choose the correct associations about parturition:**

- A. The end of labour – an increase of prostaglandin secretion
- B. The onset of labour – a decrease of progesterone secretion in the placenta
- C. Oxytocin – stimulation of strong uterine contractions
- D. Amnion rupture – preventing the release of amniotic fluid
- E. Contractions of the abdominal wall – induced by uterine contractions via spinal cord reflexes

**46. Choose the true statement(s) referring to melatonin:**

- A. It is a steroid hormone (steroid)
- B. It is secreted by the pineal gland
- C. It is believed to regulate the secretion of other hormones
- D. Together with melanin, they form an enzyme system
- E. It influences the circadian rhythm (the day – night cycle)

**47. The following statement(s) is/are true about the location of the endocrine glands:**

- A. The thyroid is situated anterior and superior to the pharynx
- B. The epiphysis is situated in the mesencephalon, on the superior wall of ventricle III
- C. The parathyroid is located on the anterior surface of the thyroid gland
- D. The hypophysis is situated in the lower part of the encephalon
- E. The pancreas is located in the abdominal cavity, posterior to the stomach

**48. The neurohypophysis:**

- A. Represents the anterior lobe of the hypophysis
- B. Represents the posterior lobe of the hypophysis
- C. It is an endocrine gland proper which secretes peptide hormones
- D. It temporarily stores the neurohormones synthesized in the hypothalamus
- E. It releases hormones as a response to stimuli coming from the hypothalamic neurons

**49. The following statement(s) is/are true about the thymus:**

- A. It is located in the inferior mediastinum
- B. It is situated behind the sternum
- C. It secretes thymosin
- D. It develops with age
- E. It contributes to B lymphocyte maturation

**50. Addison's disease occurs as a result of:**

- A. Glucocorticoid hyposecretion
- B. Glucocorticoid hypersecretion
- C. Mineralocorticoid hyposecretion
- D. Mineralocorticoid hypersecretion
- E. Catecholamine hyposecretion