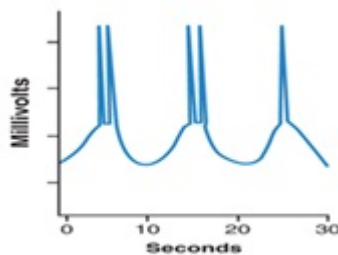


Physiology

- 1 – In a sensory neuron, a rise in which of the following factors contributes to the detection of stimulus intensity?
 - a. Action potential amplitude
 - b. Action potential frequency
 - c. Action potential duration
 - d. Adaptation rate
- 2 – With regard to different phases of action potential, which of the following is correct?
 - a. In the phase of absolute refractory period, potassium channels are closed.
 - b. In the phase of absolute refractory period, the activation gate of sodium channel is open.
 - c. Repolarization is done by potassium and sodium pumps.
 - d. In the early phase of repolarization, both gates of sodium channels are closed.
- 3 – What is the mechanism of Neostigmine effect in treatment of the myasthenia-gravis disease?
 - a. Increasing acetylcholin release from the motor neuron
 - b. Mimicing acetylcholin effect without being destroyed by acetylcholin esterase
 - c. Opening the ryanodine calcium channel
 - d. Inhibiting the activity of acetylcholin esterase
- 4 – The action potential of which type of muscle cell is recorded in illustrated below?



- a. Skeletal
 - b. Cardiac
 - c. Multi-unit smooth cell
 - d. Single-unit smooth cell
- 5 – Which of the following coagulating factors accelerates the production of prothrombin activator?
 - a. IV
 - b. VII
 - c. V
 - d. X
 - 6 – How is the reabsorption of chloride and urea affected with an increase in sodium reabsorption?
 - a. Inactive reabsorption of chloride decreases and active reabsorption of urea increases.
 - b. Active reabsorption of both chloride and urea increase.
 - c. Inactive reabsorption of both chloride and urea increase.
 - d. Inactive reabsorption of both chloride and urea decrease.
 - 7 – If the plasma urea concentration is 20 mg/dl, approximately how many milligrams of urea per minute are filtrated under the physiological condition (GFR equals to 125 ml per minute)?
 - a. zero
 - b. 25
 - c. 250
 - d. 2500

- 8 – In which of the following conditions, capability of increasing urine concentration is NOT disrupted?**
- Hyperosmolarity of renal medular interstitium
 - An increase in the vasa recta blood flow
 - Disruption in counter current mechanism
 - Renal insipidus diabetes
- 9 – If the efferent arterioles are constricted, what changes will occur in the glomerular capillary pressures?**
- Hydrostatic pressure increases and oncotic pressure remains unchanged.
 - Both hydrostatic and oncotic pressures increase.
 - Both hydrostatic and oncotic pressures decrease.
 - Hydrostatic pressure decreases and oncotic pressure remains unchanged.
- 10 – If end diastolic blood volume is 200 ml and end systolic blood volume is 50 ml, the approximate of Ejection Fraction (EF) will be percent .**
- 25
 - 50
 - 75
 - 150
- 11 – V-wave in atrial pressure curve is recorded simultaneously with which phase of the cardiac cycle?**
- Early diastole
 - Late diastole
 - Early systole
 - Late systole
- 12 – In which part of the cardiac tissue, resting membrane potential is more positive?**
- Purkinje fibers
 - Hiss bundle
 - Atrio-ventricular node
 - Atrial muscle
- 13 – Which of the following parameters increases in response to the pressure on the carotid artery bifurcation?**
- Blood pressure
 - Pulmonary ventilation
 - Cardiac ejection fraction
 - Cardiac cycle duration
- 14 – Following hypertension due to extra volume of fluid, which of the circulatory parameters will change gradually?**
- Increase in total peripheral resistance
 - Increase in renal afferent arteriole resistance
 - Decrease in Bainbridge reflex
 - Increase in plasma vasopressin and aldosterone
- 15 – Which of the following is true about arterial pulse?**
- The pulse velocity is higher in low-capacity artery.
 - Arterioles have the strongest pulse due to low compliance.
 - Arterial pulse increases in aortic stenosis.
 - Arterial pulse is higher in aorta than in other main arteries.

- 16 – Intermittent blood flow in capillaries is the result of**
- Changes of oxygen concentration in tissues
 - Intermittent systole, diastole cardiac activity
 - Fluctuation of sympathetic tone of vessels
 - Intermittent activity of the vasomotor center
- 17 – Which of the retinal cells has a role in creating the contrast (resolution) of a visual image?**
- Amacrine and horizontal
 - Bipolar and horizontal
 - Amacrine and bipolar
 - Ganglionic and bipolar
- 18 – Which of the following receptors is responsible for detecting the vibrating mechanical stimulus?**
- Meissner's corpuscle and Merkel's disk
 - Pachinian corpuscle and Ruffini's ending
 - Ruffini's ending and Merkel's disk
 - Meissner's corpuscle and Pachinian corpuscle
- 19 – Which of the following has a role in rapid olfactory adaptation?**
- Decrease in the number of olfactory receptors
 - Decrease in the activity of olfactory receptors
 - Increase in the activity of centrifugal nerve fibers
 - Increase in the activity of tufted cells
- 20 – Which of the following nuclei and fibers have an important role in the motor skills related to cerebellar function?**
- Fastigial – climbing
 - Fastigial – mossy
 - Inferior olive – climbing
 - Inferior olive – mossy
- 21 – Which statement is INCORRECT about chemical synapses?**
- Impulse conduction is unilateral.
 - Alkalosis causes a reduction in synaptic transmission.
 - The receptor is located on post-synaptic neuron.
 - The blockade of voltage-gated Ca^{2+} channels blocks synaptic transmission.
- 22 – Examination of a patient revealed the loss of “light touch” sensation in part of his right hand but thermal sensation was intact. Which part of the spinal cord is transected?**
- Right side of the spinal cord at C6
 - Right side of the spinal cord at L4
 - Left side of the spinal cord at C6
 - Left side of the spinal cord at L4
- 23 – Which impairment will occur in a patient suffering from Broca's aphasia?**
- Incapability of speech comprehension
 - Incapability of speech production
 - Incapability of speech production and comprehension
 - Incapability of fluent speech production
- 24 – What is the effect of Ib sensory fiber stimulation following the contraction of the skeletal muscle?**
- Increase in the agonist muscle contraction
 - Relaxation of the antagonist muscle
 - Relaxation of the same muscle
 - Contraction of the synergic muscle

- 25 – The secretion of the growth hormone is stimulated by an increase in which of the following compounds in blood?
- Arginine
 - Alanine
 - Glucose
 - Fatty acid
- 26 – Which of the hypothalamic nuclei has a role in the circadian rhythm?
- Supra-optic
 - Supra-chiasmatic
 - Para-ventricular
 - Ventro-medial
- 27 – Which of the following events is **NOT** caused by cortisole?
- Hyperglycemia
 - Reduced lipolysis
 - Increased protein catabolism
 - Insulin resistance
- 28 – Sperms are stored much in which part of the male reproductive system?
- Seminiferous tubules
 - Vas deferens
 - Epidydimis
 - Seminal vesicles
- 29 – In case of the destruction of supraoptic and paraventricular nuclei of hypothalamus, which of the following changes will occur?
- Free water negative clearance
 - Increase in the volume and concentration of urine
 - Increase in the isotonic urine volume
 - Increase in volume and decrease in osmolarity of urine
- 30 – What is the cause of muscular paralysis in increased secretion of Aldosterone?
- Hypokalemia
 - Hypocalcemia
 - Plasma sodium concentration reduction
 - Plasma magnesium concentration reduction
- 31 – Which of the following digesting enzymes is activated by entrokinase enzyme?
- Gastric gastrin
 - Pancreatic lipase
 - Intestinal dipeptidase
 - Intestinal tripsinogen
- 32 – Which of the following, does **NOT** have any role in increasing the daily secretion of biliary salts?
- Plasma gastrin
 - Parasympathetic nerve activity
 - Enterohepatic bile salts circulation
 - Cholecystokinin hormone
- 33 – Which of the following hormones reduces acid secretion and increases gastric pepsin secretion?
- Cholecystokinin
 - Gastrin
 - Motilin
 - Secretin

- 34 – If the pneumotaxic function in the respiratory center of brain stem is suppressed, which of the following will occur?**
- The respiratory rate will increase.
 - The inspiration duration shortens and the pulmonary volume reduces.
 - Apnestic center is inhibited.
 - The respiratory ramp signal is prolonged.
- 35 – At which part of the respiratory cycle, taking an inspiration sample is possible?**
- Middle of the expiration
 - Beginning of the expiration
 - End of the normal expiration
 - End of the deep expiration
- 36 – Which of the following does NOT increase during metabolic acidosis?**
- Pulmonary ventilation
 - Bicarbonate reabsorption
 - Phosphate reabsorption
 - Ammonium excretion

Clinical biochemistry

- 37 – Copper is a cofactor for all the following enzymes, EXCEPT**
- Ceruloplasmin
 - Superoxide dismutase
 - Cytochrome aa3
 - DNA polymerase
- 38 – Which of the following is the key enzyme for fatty acid synthesis?**
- Acetyl CoA carboxylase
 - Acetyl transferase
 - Malonyl transferase
 - β -ketoacyl Reductase
- 39 – High level of is an indicator of liver injury.**
- Acid phosphatase
 - Alanine transaminase
 - Creatin kinase
 - Amylase
- 40 – If the ratio of conjugated lactate to lactic acid is 100/1 in cells of a severely working muscle, then the pH will be (pKa=3.86)**
- 1.03
 - 1.86
 - 4.86
 - 5.86
- 41 – Lysine transforms into alanine due to hemoglobin mutation. Normally, lysine has a role in 2, 3-bisphosphoglycerate (BPG) attachment. In this case, the affinity of the mutated hemoglobin to attach BPG will, and its affinity to attach oxygen will**
- Increase - decrease
 - Increase - increase
 - Decrease - increase
 - Decrease - decrease

- 42 – In a patient admitted to the emergency room due to poisoning by an inhibitory compound, the administration of ample enzyme substrate improves his condition. The inhibitor is
- reversible and competitive
 - reversible and noncompetitive
 - irreversible
 - reversible and uncompetitive
- 43 – Which of the following pathways is very active in the liver of a patient with uncontrolled diabetes?
- Ketogenesis
 - Glycogenesis
 - Fatty acid synthesis
 - Glycolysis
- 44 – Which one is the key enzyme in regulating pentose phosphate pathway?
- Transaldolase
 - Glucose 6-phosphate dehydrogenase
 - Ribose 5-phosphate ketoisomerase
 - Transketolase
- 45 – Which enzyme is responsible for binding Okazaki fragments to each other?
- RNA polymerase
 - RNA primase
 - DNA polymerase
 - DNA ligase
- 46 – Which pair of amino acids is more frequent in histones?
- Arginine - lysine
 - Aspartate - glutamic acid
 - Phenylalanine - tyrosine
 - Serine - glycine
- 47 – Aromatase is responsible for the conversion of
- testosterone to estradiol
 - estradiol to estriol
 - testosterone to dihydrotestosterone
 - dehydroepiandrosterone to estradiol
- 48 – Which respiratory complex in electron transport chain is inhibited by cyanide?
- I
 - II
 - III
 - IV
- 49 – What is the role of ACAT (Acyl CoA Cholesterol Acyltransferase)?
- Esterification of cholesterol inside cells
 - Esterification of cholesterol in blood stream
 - Separation of fatty acid from cholesterol
 - Cholesterol transfer between lipoproteins
- 50 – All of the following compounds are phospholipids **EXCEPT**
- sphingomyelin
 - plasmalogen
 - galactosyl ceramide
 - lecithin

- 51 – Introns are present in the**
- tRNA
 - mRNA
 - hnRNA
 - snRNA
- 52 – Membrane fluidity is related to the amount of**
- unsaturated fatty acids and free cholesterol
 - protein and esterified cholesterol
 - peripheral protein and triglyceride
 - free cholesterol and triacylglycerol
- 53 – Which enzyme is activated by the increase of blood glucagon?**
- Phospholipase C
 - Protein kinase C
 - Adenylate cyclase
 - Guanylate cyclase
- 54 – In a diabetic patient which type of transport of glucose into muscle cells is impaired?**
- Sodium-dependent active transport
 - Facilitated diffusion by GLUT4
 - ATP-dependent active transport
 - Antiport with bicarbonate anion
- 55 – Genetic defect in ornithin transcarbamoylase (OTC) activity in urea cycle leads to the deficiency of which of the following amino acids?**
- Arginine
 - Lysine
 - Histidine
 - Proline
- 56 – All of the following compounds can be converted to tryptophan EXCEPT**
- Serotonin
 - Melanin
 - Melatonin
 - Niacin

Bacteriology

- 57 – To control human brucellosis, all of the following phrases are correct EXCEPT**
- vaccination of general population
 - pasteurization of dairy products
 - detecting and slaughtering infected domestic animals
 - protection of abattoirs workers by wearing protective clothes
- 58 – Which of the following is the correct characteristic of syphilis chancre?**
- Superficial sore with inflammation and pain without bleeding
 - Deep sore with inflammation and pain with bleeding
 - Deep sore with inflammation and pus without bleeding
 - Superficial sore without pain and with hard base
- 59 – Which bacteria can be used in normal fecal transplantation for treatment of recurrent infection?**
- Bacteroides fragilis*
 - Fusobacterium nucleatum*
 - Clostridium difficile*
 - Shigella dysenteriae*

- 60 – Which structures is seen just in gram negative bacteria?
- Peptidoglycan
 - Lipid A
 - Capsule
 - Pili
- 61 – All of the following statements for *Chlamydia* are correct **EXCEPT**
- They include both DNA and RNA
 - Their cell wall is similar to that of gram negative
 - They have the ability to produce ATP
 - They grow only in living cells
- 62 – Bacterial isolation of *Bordetella pertusis* in culture media will increase at
- incubation period
 - cattarrhal period
 - paroxysmal period
 - convalescence period
- 63 – Which type of diarrhea causing *Escherichia coli* uses “Intimin” as adherence factor to attach the gut cells?
- EAEC (Enterogaegative *E.coil*)
 - EPEC (Enteropathogenic *E.coil*)
 - EIEC (Enteroinvasive *E. coil*)
 - DAEC (Enterotoxigenic *E.coil*)
- 64 – Which of the following *Campylobacteria* is the etiologic agent of systemic infection?
- jejuni*
 - coli*
 - fetus*
 - upsaliensis*
- 65 – What is the mechanism of antibacterial effect of rifampin?
- Binding to DNA-dependent RNA polymerase and inhibiting RNA synthesis
 - Inhibition of the helicase activity
 - Inhibition of DNA topoisomerase type II
 - Inhibition of synthesis of Okazaki fragments
- 66 – Daptomycin affects
- plasma membrane
 - cell wall
 - protein synthesis
 - nucleic acid synthesis
- 67 – Which of the following microorganisms is the most probable agent of bacterial meningitis in infants in their first month of life?
- Streptococcus agalactiae*
 - Streptococcus pneumoniae*
 - Streptococcus pyogenes*
 - Enterococcus faecalis*
- 68 – Which of the following tests has the highest sensitivity and specificity in diagnosis of tuberculosis?
- Intradermal tuberculin test
 - Gamma interferon releasing assay
 - T cell activation assay
 - Serum antibody assay

- 69 – The Shwartzman reaction occurs following the release of a large amount of into the blood circulation.**
- peptidoglycan
 - lipopolysaccharide
 - lysozyme
 - lipoteichoic acid
- 70 – Which of the following is the important virulence factor for *Haemophilus influenzae* type b?**
- Exotoxin
 - Capsular protein
 - Polyribitol phosphate capsule
 - Lipopolysaccharide of cell wall
- 71 – Which of the following antibiotics belongs to the second line anti-Tuberculosis therapy?**
- Isoniazid
 - Ethambutol
 - Rifampin
 - Kanamycin
- 72 – At what stage of syphilis, the granulomatous lesions (Gumma) observed?**
- Primary
 - Secondary
 - Tertiary
 - Early latency

Parasitology

- 73 – Which of the following parasites can cause anemia in human?**
- E. granulosus*
 - N. americanus*
 - A. lumbricoides*
 - E. vermicularis*
- 74 – “Dromedary fever, with two peaks in a day”, is the specific clinical sign of which of the following parasitic diseases?**
- Extra-intestinal amoebiasis
 - Acquired toxoplasmosis
 - African trypanosomiasis
 - Visceral leishmaniasis
- 75 – Which species of *Plasmodium* causes the highest percentage of RBC parasitemia?**
- P. falciparum*
 - P. vivax*
 - P. malariae*
 - P. ovale*
- 76 – Which parasitic protozoan can cause internal autoinfection?**
- Isospora belli*
 - Cyclospora cayentanensis*
 - Cryptosporidium parvum*
 - Toxoplasma gondii*

- 77 – Percutaneous-Aspiration-Injection-Reaspiration (PAIR) can be effective in the treatment of which parasitic disease?**
- Fasciolosis
 - Hydatidosis
 - Trichinellosis
 - Dicrocoelosis
- 78 – Which parasite is usually observed in appendicitis?**
- Ancylostoma deudenale*
 - Strongyloides stercoralis*
 - Trichenella spiralis*
 - Entrobilus vermicularis*
- 79 – What is the medication for tapeworm (Cestodes)?**
- Niclosamide
 - Triclabendazole
 - Levamisole
 - Metronidazole
- 80 – What is the most prevalent human trematodes in Iran?**
- Schistosoma haematobium*
 - Fasciola hepatica*
 - Dicrocoelium dendriticum*
 - Clonorchis sinensis*
- 81 – A patient with dysentery, acidic stool, and charcot-Leyden crystals is probably afflicted with**
- cyclosporiasis
 - balantidiasis
 - giardiasis
 - intestinal amoebiasis
- 82 – The infection resulting from which of the following parasites is aggravated if the immune system is weakened?**
- Toxoplasma*
 - Acantamoeba*
 - Entamoeba*
 - Trichomonas*

Medical Entomology

- 83 – Which of the following are the main agent and vector of Dengue fever?**
- Virus - Anopheles
 - Rickettsia - Aedes
 - Virus - Aedes
 - Virus - Culex
- 84 – Which insect has a role in transmission of *Dipylidium caninum*?**
- Human louse
 - Flea
 - Bed bug
 - Triatomid bug

Mycology

- 85 – A neutropenic patient with persistent fever and respiratory signs was hospitalised in the ICU. His galactomannan test is positive with rising titer during one week follow-up. Which of the following fungal diseases is the patient suspected of?**
- Mucormycosis
 - Candidiasis
 - Aspergillosis
 - Cryptococcosis
- 86 – Which of the following dermatophytes is considered to be the most common agent of tinea cruris?**
- Microsporum canis*
 - Trichophyton rubrum*
 - Trichophyton schoenleinii*
 - Epidermophyton floccosum*
- 87 – In which of the following fungal diseases, the purulent and ulcerative cutaneous lesions are seen in lymphatic channels?**
- Sporotrichosis
 - Chromoblastomycosis
 - Dermatophytosis
 - Pityriasis versicolor
- 88 – Which of the following fungi can not cause lesions on mucosal membranes?**
- Geotrichum
 - Malassezia
 - Candida
 - Histoplasma
- 89 – Which of the following fungi is the most common agent of tinea unguium?**
- Candida albicans*
 - Epidermophyton floccosum*
 - Microsporum canis*
 - Trichophyton rubrum*

Virology

- 90 – Which of the following influenza virus proteins is inhibited by the drug Zanamivir?**
- M2 (Ionic channel Protein)
 - NA (Neuraminidase)
 - NS1 (Non-structural protein)
 - M1 (Matrix protein)
- 91 – Which of the following options is true about Corona viruses?**
- They have a circular RNA genome.
 - Their genome has an ambisense polarity.
 - They cause disease only in human.
 - They are enveloped viruses.
- 92 – Which herpes virus becomes latent in B lymphocytes?**
- EBV
 - CMV
 - VZV
 - HSV-1

93 – Which of the following diseases is caused by arthropods?

- a. MERS
- b. Yellow fever
- c. SSPE
- d. Lassa fever

94 – Which of the following diseases has a vaccine?

- a. Hepatitis C
- b. AIDS
- c. Hepatitis E
- d. Mumps

Anatomy

95 – Middle meningeal artery is a branch of which following arteries?

- a. Occipital
- b. Thyrocervical
- c. Maxillary
- d. External carotid

96 – All of the following structures are superficial to hypoglossus muscle EXCEPT

- a. hypoglossal nerve
- b. superficial part of submandibular gland
- c. lingual nerve
- d. submandibular duct

97 – All of the following muscles are innervated by recurrent laryngeal nerve EXCEPT

- a. cricothyroid
- b. aryepiglottic
- c. lateral cricoarytenoid
- d. thyroepiglottic

98 – Which of the following symptoms is produced by long ciliary nerve damage?

- a. Pupillary constriction
- b. Pupillary dilatation
- c. Abduction of eye ball
- d. Adduction of eye ball

99 – Which of the following structures is present in oropharynx?

- a. Torus tubarius
- b. Torus levatorius
- c. Palatine tonsil
- d. Piriform recess

100 – Which of the following structures is present in posterior surface of the body of maxilla?

- a. Incisive fossa
- b. Maxillary tuberosity
- c. Canine eminence
- d. Maxillary hiatus

101 – Which of the following is the main artery of the internal ear?

- a. Labyrinthine
- b. Anterior tympanic
- c. Stylomastoid
- d. Deep auricular

- 102 – All of the following defects are produced by facial nerve injury EXCEPT**
- no secretion of parotid gland
 - defect of taste sensation
 - defect of lacrimal gland secretion
 - no secretion of nasal mucosal secretion
- 103 – Where is the location of dorsal artery of penis?**
- Thickness of superficial fascia
 - Tunica albuginea
 - Thickness of deep fascia
 - Pectineal septum
- 104 – Which of the following structures is NOT supplied by the internal iliac artery?**
- Ovary
 - Uterus
 - Rectum
 - Urinary bladder
- 105 – Which anatomical structure forms the posterior boundary of the epiploic (Winslow) foramen?**
- Caudal lobe of liver
 - Inferior vena cava
 - Portal vein
 - 1st part of duodenum
- 106 – In posterior mediastinum, which of the following structures is located in a more anterior site than others?**
- Azygos vein
 - Thoracic aorta
 - Thoracic duct
 - Thoracic Esophagus
- 107 – Which artery is adjacent to the deep inguinal ring?**
- Internal pudendal
 - Obturator
 - Umbilical
 - Inferior epigastric
- 108 – Parasympathetic innervation of which part of the digestive tract is supplied by the pelvic splanchnic nerve?**
- Duodenojejunal junction
 - Ileocecal valve
 - Splenic flexure
 - Hepatic flexure
- 109 – All of the following muscles attach to the perineal body EXCEPT**
- Ischiocavernosus
 - External anal sphincter
 - Levator ani
 - Superficial transverse perineii
- 110 – Which of the following arteries supply the greater omentum?**
- Right and left gastroepiploic
 - Right and left lower intercostal
 - Right and left gastric
 - Superior and inferior mesenteric

111 – All of the following structures are innervated by the phrenic nerve EXCEPT

- a. central part of diaphragm
- b. diaphragmatic pleura
- c. mediastinal pleura
- d. visceral layer of serous pericardium

112 – Where is the clinical position for auscultation of pulmonary valve?

- a. Sternal end of the second left intercostal space
- b. Behind sternum at the level of the fifth intercostal space
- c. Sternal end of the second right intercostal space
- d. Sternal end of the fifth left intercostal space

113 – Climbing fibers of cerebellum are related to the which neural tract?

- a. Dorsal spinocerebellar
- b. Olivocerebellar
- c. Ventral spinocerebellar
- d. rubrocerebellar

114 – Which of the following tracts is in the anterior funiculus of the spinal cord?

- a. Ventral spinocerebellar
- b. Vestibulospinal
- c. Rubrospinal
- d. Gracilis

115 – Which group of the thalamic nuclei contributes to the formation of Papez circle?

- a. Medial
- b. Lateral
- c. Anterior
- d. Intralaminar

116 – Which of the following nuclei is in the most lateral area of the open part of medulla?

- a. Hypogloss
- b. Ambigus
- c. Vestibular
- d. Dorsal nucleus of vagus

117 – Which of the following nuclei has a different function from the others?

- a. Ambigus
- b. Hypogloss
- c. Trochlear
- d. Solitary

118 – Which of the following functions is impaired after superior olivary nucleus injury?

- a. Audition
- b. Swallow
- c. Speech
- d. Vision

119 – Which of the following arteries supplies paracentral lobule?

- a. Anterior cerebral
- b. Posterior cerebral
- c. Middle cerebral
- d. Anterior choroidal

120 – Which muscle is most effective in maintaining pelvic balance while standing on one leg?

- a. Iliopsoas
- b. Obturator internus
- c. Gluteus maximus
- d. Gluteus medius

121 – All of the following muscles are innervated by ulnar nerve EXCEPT

- a. first lumbrical
- b. abductor digiti minimi
- c. palmaris brevis
- d. adductor pollicis

122 – In the case of rupture of round ligament of femoral head, branches of which following artery will be damaged?

- a. Deep external pudendal
- b. Lateral circumflex femoral
- c. Obturator
- d. Superior Gluteal

123 – Which anatomical structure separates the greater and lesser sciatic notches?

- a. Posterior superior iliac spine
- b. Posterior inferior iliac spine
- c. Ischial spine
- d. Ischial tuberosity

124 – Which one of the following muscles is innervated by branches from the lateral cord of brachial plexus?

- a. Biceps brachii
- b. Triceps brachii
- c. Brachioradialis
- d. Deltoid

125 – Damage to which of the following nerves leads to winging of scapula?

- a. Long thoracic
- b. Suprascapular
- c. Dorsal scapular
- d. Axillary

126 – Which nerve supplies the cutaneous sense of lateral half of the forearm?

- a. Musculocutaneous
- b. Radial
- c. Axillary
- d. Median

127 – Which of the following fibers connect the periosteum to bone?

- a. Collagen
- b. Oxytalan
- c. Reticulum
- d. Elastin

128 – Which of the following is the specific character of the duodenum?

- a. Nerve plexus
- b. Lieberkuhn's glands
- c. Brunner's glands
- d. Peyer's Patches

129 – Helicotrema is located between

- a. middle and inner ear
- b. scala vestibuli and tympani
- c. spiral limbus and Scala vestibuli
- d. scala media and tympani

130 – Which cell secretes testosterone in the ovary?

- a. Theca externa
- b. Theca interna
- c. Granulosa
- d. Cumulus oophorus

131 – Which of the following neuroglia of the nervous tissue has a mesenchymal origin?

- a. Oligodendrocyte
- b. Astrocyte
- c. Ependyme
- d. Microglia

132 – Which of the following liver cells stores fat-soluble vitamins?

- a. Hepatocyte
- b. Kupffer
- c. Ito
- d. Endothelial

133 – Which of the following vessels has internal elastic lamina?

- a. Capillary
- b. Metarteriol
- c. Artery
- d. Venule

134 – Which type of cartilages forms the annulus fibrosus of the intervertebral discs?

- a. Elastic
- b. Fibrous
- c. Articular
- d. Hyaline

135 – Which cytoplasmic organelle does NOT have membrane?

- a. Proteasome
- b. Endosome
- c. Proxysome
- d. Lysosome

136 – Thermogenin protein is found in

- a. Rough endoplasmic reticulum
- b. Golgi apparatus
- c. Inner membrane of mitochondrial
- d. Primary lysosome

137 – Which epidermal cell does NOT have any junctions with its adjacent structures?

- a. Merkel
- b. Keratinocyte
- c. Melanocyte
- d. Langerhans

- 138 – The vasa recta originates from in the kidney.**
- afferent arteriole
 - subcapsular plexus
 - efferent arteriole
 - arcuate artery
- 139 – Which part of the sperm does NOT enter into the cytoplasm of oocyte during fertilization?**
- Plasmalemma
 - Middle piece
 - Sperm tail
 - Centriole
- 140 – What is the origin of exocoelomic cyst?**
- Secondary yolk sac
 - Primary yolk sac
 - Chorionic cavity
 - Extraembryonic coelome
- 141 – Up to which developmental week, do the primary ossification centers for long and cranial bones appear?**
- 6th
 - 9th
 - 12th
 - 14th
- 142 – Cells migrating from the middle one-third of primitive streak contribute to the formation of which part of mesoderm?**
- Paraxial
 - Intermediate
 - Extraembryonic
 - Lateral plate
- 143 – Which cells cover the outer surface of chorionic villus?**
- Endometrial epithelium
 - Cytotrophoblast
 - Decidua
 - Syncytiotrophoblast
- 144 – The primordial germ cells are NOT observable in the**
- epiblast
 - wall of the yolk sac
 - mesentery of hindgut
 - wall of midgut
- 145 – In which of the central nervous system defects, the brain ventricles are affected?**
- Meningoencephalocele
 - Cranial Meningocele
 - Meningoencephalocele
 - Spina bifida occulta
- 146 – What is the origin of follicular cells of thyroid?**
- Neural crest
 - Surface ectoderm
 - Pharyngeal endoderm
 - Splanchnic mesoderm

147 – What is the embryonic origin of dentin?

- a. Neural ectoderm
- b. Neural crest
- c. Surface ectoderm
- d. Somatic mesoderm

148 – Which structures are common in the twins that formed via separation of inner cell mass?

- a. Placenta and chorionic cavity
- b. Placenta and amniotic cavity
- c. Amniotic cavity and yolk sac
- d. Chorionic cavity and yolk sac

Principles of Health Services

149 – Considering the ecological and educational evaluation phase of Prisd model, which of the following options refers to the concept of the underlying factors?

- a. Factors causing hopefulness and hopelessness in one's behavior.
- b. Beliefs, values and perceptions that enhance motivation in one's behavior.
- c. Encouragement and feedback received from others following the new behavior.
- d. Sources, skills and factors that facilitate the behavior.

150 – If after the assessment of the health condition of a person complaining of having disease symptoms; no particular indication is detected, which of the following terms is applicable to this person?

- a. Disease
- b. Illness
- c. Ill health
- d. Discomfort

151 – Considering the primary care services framework in dealing with health-related problems in reducing the prevalence and controlling the progress of iron-deficiency anemia, which of the following measures involves a fight against parasitic diseases?

- a. Promotive interventions
- b. Rehabilitative interventions
- c. Therapeutic interventions
- d. Preventive interventions

152 – Which of the following statements is a proper index to assess children's suitable nutrition status?

- a. Birth rate of at least 90% of neonates with a weight of over 2500 grams
- b. Birth rate of at least 50% of neonates with a weight of over 3000 grams
- c. A decline in mortality rate to 50 per thousand in children under one year old
- d. Having an appropriate ratio of height and weight in all stages of their lives

153 – A persistent disease with high prevalence, similarly affecting all ages is called

- a. endemic
- b. epidemic
- c. pandemic
- d. semi-endemic

154 – Which of the following definitions is more in line with “health education”?

- a. The transfer of health knowledge to people with limited knowledge about disease prevention.
- b. A series of activities planned to improve health condition of the society.
- c. The change process is a behavior that establishes a link between health knowledge and its implementations.
- d. A type of education that provides the necessary information about healthy lifestyle to individuals.

155 – All of the following belong to primary health care elements EXCEPT

- a. improving nutrition status
- b. expanding immunization programs
- c. achieving justice
- d. providing essential drugs

156 – Which of the following options denotes the most important concept of “health promotion”?

- a. Enabling people to decide on their own health
- b. Enhancing people's health information to change their behavior
- c. Changing people's health culture for social and economic development
- d. Establishing intra-sectorial coordination for social health development

157 – All of the following statements are true about nosocomial infection EXCEPT

- a. the patient is without infection on admission.
- b. the infection signs and symptoms of the disease may appear after discharge.
- c. the infection originates from hospital equipment and services.
- d. the patient has been in the incubation period of infection on admission.

158 – The clinical examination of the breast and fastening the seat belt in a vehicle are considered as prevention, respectively.

- a. secondary, primary
- b. secondary, secondary
- c. primary, secondary
- d. primary, primary

159 – The virulence of a pathogenic agent to enter, survive and proliferate in the host is known as

- a. infectiousness
- b. infectivity
- c. infection
- d. contamination

Principles of Epidemiology

160 – We have studied the mean fat intake in relation to the incidence of breast cancer in a number of provinces. Which of the following is the study design?

- a. Ecologic
- b. Cross-sectional
- c. Historical cohort
- d. Case-control

161 – What kind of bias is more common in randomized clinical trials?

- a. Selection
- b. Response
- c. Recall
- d. Publication

162 – All of the following statements are true about a confounding factor EXCEPT

- a. it is a variable with no association with the outcome.
- b. it can cause the outcome.
- c. it can prevent the outcome.
- d. if not addressed in the study, it may cause spurious findings.

163 – As a health policy-maker, you are going to use a vaccine in a community based on its efficacy.

What is the best kind of evidence to look for?

- a. Systematic review
- b. Field trial
- c. Community-based case-control study
- d. Hospital-based case-control study

164 – What kind of prevention is “Doing a Pap smear to find cervical cancer”?

- a. Secondary prevention
- b. Primary prevention
- c. Primordial prevention
- d. Tertiary prevention

165 – Among guests participating in a party, the incidence of poisoning among individuals who ate a specific food was ten times higher than those who did not. “TEN” indicates which of the following?

- a. Relative risk
- b. Incidence rate
- c. Attributable risk
- d. Occurrence rate

166 – In which type of study, it is least possible to detect the time order of cause and effect?

- a. Prospective cohort
- b. Historical cohort
- c. Clinical trial
- d. Cross-sectional

167 – What is the most important advantage of using multiple control groups in a case-control study?

- a. Reducing selection bias
- b. Reducing information bias
- c. Controlling confounders
- d. Better estimate of relative risk

168 – The lung cancer mortality among heavy smokers is 30 times higher than that of non-smokers.

Which item is more relevant to this statement?

- a. Strength of association
- b. Specificity
- c. Consistency
- d. Dose-response relationship

English Language for Medical Purposes

Vocabulary

Read the following questions and choose the best answer:

169 – Some doctors' handwriting is so bad that their patients have difficulty reading their

- a. jurisdictions
- b. prescriptions
- c. commitments
- d. achievements

- 170 – The patient was about to pass away as the doctor made a/an mistake by taking a wrong decision.
- lethal
 - immortal
 - moral
 - eternal
- 171 – The potential of angioplasty may include coronary artery dissection and rupture, cardiac tamponade and myocardial infarction.
- convulsions
 - complications
 - conceptions
 - complements
- 172 – There are many physical and emotional disorders which heal and do NOT really require any medical
- integration
 - admission
 - segmentation
 - intervention
- 173 – In the age of nanotechnology, physical examination still remains of importance in diagnosis of aortic stenosis.
- trivial
 - vicious
 - pivotal
 - transient
- 174 – A condition in which the patient is characterized by a defect or loss of power of expression by speech is termed as
- aphagia
 - dyspepsia
 - aphasia
 - ataxia
- 175 – The drooping and downward displacement of the eyelid due to inaccurate Botox injection is diagnosed as
- blepharodysplasia
 - blepharoptosis
 - blepharitis
 - blepharorrhaphy
- 176 – The surgeon said the patient had to undergo operation to remove the very small tumor in his skull.
- craniocentesis
 - septocentesis
 - pleurectomy
 - pneumectomy
- 177 – Surgical attachment of the urinary bladder to the abdominal wall or to other supporting structures is referred to as
- tracheotomy
 - pachydactyly
 - arthrodesis
 - cystopexy

178 – Congenital can result from a failure of the lungs to expand completely.

- a. atelencephalia
- b. pulmolith
- c. tracheotomy
- d. atelectasis

Reading Comprehension

Read the following passages and choose the best answer.

Passage 1:

Bone is in constant turnover. It atrophies when not used, and hypertrophies when stressed. Overall bone mass is increased until sometime between 30 and 35 years of age, after which there is an overall decrease of bone as a consequence of more resorption than production. Articular cartilage is a special material because it has properties that people have not been able to reproduce. It is a wonderful shock absorber, yet when sliding with another surface of articular cartilage bathed in normal synovial fluid, the constant friction is a fraction of that found with ice-on-ice. Unfortunately, upon reaching adulthood, the ability to generate new articular cartilage ceases and as it wears out or is injured, it is not replaced. Skeletal muscle accounts for 50% of the body's weight making it the single largest tissue mass in the human body. There is one basic structural unit in muscle fiber; however, the arrangement of these fibers varies depending on a particular muscle's function.

179 – Based on the passage, which of the following items is true about bone?

- a. Atrophy of bone happens in a constant manner.
- b. Hypertrophy is observed when bone cells are new.
- c. Stress leads to bone excessive growth.
- d. Stress causes bone cell atrophy.

180 – What can be implied from the paragraph about bone mass?

- a. Bone mass growth is due to resorption.
- b. Production of bone mass causes its overall diminish.
- c. The overall increase of bone mass is age-dependent.
- d. Resorption and production decrease after the age of 35.

181 – Which of the following is true about the characteristics of articular cartilage?

- a. Generating new articular cartilage is a constant process.
- b. Humans have failed to reproduce articular cartilage so far.
- c. In the presence of synovial fluid, the friction is doubled.
- d. Constant friction causes shock absorbing in the cartilage.

182 – According to the paragraph, adulthood leads to

- a. termination of articular cartilage production
- b. regeneration of articular cartilage
- c. further production of bone mass
- d. easier replacement of articular cartilage

183 – Each muscle's function determines the

- a. tissue mass in the human body
- b. type of structural units in muscle fiber
- c. arrangements of muscle fibers
- d. ability to generate new articular cartilage

Passage 2:

Constitutional laws of some countries require employers to provide adequate safety precautions and regulations. Workers in medical laboratories are exposed to many dangers, not only from infected material but also from the dangerous compounds and apparatus which they use as a daily routine. These precautions

must be observed by all members of the staff, not only for the good of themselves as individuals, but for the safety of all concerned. While the application of safety precautions is only a matter of using a little common sense, unnecessary accidents frequently occur in most laboratories. All accidents which occur in the laboratory must be reported immediately to the person in charge. Protective clothing must be worn when in the laboratory, but should always be removed before leaving the premises. Personal clothing should be suited to the nature of the work. Examine carefully for any defects on flasks and beakers containing alkalis or acids. Do not clutter up the sink with dirty glassware; in the event of an accident you may wish to use the sink quickly.

184 – It can be inferred from the passage that

- workers in medical laboratories are only exposed to hazards from instruments in use
- safety precautions are beneficial for both the laboratory staff and others involved
- protective clothing can be removed by the personnel while working in the laboratories
- the workers in a laboratory usually clutter up the sink when using dirty glassware

185 – Which of the following statements is NOT mentioned as a safety precaution?

- Limited use of apparatus by the workers in the laboratory
- Using protective clothing while working in the laboratory
- The manager of the laboratory must be informed of any accident occurring there.
- The staff must take off their working clothing before leaving the laboratory.

186 – The passage implies that

- safety regulations and laws will sometimes lead to frequent accidents in the laboratory
- observing safety precautions and preventative measures need no specific knowledge
- the frequency of unnecessary accidents in the laboratory is due to the ignorance of the person in charge
- some accidents can be prevented if the staff use their common sense

187 – Which of the following is the best reference for the underlined word “premise”?

- Laboratory
- Protective clothing
- Precautions
- Dirty sink

188 – The author argues against a messy sink in the laboratory because

- it is the best place to locate the dirty glassware
- it is not in accordance with sanitary principles
- we may need it in an urgent case of accident
- the staff need all glassware for their daily use

Islamic Revolution of Iran and Islamic Insights

189 – How is God's existence inferred from reasoning based on possibilities and necessities? Infrerfing the

- Creator by evidence
- causes by possibilities
- effects by evidence
- possible existence by evidence

190 – How can the eternal existance of some sinful in the Hell be justified by divine justice?

- God has already warned the sinful.
- The sinful should be punished severely.
- After-death punishment is the natural consequence of one's deed.
- God has full control over its people.

191 – Which of the following indicates the proper positioning of people and objects?

- a. Wisdom
- b. Justice
- c. Mercy
- d. Power

192 – Which of the following is a proper response to mankind's vicious deed?

- a. Limited knowledge
- b. Acquired knowledge
- c. Expressive knowledge
- d. Subjective knowledge

193 – The first public resistance of Iranian people against colonialism and autocratic rule was reflected in movement.

- a. Constitutional monarchy
- b. Goharshad
- c. Tobacco
- d. Khordad 15th

194 – What was the consequence of unilateral cancelation of Darsy Oil Contract by Reza Shah?

- a. Signing a friendship contract between Iran and Russia
- b. Excluding England from Iran oil resources
- c. Exerting full dominance of England over Iran oil resources
- d. Highlighting agricultural economy in Iran

195 – What is the main reason behind collaboration between intellectual movement and Islamic celergymen in contemprrory political movement?

- a. Religious and idiological principles
- b. Commitment to national unity
- c. Lack of popularity and public support
- d. Exploiting religion in favore of national goals

196 – The Quranic verse “Then He balanced it and blew in it from His Soul” refers to dimension.

- a. spiritual
- b. corporeal
- c. material and immaterial
- d. both good and evil

197 – Which of the following arguments is more appropriate in debating with those who deny God and Hereafter?

- a. Reason
- b. Nature
- c. Rationality
- d. Justice

198 – Which of the following statements is INCORRECT regarding the relationship between faith and insight?

- a. Faith is based on knowledge and insight.
- b. Faith is the requirement of knowledge and insight.
- c. Religious faith is not confirmed with absolute knowledge.
- d. Religious faith is not in contradiction with reason.

199 _ Which of the following statements responds to the criticism? “ The evil acts of some people who cause agony and irritation to others originate from the freedom and choice granted to them by God”.

- a. Creation of free-willed human is better than the creation of human with no free will.
- b. God will compensate for the suffering and hardships of the oppressed in the Hereafter.
- c. God will punish the oppressors in the Hereafter.
- d. Free will is a prerequisite of creation and there is no escape from that.

200 _ What does the following statement prove? “If closely considered, the existence of “me” is an indivisible and integrated being, while the most important characteristic of things is divisibility”.

- a. Superiority of soul over body
- b. Divine nature of soul
- c. Eternality of soul
- d. Immateriality of soul

Good luck

کلید نهایی علوم پایه پزشکی - شهریور ۹۹ - انگلیسی

د	۱۵۱	الف	۱۰۱	حذف	۵۱	ب	۱
الف	۱۵۲	الف	۱۰۲	الف	۵۲	ب	۲
ب	۱۵۳	ج	۱۰۳	ج	۵۳	د	۳
ج	۱۵۴	الف	۱۰۴	ب	۵۴	د	۴
ج	۱۵۵	ب	۱۰۵	الف	۵۵	ج	۵
ب	۱۵۶	د	۱۰۶	ب	۵۶	ج	۶
د	۱۵۷	د	۱۰۷	الف	۵۷	ب	۷
الف	۱۵۸	ج	۱۰۸	د	۵۸	الف	۸
ب	۱۵۹	الف	۱۰۹	ج	۵۹	ب	۹
الف	۱۶۰	الف	۱۱۰	ب	۶۰	ج	۱۰
الف و ب	۱۶۱	د	۱۱۱	ج	۶۱	د	۱۱
د	۱۶۲	الف	۱۱۲	ب	۶۲	ج	۱۲
الف و ب	۱۶۳	ب	۱۱۳	ب	۶۳	د	۱۳
الف	۱۶۴	ب	۱۱۴	ج	۶۴	الف	۱۴
الف	۱۶۵	ج	۱۱۵	الف	۶۵	الف	۱۵
د	۱۶۶	ج	۱۱۶	الف	۶۶	الف	۱۶
الف	۱۶۷	د	۱۱۷	الف	۶۷	الف	۱۷
الف	۱۶۸	الف	۱۱۸	ب	۶۸	د	۱۸
ب	۱۶۹	الف	۱۱۹	ب	۶۹	ج	۱۹
الف	۱۷۰	د	۱۲۰	ج	۷۰	ج	۲۰
ب	۱۷۱	الف	۱۲۱	د	۷۱	ب	۲۱
د	۱۷۲	ج	۱۲۲	ج	۷۲	الف	۲۲
ج	۱۷۳	ج	۱۲۳	ب	۷۳	ب	۲۳
ج	۱۷۴	الف	۱۲۴	د	۷۴	ج	۲۴
ب	۱۷۵	الف	۱۲۵	الف	۷۵	الف	۲۵
الف	۱۷۶	الف	۱۲۶	ج	۷۶	ب	۲۶
د	۱۷۷	د	۱۲۷	ب	۷۷	ب	۲۷
د	۱۷۸	ج	۱۲۸	د	۷۸	ج	۲۸
ج	۱۷۹	ب	۱۲۹	الف	۷۹	د	۲۹
ج	۱۸۰	ب	۱۳۰	ب	۸۰	الف	۳۰
ب	۱۸۱	د	۱۳۱	د	۸۱	د	۳۱
الف	۱۸۲	ج	۱۳۲	الف	۸۲	الف	۳۲
ج	۱۸۳	ج	۱۳۳	ج	۸۳	د	۳۳
ب	۱۸۴	ب	۱۳۴	ب	۸۴	حذف	۳۴
الف	۱۸۵	الف	۱۳۵	ج	۸۵	ب	۳۵
د	۱۸۶	ج	۱۳۶	ب و د	۸۶	حذف	۳۶
الف	۱۸۷	د	۱۳۷	الف	۸۷	د	۳۷
ج	۱۸۸	ج	۱۳۸	ب	۸۸	الف	۳۸
الف	۱۸۹	الف	۱۳۹	د	۸۹	ب	۳۹
ج	۱۹۰	ب	۱۴۰	ب	۹۰	د	۴۰
ب	۱۹۱	ج	۱۴۱	د	۹۱	ج	۴۱
الف	۱۹۲	ب	۱۴۲	الف	۹۲	الف	۴۲
ج	۱۹۳	د	۱۴۳	ب	۹۳	الف	۴۳
ج	۱۹۴	د	۱۴۴	د	۹۴	ب	۴۴
ج	۱۹۵	الف	۱۴۵	ج	۹۵	د	۴۵
ج	۱۹۶	ج	۱۴۶	ب	۹۶	الف	۴۶
ب و ج	۱۹۷	ب	۱۴۷	الف	۹۷	الف	۴۷
ب	۱۹۸	الف	۱۴۸	الف	۹۸	د	۴۸
الف	۱۹۹	ب	۱۴۹	ج	۹۹	الف	۴۹
د	۲۰۰	ب	۱۵۰	ب	۱۰۰	ج	۵۰