

AQO

PROVISIONAL ANSWER KEY [CBRT]

Name of The Post	Assistant Professor, Physiology, General State Service, Class-1
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Instructions / સૂચના

Candidate must ensure compliance to the instructions mentioned below, else objections shall not be considered: -

- (1) All the suggestion should be submitted in prescribed format of suggestion sheet Physically.
- (2) Question wise suggestion to be submitted in the prescribed format (Suggestion Sheet) published on the website.
- (3) All suggestions are to be submitted with reference to the Master Question Paper with provisional answer key (Master Question Paper), published herewith on the website. Objections should be sent referring to the Question, Question No. & options of the Master Question Paper.
- (4) Suggestions regarding question nos. and options other than provisional answer key (Master Question Paper) shall not be considered.
- (5) Objections and answers suggested by the candidate should be in compliance with the responses given by him in his answer sheet. Objections shall not be considered, in case, if responses given in the answer sheet /response sheet and submitted suggestions are differed.
- (6) Objection for each question shall be made on separate sheet. Objection for more than one question in single sheet shall not be considered & treated as cancelled.

ઉમેદવારે નીચેની સૂચનાઓનું પાલન કરવાની તકેદારી રાખવી, અન્યથા વાંધા-સૂચન અંગે કરેલ રજૂઆતો ધ્યાને લેવાશે નહીં

- (1) ઉમેદવારે વાંધા-સૂચનો નિયત કરવામાં આવેલ વાંધા-સૂચન પત્રકથી રજૂ કરવાના રહેશે.
- (2) ઉમેદવારે પ્રશ્નપ્રમાણે વાંધા-સૂચનો રજૂ કરવા વેબસાઈટ પર પ્રસિધ્ધ થયેલ નિયત વાંધા-સૂચન પત્રકના નમૂનાનો જ ઉપયોગ કરવો.
- (3) ઉમેદવારે પોતાને પરીક્ષામાં મળેલ પ્રશ્નપુસ્તિકામાં છપાયેલ પ્રશ્નક્રમાંક મુજબ વાંધા-સૂચનો રજૂ ન કરતા તમામ વાંધા-સૂચનો વેબસાઈટ પર પ્રસિધ્ધ થયેલ પ્રોવિઝનલ આન્સર કી (માસ્ટર પ્રશ્નપત્ર)ના પ્રશ્ન ક્રમાંક મુજબ અને તે સંદર્ભમાં રજૂ કરવા.
- (4) માસ્ટર પ્રશ્નપત્ર માં નિર્દિષ્ટ પ્રશ્ન અને વિકલ્પ સિવાયના વાંધા-સૂચન ધ્યાને લેવામાં આવશે નહીં.
- (5) ઉમેદવારે જે પ્રશ્નના વિકલ્પ પર વાંધો રજૂ કરેલ છે અને વિકલ્પ રૂપે જે જવાબ સૂચવેલ છે એ જવાબ ઉમેદવારે પોતાની ઉત્તરવહીમાં આપેલ હોવો જોઈએ. ઉમેદવારે સૂચવેલ જવાબ અને ઉત્તરવહીની જવાબ ભિન્ન હશે તો ઉમેદવારે રજૂ કરેલ વાંધા-સૂચન ધ્યાનમાં લેવાશે નહીં.
- (6) એક પ્રશ્ન માટે એક જ વાંધા-સૂચન પત્રક વાપરવું. એક જ વાંધા-સૂચન પત્રકમાં એકથી વધારે પ્રશ્નોની રજૂઆત કરેલ હશે તો તે અંગેના વાંધા-સૂચનો ધ્યાને લેવાશે નહીં.

001. The renal medulla is hyperosmotic to blood plasma during
 (A) Antidiuresis (B) Water diuresis
 (C) Both (A) and (B) (D) None of the above
002. Sympathetic stimulation of the bronchus causes
 (A) Bronchial constriction (B) ↑secretion from glands
 (C) No effect (D) Bronchial dilatation
003. Irregular and fine contractions of individual skeletal muscle fibers are known as
 (A) myoclonic jerk (B) spasm
 (C) fasciculation (D) fibrillation
004. Sodium absorption from the small intestine is by
 (A) Diffusion (B) Na⁺-K⁺ pump
 (C) Active transport (D) All of the above
005. The physiological effects of yoga are, EXCEPT
 (A) Decrease in heart rate (B) Increase in oxygen consumption
 (C) Decrease in blood pressure (D) Decrease in blood lactate level
006. Hypothyroidism due to disease of the thyroid gland is associated with increased levels of
 (A) Cholesterol (B) RT₃
 (C) Iodine (D) TBG
007. Cold storage of blood results in
 (A) Increased cell metabolism (B) Decreased active transport
 (C) Cell gains K⁺ (D) Cell loses Na⁺
008. Dark current is due to
 (A) Inwardly directed sodium ions in the outer segment
 (B) Outwardly directed sodium ions
 (C) Inwardly directed potassium ions from inner segments
 (D) Inwardly directed calcium ions
009. Condition where visual information is not processed and transmitted leads to
 (A) Fluent aphasia (B) Anomic aphasia
 (C) Non fluent aphasia (D) None of the above
010. Which of the following secretion is most dependent on parasympathetic stimulation ?
 (A) Saliva (B) HCl
 (C) Pepsin (D) Pancreatic juice
011. Adrenogenital syndrome is due to
 (A) 21α-hydroxylase deficiency (B) 17 α-hydroxylase deficiency
 (C) 11 β- hydroxylase deficiency (D) 3 β-hydroxysteroid dehydrogenase deficiency
012. Funny current is
 (A) outward current (B) inward current
 (C) activated on depolarization (D) controlled by IP₃
013. Indian Medical Council maintains
 (A) Accident register (B) Medical register
 (C) Death register (D) Medico legal register

014. Protein degradation is regulated by
 (A) Ubiquitin (B) E6-AP protein
 (C) Vinyl sulfones (D) Lactacystin
015. The mechano-stretch receptors in joints and ligaments are
 (A) Fast adapting (B) Slow adapting
 (C) Non-adapting (D) Adapt differently for different stresses
016. Rigor Mortis is characterised by all EXCEPT
 (A) ATP in the muscles is reduced to 85%
 (B) Voluntary muscles are affected first
 (C) Onset 1-2 hours after death
 (D) Frequent handling breaks the rigor in certain places
017. Higher the gain
 (A) Lower the accuracy of regulation (B) Higher the accuracy of regulation
 (C) Less the chances of oscillation (D) None of the above
018. Natural cell mediated responses involve all EXCEPT
 (A) Neutrophils (B) Monocytes
 (C) Macrophages (D) T-lymphocytes
019. The first and only clinical sign of kidney disease is
 (A) \uparrow GFR (B) \uparrow Glomerular capillary pressure
 (C) \downarrow GFR (D) \uparrow Renal plasma flow
020. At 5 am student got up from sleep as he has to attend a class at 6am. Mechanisms that activate arousal system include all EXCEPT
 (A) Stimulation of sensory receptors
 (B) Stimulation of mid line reticular formation of brainstem, hypothalamus, locus ceruleus
 (C) Stimulation of raphe nuclei
 (D) Stimulation of dorsal & anterior hypothalamic areas
021. The largest amount of smooth muscle is present in
 (A) Trachea (B) Respiratory bronchioles
 (C) Terminal bronchioles (D) Alveolar sacs
022. The length of the muscle at which maximal isometric active tension develops is
 (A) Initial length (B) Resting length
 (C) Maximum length (D) Active length
023. The termination of skeletal muscle contraction occurs when
 (A) cytoplasmic calcium concentration decreases
 (B) ACh hydrolyzed to choline and acetate
 (C) closure of ryanodine channels
 (D) closure of dihydropyridine receptor channels
024. The dorsal root of spinal cord is sensory and ventral root is motor. This is called
 (A) Weber-Fechner law (B) Muller's doctrine
 (C) Bell-Magendie law (D) Rexed laminar principle

025. Gustducin is
 (A) G-protein (B) Lowers cAMP
 (C) Increases formation of IP3 (D) All of the above
026. Long term memories are stored mainly in
 (A) Neocortex (B) Hippocampus
 (C) Amygdala (D) Uncus
027. Which of the following organs does not utilize ketone as a means of energy?
 (A) Kidney (B) Skeletal muscles
 (C) Heart (D) Liver
028. Which phase of deglutition is involuntary
 (A) Oral and Oesophageal (B) Pharyngeal and Oesophageal
 (C) Only Oesophageal (D) Oral and Pharyngeal
029. Choose the correct option.
 I. Hypothalamus is the cause of mass sympathetic discharge in animals during stress
 II. Decrease in ECF volume stimulates thirst independent of that mediating thirst in response to increased plasma osmolality
 III. High protein intake is not a cause for osmotic diuresis
 IV. Thirst mechanism can be blocked with angiotensin II antagonists
 (A) Statements I & II are true (B) Statements II & III are true
 (C) Statements I & III are true (D) Statements II & IV are true
030. Stored fat is usually transported from one part of the body to another in the form of
 (A) Triglycerides (B) Free fatty acids
 (C) Glycerol (D) Neutral fat
031. Thanatology deals with:-
 (A) Poisons (B) Coma
 (C) Death (D) Fingerprints
032. Medical etiquette deals with
 (A) Legal responsibilities of a physician
 (B) Medical aspects of law
 (C) Law of courtesy observed between the members of medical profession
 (D) Moral principles guiding the medical profession
033. Consumer Protection Act states that the limitation period for filing a consumer complaint is
 (A) Below one year (B) Below two years
 (C) Below three years (D) Below five years
034. Renshaw cell inhibition is a typical example of
 (A) Presynaptic inhibition (B) Direct inhibition
 (C) Recurrent inhibition (D) All of the above
035. Characteristic features of cerebellar disease include all EXCEPT
 (A) Reduced muscle tone (B) Loss of muscle joint sensation
 (C) Intention tremor (D) Involuntary eye movements

036. In cell cycle at the end of S Phase the cell has exactly
 (A) Double the quantity of DNA of same quality
 (B) Double the quantity of DNA of variable quality
 (C) Same quantity of DNA of same quality
 (D) Same quantity of DNA of variable quality
037. Boolean query is related to
 (A) Sample size (B) Study population
 (C) Study design (D) Searching a database
038. Macula densa cells get stimulated by
 (A) Hypovolemia (B) Decreased K⁺
 (C) Decreased Na⁺ (D) Alteration in transmural pressure
039. Perception of normal sensory stimulus as a painful stimulus is called
 (A) Hyperalgesia (B) Allodynia
 (C) Hyperpathia (D) Causalgia
040. Functions of Limbic system are, EXCEPT
 (A) control of autonomic function (B) concerned with memory and olfaction
 (C) role in emotions (D) control of intellectual activities
041. Bitemporal hemianopia is seen in lesions of
 (A) Optic tract (B) Optic chiasma
 (C) Optic nerve (D) Occipital lobe
042. The Cephalic phase of gastric secretion is mainly mediated by
 (A) Neuro hormones (B) Chemical substances
 (C) Sympathetic nerves (D) Parasympathetic nerves
043. Maximum blood flow to coronaries occurs during
 (A) Iso volumetric ventricular contraction (B) Rapid ejection phase
 (C) Early part of diastole (D) All of the above
044. Best stimulus for CCK secretion
 (A) Acid in duodenum (B) Protein digestion products
 (C) Bile (D) Secretin
045. In upright position, ventilation per unit lung volume is
 (A) greater at the base than apex (B) greater at the apex than base
 (C) same at both areas (D) none of the above
046. Refraction occurs in the eye at
 (A) Anterior surface of cornea (B) Anterior surface of lens
 (C) Posterior surface of lens (D) All of the above
047. Enhanced stimulation of release mechanism / stimulus is called
 (A) Positive feedback (B) Negative feedback
 (C) Feed forward mechanism (D) Surge
048. According to the ICMR Guidelines for Human research 1995, all are true EXCEPT
 (A) Subjects are fully appraised of the research, the impact and risks to him and others
 (B) Identity and records of the subjects are kept confidential as far as possible
 (C) Subjects are remunerated for their involvement in the research
 (D) Results of the research should be withheld from the public domain

049. The measure of the relative ability of the molecule to cross the cell membrane is called
 (A) Partition co-efficient (B) Reflection co-efficient
 (C) Filtration co-efficient (D) Diffusion co-efficient
050. The diffusing capacity of the lung for a given gas is
 (A) directly proportional to surface area
 (B) directly proportional to its thickness
 (C) inversely proportional to pressure gradient
 (D) inversely proportional to molecular weight
051. The motor innervation of intrafusal fibers of skeletal muscle is
 (A) A alpha (B) A beta
 (C) A gamma (D) Ia
052. A type of contraction occurs only in colon
 (A) Peristalsis (B) Mass action contraction
 (C) Segmentation (D) Tonic contraction
053. Tamm – Horsfall glycoprotein secreted by
 (A) Thick ascending limb of loop of Henle (B) Thin ascending limb of loop of Henle
 (C) Collecting duct (D) Proximal tubule
054. At normal room temperature most body heat loss is by
 (A) Convection (B) Conduction
 (C) Radiation (D) Sweating
055. All are seen in Brown-Sequard syndrome EXCEPT
 (A) Ipsilateral loss of joint sensation (B) Contralateral loss of joint sensation
 (C) Ipsilateral loss of pain and temperature (D) Contralateral loss of vibration
056. Which of the following is most likely NOT to be involved in production of long term potentiation ?
 (A) NMDA receptor (B) Calcium
 (C) Membrane hyperpolarisation (D) Membrane depolarisation
057. Velocity of blood flow is inversely proportional to
 (A) Viscosity (B) Flow
 (C) Cross section area (D) Length
058. Nobel prize was given to Yalow in 1977 for the discovery of
 (A) Elisa (B) Radioimmunoassay
 (C) Electrophoresis (D) Protein quantitation assay
059. Hereditary condition in which neutrophils fail to generate superoxide radical O_2^- –
 (A) Myeloid leukemia
 (B) Agranulocytosis
 (C) Chronic granulomatous disease of childhood
 (D) Neutrophil hypomotility
060. All or none response holds true for
 (A) a single nerve fiber (B) only sensory axon
 (C) only motor axon (D) mixed nerve fiber

061. Hemidesmosomes
 (A) Connect cell to cell
 (B) Connect extra cellular matrix to extra cellular matrix
 (C) Connect cell to extra cellular matrix
 (D) Have connexons
062. Granules of which WBC show maximum amoeboid movement?
 (A) Neutrophil (B) Eosinophil
 (C) Basophil (D) All of the above
063. Counter current exchange
 (A) Is an active process
 (B) Does not depend upon moment of water
 (C) Can maintain osmotic gradient due to counter current multiplication
 (D) Is due to increased pressure in peritubular capillaries
064. The value of mean blood pressure in an artery which is 50 centimeters above the heart level will be
 (A) $100 + (50 \times 0.77)$ mmHg
 (B) $100 - (50 \times 0.77)$ mmHg
 (C) Half of systole plus diastolic blood pressure
 (D) Diastolic blood pressure plus one third of pulse pressure
065. What happens when blood passes through systemic capillaries ?
 (A) pH rises
 (B) Oxygen - Hemoglobin dissociation curve shifts to left
 (C) Bicarbonate passes from RBC to plasma
 (D) Chloride concentration of RBC falls
066. With yoga there is reduction in heart rate, fall in blood pressure. This is due to
 (A) Shift in autonomic balance towards sympathetic dominance
 (B) Shift in autonomic balance towards parasympathetic dominance
 (C) Both (A) and (B)
 (D) None of the above
067. A travelling action potential does not depolarize the membrane immediately behind it because
 (A) it is not self propagating (B) the membrane is hyperpolarised
 (C) the membrane is refractory (D) condition is always orthodromic
068. Kinesthetic sensations are detected mainly by the _____ receptors
 (A) Muscle spindles (B) Golgi tendon apparatus
 (C) Skin receptors (D) Joint receptors
069. Olfactory memories are due to
 (A) Pathway to amygdala (B) Pathway to entorhinal cortex
 (C) Pathway to orbitofrontal cortex (D) None of the above
070. Confabulation is
 (A) honest lying
 (B) perform poorly on memory tests
 (C) spontaneously describe events that have not occurred
 (D) all of the above

071. Which of the following is not a study design ?
 (A) Pilot study (B) Cohort study
 (C) Prospective study (D) Retrospective study
072. Choleric substances are substances which cause
 (A) Contraction of gallbladder (B) Increase in biliary secretion from the liver
 (C) Neutralization of acid from the stomach (D) Solubility of fats in micelles
073. Nitric acid synthase contributes to erection by
 (A) Raising cAMP levels that relax smooth muscles and increase blood flow
 (B) Blocking phosphodiesterases to increase cGMP levels that relax smooth muscle and increase blood flow
 (C) Activating soluble guanylyl cyclases to increase cGMP levels that relax smooth muscle and increase blood flow
 (D) Raising intracellular Ca^{2+} concentrations that relax smooth muscle and increase blood flow
074. What is the effect on membrane if extracellular concentration of K^+ ions is decreased?
 (A) decreased magnitude of resting membrane potential
 (B) increased negativity of membrane
 (C) increased magnitude of resting membrane potential
 (D) decreased negativity of membrane
075. NOT a compensatory mechanism on ascent to high altitude
 (A) alkalinity of urine (B) decreased erythropoietin secretion
 (C) increased 2, 3 – DPG (D) vasodilatation in systemic circulation that increases tissue blood supply
076. The ability to feel mechanical vibration is
 (A) Graphesthesia (B) Stereognosis
 (C) Pallesthesia (D) Paraesthesia
077. First compensatory response to hypoglycemia is
 (A) Increased hunger (B) Increased glucose absorption from GIT
 (C) Increased hepatic glycogenolysis (D) Increased hepatic gluconeogenesis
078. Exocytosis requires the ion
 (A) Sodium (B) Potassium
 (C) Calcium (D) Magnesium
079. Nuclear receptors does not include
 (A) Androgen receptor (B) Thyroid receptor
 (C) Melanotropin receptor (D) Retinoid receptor
080. Siggard – Anderson curve Nomo gram indicates
 (A) P_{CO_2} on horizontal axis
 (B) pH on vertical axis
 (C) Any point left to vertical line indicates acidosis and right alkalosis
 (D) Point above horizontal line indicates hyper ventilation and below Hypo ventilation
081. Cerebellum controls activity of
 (A) alpha motor neurons only (B) gamma motor neurons mainly
 (C) both alpha & gamma motor neurons (D) corticospinal tracts

082. Von Willibrand factor is
 (A) Present in platelets
 (B) Present in walls of blood vessels
 (C) Regulates circulating levels of factor VIII
 (D) All of the above
083. The major factor regulating alveolar ventilation during rest is
 (A) arterial PO₂ (B) arterial PCO₂
 (C) arterial pH (D) nervous output from joint receptors
084. Flexor reflex elicited by a strong noxious stimulus is characterized by
 (A) local sign (B) prolonged after discharge
 (C) central excitatory state (D) central inhibitory state
085. The urge to defecate first occurs when rectal pressure
 (A) Increases to about 18 mm of Hg (B) Increases to about 40 mm of Hg
 (C) Increases to about 55 mm of Hg (D) None of the above
086. Mean capillary pressure is maintained by
 (A) Hydrostatic pressure across capillary valve
 (B) Colloidal osmotic pressure
 (C) Pre to post - Capillary resistance ratio
 (D) Interstitial fluid pressure
087. Which of the following is NOT a steroid?
 (A) 17 α hydroxyprogesterone (B) Mifepristone
 (C) Raloxifene (D) Relaxin
088. The syndrome of diarrhoea, dermatitis and dementia occurs in deficiency of
 (A) Thiamine (B) Riboflavin
 (C) Niacin (D) Pyridoxine
089. Graded potential is generated in the neuron at
 (A) dendrites (B) axon hillock
 (C) axon (D) axon terminal
090. The ion that contributes to the genesis of resting membrane potential is
 (A) Sodium (B) Calcium
 (C) Potassium (D) Chloride
091. Hering-Breuer inflation reflex
 (A) stimulates respiration
 (B) present in healthy eupnoeic individuals
 (C) increases duration of expiration produced by steady lung inflation
 (D) mediated by rapidly adapting receptors
092. Vitamin B₂ is essential to body metabolism because it is a molecular component of
 (A) NAD (B) NADP
 (C) Co-enzyme (D) FAD

093. The hair cells repolarize when
 (A) Stereocilia move away from limbus
 (B) Stereocilia move towards limbus
 (C) Basilar membrane moves downwards
 (D) Chloride ions move out of the hair cell membrane
094. The serum Anion gap can be calculated by which of the following ?
 (A) Concentration of measured Anions minus concentration of measured Cations
 (B) Concentration of serum albumin plus concentration of serum phosphate
 (C) Concentration of serum albumin plus concentration of serum organic acids
 (D) Concentration of unmeasured Anions minus concentration of unmeasured Cations
095. Distal limb muscles are concerned with
 (A) Postural adjustments
 (B) Gross body movements
 (C) Fine, skilled movements
 (D) All of the above
096. In spherocytosis the RBC membrane is exclusively permeable to
 (A) Sodium
 (B) Potassium
 (C) Chloride
 (D) Magnesium
097. The law relating to distending pressure and tension in a blood vessel wall is called
 (A) Frank Starling's law
 (B) Poiseuille's law
 (C) Law of Laplace
 (D) Mary's Law
098. A person goes to the mountain and reaches 50,000 feet, he develops dyspnoe. Which is the correct explanation for the symptom ?
 (A) CNS depression
 (B) CO₂ washout
 (C) increased work of breathing
 (D) increased blood flow
099. Satiety centre is located in which portion of Hypothalamus?
 (A) Dorsomedial nucleus
 (B) Ventromedial nucleus
 (C) Pre optic area
 (D) Lateral nucleus
100. Representational hemisphere is specialized for
 (A) Categorization and symbolization
 (B) Visuospatial relation
 (C) Higher functions of nervous system
 (D) Sequential analysis process
101. After attack of myocardial infarction, coronary angiography was done, sudden death occurred due to activation of
 (A) Peripheral chemoreceptor reflex
 (B) Chemical chemoreceptor reflex
 (C) Bezold-Jarisch reflex
 (D) Cushing reflex
102. Codon which initiates protein synthesis is
 (A) UAA
 (B) UAG
 (C) UGA
 (D) AUG
103. Failure of a hospital to review competency of staff physician is called
 (A) Civil negligence
 (B) Composite negligence
 (C) Contributory negligence
 (D) Corporate negligence
104. Basal electrical rhythm (BER) or gastric slow waves are initiated at
 (A) Fundus of stomach on greater curvature
 (B) Body of stomach
 (C) Insisura angularis
 (D) Oesophagus

105. Muscurinic effects of Organophophorus poisoning include all EXCEPT
 (A) Lacrimation (B) Bronchoconstriction
 (C) Salivation (D) Mydriasis
106. Melatonin secretion & it's feedback to SCN of hypothalamus by dawn or dusk is due to
 (A) Decreasing activity of hydroxy-indole-o-methly transferase
 (B) Blocking release of epinephrine from sympathetic nerve endings
 (C) Increased activity of N-acetytranferase
 (D) Decreasing activity of suprachaismatic nucleus of hypothalamus
107. The force generator for muscles cell contraction is
 (A) Actin (B) Myosin
 (C) Troponin (D) Tropomyosin
108. According to Declaration of Geneva 1949, all are true EXCEPT
 (A) A physician shall maintain confidentiality about his patient till the death of the patient
 (B) A physician shall certify only that which he has personally verified
 (C) A physician shall always maintain highest standards of professional conduct
 (D) A physician shall always bear in mind the obligation of preserving human life
109. Risk of decompression sickness in very deep diver can be reduced effectively by using
 (A) Helium-oxygen mixture (B) 100% oxygen
 (C) Helium-Nitrogen mixture (D) Nitrogen mixture
110. Feedback system for control of extracellular fluid sodium concentration and osmolality is
 (A) Renin-Angiotensin system (B) ADH and thirst mechanism
 (C) Counter current mechanism (D) Natriuretic peptides
111. An 10 year old female child brought to clinic with complaints of frequent bruises with minor injuries; no other family history of bleeding disorders. Useful test to be done is
 (A) Clotting time (B) Serum calcium levels
 (C) Partial Thromboplastin time (D) Thrombin time
112. In the National Library of Medicine, MeSH means
 (A) Medical Services Heading (B) Medical Subject Headings
 (C) Medical Subject Helpline (D) Medicine Services Helpline
113. The physiological effect in an unacclimatized person suddenly exposed to cold is
 (A) Tachycardia (B) Shift of blood from shell to core
 (C) Non-shivering thermogenesis (D) Hypertension
114. Primary function of submucous plexus
 (A) Controlling muscle activity along length of muscle gut
 (B) Control of intestinal secretion
 (C) Innervates glandular epithelium
 (D) Innervates submucosal blood vessels
115. Membrane potential at which SA node discharges
 (A) -90 mV (B) -55 mV
 (C) -65 mV (D) -105 mV

116. Competitive blocker of anterior horn cells is
 (A) Botulinum (B) Curare
 (C) Strychnine (D) Malathion
117. Following are inputs synthesized at cortical level for orientation in space, EXCEPT
 (A) From vestibular apparatus
 (B) Auditory inputs
 (C) From proprioceptors in joint capsule
 (D) From cutaneous exteroceptors, touch & pressure
118. In a situation where a sound is created, person A says it's a dog and person B says 'where?'. The sequence of events in person B will be
 (A) Primary auditory area → Wernicke's area → Broca's area → motor area
 (B) Wernicke's area → Broca's area → Exner's area → motor area
 (C) Primary area → Wernicke's area → Broca's area → Exner's area
 (D) Primary visual area → Dejerine's area → Wernicke's area → Exner's area
119. Plasma anion gap is used mainly for diagnosing different causes of
 (A) Respiratory acidosis (B) Metabolic acidosis
 (C) Respiratory alkalosis (D) Metabolic alkalosis
120. Excitation cascading in rhodopsin decomposition is reversed by
 (A) Rhodopsin kinases (B) Transducin
 (C) Activated transducin (D) Phosphodiesterase
121. INCORRECT statement about Swallowing reflex is
 (A) Afferents are trigeminal nerve, glossopharyngeal nerve, vagus nerve
 (B) Cricopharyngeal muscle is innervated by glossopharyngeal nerve
 (C) Initiated by voluntary action of collecting oral contents on tongue
 (D) Inhibition of respiration & closure of glottis
122. Basal ganglia lesion causes all EXCEPT
 (A) Spasticity (B) Resting tremors
 (C) Akinesia (D) Dysmetria
123. Choose the INCORRECT statement in the maintenance of homeostasis
 (A) Regulation of temperature (B) Regulation of water & electrolytes
 (C) Supply of oxygen, nutrients, hormones (D) Maintenance of pH of ICF
124. According to the Indian Medical Council Amendment 2009, the INCORRECT statement is
 (A) A medical practitioner shall not accept hospitality like hotel accommodation for self and family members
 (B) A medical practitioner may work for pharmaceuticals and allied health care industry without compromising professional autonomy
 (C) A medical practitioner shall endorse any drug or product of the industry publically
 (D) A medical practitioner shall ensure that a research proposal has the clearance of national/state/institutional ethics committee.
125. Second messenger involved in regulation of Aldosterone by ACTH is
 (A) Ca²⁺ (B) DAG
 (C) Protein kinase C (D) Cyclic AMP

126. Control of gene expression in eukaryotic cells occurs at which level(s)?
(A) Only at the transcriptional level
(B) Epigenetic and transcriptional levels
(C) Epigenetic, transcriptional and translational levels
(D) Epigenetic, transcriptional, translational and post-translational levels
127. Sea water drowning causes
(A) Haemodilution (B) Hypernatremia
(C) Hyperkalemia (D) Tachycardia
128. Immunological surveillance is specifically carried by all EXCEPT
(A) Cytotoxic T-cells (B) Macrophages
(C) NK cells (D) Neutrophils
129. Number of new cases of a disease is termed as
(A) Point prevalence (B) Period prevalence
(C) Case fatality (D) Incidence
130. Which of the following option is NOT true about pulmonary circulation?
(A) Mean pulmonary arterial pressure is 15 mmHg
(B) Small capillary resistance
(C) Contains less smooth muscle
(D) Small diameter of pulmonary arterial vessels
131. Relief of pain due to rubbing the skin near painful areas is due to
(A) Release of endogenous opioid peptides (B) By blocking release of substance P
(C) Stimulation of A- β sensory fibers (D) Activating descending inhibitory pathway
132. Protein degradation is regulated by
(A) Ubiquitin (B) E6-AP protein
(C) Vinyl sulfones (D) Lactacystin
133. The hormone associated with cold adaptation is
(A) Growth hormone (B) Thyroxine
(C) Insulin (D) Melanocyte stimulating hormone
134. Choose the CORRECT statement.
(A) Anaphylactic shock is a non-immunological reaction
(B) Serum tryptase levels are elevated in anaphylaxis
(C) Vasoconstriction is seen during anaphylaxis
(D) Drug of choice in anaphylaxis is vasodilator-bronchoconstrictor agent
135. Vesicle coated with AP-1 Clathrine is involved in transport
(A) From golgi apparatus to lysosomes
(B) From golgi apparatus & cell membrane
(C) Transportation to endosomes
(D) Transportation between endoplasmic reticulum & golgi apparatus
136. Most important procoagulant factor in clot retraction
(A) Thrombosthenin (B) Fibrin stabilizing factor
(C) Thrombin (D) Ca²⁺

137. All are true about blood-testis barrier EXCEPT
 (A) Germ cells pass through the blood-testis barrier
 (B) Tight junctions between adjacent Sertoli cells form blood-testis barrier
 (C) Blood-testis barrier is permeable to steroids and proteins
 (D) Blood-testis barrier maintains high protein and glucose content in the lumen of the seminiferous tubules
138. Anrep effect represents the regulation of cardiac output by
 (A) Myocardial contractility (B) Preload
 (C) Afterload (D) Heart rate
139. Effects of Prolonged stay in space craft on musculoskeletal system are following EXCEPT
 (A) Decreased osteoclastic activity (B) Decreased vitamine D levels
 (C) High grade of muscle atrophy (D) Decreased osteocalcin levels
140. As the velocity increases the force of centrifugal acceleration increases in proportion to
 (A) Square root of the velocity (B) Radius of curvature
 (C) Square of velocity (D) Gravity
141. Local anaesthetics act by
 (A) Blocking voltage gated Na^+ channels (B) Blocking K^+ channels
 (C) Blocking Ca^{2+} channels (D) Blocking Cl^- channels
142. Ruffini's endings detect
 (A) Heavy prolonged touch & pressure signals
 (B) Movement of objects on surface of body
 (C) Localizing touch sensation to specific areas of body
 (D) Touch, pressure
143. NOT involved in middle ear muscle acoustic reflexes is
 (A) Cochlear afferent neuron (B) Ventral cochlear nucleus
 (C) Medial superior olivary nucleus (D) Motor nuclei of V and VI
144. Body posture and complex coarse movements are controlled mostly by
 (A) Cerebrum (B) Cerebellum
 (C) Spinal cord (D) Extra pyramidal system
145. Fructose is absorbed by
 (A) Simple diffusion (B) Facilitated diffusion
 (C) Sodium dependent glucose transport (D) Galactose dependent transport
146. After infusion of Arginine, insulin-glucagon ratio will be
 (A) 2.3 (B) 0.4
 (C) 3.0 (D) 0.3
147. Growth hormone secretion inhibited by all EXCEPT
 (A) L-Dopa (B) Cortisol
 (C) FFA (D) Medroxyprogesterone
148. Colour information is processed to
 (A) Blobs (B) Layer 4 C of V1
 (C) V8 Frontal eye field (D) All of the above

161. Dicrotic notch on the aortic pressure curve is caused by
 (A) Closure of pulmonary valve (B) Closure of aortic valve
 (C) Closure of mitral valve (D) Closure of tricuspid valve
162. Clearance method used to estimate renal plasma flow is
 (A) PAH clearance (B) Inulin
 (C) Radioactive isothalimate (D) Creatinine clearance
163. Steps in Extrinsic pathway for initiating clotting mechanism
 (A) Tissue trauma, formation of prothrombin activator conversion of fibrinogen to fibrin threads
 (B) Trauma to blood, formation of prothrombin activator, conversion of prothrombin to thrombin
 (C) Contact of blood with collagen, formation of formation of prothrombin activator, conversion of prothrombin to thrombin, conversion of fibrinogen to fibrin threads
 (D) Activation of platelets, formation of prothrombin activator into thrombin, conversion of fibrinogen into fibrin threads
164. Cytopenesis is
 (A) Transport of substances (B) Transport of coated vesicles with caveoli
 (C) Cell lysis (D) Cell maturation
165. Hypothalamic areas situated outside blood brain barrier are following EXCEPT
 (A) Paraventricular nucleus (B) Organum vasculosum of lamina terminalis
 (C) Subfornicle organ (D) Area prostrema
166. Most accurate method to assess hormone level
 (A) ELISA (B) Radioimmunoassay
 (C) Chromatography (D) Cytochemistry assay
167. Not a true statement with reference to cell as living unit
 (A) Cell is the basic unit of body
 (B) Many cells differ markedly from each other
 (C) Chemical mechanisms for changing nutrients to energy are basically different in all cells
 (D) All cells deliver their chemical products into surrounding fluids
168. Movement of gases from nose to 16th generation airways occurs by
 (A) Convection (B) Diffusion
 (C) Ventilation (D) Perfusion
169. Latch state means
 (A) sustained contraction (B) decreased cytosolic Ca²⁺ levels
 (C) phosphorylation of cross-bridges (D) feature of skeletal muscle
170. A 60 yr old patient presented with complaints of headache, plethora, pruritis. On examination, RBCs 7.2 millions/cumm, WBCs 26,000 /cumm, platelets 6 lakhs/cumm, erythropoietin levels less than normal. Bone marrow hypercellular. Probable diagnosis is:
 (A) Polycythemia vera (B) Dehydration
 (C) Congestive heart failure (D) Myeloid leukemia
171. Peripheral conversion of testosterone to dihydrotestosterone done by
 (A) 3 beta-HSD (B) 17-hydroxylase
 (C) Aromatase (D) 5 α-reductase

172. Flow volume curves can be used to measure the following, EXCEPT
 (A) Expiratory flow rates (B) Peak expiratory flow rate
 (C) Forced vital capacity (D) Closing volume
173. Mutation of Connexin 26 protein causes congenital deafness due to
 (A) Prevention of normal recycling of K⁺ ions through sustentacular cells
 (B) Defect in Actin hair cell process
 (C) Defect in tip links which adjusts tension
 (D) Major defect in tectorial membrane
174. Appearance of Peroxidase negative specific granules in developing neutrophils occurs in the stage of
 (A) Myeloblast (B) Promyelocyte
 (C) Metamyelocyte (D) Myelocyte
175. Recommended dietary allowances mainly help in framing of
 (A) Balanced diet (B) Vitamin deficiency
 (C) Mineral deficiency (D) Iron deficiency
176. Goldblatt hypertension is due to
 (A) Partial adrenalectomy (B) Steroid induced hypertension
 (C) Salt induced hypertension (D) Constriction of renal artery by applying clips
177. Most distinguishing feature between skeletal muscle and smooth muscle is
 (A) Troponin (B) Tropomyosin
 (C) Myosin (D) Actin
178. Hatching of embryo means
 (A) Degeneration of zona pellucida that surrounds blastocyst
 (B) Fertilization of ovum
 (C) Movement of fertilized ovum in fallopian tube
 (D) Formation of morula
179. Enzyme used in Polymerase Chain Reaction technique
 (A) RNA polymerase (B) Reverse transcriptase
 (C) DNA polymerase (D) Alkaline phosphatase
180. Emotions are aroused by involving following components EXCEPT
 (A) Cognition (B) Grief
 (C) Affect (D) Conation
181. Type of hypoxia which does not stimulate chemoreceptors to increase respiration is
 (A) Stagnant hypoxia (B) Hypoxic hypoxia
 (C) Anaemic hypoxia (D) Histotoxic hypoxia
182. Optical writing reflex is integrated in
 (A) Pons (B) Cerebral Cortex
 (C) Mid brain (D) Medulla
183. Most of electronegativity of RBC cell membrane is due to
 (A) Band-3 (B) Glycophorins
 (C) Ankyrin (D) Spectrin

184. Which mineral is an important component of antioxidant system?
(A) Calcium (B) Iron
(C) Iodine (D) Selenium
185. In compensatory mechanisms of haemorrhagic shock, which one of the following is activated first?
(A) Cerebral reflex (B) Baroreceptor reflex
(C) Chemoreceptor reflex (D) Central displacement of blood volume
186. Wenckebach phenomenon is
(A) PR interval prolongation (B) Sharp QRS complex
(C) ST interval prolongation (D) Multiple extra systoles
187. Colour coded ganglion cells project to
(A) Lateral geniculate neurons (B) Medial geniculate neurons
(C) Intralaminar neurons (D) Pulvinar
188. Onset of labour is initiated by
(A) Prostaglandins F₂ & E₂ (B) Maternal ACTH
(C) Aspirin (D) Oxytocin
189. Windkessel effect refers to
(A) Variation of resistance to blood flow by different organs of the body
(B) Elastic recoil of the arterial system
(C) Exchange of gases across the vessel valve
(D) Change in the capacity of the vascular system
190. Effective pressure required to prevent atelectasis in artificial ventilation
(A) Positive end-expiratory pressure (B) Negative pressure
(C) Positive pressure (D) Administration of oxygen
191. Choose INCORRECT statement about mucosal barrier of gastric mucosa:
(A) Thin layer of surface mucous exhibits diffusion coefficient for H⁺ ions to that of water
(B) Bicarbonate secretion is by surface mucosal cells of stomach & duodenum
(C) Gap junctions provide diffusion of H⁺ ions
(D) High mucosal blood flow carries off acid
192. All are functions of chaperones EXCEPT
(A) Initial folding of newly synthesized proteins
(B) Unfolding of proteins whose tertiary structures are damaged by denaturing conditions
(C) Utilize energy through ATP hydrolysis
(D) Stabilize proteins in unfolded conformation
193. 26 yr old female patient treated for iron deficiency anaemia, specific test to know the response is
(A) Estimation of Hb%, RBC count & MCH
(B) Estimation of Hg%, PCV
(C) MCHC, MCH
(D) RBC & Reticulocyte count

194. Which of the following is NOT a physiological effect of acute renal failure?
(A) Hypertension (B) Water and salt overload
(C) Metabolic acidosis (D) Hypokalemia
195. Dilated ventricle in heart failure works more to pump same amount of blood based on
(A) Ficks law (B) Ohms law
(C) Laplace law (D) Frank Starling law
196. The following are factors which decrease surfactant EXCEPT
(A) Long term inhalation of 100% oxygen (B) Occlusion of main bronchus
(C) Absence of GM-CSF (D) Cigarette smoking
197. Reynold's number is increased by decrease in
(A) Velocity of flow (B) Density of fluid
(C) Diameter of tube (D) Viscosity of fluid
198. Left ventricular failure tends to cause
(A) No breathlessness in lying position (B) Decrease in ventricular end diastolic pressure
(C) Paroxysmal nocturnal dyspnoea (D) Rise in lung compliance
199. Inability to recognize familiar faces is
(A) Agnosia (B) Prosopagnosia
(C) Asternognosis (D) Achromatopsia
200. Lateral inhibition to enhance visual contrast is done with dendrites of
(A) Bipolar cells (B) Ganglion cells
(C) Horizontal cells (D) Amacrine cells