

**M.B.B.S. DEGREE EXAMINATION  
FIRST YEAR  
PAPER II – PHYSIOLOGY**

**MULTIPLE CHOICE QUESTIONS**

*Q.P. Code: 526054*

**Time: 30 Minutes**

**Maximum : 20 Marks**

**Answer All Questions**

**Write one correct answer in the box provided in the Answer Script. No overwriting should be done.**

**III. Multiple Choice Questions:**

**(20 x 1 = 20)**

1. The property of specificity of nerve fibers for transmitting only one modality of sensation is called
  - A) Law of Projection.
  - B) Spatial Summation.
  - C) Labeled Line Principle.
  - D) Weber Fechner Law.
  
2. The hypothalamic nucleus that controls food intake called as feeding center is
  - A) Lateral Hypothalamus.
  - B) Posterior Hypothalamus.
  - C) Anterior Hypothalamus.
  - D) Ventro Medial Nucleus.
  
3. The intrafusal fibers of muscle spindle is supplied by
  - A) Alpha Motor Neuron.
  - B) Gamma Motor Neuron.
  - C) Dorsal Root Neuron.
  - D) Renshaw Cell.
  
4. The neurotransmitter that is excitatory is
  - A) Glycine.
  - B) Glutamate.
  - C) Serotonin.
  - D) Dopamine.
  
5. In which stage of sleep, sleep spindles and  $K^+$  complexes are seen in EEG
  - A) REM Sleep.
  - B) Stage – 2 NREM Sleep.
  - C) Stage – 4 NREM Sleep.
  - D) Stage – 3 NREM Sleep.

6. The increase in heart rate following an increase in Atrial pressure is called as

- A) Cushing's Reflex.
- B) Volume Reflex.
- C) Bain Bridge Reflex.
- D) Baroreceptor Reflex.

7. The substance that can cause vasodilatation of blood vessel is

- A) Norepinephrine.
- B) Angiotensin II.
- C) Vasopressin.
- D) Bradykinin.

8. Tall and tented 'T' waves in Electro Cardiogram is seen in

- A) Hypocalcemia.
- B) Hypokalemia.
- C) Hyponatremia.
- D) Hyperkalemia.

9. The condition that causes low cardiac output is

- A) Anemia.
- B) Beriberi.
- C) Arteriovenous Fistula.
- D) Valvular Heart Disease.

10. The tastant which has got highest threshold is

- A) Hydrochloric Acid.
- B) Strychnine Hydrochloride.
- C) Sucrose.
- D) Glucose.

11. Counter irritants allays pain by

- A) Spatial Summation.
- B) Adaptation of Receptors.
- C) Inhibition of pain pathway at dorsal horn gate.
- D) Inhibiting the release of pain mediators.

12. Pure word blindness occurs in lesion of

- A) Superior Temporal Gyrus.
- B) Inferior Temporal Gyrus.
- C) Middle Temporal Gyrus.
- D) Angular Gyrus.

13. The following is TRUE regarding the surfactant lining the alveoli

- A) Is produced by alveolar type I cells and secreted into the alveolus.
- B) Helps to prevent alveolar collapse.
- C) Is increased in the lungs of heavy smokers.
- D) Is a glycolipid complex.

14. Spontaneous respiration ceases after
- A) Transection of the brainstem above the pons.
  - B) Transection of the brainstem at the caudal end of the medulla.
  - C) Bilateral Vagotomy.
  - D) Bilateral vagotomy combined with transection of the brainstem at the superior border of the pons.
15. The pacemaker cells initiating rhythmic respiration located in medulla responsible for normal respiration is
- A) Apneustic Center.
  - B) Pneumotaxic Center.
  - C) Pre Botzinger Complex.
  - D) Nucleus Tractus Solitarius.
16. Shifting of O<sub>2</sub>– Hemoglobin curve to right means
- A) Decreased O<sub>2</sub> delivery to tissues.
  - B) Increased O<sub>2</sub> delivery to tissues.
  - C) Loading of CO<sub>2</sub> to blood.
  - D) Loading of O<sub>2</sub> to blood.
17. Which of the following sensation is carried by the lateral spinothalamic tract?
- A) Crude touch and fine touch.
  - B) Tactile localization and discrimination.
  - C) Vibration and proprioception.
  - D) Pain and temperature.
18. The diffusion of ions that causes inhibitory post synaptic potential is
- A) Increased conductance of sodium ions.
  - B) Increased conductance of potassium ions.
  - C) Decreased conductance of potassium ions.
  - D) Decreased conductance of chloride ions.
19. Renshaw cell inhibition is an example of
- A) Positive feedback inhibition.
  - B) Negative feedback inhibition.
  - C) Feedforward inhibition.
  - D) Postsynaptic inhibition.
20. The auditory pathway passes via all EXCEPT
- A) Cochlear nuclei.
  - B) Superior olivary nucleus.
  - C) Trapezoid body.
  - D) Superior colliculus.

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**M.B.B.S. DEGREE EXAMINATION  
FIRST YEAR  
PAPER II – PHYSIOLOGY**

**MULTIPLE CHOICE QUESTIONS**

*Q.P. Code: 526054*

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**III. Multiple Choice Questions:**

**(20 x 1 = 20)**

1. The neurological cell that has specific function of forming myelin is
  - A) Microglia.
  - B) Astrocytes.
  - C) Ependymal cells.
  - D) Oligodendrocyte.
  
2. The most potent stimulus for central chemoreceptors in regulating respiration is
  - A) Increased  $\text{CO}_2$  Concentration.
  - B) Decreased  $\text{O}_2$  Concentration.
  - C) Decreased  $\text{Na}^+$  and  $\text{K}^+$  Concentration.
  - D) Increased  $\text{HCO}_3^-$  Concentration.
  
3. The respiratory centre which acts as a off switch point is
  - A) Apneustic Center
  - B) Pneumotaxic Center
  - C) Dorsal group of Nervous.
  - D) Ventral group of Nervous.
  
4. Spirometry measures all EXCEPT
  - A) Vital capacity.
  - B) Inspiratory Reserve Volume.
  - C) Functional Residual Capacity.
  - D) Expiratory Reserve Volume.
  
5. The 'a' wave in jugular venous pulse tracing is due to
  - A) Atrial Systole.
  - B) Atrial Diastole.
  - C) Ventricular Diastole.
  - D) Ventricular Systole.

6. Preload of the heart is determined by
- A) End Diastolic Volume.
  - B) End Systolic Volume.
  - C) Ejection Systolic Volume.
  - D) Systolic Vascular Resistance.
7. Golgi tendon organ determines
- A) Static Length.
  - B) Muscle Action.
  - C) Muscle Tension.
  - D) Dynamic Length.
8. Athetosis is characterized by
- A) Continuous, slow writing movements.
  - B) Rapid voluntary dancing movement.
  - C) Involuntary flailing movements.
  - D) Slowness of movements.
9. The language comprehension area in posterior part of the superior gyrus of temporal lobe is
- A) Broca's Area.
  - B) Wernicke's Area.
  - C) Gnostic Area.
  - D) Angular Gyrus.
10. The nucleus responsible for maintaining circadian rhythm is
- A) Subthalamic Nucleus.
  - B) Suprachiasmatic Nucleus.
  - C) Raphe Nucleus.
  - D) Lateral reticular Nucleus.
11. Brown-Sequard Syndrome is characterized by all the following EXCEPT
- A) Loss of vibration sense on the opposite side below level of the lesion.
  - B) Loss of voluntary movements on the same side below the level of the lesion.
  - C) Loss of reflex movements on the same side at the level of the lesion.
  - D) Loss of pain sensation on the opposite side below the level of the lesion.
12. The lateral motor system of the cord is formed by following tracts
- A) Vestibulospinal and Olivospinal.
  - B) Reticulo spinal and Rubrospinal.
  - C) Cortico spinal and Rubrospinal.
  - D) Vestibulospinal and Reticulospinal
13. The afferent climbing fibers to the cerebellum originate from
- A) Superior Olivary Nucleus.
  - B) Inferior Olivary Nucleus.
  - C) Superior Vestibular Nucleus.
  - D) Inferior Vestibular Nucleus.

14. Which of the following part of the eye has the greatest concentration of rods
- A) Iris.
  - B) Optic disc.
  - C) Fovea.
  - D) Parafoveal Region.
15. Taste buds are absent in
- A) Fungiform Papillae.
  - B) Filiform Papillae.
  - C) Foliate Papillae.
  - D) Circumvallate Papillae.
16. Sympathetic stimulation of the bronchus causes
- A) Bronchial Constriction.
  - B) Increased secretion from glands.
  - C) No effect.
  - D) Bronchial dilatation.
17. Which of the following changes would tend to cause accumulation of fluid (oedema) in the tissues?
- A) Increased pre capillary vascular resistance.
  - B) Decreased post capillary vascular resistance.
  - C) Increased plasma colloid osmotic pressure.
  - D) Increased venous pressure.
18. The most powerful stimulus to initiate CNS ischemic response is
- A)  $\text{CO}_2$  accumulation in the medulla.
  - B) Fall in arterial  $\text{PO}_2$ .
  - C) Rise in arterial  $\text{PCO}_2$ .
  - D) Fall in the blood pH.
19. True about pain pathway is
- A) These are myelinated  $\text{A}\beta$  afferent neurons.
  - B) Glutamic acid and substance P are the transmitters released at synapse.
  - C) Nociceptors are rapidly adapting.
  - D) Pain sensation is carried by anterior spinothalamic tract.
20. Muscle spindle is
- A) Receptor for a variety of multi synaptic reflex.
  - B) Receptor for stretch reflex.
  - C) Occurs only in antigravity muscles.
  - D) Excited by both stretch and contraction of the muscles in which it is located.

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1. Which of the following is inhibitory to vaso motor area,
  - A. Pain pathways
  - B. Baro receptors
  - C. Chemo receptors
  - D. All of the above
  
2. Sympathetic stimulation of heart causes all except,
  - A. Increased refractory period
  - B. Decreased refractory period
  - C. Positive chronotropism
  - D. Positive inotropism
  
3. Last ditch stand is
  - A. Brain bridge reflex
  - B. Mary's reflex
  - C. CNS ischaemic response
  - D. Triple response
  
4. 3<sup>rd</sup> heart sound is due to
  - A. Closure of semilunar valves
  - B. Rapid filling of ventricles
  - C. Atrio-ventricular valves closure
  - D. Atrial systole
  
5. The following antibody is found in lungs,
  - A. IgD
  - B. IgA
  - C. IgM
  - D. IgG

6. Vagal stimulation causes increase in,
  - A. Heart rate
  - B. R-R interval in ECG
  - C. Cardiac output
  - D. Force of contraction
  
7. Flow in small airways is laminar because,
  - A. Reynolds number in small airways is more than 2000
  - B. Cross-sectional area in small airways is small
  - C. The diameter of these airways is small
  - D. The linear velocity of airflow in small air ways is extremely low
  
8. Stability of alveoli is maintained by,
  - A. Residual air
  - B. Increased surface areaby surfactant
  - C. Negative intra pleural pressure
  - D. Lung compliance
  
9. Apex of the lung are predisposed to tuberculosis because the alveolar air there has ,
  - A. Increased  $PCO_2$
  - B. Increased  $PO_2$
  - C. Decreased  $PCO_2$
  - D. Deceased  $PO_2$
  
10. In bends disease the gas responsible for the pathological effects is,
  - A.  $O_2$
  - B.  $CO_2$
  - C. Helium
  - D. Nitrogen
  
11. The chemical responsible for causing more pain following a tissue damage is,
  - A. Opioids
  - B. Ischaemia
  - C. Bradykinin
  - D. Substance P
  
12. Parkinson's disease is characterised by the following triad,
  - A. Hypokinesia, rigidity, tremors
  - B. Rigidity , tremors, nystagmus
  - C. Flaccidity, intentional tremors , ataxia
  - D. Rigidity, hypokinesia , dysarthria
  
13. Hunger centre is ,
  - A. Ventro-medial nucleus of thalamus
  - B. Lateral hypothalamic nucleus
  - C. Anterior hypothalamic nucleus
  - D. posterior hypothalamic nucleus

14. If the patient survives stage of spinal shock, the following activity is regained first,
- A. Skeletal muscle activity
  - B. Smooth muscle activity
  - C. Sympathetic tone
  - D. Reflex activity
15. CSF pressure is
- A. 120-180 mm of water
  - B. 120-180 mm of Hg
  - C. 80-100 mm of water
  - D. 80-100 mm of Hg
16. All of the following are features of LMN lesion except,
- A. Flaccid paralysis
  - B. Exaggerated deep reflexes
  - C. Babinski's sign negative
  - D. Muscle wasting
17. Refractive index of cornea is,
- A. 1.37
  - B. 1.33
  - C. 1.42
  - D. 1.39
18. Helicotrema is a communication between,
- A. Cochlea and semi-circular canal
  - B. Vestibule and semi-circular canal
  - C. Scala vestibuli and scala tympani
  - D. Scala media and cochlea
19. The Refractive error which occurs in elderly people is
- A. Myopia.
  - B. Astigmatism.
  - C. Hypermetropia.
  - D. Presbyopia.
20. The receptors for hearing is
- A. Ear ossicles.
  - B. Saccule .
  - C. Utricle.
  - D. Haircells in cochlea.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MBBS 0522]

MAY 2022

Sub.Code : 6054

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2019-2020)

FIRST YEAR – SUPPLEMENTARY (CBME)

PAPER II – PHYSIOLOGY

MULTIPLE CHOICE QUESTIONS

*Q.P. Code: 526054*

Time: 30 Minutes

Maximum : 20 Marks

Answer All Questions

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III. Multiple Choice Questions:

(20 x 1 = 20)

1. Bradycardia caused by all except
  - A. Inspiration
  - B. Nor epinephrine
  - C. Increased intracranial pressure
  - D. Grief
2. All of the following compounds act as vasoconstrictor except
  - A. Angiotensin II
  - B. Thromboxane A<sub>2</sub>
  - C. Prostacyclin
  - D. Endothelin
3. Total cross sectional area is greater in
  - A. Artery
  - B. Arteriole
  - C. Capillaries
  - D. Venules
4. Ventilation perfusion ratio is
  - A. Low at the apex and high at the base
  - B. Low at both apex and base
  - C. High at apex and low at base
  - D. High at both apex and base
5. The normal pleural pressure at the beginning of inspiration is
  - A. 5 cms of H<sub>2</sub>O
  - B. 1 cms of H<sub>2</sub>O
  - C. -5 cms of H<sub>2</sub>O
  - D. -10 cms of H<sub>2</sub>O

6. J receptors was discovered by
- A. Claude Bernard
  - B. Galen
  - C. Singer & Nicolson
  - D. A.S.Paintal
7. All of the following relay in thalamus except
- A. Pain
  - B. Temperature
  - C. Olfaction
  - D. Taste
8. Neurotransmitter responsible for pre synaptic inhibition is
- A. Glycine
  - B. Glutamic acid
  - C. Serotonin
  - D. GABA
9. Which part of the brain principally stores memory
- A. Amygdala
  - B. Hippocampus
  - C. Neocortex
  - D. Uncus
10. Hypothalamus regulates all except
- A. Food intake
  - B. Motor activity
  - C. Circadian Rhythm
  - D. Hypophysiscerebri
11. The low intensity light during night is detected by
- A. Cones
  - B. Rods
  - C. Both cones and rods
  - D. Crystalline lens
12. Which part of the eye is responsible for control of the amount of light entering the eye
- A. Lens
  - B. Iris
  - C. Ciliary muscle
  - D. All of the above
13. The part of the ear where sound is transduced is
- A. Outer ear
  - B. Tympanic membrane
  - C. Semicircular canals
  - D. Cochlea

14. The part of the eye which transduces blue, green and red light is
- Cornea
  - Fovea
  - Periphery of retina
  - Optic nerve
15. All are causes of obstructive shock except
- Cardiac tamponade
  - Pulmonary embolism
  - Tension Pneumothorax
  - Myocardial infarction
16. Caisson's disease is due to:
- Increased arterial  $PO_2$
  - Increased arterial  $PCO_2$
  - Increased arterial  $PN_2$
  - All of the above
17. In athletes bradycardia is because of
- Increased sympathetic tone
  - Increased vagal tone
  - Decreased cardiac output
  - Low venous return
18. Prominent U-Waves may be seen with:
- Hyperkalemia
  - Hypokalemia
  - Hyponatremia
  - Hypernatremia
19. All are monosynaptic reflexes except:
- Knee reflex
  - Biceps reflex
  - Ankle reflex
  - Abdominal reflex
20. Sympathetic postganglionic fibres to sweat glands and piloerector muscle secrete:
- Epinephrine
  - Norepinephrine
  - Acetylcholine
  - Serotonin

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[MBBS 0522]

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MBBS 0123]

JANUARY 2023

Sub. Code : 6054

M.B.B.S. DEGREE EXAMINATION  
(For the candidates admitted from the Academic Year 2019-2020)

FIRST YEAR – (CBME)

PAPER II – PHYSIOLOGY

*Q.P. Code: 526054*

Time: 30 Minutes

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Answer All Questions

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III. Multiple Choice Questions:

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- Heart rate in atrial flutter is about  
A) 95 – 150 beats    B) 100 – 175 beats    C) 200 – 350 beats    D) >350 beats
- “Last ditch stand” pressure control mechanism is by  
A) Baroreceptor reflex    B) Chemoreceptor reflex  
C) CNS ischemic response    D) Atrial reflex
- Frank – Starling’s law implies  
A) Increase in venous return increases cardiac output  
B) Increased vagal discharge increases cardiac output  
C) Increased heart rate causes increased cardiac output  
D) Increased blood pressure increased cardiac output
- “Machinery murmur” is heard in  
A) Tetralogy of Fallot    B) Patent ductus arteriosus  
C) Ventricular septal defect    D) Atrial septal defect
- Transit time from arteriolar to the venular end of an average-sized capillary is  
A) 6-8 seconds    B) 10-15 seconds    C) 1-2 seconds    D) 3-4 seconds
- Measurement of lung volumes with a body plethysmograph uses  
A) Dalton’s law    B) Henry’s law    C) Boyle’s law    D) Graham’s law
- In healthy individuals, Physiological dead space is  
A) Double than that of anatomical dead space  
B) Equal to anatomical dead space  
C) Less than that of anatomical dead space  
D) Triple than that of anatomical dead space
- Hering Breuer inflation reflex gets activated when the tidal volume is  
A) > 500 ml    B) > 1000 ml    C) > 1500 ml    D) > 1200 ml

9. Primary stimulus for the excitation of the chemosensitive neurons  
A)  $H^+$                       B)  $CO_2$                       C)  $O_2$                       D)  $HCO_3^-$
10. When a person is using exclusively fats for metabolic energy, the Respiratory exchange ratio (R) will be  
A) 1.5                      B) 0.7                      C) 0.4                      D) 0.8
11. The synapse in cerebral and cerebellar cortex is located commonly in the \_\_\_\_\_.  
A) Axon hillock                      B) Dendritic spines                      C) Axon                      D) Soma
12. Jendrassik's maneuver facilitates knee jerk due to increased \_\_\_\_\_ discharge.  
A)  $\alpha$  motor neuron    B)  $\beta$  motor neuron    C)  $\gamma$  motor neuron    D)  $\delta$  motor neuron
13. Annulospiral endings are  
A) Group Ia fibres                      B) Group II fibres  
C) Dynamic Gamma fibres                      D) Static gamma fibres
14. Which of the nucleus plays a major role in cognitive control of motor activity?  
A) Putamen                      B) Caudate                      C) Substantia nigra                      D) Subthalamus
15. Thalamus contains inhibitory neurons in  
A) Midline nucleus                      B) Intralaminar nucleus  
C) Thalamic reticular nucleus                      D) Ventroposterolateral nucleus
16. Mossy fibres in cerebellum make direct synaptic connection with  
A) Granule cells                      B) Purkinje cells                      C) Stellate cells                      D) Basket cells
17. Normal CSF pressure when a person is lying in horizontal position averages  
A) 100 mm of  $H_2O$     B) 90 mm of  $H_2O$     C) 130 mm of  $H_2O$     D) 200 mm of  $H_2O$
18. Lesion in optic chiasma causes  
A) Binasal hemianopia                      B) Bitemporal hemianopia  
C) Contralateral homonymous hemianopia    D) Ipsilateral complete blindness
19. Vitamin A is stored in \_\_\_\_\_ of retina  
A) Ganglion cell layer                      B) Pigment epithelial layer  
C) Outer nuclear layer                      D) Inner nuclear layer
20. The central fovea contains more of  
A) Cones                      B) Rods                      C) Both rods and cones    D) Ganglion cells.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MBBS 0323]

MARCH 2023

Sub. Code : 6054

M.B.B.S. DEGREE EXAMINATION  
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**III. Multiple Choice Questions: (20 x 1 = 20)**

1. Hypoxia produces vasoconstriction in the  
A) Muscles                      B) Liver                      C) Lungs                      D) Spleen
2. Which of the following type of breathing occurs in diabetic ketoacidosis?  
A) Apneustic breathing                      B) Biot's breathing  
C) Kussmaul's breathing                      D) Cheyne – Stokes breathing
3. Breathing reserve is equal to  
A) Tidal volume X respiratory rate  
B) Maximum breathing capacity – Respiratory minute volume  
C) Maximum breathing capacity – Dead space  
D) Respiratory minute volume – Tidal volume
4. Carbon dioxide is mainly transported as  
A) Dissolved form                      B) Bicarbonate form  
C) Carbaminohemoglobin                      D) Carbaminoprotein
5. The volume of air that remains in the lungs at the end of maximum expiration is called as  
A) Functional residual capacity                      B) Vital capacity  
C) Residual volume                      D) Tidal volume
6. Which of the following is a vasodilator?  
A) Endothelin                      B) Norepinephrine                      C) Vasopressin                      D) Bradykinin
7. Windkessel effect is seen in  
A) Aorta                      B) Inferior vena cava                      C) Capillaries                      D) Lymphatics
8. Which one of the followings is the most powerful cardioaccelerator and vasoconstrictor?  
A) Baroreceptor reflex                      B) Chemoreceptor reflex  
C) Bain bridge reflex                      D) CNS ischemic response
9. The blood pressure below which the vessels collapse and blood flow ceases is  
A) Critical closing pressure                      B) Mean circulatory filling pressure  
C) Mean systemic filling pressure                      D) Mean arterial pressure

10. Delay in impulse conduction in the heart occurs at  
A) SA node                      B) AV node      C) Bundle of His      D) Purkinji fibres
11. Nociceptive stimuli are detected by  
A) Pacinian corpuscle    B) Merkel's disc    C) Free nerve ending    D) Ruffini end organ
12. Posterior column carries all sensations except  
A) Vibration              B) Fine touch      C) Itch and tickle      D) Position sense
13. Which of the following occurs after parasympathetic stimulation?  
A) Dilation of bronchi                      B) Contraction of detrusor  
C) Dilation of pupil                      D) Ejaculation
14. Which of the following is negative memory?  
A) Habituation      B) Sensitization    C) Consolidation    D) Long term potentiation
15. Planning of sequential movements occurs at  
A) Vestibulocerebellum                      B) Spinocerebellum  
C) Cerebrocerebellum                      D) Flocculonodular lobe
16. The 'positive' apnea test indicates  
A) Breath holding    B) Brain death    C) Deglutition apnea    D) Obstructive sleep apnea
17. Artificial hypothermia is induced in  
A) Heat stroke              B) Heart surgeries              C) Frostbite              D) Fever
18. When light falls on rods, the rods undergo  
A) Depolarization    B) Hyperpolarisation    C) Repolarisation    D) Spike potential
19. In which nucleus of thalamus, taste fibers relay?  
A) Ventral posterolateral nucleus    B) Anterior nucleus  
C) Midline intra laminar nucleus    D) Ventral posteromedial nucleus
20. Thermostatic body temperature control center is located in the  
A) Preoptic area of hypothalamus                      B) Lateral hypothalamus  
C) Organum vasculosum of lamina terminalis                      D) Ventromedial nucleus.

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[MBBS 0323]

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MBBS 1123]

NOVEMBER 2023

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- Prepotential is due to:  
A) Voltage gated sodium channels  
B) Delayed closure of potassium channels  
C) Long lasting calcium channels  
D) None of the above
- \_\_\_\_\_ acts as a primer pump.  
A) Atria  
B) Ventricles  
C) Bundle of His  
D) Purkinje fibers
- Cardiotachometer is an instrument used to diagnose  
A) Sinoatrial block  
B) Sinus arrhythmia  
C) Premature ventricular contraction  
D) Premature atrial contraction
- The phenomenon of “Overdrive suppression” is seen in  
A) Stokes Adam’s syndrome  
B) Wolf Parkinson White syndrome  
C) William’s syndrome  
D) Noonan syndrome
- Significance of Reynolds number (Re) is to  
A) Regulate BP  
B) Regulate speed of blood flow  
C) Determine turbulence in blood flow  
D) Regulate respiration
- In cystic fibrosis, Repeated Pulmonary infections occurs due to  
A) Streptococcus pneumonia  
B) Escherchia Coli  
C) Pseudomonas aeruginosa  
D) Klebsiella pneumonia
- Factors that shift the Oxygen Dissociation Curve to Right  
A) Decreased CO<sub>2</sub>  
B) Decreased temperature  
C) Increased 2,3 BPG  
D) Decreased hydrogen ion
- Biot’s breathing occurs due to  
A) Lesion in Medulla oblongata  
B) Severe cardiac failure  
C) Diabetic Ketoacidosis  
D) Lesion in Pons

9. Cyanide poisoning causes death due to  
A) Respiratory depression                      B) Brainstem depression  
C) Destruction of cytochrome oxidase        D) Circulatory collapse
10. Dyspnea occurs at rest, when Dyspnoeic Index is reduced to  
A) < 80%                      B) <90%                      C) <60%                      D) <70%
11. Type of fibre responsible for carrying motor signals to muscle spindle  
A) A $\alpha$                       B) A $\beta$                       C) A $\gamma$                       D) A $\delta$
12. Types of muscarinic cholinergic receptors present in CNS are  
A) M<sub>1</sub>, M<sub>4</sub>, M<sub>5</sub> receptors                      B) M<sub>2</sub>, M<sub>4</sub>, M<sub>5</sub> receptors  
C) M<sub>3</sub>, M<sub>4</sub>, M<sub>5</sub> receptors                      D) M<sub>1</sub>, M<sub>2</sub>, M<sub>4</sub> receptors
13. A receptor that never fully adapts is  
A) Pacinian corpuscle                      B) Meissner corpuscle  
C) Ruffini corpuscles                      D) Baroreceptors
14. Corticospinal and corticobulbar tract neurons are located in \_\_\_\_\_ of cerebral cortex  
A) Layer III                      B) Layer IV                      C) Layer V                      D) Layer I
15. Herpes virus infects \_\_\_\_\_.  
A) Dorsal root ganglion                      B) Otic ganglion  
C) Pterygopalatine ganglion                      D) Ciliary ganglion
16. The rate of impulses generated from the vestibular hair cells in resting condition is  
A) 200/sec                      B) 100/sec                      C) 300/sec                      D) 400/sec
17. Higher intellectual functions are linked to  
A) Limbic system                      B) Parietal lobe                      C) Prefrontal cortex                      D) Motor cortex
18. Distorted sense of smell is called as  
A) Apraxia                      B) Anosmia                      C) Parosmia                      D) Ageusia
19. Other name for Reissner Membrane  
A) Basilar membrane                      B) Vestibular membrane  
C) Tympanic membrane                      D) Tectorial membrane
20. Loss of accommodation in old age is called  
A) Myopia                      B) Cataract                      C) Emmetropia                      D) Presbyopia.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MBBS 0124]

JANUARY 2024

Sub. Code : 6054

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2019-2020)

FIRST YEAR – SUPPLEMENTARY (CBME)

PAPER II – PHYSIOLOGY

*Q.P. Code: 526054*

**Time: 30 Minutes**

**Maximum : 20 Marks**

**Answer All Questions**

**Choose one correct answer in the box provided in the Answer Script. No overwriting should be done. Choice should be given in Capital Letters.**

**III. Multiple Choice Questions:**

**(20 x 1 = 20)**

1. Wave that is seen in old recovered Myocardial Infarction is
  - A) Prominent Q wave
  - B) Prominent T wave
  - C) Prominent P wave
  - D) Prominent R wave
  
2. Which is called “pressure buffer system”
  - A) Baroreceptor system
  - B) Chemoreceptor system
  - C) Both a and b
  - D) None of the above
  
3. 80% of the total colloid osmotic pressure of plasma results from \_\_\_\_\_
  - A) Fibrinogen
  - B) Albumin
  - C) Globulin
  - D) Prothrombin
  
4. Most common site of myocardial infarction is \_\_\_\_\_
  - A) Subendocardial portion of left ventricle
  - B) Subendocardial portion of right ventricle
  - C) Interventricular septum
  - D) Right atrium
  
5. Sympathomimetic drugs have not proved to be beneficial in
  - A) Neurogenic shock
  - B) Haemorrhagic shock
  - C) Anaphylactic shock
  - D) None of the above
  
6. Functional residual capacity is
  - A) Volume remaining after forced expiration
  - B) Tidal volume + volume inspired forcefully
  - C) Volume remaining after normal respiration
  - D) Tidal volume + volume expired by forced expiration
  
7. Airway resistance
  - A) is increased if the lungs are removed and inflated with saline
  - B) does not affect the work of breathing
  - C) is increased in paraplegic patients
  - D) is increased following bronchial smooth muscle contraction

8. Which of the following has the greatest effect on the ability of blood to transport oxygen?  
A) Capacity of the blood to dissolve oxygen      B) Amount of hemoglobin in the blood  
C) Temperature of the blood      D) pH of plasma
9. Variations in which of the following components do not affect respiration?  
A) Arterial HCO<sub>3</sub><sup>-</sup> concentration      B) Arterial H<sup>+</sup> concentration  
C) Arterial Na<sup>+</sup> concentration      D) CSF H<sup>+</sup> concentration
10. Which serves as Progenitor cells after injury in lungs?  
A) Type 1 alveolar cells      B) Clara cells (club cells)  
C) Type 2 alveolar cells      D) Lamellar bodies
11. Botulinum toxin A and E act on \_\_\_\_\_ docking protein  
A) Syntaxin      B) SNAP – 25      C) Synaptobrevin      D) α-SNAP
12. Brown-Séquard syndrome occurs due to  
A) Complete transection of spinal cord      B) Injury to the brainstem  
C) Hemi section of spinal cord      D) Transection between pons and medulla
13. Which substance activates adrenergic alpha and beta receptors equally?  
A) Acetylcholine      B) Norepinephrine      C) Epinephrine      D) Serotonin
14. Bilateral removal of hippocampus will lead to  
A) Anterograde amnesia      B) Retrograde amnesia      C) Placidity      D) Tameness
15. Appearance of sleep spindles in EEG represents  
A) REM sleep      B) Stage I sleep      C) Stage II sleep      D) Stage III sleep
16. Final common pathway is exhibited by  
A) Gamma motor neuron      B) Gamma loop  
C) Alpha motor neuron      D) Alpha – Gamma coactivation
17. Area essential for initial processing of visual language  
A) Broca's area      B) Wernicke's area      C) Arcuate fasciculus      D) Angular gyrus
18. Endolymph is present in  
A) Scala media      B) Scala vestibule      C) Scala tympani      D) Oval window
19. Taste threshold is lowest in which of the following substances  
A) Bitter      B) Salt      C) Sour      D) Sweet
20. Colour blobs are present in  
A) Parietal cortex      B) Frontal cortex      C) Visual cortex      D) Auditory cortex

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M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2020 -2021 Onwards)

FIRST YEAR – (CBME)

PAPER II – PHYSIOLOGY

*Q.P. Code: 526054*

Time: 20 Minutes

Maximum : 20 Marks

Answer All Questions

Choose one correct answer in the box provided in the Answer Script.  
No overwriting should be done. Choice should be given in Capital Letters.

III. Multiple Choice Questions:

(20 x 1 = 20)

- Which of the following formulae gives mean arterial pressure?  
A) Systolic pressure – Diastolic pressure  
B) Diastolic pressure + (Pulse pressure/3)  
C) (Systolic pressure + Diastolic pressure) / 2  
D) Diastolic pressure + Pulse pressure
- Starling's law gives the relationship between  
A) Stroke volume and End-diastolic volume  
B) Stroke volume and End-systolic volume  
C) End-systolic volume and Blood pressure  
D) End-diastolic volume and Blood pressure
- Which of the following statements is **TRUE** about total peripheral resistance?  
A) It is high in pregnant women because of placenta  
B) It is due to large arteries  
C) It is low in septic shock  
D) Baroreceptor stimulation increases it
- Which of the following phenomena is responsible for the ST segment of ECG?  
A) Spread of atrial depolarization  
B) Plateau phase of ventricular action potentials  
C) Spread of ventricular depolarization  
D) Atrioventricular nodal delay
- The Windkessel effect of aorta leads to  
A) Lower pulse pressure  
B) Higher systolic pressure  
C) Lower diastolic pressure  
D) Higher mean arterial pressure
- Sub-atmospheric intrapleural pressure is due to  
A) Negative intra-alveolar pressure  
B) Uniform distribution of surfactant over alveoli  
C) Presence of cartilage in upper airways  
D) Opposite recoil of lung and chest wall
- Alveolar ventilation per minute for a person with tidal volume of 500 ml, dead space volume of 150 ml and respiratory rate of 10 breaths per minute is  
A) 1500 ml  
B) 3500 ml  
C) 5000 ml  
D) 6500 ml

8. In the lung, the ventilation-perfusion ratio is
  - A) Low at the apex and high at the base
  - B) Low at both apex and base
  - C) High at apex and low at base
  - D) High at both apex and base
  
9. Oxygen therapy is most useful in
  - A) Histotoxic hypoxia
  - B) Stagnant hypoxia
  - C) Anaemic hypoxia
  - D) Hypoxic hypoxia
  
10. In a patient with decompression sickness, the joint pain is due to the blocking of blood vessels by
  - A) Oxygen
  - B) Carbon dioxide
  - C) Nitrogen
  - D) Helium
  
11. The fastest-conducting nerve fibers in the human body are
  - A) A-alpha fibers
  - B) A-beta fibers
  - C) A-gamma fibers
  - D) A-delta fibers
  
12. Which of the following is **TRUE** regarding graded potential?
  - A) It is an all-or-none phenomenon
  - B) Conduction is non-decremental
  - C) It can be summated
  - D) It is larger in amplitude than an action potential
  
13. The sense of pain and temperature is carried by which tract?
  - A) Lateral spinothalamic tract
  - B) Dorsal spinocerebellar tract
  - C) Dorsal column pathway
  - D) Anterior spinocerebellar tract
  
14. The receptor for the inverse stretch reflex is
  - A) The muscle spindle
  - B) The Golgi tendon organ
  - C) The Pacinian corpuscle
  - D) Ruffini's end organs
  
15. Which of the following is a feature of a lower motor neuron lesion?
  - A) Extensor plantar reflex
  - B) Increased muscle tone
  - C) Increased stretch reflexes
  - D) Fasciculation of muscle
  
16. Damage to the Wernicke's Area will cause
  - A) Dysgeusia
  - B) Bitemporal hemianopia
  - C) Sensorineural hearing loss
  - D) Fluent aphasia
  
17. Which of the following is involved in converting short-term memories to long-term memory?
  - A) Hippocampus
  - B) Amygdala
  - C) Corpus callosum
  - D) Frontal cortex
  
18. Examination of a patient showed pupillary constriction, drooping of the eyelid, and sinking of the eyeball on one side of the face (enophthalmos). There was also vasodilation of blood vessels (flushing) on the affected side with a lack of sweating. What is the probable cause for these findings?
  - A) Myasthenia gravis
  - B) Lambert-Eaton syndrome
  - C) Horner's syndrome
  - D) Amyotrophic lateral sclerosis
  
19. A 25-year-old man develops head injury and fracture of the cribriform plate following a motorcycle accident. Which cranial nerve is most likely to be injured in this patient?
  - A) Cranial nerve IV
  - B) Cranial nerve III
  - C) Cranial nerve II
  - D) Cranial nerve I
  
20. A 25-year-old woman comes to the hospital complaining of sudden impairment of taste sensation. Examination of taste revealed loss of taste sensation from the anterior 2/3<sup>rd</sup> of the tongue. Which cranial nerve is likely involved?
  - A) Trigeminal nerve
  - B) Facial nerve
  - C) Glossopharyngeal nerve
  - D) Vagus nerve

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MBBS 0924]

SEPTEMBER 2024

Sub. Code : 6054

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2020 -2021 Onwards)

FIRST PROFESSIONAL – (CBME) - SUPPLEMENTARY  
PAPER II – PHYSIOLOGY

*Q.P. Code: 526054*

Time: 20 Minutes

Maximum : 20 Marks

Answer All Questions

Choose one correct answer in the box provided in the Answer Script.  
No overwriting should be done. Choice should be given in Capital Letters.

III. Multiple Choice Questions:

(20 x 1 = 20)

1. Sinus bradycardia occurs in  
A) Cardiac failure      B) Thyrotoxicosis      C) Fever      D) Myxedema
2. In Mobitz type I block  
A) PR interval is shortened  
B) Ventricular beat occurs in every 2 or 3 atrial beats  
C) Progressive prolongation of PR interval, until the next beat is dropped  
D) Also called as complete heart block
3. The plateau of cardiac muscle action potential is due to  
A) Slow influx of sodium ions      B) Slow influx of calcium ions  
C) Slow efflux of sodium ions      D) Slow efflux of calcium ions
4. If cardiac output is 5L/min and body surface area is 1.5 m<sup>2</sup>, cardiac index is equal to  
A) 3.3 L/min/ m<sup>2</sup>      B) 4.3 L/min/ m<sup>2</sup>      C) 2.5 L/min/ m<sup>2</sup>      D) 5.3 L/min/ m<sup>2</sup>
5. Which scientific principle is the basis for indicator dilution method used in measuring cardiac output?  
A) Hagen Poiseuille principle      B) Stewart- Hamilton Principle  
C) Bernoulli's principle      D) Universal gas equation
6. Affinity of O<sub>2</sub> for hemoglobin decrease with fall in pH. This is called  
A) Bohr effect      B) Haldane effect      C) Hamburger effect      D) Herring effect
7. Compliance of lung increases in all of the following EXCEPT  
A) Fibrosis of lung      B) Emphysema      C) Bronchial asthma      D) Premature infants
8. Arterial pO<sub>2</sub> is reduced in  
A) Anemia      B) Cyanide poisoning  
C) Pulmonary hypoventilation      D) Carbon monoxide poisoning
9. Surfactant is produced by  
A) Type I Pneumocytes      B) Type II Pneumocytes  
C) Macrophages      D) Endothelial cells

10. Effect on respiration, if transection is made below medulla:  
A) Apnea    B) No effect    C) Irregular respiration    D) Slow and deep respiration
11. Reticulospinal tract regulates posture through  
A) Stimulation of extensor group of muscles  
B) Inhibition of extensor group of muscles  
C) Stimulation of flexor group of muscles  
D) Inhibition of flexor group of muscles
12. In paraplegic patient, certain degree of bladder control is achieved by  
A) Flexor reflex    B) Mass reflex    C) Phillipson's reflex    D) Crossed extensor reflex
13. The regular alpha rhythm replaced by irregular low voltage activity is called  
A) Alpha block    B) Delta rhythm    C) Sleep spindles    D) K complex
14. Loss of ability to communicate through writing is called  
A) Alexia    B) Agraphia    C) Dyslexia    D) Word blindness
15. Role of cerebellum in maintaining muscle tone:  
A) Discharges inhibitory impulses to spinal motor neuron  
B) Receives impulses from cerebral cortex and inhibits bulboreticular inhibitory area  
C) Acts as a site of alpha gamma linkage  
D) Maintains tonic discharge from gamma motor neurons
16. How tympanic reflex protects the inner ear from loud noise?  
A) Reduces the vibration transmitted to the inner ear through ossicles  
B) Increases the vibration transmitted to the inner ear through ossicles  
C) Keeps the articulation sites loose  
D) Relaxes the tensor tympani and stapedius muscle
17. Contralateral homonymous hemianopia is observed in the lesion of  
A) Optic nerve    B) Optic chiasma    C) Optic tract    D) Occipital lobe
18. The test which assesses the compliance of ear drum to changing pressure in the external air canal is  
A) Pure tone audiometry    B) Tympanometry  
C) Tuning fork tests    D) Auditory evoked potential
19. All of the following includes the optical factors that determine the visual acuity EXCEPT  
A) Curvature of the cornea    B) Curvature of the lens  
C) Color of the object    D) Condition of the ciliary muscle and lens ligaments
20. Crossed extensor reflex is a  
A) Withdrawal reflex    B) Postural reflex    C) Monosynaptic reflex    D) Sympathetic reflex

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[MBBS 0924]

**M.B.B.S. DEGREE EXAMINATION**

(For the candidates admitted from the Academic Year 2021 – 2022 to 2023 – 2024)

**FIRST PROFESSIONAL – (CBME)**

**PAPER II – PHYSIOLOGY**

*Q.P. Code: 526054*

**Time: 20 Minutes**

**Maximum : 20 Marks**

**Answer All Questions**

**Shade the correct answer with Black or Blue ink ball point pen**

**SET - A**

**III. Multiple Choice Questions:**

**(20 x 1 = 20)**

1. Which of the following component of the cardiac tissue having the highest propagation velocity?  
A) AV node      B) Atrial muscle      C) Purkinje fibers      D) Ventricular muscle
2. Windkessel effect refers to?  
A) Variations of resistance to blood flow by different organs of the body  
B) Elastic recoil in the aorta and the large elastic arteries during diastole  
C) Easy exchange of gases across the vessel wall  
D) Change in the capacity of the vascular system
3. Cardiac index is the ratio of?  
A) Cardiac output to body weight      B) Cardiac output to body surface area  
C) Cardiac output to work of heart      D) Stroke volume to body surface area
4. Isovolumetric relaxation phase of cardiac cycle ends with  
A) Peak of C wave      B) Opening of AV valve  
C) Closure of semilunar valve      D) Beginning of T wave
5. Heterometric regulation of cardiac output is  
A) Not dependent on the resting length of cardiac muscle fibre  
B) Dependent on parasympathetic innervation of the heart  
C) Dependent on sympathetic innervation of the heart  
D) Dependent on Frank-Starling law of the heart
6. Expiration is aided by  
A) External intercostal muscles      B) Internal intercostal muscles  
C) Sternocleidomastoid muscles      D) Scaleni
7. Compliance of the lung is decreased in  
A) Fibrosis of lung      B) Bronchial asthma      C) Emphysema      D) Premature infants
8. Oxygen therapy is of no use in  
A) Anemic hypoxia      B) Hypoxic hypoxia  
C) Histotoxic hypoxia      D) Stagnant hypoxia
9. Loading of blood with oxygen causes unloading of carbon dioxide. This is called  
A) Bohr's effect      B) Haldane's effect  
C) Hamburger's phenomenon      D) Hering-Breuer reflex

10. Ondine's curse is due to  
A) Loss of both automatic breathing and voluntary breathing  
B) With automatic breathing and voluntary breathing  
C) Loss of automatic breathing but retained voluntary breathing  
D) With automatic breathing but loss of voluntary breathing
11. Refraction mainly occurs at the  
A) Anterior surface of cornea  
B) Aqueous humor  
C) Lens  
D) Vitreous humor
12. Olfactory receptor cells are  
A) Pseudo-unipolar neuron  
B) Modified epithelial cells  
C) Bipolar neurons  
D) Multipolar neurons
13. The auditory pathway passes via all EXCEPT  
A) Cochlear nuclei  
B) Superior olivary nucleus  
C) Trapezoid body  
D) Superior colliculus
14. A 48-year-old male complains of intense pain in the absent limb which was operated two years back. What type of pain do you suspect in this patient?  
A) Radiating pain    B) Phantom limb pain    C) Somatic pain    D) Visceral pain
15. Pontogeniculo-occipital (PGO) spikes is seen in  
A) REM sleep  
B) Stage 2 NREM sleep  
C) Stage 4 NREM sleep  
D) Stage 1 NREM sleep
16. Sensory Aphasia is due to lesion in  
A) Broca's area    B) Angular gyrus    C) Wernicke's area    D) Auditory area
17. Blood brain barrier is present at all of the following sites EXCEPT  
A) Cerebellum    B) Pontine nucleus    C) Anterior pituitary    D) Posterior pituitary
18. Static response is the response to the  
A) Muscle stretch slowly  
B) Rate at which the muscle is being stretched  
C) Sustain stretch  
D) Velocity of lengthening
19. A 70-year-old man comes to the OP with masklike face, tremor at rest, with monotonous speech and festinant gait. On examination muscle exhibited rigidity. Which part of the nervous system is affected?  
A) Cerebellum    B) Basal ganglia    C) Thalamus    D) Hypothalamus
20. In retrograde amnesia  
A) Recent and remote memory is lost  
B) Recent memory is preserved, remote memory is lost  
C) Remote memory is preserved, recent memory is lost  
D) Both recent and remote memory is preserved

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**M.B.B.S. DEGREE EXAMINATION**

(For the candidates admitted from the Academic Year 2021 – 2022 to 2023 – 2024)

**FIRST PROFESSIONAL – (CBME)**

**PAPER II – PHYSIOLOGY**

*Q.P. Code: 526054*

**Time: 20 Minutes**

**Maximum : 20 Marks**

**Answer All Questions**

**Shade the correct answer with Black or Blue ink ball point pen**

**SET - B**

**III. Multiple Choice Questions:**

**(20 x 1 = 20)**

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  - A) Bohr's effect
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  - C) Hamburger's phenomenon
  - D) Hering-Breuer reflex
7. Ondine's curse is due to
  - A) Loss of both automatic breathing and voluntary breathing
  - B) With automatic breathing and voluntary breathing
  - C) Loss of automatic breathing but retained voluntary breathing
  - D) With automatic breathing but loss of voluntary breathing
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  - A) Anterior surface of cornea
  - B) Aqueous humor
  - C) Lens
  - D) Vitreous humor

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A) Pseudo-unipolar neuron                      B) Modified epithelial cells  
C) Bipolar neurons                                D) Multipolar neurons
10. The auditory pathway passes via all EXCEPT  
A) Cochlear nuclei                                B) Superior olivary nucleus  
C) Trapezoid body                                D) Superior colliculus
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B) Elastic recoil in the aorta and the large elastic arteries during diastole  
C) Easy exchange of gases across the vessel wall  
D) Change in the capacity of the vascular system
20. Cardiac index is the ratio of?  
A) Cardiac output to body weight                      B) Cardiac output to body surface area  
C) Cardiac output to work of heart                      D) Stroke volume to body surface area

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**THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY**

**[MBBS 0825]**

**AUGUST 2025**

**Sub. Code: 6054**

**M.B.B.S. DEGREE EXAMINATION**

**(For the candidates admitted from the Academic Year 2021 – 2022 to 2023 – 2024)**

**FIRST PROFESSIONAL – (CBME)**

**PAPER II – PHYSIOLOGY**

***Q.P. Code: 526054***

**Time: 20 Minutes**

**Maximum : 20 Marks**

**Answer All Questions**

**Shade the correct answer with Black or Blue ink ball point pen**

**SET - C**

**III. Multiple Choice Questions:**

**(20 x 1 = 20)**

1. Oxygen therapy is of no use in
  - A) Anemic hypoxia
  - B) Hypoxic hypoxia
  - C) Histotoxic hypoxia
  - D) Stagnant hypoxia
2. Loading of blood with oxygen causes unloading of carbon dioxide. This is called
  - A) Bohr's effect
  - B) Haldane's effect
  - C) Hamburger's phenomenon
  - D) Hering-Breuer reflex
3. Ondine's curse is due to
  - A) Loss of both automatic breathing and voluntary breathing
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  - C) Loss of automatic breathing but retained voluntary breathing
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  - B) Modified epithelial cells
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  - C) Somatic pain
  - D) Visceral pain
8. Pontogeniculo-occipital (PGO) spikes is seen in
  - A) REM sleep
  - B) Stage 2 NREM sleep
  - C) Stage 4 NREM sleep
  - D) Stage 1 NREM sleep
9. Sensory Aphasia is due to lesion in
  - A) Broca's area
  - B) Angular gyrus
  - C) Wernicke's area
  - D) Auditory area

10. Blood brain barrier is present at all of the following sites EXCEPT  
A) Cerebellum B) Pontine nucleus C) Anterior pituitary D) Posterior pituitary
11. Static response is the response to the  
A) Muscle stretch slowly B) Rate at which the muscle is being stretched  
C) Sustain stretch D) Velocity of lengthening
12. A 70-year-old man comes to the OP with masklike face, tremor at rest, with monotonous speech and festinant gait. On examination muscle exhibited rigidity. Which part of the nervous system is affected?  
A) Cerebellum B) Basal ganglia C) Thalamus D) Hypothalamus
13. In retrograde amnesia  
A) Recent and remote memory is lost  
B) Recent memory is preserved, remote memory is lost  
C) Remote memory is preserved, recent memory is lost  
D) Both recent and remote memory is preserved
14. Which of the following component of the cardiac tissue having the highest propagation velocity?  
A) AV node B) Atrial muscle C) Purkinje fibers D) Ventricular muscle
15. Windkessel effect refers to?  
A) Variations of resistance to blood flow by different organs of the body  
B) Elastic recoil in the aorta and the large elastic arteries during diastole  
C) Easy exchange of gases across the vessel wall  
D) Change in the capacity of the vascular system
16. Cardiac index is the ratio of?  
A) Cardiac output to body weight B) Cardiac output to body surface area  
C) Cardiac output to work of heart D) Stroke volume to body surface area
17. Isovolumetric relaxation phase of cardiac cycle ends with  
A) Peak of C wave B) Opening of AV valve  
C) Closure of semilunar valve D) Beginning of T wave
18. Heterometric regulation of cardiac output is  
A) Not dependent on the resting length of cardiac muscle fibre  
B) Dependent on parasympathetic innervation of the heart  
C) Dependent on sympathetic innervation of the heart  
D) Dependent on Frank-Starling law of the heart
19. Expiration is aided by  
A) External intercostal muscles B) Internal intercostal muscles  
C) Sternocleidomastoid muscles D) Scaleni
20. Compliance of the lung is decreased in  
A) Fibrosis of lung B) Bronchial asthma C) Emphysema D) Premature infants

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**THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY**

**[MBBS 0825]**

**AUGUST 2025**

**Sub. Code: 6054**

**M.B.B.S. DEGREE EXAMINATION**

**(For the candidates admitted from the Academic Year 2021 – 2022 to 2023 – 2024)**

**FIRST PROFESSIONAL – (CBME)**

**PAPER II – PHYSIOLOGY**

***Q.P. Code: 526054***

**Time: 20 Minutes**

**Maximum : 20 Marks**

**Answer All Questions**

**Shade the correct answer with Black or Blue ink ball point pen**

**SET - D**

**III. Multiple Choice Questions:**

**(20 x 1 = 20)**

1. Olfactory receptor cells are
  - A) Pseudo-unipolar neuron
  - B) Modified epithelial cells
  - C) Bipolar neurons
  - D) Multipolar neurons
2. The auditory pathway passes via all EXCEPT
  - A) Cochlear nuclei
  - B) Superior olivary nucleus
  - C) Trapezoid body
  - D) Superior colliculus
3. A 48-year-old male complains of intense pain in the absent limb which was operated two years back. What type of pain do you suspect in this patient?
  - A) Radiating pain
  - B) Phantom limb pain
  - C) Somatic pain
  - D) Visceral pain
4. Pontogeniculo-occipital (PGO) spikes is seen in
  - A) REM sleep
  - B) Stage 2 NREM sleep
  - C) Stage 4 NREM sleep
  - D) Stage 1 NREM sleep
5. Sensory Aphasia is due to lesion in
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  - D) Velocity of lengthening
8. A 70-year-old man comes to the OP with masklike face, tremor at rest, with monotonous speech and festinant gait. On examination muscle exhibited rigidity. Which part of the nervous system is affected?
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  - B) Basal ganglia
  - C) Thalamus
  - D) Hypothalamus
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  - A) Recent and remote memory is lost
  - B) Recent memory is preserved, remote memory is lost
  - C) Remote memory is preserved, recent memory is lost
  - D) Both recent and remote memory is preserved

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A) External intercostal muscles      B) Internal intercostal muscles  
C) Sternocleidomastoid muscles      D) Scaleni
16. Compliance of the lung is decreased in  
A) Fibrosis of lung      B) Bronchial asthma      C) Emphysema      D) Premature infants
17. Oxygen therapy is of no use in  
A) Anemic hypoxia      B) Hypoxic hypoxia  
C) Histotoxic hypoxia      D) Stagnant hypoxia
18. Loading of blood with oxygen causes unloading of carbon dioxide. This is called  
A) Bohr's effect      B) Haldane's effect  
C) Hamburger's phenomenon      D) Hering-Breuer reflex
19. Ondine's curse is due to  
A) Loss of both automatic breathing and voluntary breathing  
B) With automatic breathing and voluntary breathing  
C) Loss of automatic breathing but retained voluntary breathing  
D) With automatic breathing but loss of voluntary breathing
20. Refraction mainly occurs at the  
A) Anterior surface of cornea      B) Aqueous humor  
C) Lens      D) Vitreous humor

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M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2021 – 2022 to 2023 – 2024)

FIRST PROFESSIONAL – SUPPLEMENTARY (CBME)

PAPER II – PHYSIOLOGY

*Q.P. Code: 526054*

**Time: 20 Minutes**

**Maximum : 20 Marks**

**Answer All Questions**

**Shade the correct answer with Black or Blue ink ball point pen**

**SET - A**

**III. Multiple Choice Questions:**

**(20 x 1 = 20)**

1. Normal alveolar ventilation pressure on inspiration is  
A) - 1cm Hg                      B) – 1cm water                      C) + 1cm water                      D) + 1cm Hg
2. Einthoven law is  
A) Lead 1 + Lead III = Lead II                      B) Lead 1 + Lead II + Lead III = 0  
C) Lead 1 + Lead II = Lead III                      D) Lead 1 + Lead III = aVL
3. Posterior column carries all the following sensation except  
A) Vibration    B) Touch                      C) Temperature                      D) Position sense
4. Oxygen saturation of venous blood is Ketoacidosis  
A) 25%                      B) 50%                      C) 75%                      D) 100%
5. The processing of short-term memory to long term memory is done in  
A) Prefrontal cortex    B) Hippocampus    C) Neocortex                      D) Amygdala
6. Hering Breuer reflex activated when tidal volume is  
A) Normal                      B) 3 times normal                      C) 5 times normal                      D) Always
7. 'C' wave in JVP is due to  
A) Atrial contraction                      B) Bulging of A-V valve cusp into atria  
C) Atrial relaxation                      D) Passive filling of ventricle
8. 'Window' of limbic system is  
A) Hypothalamus                      B) Hippocampus                      C) Amygdala                      D) Thalamus
9. Heart rate increases with inspiration a phenomenon called  
A) Marey's law    B) Cushing's reflex    C) Sinus arrhythmia    D) Bainbridge reflex
10. Prosopagnosia is  
A) Inability to recognize faces                      B) Inability to recognize color  
C) Inability to recognize light                      D) Inability to recognize moving objects

11. Which part of brain is more resistant to hypoxia?  
A) Cerebral cortex    B) Brainstem    C) Basal ganglia    D) Thalamus
12. A condition in which certain fraction of venous blood passing through pulmonary capillaries does not become oxygenated  
A) Recruitment    B) Hydrostatic pressure  
C) Physiological dead space    D) Physiological shunt
13. The first reflex response to appear as spinal shock wears off in human is  
A) Tympanic reflex    B) Neck righting reflex  
C) Labyrinthine reflex    D) Withdrawal reflex
14. Air remaining in lung after normal expiration  
A) Tidal volume    B) Residual volume  
C) Functional Residual capacity    D) Vital capacity
15. All are effects of Positive 'G' except  
A) Black out    B) Grey out  
C) Decrease in cardiac output    D) Increase in cardiac output
16. Photoreceptors on exposure to dark releases  
A) Acetylcholine    B) Glutamate    C) Adrenaline    D) Noradrenaline
17. Causes of cardiogenic shock are all except  
A) Cardiac tamponade    B) Myocardial infarction  
C) Congestive cardiac failure    D) Arrhythmias
18. Oxygen therapy is least useful is  
A) Anemia    B) Acute Respiratory Distress syndrome  
C) Alveolar damage    D) Chronic obstructive pulmonary disease
19. Vibration sensation is mediated by  
A) Merkel's disc    B) Ruffini's nerve endings  
C) Pacinian corpuscle    D) Meissner's corpuscle
20. Nitrogen narcosis is caused due to  
A) Nitrogen inhibits dismutase enzyme  
B) Increased production of nitrous oxide  
C) Increased solubility of nitrogen in nerve cell membrane  
D) Decrease in oxygen free radicals

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**M.B.B.S. DEGREE EXAMINATION**

(For the candidates admitted from the Academic Year 2021 – 2022 to 2023 – 2024)

**FIRST PROFESSIONAL – SUPPLEMENTARY (CBME)**

**PAPER II – PHYSIOLOGY**

*Q.P. Code: 526054*

**Time: 20 Minutes**

**Maximum : 20 Marks**

**Answer All Questions**

**Shade the correct answer with Black or Blue ink ball point pen**

**SET - B**

**III. Multiple Choice Questions:**

**(20 x 1 = 20)**

1. Oxygen saturation of venous blood is Ketoacidosis  
A) 25%      B) 50%      C) 75%      D) 100%
2. The processing of short-term memory to long term memory is done in  
A) Prefrontal cortex      B) Hippocampus      C) Neocortex      D) Amygdala
3. Hering Breuer reflex activated when tidal volume is  
A) Normal      B) 3 times normal      C) 5 times normal      D) Always
4. 'C' wave in JVP is due to  
A) Atrial contraction      B) Bulging of A-V valve cusp into atria  
C) Atrial relaxation      D) Passive filling of ventricle
5. 'Window' of limbic system is  
A) Hypothalamus      B) Hippocampus      C) Amygdala      D) Thalamus
6. Heart rate increases with inspiration a phenomenon called  
A) Marey's law      B) Cushing's reflex      C) Sinus arrhythmia      D) Bainbridge reflex
7. Prosopagnosia is  
A) Inability to recognize faces      B) Inability to recognize color  
C) Inability to recognize light      D) Inability to recognize moving objects
8. Which part of brain is more resistant to hypoxia?  
A) Cerebral cortex      B) Brainstem      C) Basal ganglia      D) Thalamus
9. A condition in which certain fraction of venous blood passing through pulmonary capillaries does not become oxygenated  
A) Recruitment      B) Hydrostatic pressure  
C) Physiological dead space      D) Physiological shunt



**THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY**

**[MBBS 1025]**

**OCTOBER 2025**

**Sub. Code: 6054**

**M.B.B.S. DEGREE EXAMINATION**

**(For the candidates admitted from the Academic Year 2021 – 2022 to 2023 – 2024)**

**FIRST PROFESSIONAL – SUPPLEMENTARY (CBME)**

**PAPER II – PHYSIOLOGY**

***Q.P. Code: 526054***

**Time: 20 Minutes**

**Maximum : 20 Marks**

**Answer All Questions**

**Shade the correct answer with Black or Blue ink ball point pen**

**SET - C**

**III. Multiple Choice Questions:**

**(20 x 1 = 20)**

1. 'Window' of limbic system is  
A) Hypothalamus      B) Hippocampus      C) Amygdala      D) Thalamus
2. Heart rate increases with inspiration a phenomenon called  
A) Marey's law      B) Cushing's reflex      C) Sinus arrhythmia      D) Bainbridge reflex
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C) Functional Residual capacity      D) Vital capacity
8. All are effects of Positive 'G' except  
A) Black out      B) Grey out  
C) Decrease in cardiac output      D) Increase in cardiac output
9. Photoreceptors on exposure to dark releases  
A) Acetylcholine      B) Glutamate      C) Adrenaline      D) Noradrenaline

10. Causes of cardiogenic shock are all except  
A) Cardiac tamponade                      B) Myocardial infarction  
C) Congestive cardiac failure              D) Arrhythmias
11. Oxygen therapy is least useful in  
A) Anemia                                      B) Acute Respiratory Distress syndrome  
C) Alveolar damage                          D) Chronic obstructive pulmonary disease
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A) Merkel's disc                              B) Ruffini's nerve endings  
C) Pacinian corpuscle                        D) Meissner's corpuscle
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20. 'C' wave in JVP is due to  
A) Atrial contraction                      B) Bulging of A-V valve cusp into atria  
C) Atrial relaxation                        D) Passive filling of ventricle

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M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2021 – 2022 to 2023 – 2024)

FIRST PROFESSIONAL – SUPPLEMENTARY (CBME)

PAPER II – PHYSIOLOGY

*Q.P. Code: 526054*

**Time: 20 Minutes**

**Maximum : 20 Marks**

**Answer All Questions**

**Shade the correct answer with Black or Blue ink ball point pen**

**SET - D**

**III. Multiple Choice Questions:**

**(20 x 1 = 20)**

- Oxygen therapy is least useful is
  - Anemia
  - Acute Respiratory Distress syndrome
  - Alveolar damage
  - Chronic obstructive pulmonary disease
- Vibration sensation is mediated by
  - Merkel's disc
  - Ruffini's nerve endings
  - Pacinian corpuscle
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- Nitrogen narcosis is caused due to
  - Nitrogen inhibits dismutase enzyme
  - Increased production of nitrous oxide
  - Increased solubility of nitrogen in nerve cell membrane
  - Decrease in oxygen free radicals
- Normal alveolar ventilation pressure on inspiration is
  - 1cm Hg
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  - + 1cm water
  - + 1cm Hg
- Einthoven law is
  - Lead 1 + Lead III = Lead II
  - Lead 1 + Lead II + Lead III = 0
  - Lead 1 + Lead II = Lead III
  - Lead 1 + Lead III = Avl
- Posterior column carries all the following sensation except
  - Vibration
  - Touch
  - Temperature
  - Position sense
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  - 50%
  - 75%
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  - Always

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