

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

MULTIPLE CHOICE QUESTIONS

Q.P. Code: 526053

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 transport of proteins and polypeptides synthesized in soma of nerve cell to the axonal ending is called as
 - A) Retrograde Transport.
 - B) Axoplasmic flow.
 - C) Transcytosis.
 - D) Exocytosis
2. Low impedance electrical pathways through which electrical activity can be passed are called
 - A) Adherens Junctions.
 - B) Desmosomes.
 - C) Gap Junctions.
 - D) Tight Junctions.
3. Inability of the kidney to concentrate or dilute urine is called
 - A) Anuria.
 - B) Uremia.
 - C) Oliguria.
 - D) Isothenuria.
4. All are secreted by Sertoli cells EXCEPT
 - A) Androgen Binding Protein.
 - B) Inhibin.
 - C) Mullerian Inhibiting Substance.
 - D) Testosterone.
5. Full development and function of seminiferous tubules require
 - A) Somatostatin.
 - B) Oxytocin.
 - C) FSH.
 - D) Androgens and FSH

6. Secretions from the prostate gland are rich in
- A) Fructose.
 - B) Fibrinolysins.
 - C) Hyaluronidase.
 - D) Prostaglandins.
7. The inhibitor of glucagon secretion
- A) Amino acids.
 - B) Somatostatin.
 - C) Exercise.
 - D) Cortisol.
8. The enzyme primarily responsible for the conversion of T4 to T3 in the periphery is
- A) D1 Thyroid Deiodinase.
 - B) D3 Thyroid Deiodinase.
 - C) Thyroid peroxidase.
 - D) D2 Thyroid Deiodinase.
9. Inhibin inhibits
- A) FSH (Follicle Stimulating Hormone).
 - B) TSH (Thyroid Stimulating Hormone).
 - C) ACTH (Adrenocorticotrophic Hormone).
 - D) TRH (Thyroid Releasing Hormone).
10. Transection of pituitary stalk lead to rise in
- A) TSH.
 - B) GH.
 - C) Prolactin.
 - D) ACTH.
11. Which of the following is NOT True regarding Natural Killer cells?
- A) Destroys Virus.
 - B) Kills Tumor Cells.
 - C) Is a T Lymphocyte.
 - D) Secretes Cytokines.
12. Red blood cell membrane is maintained by
- A) Elastin.
 - B) Spectrin.
 - C) Laminin.
 - D) Collagen.
13. Which of the following clotting factor is NOT formed by Liver?
- A) II
 - B) VI
 - C) IX
 - D) X

14. The Anticoagulant that acts by facilitating the action of Antithrombin III is
- A) Heparin.
 - B) Warfarin.
 - C) Dicumarol.
 - D) Nicoumalone.
15. The Immunoglobulin that is abundant in plasma is
- A) IgG
 - B) IgA
 - C) IgM
 - D) IgE
16. The Hormone that causes secretion of pancreatic juice rich in HCO_3^- (Bicarbonate Ions) is
- A) Gastrin.
 - B) Cholecystokinin.
 - C) Secretin.
 - D) Motilin.
17. Acetylcholine acts on the Acinar cells via
- A) cAMP
 - B) cGMP
 - C) Ca
 - D) Phospholipase - C
18. The rate of BER (Basic Electrical Rhythm) is maximum in
- A) Stomach
 - B) Duodenum
 - C) Ileum
 - D) Sigmoid
19. The major nephron site where titratable acid is formed
- A) PCT
 - B) DCT
 - C) Loop of Henle
 - D) Collecting Duct
20. Fine, irregular contraction of individual fibers are called
- A) Fasciculation
 - B) Fibrillation
 - C) Spasm
 - D) Twitch

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1. Actions of Parathormone are all EXCEPT

- A) Increase bone formation.
- B) Lowers serum phosphate.
- C) Increase serum calcium.
- D) Increase phosphate excretion

2. Fertilization of the ovum by the sperm usually occurs in the

- A) Ampulla of Uterine Tube.
- B) Fimbria of Uterine Tube.
- C) Inside the Uterine Cavity.
- D) Fundus of Uterine Cavity.

3. Failure rate is maximum in which the following contraceptive method

- A) Barrier contraceptives.
- B) IUD.
- C) Oral Contraceptives.
- D) Surgical procedures.

4. Blood test barrier is formed by

- A) Leydig cells.
- B) Sertoli cells.
- C) Epididymis.
- D) Vas deferens.

5. The effect of diffusible ions on the resting membrane potential in the presence of non-diffusible ions is best explained by

- A) Nernst Equation.
- B) Gibbs Donnan Equation.
- C) Goldman Equation.
- D) Hesselbach Equation.

6. Multi unit smooth muscle is found in
- A) Uterus.
 - B) Ureter.
 - C) Intestine.
 - D) Iris of the Eye.
7. The property of smooth muscle of hollow organs to return to original force of contraction after elongation or shortening is
- A) Latch Mechanism.
 - B) Slow cycling.
 - C) Stress Relaxation.
 - D) Power Stroke.
8. Atonic bladder occurs in destruction of
- A) Afferent impulses from the bladder.
 - B) Efferent impulses from the spinal cord.
 - C) Facilitative impulses from the brain.
 - D) Inhibitory impulses from the brain.
9. Most potent vasopressor is
- A) Nor Adrenaline.
 - B) Renin.
 - C) Aldosterone.
 - D) Angiotensin - II
10. The condition in which food accumulates in the oesophagus with oesophageal dilatation is
- A) Achalasia cardia.
 - B) Gastro oesophageal reflux.
 - C) Receptive relaxation.
 - D) Hirschsprung disease.
11. Choleretics cause
- A) Contraction of gall bladder.
 - B) Concentration of bile.
 - C) Acidification of bile.
 - D) Increased bile production.
12. Vitamin K is required for synthesis of the following clotting factors EXCEPT
- A) II
 - B) VII
 - C) IX
 - D) XII

13. The most essential regulator of RBC production is
- A) Tissue Oxygenation.
 - B) Vitamin – B12.
 - C) Folic Acid.
 - D) Copper.
14. The most potent antigen presenting cells are
- A) B Lymphocytes.
 - B) T Lymphocytes.
 - C) Dendritic cells.
 - D) Macrophages.
15. White blood cells are attracted to inflamed tissue areas by
- A) Chemotaxis.
 - B) Diffusion.
 - C) Phagocytosis.
 - D) Pinocytosis.
16. The transplant of a tissue or whole organ from one identical twin to another is
- A) Autograft.
 - B) Isograft.
 - C) Allograft.
 - D) Xenograft.
17. The growth hormone receptor
- A) Must be internalized to exert its effect.
 - B) Requires dimerization to exert its effect.
 - C) Resembles the IGF – I receptor.
 - D) Resembles ACTH receptor.
18. The Contraction that occurs only in colon is
- A) Segmentation Contraction.
 - B) Tonic Contraction.
 - C) Mass action Contraction.
 - D) Peristalsis.
19. Glucose fever occurs in
- A) Insulin deficiency.
 - B) Glucagon deficiency.
 - C) Adrenal cortex insufficiency.
 - D) Primary hyperaldosteronism.
20. Cyclic AMP is used as second messenger in all EXCEPT
- A) Secretin.
 - B) Glucagon.
 - C) Calcitonin.
 - D) Oxytocin.

[MBBS 0222]

FEBRUARY 2022

Sub.Code : 6053

M.B.B.S. DEGREE EXAMINATION
(For the candidates admitted from the Academic Year 2019-2020)
FIRST YEAR
PAPER I – PHYSIOLOGY
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1. Microfilaments are solid fibres made up of
 - A. Actin
 - B. Tubulin
 - C. Titin
 - D. Myosin
2. Total safety factor against edema is
 - A. 3 mm Hg
 - B. 10 mm Hg
 - C. 17 mm Hg
 - D. 7 mm Hg
3. Protein subunits that lines up the Gap junctions are
 - A. Claudin
 - B. Connexin
 - C. Occludin
 - D. Actin
4. The part of cell membrane which limit the movement of water soluble substances,
 - A. Protein portion
 - B. Polysaccharide portion
 - C. Lipid portion
 - D. Membrane enzymes
5. Major force affecting the distribution of water and solutes in different body compartments is,
 - A. diffusion
 - B. osmosis
 - C. Active transport
 - D. Na-K⁺ pump

6. ECF volume is difficult to measure because,
- A. sampling it is difficult
 - B. limits of this space are ill defined
 - C. No substance is distributed exclusively in this compartment
 - D. Substance which equilibrate here also equilibrate with plasma
7. Rigor mortis is due to
- A. damage to actin and myosin
 - B. rapid sequestration of calcium in the endoplasmic reticulum
 - C. Increased myosin ATPase
 - D. ATP depletion
8. Which of the following will bind more calcium
- A. Calmodulin
 - B. Calsequestrin
 - C. Albumin
 - D. Calbindin
9. Hyponatremia can be caused by all of the following **except**,
- A. Diarrhoea
 - B. Over use of diuretics
 - C. Addison's disease
 - D. Diabetes insipidus
10. About 90% of the filtered glucose is reabsorbed in the early part of proximal tubule by
- A. SGLT1
 - B. SGLT2
 - C. GLUT 3
 - D. GLUT1
11. Transport maximum is not exhibited by,
- A. Glucose
 - B. Lactate
 - C. Creatinine
 - D. Sodium
12. All the following factors stimulate K^+ secretion by principle cells except,
- A. Increased Extra cellular fluid K^+ concentration
 - B. Increased aldosterone
 - C. Increased H^+ ion concentration
 - D. Increased tubular flow rate
13. Iron deficiency Anaemia is,
- A. Normocytic Normochromic
 - B. Normocytic Hypochromic
 - C. Microcytic Hypochromic
 - D. Macrocytic Hypochromic

14. Physiological effects of calcium are all except,
A. Haemostasis and blood clotting
B. Increased platelet formation
C. Transmission of nerve impulse
D. Acts as a second messenger
15. Following is the histamine receptor blocking drug,
A. Ranitidine
B. Omeperazole
C. Atropin
D. Calcium Bicarbonate
16. Co lipase is an enzyme produced by,
A. Stomach
B. Lingual gland
C. Duodenum
D. Exocrine pancreas
17. The secretion of seminal vesicle contains all of the following except,
A. Fructose
B. Citric acid
C. Prothrombin
D. Fibrinogen
18. which is not the symptom of hyperthyroidism of,
A. High state of excitability
B. Intolerance to cold
C. Increased sweating
D. Weight loss
19. Which of the following is Ovulating hormone?
A. FSH.
B. LH.
C. Estrogen.
D. Progesterone.
20. IUD acts by following mechanism except,
A. Interferes with endometrial preparation
B. Makes cervical mucus thick
C. Acts as a foreign body in uterus
D. Prevents Ovulation

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

[MBBS 0522]

MAY 2022

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION

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

FIRST YEAR – SUPPLEMENTARY (CBME)

PAPER I – PHYSIOLOGY

MULTIPLE CHOICE QUESTIONS

Q.P. Code: 526053

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(20 x 1 = 20)

1. Golgi complex is an organelle ,
 - A. Participates in breakdown of proteins and lipids
 - B. Post translational processing of proteins.
 - C. Energy production
 - D. Transcription and translation
2. The term homeostasis is coined by
 - A. W.B. Cannon
 - B. Claude Bernard
 - C. Starling
 - D. William Harvey
3. Indicator used to measure plasma volume is,
 - A. D₂O
 - B. Inulin
 - C. Evan's blue dye
 - D. Radioactive sodium
4. Neutrophil falls in all except,
 - A. Typhoid
 - B. Pernicious anaemia
 - C. Acute bacterial infection
 - D. Bone marrow depression
5. Eosinophil granules do not contain,
 - A. Lysozymes
 - B. Histamine
 - C. Ribonuclease enzyme
 - D. Peroxidase enzyme

6. In complement system cell lysis is brought about by,
 - A. Cytokine
 - B. Perforins
 - C. Interleukins
 - D. Lysosomes
7. Incorrect regarding sickle cell Anaemia is
 - A. RBCs fragility increases
 - B. RBCs are sickle shaped
 - C. Manifest as mild anaemia
 - D. Blood flow to the tissue decreases
8. Identify the correct statement,
 - A. The renal medullary blood flow is high
 - B. Vasa recta creates medullary hyper osmolarity
 - C. Medullary blood flow is less than 5% of total renal blood flow
 - D. The U-shaped structure of vessels do not minimize the loss of solutes
9. Nephrotic syndrome is due to,
 - A. Increased glomerular permeability leading to loss of proteins
 - B. Decreased glomerular filtration rate
 - C. Increased loss of sodium chloride
 - D. Increased production of plasma proteins
10. The following are loop diuretics except,
 - A. Furosemide
 - B. Ethacrynic acid
 - C. Bumetanide
 - D. Mannitol
11. Staircase phenomenon is due to
 - A. Increased availability of intra cellular calcium
 - B. Synthesis of stale troponin c molecules
 - C. Summation
 - D. Tetanus
12. Latch bridge mechanism in smooth muscle is responsible for
 - A. Fast muscle twitch
 - B. Sustained muscle contraction
 - C. Excitation contraction coupling
 - D. Unstable membrane potential
13. An example of multi-unit smooth muscle is
 - A. Stomach
 - B. Uterine myometrium
 - C. Iris
 - D. Ureter

14. The basic RMP of gastro intestinal smooth muscle can be affected by
- A. Stimulation by acetylcholine
 - B. Enzyme produced by GI secretions
 - C. Enteric nervous system
 - D. Peristalsis
15. Fructose is absorbed by,
- A. Na dependent transport
 - B. Osmosis
 - C. Simple diffusion
 - D. Facilitated diffusion
16. Sperms become motile in,
- A. Prostate
 - B. Epididymis
 - C. Vas deferens
 - D. Seminal vesicle
17. Ovulation in a women with normal health occurs,
- A. Just before LH surge
 - B. 14 days prior to start of menstrual bleeding
 - C. Just before corpus luteum maturation
 - D. During progesterone rise
18. Factors that stimulate growth hormone is
- A. Increased blood glucose
 - B. Exogenous growth hormone
 - C. Somatomedins
 - D. Testosterone
19. Addison's disease is due to
- A. Hyper-adrenalism
 - B. Hypo adrenalism
 - C. Increased secretion of melanin
 - D. Increased adrenal androgens.
20. Synthetic hormone dexamethasone has
- A. Only mineralo-corticoid activity
 - B. Only gluco-corticoid activity
 - C. Both of the above
 - D. None of the above

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

[MBBS 0123]

JANUARY 2023

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION

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

FIRST YEAR – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: 30 Minutes

Maximum : 20 Marks

Answer All Questions

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III. Multiple Choice Questions:

(20 x 1 = 20)

1. Regression of tissues as in uterine regression after pregnancy is a function of
A) Nucleus B) Lysosomes C) Secretory Vesicles D) Peroxisomes
2. Blood clotting is an example for
A) Positive feedback B) Negative feed back
C) Delayed negative feedback D) Adaptive control
3. Which of the following attaches cells to the basal lamina?
A) Zona occludens B) Desmosomes C) Hemidesmosome D) Claudin
4. What percentage of the total blood volume is plasma?
A) 3.5% B) 45% C) 55% D) 92%
5. The plasma proteins exert an oncotic pressure of about
A) 5 mm Hg B) 10 mm Hg C) 15 mm Hg D) 25 mm Hg
6. Which of the following protein transports cell-free hemoglobin?
A) Albumin B) Haptoglobin C) Hemopexin D) Transferrin
7. Which of the following muscle cannot be tetanized?
A) Skeletal muscle B) smooth muscle C) Cardiac muscle D) All the above
8. The end plate potential is characterized by
A) Propagation B) All or none law C) Depolarization D) Hyperpolarization
9. Which one of the following acts postsynaptically, blocking the nicotinic Acetylcholine receptors and preventing the excitation of the muscle cell membrane?
A) Botulinum toxin B) Curare C) Neostigmine D) Tetrodotoxin
10. Slow waves in the GIT are believed to be initiated by
A) I cells B) K cells C) Interstitial cells of Cajal D) S cells

11. Acidification of bile occurs in the
A) Liver B) Hepatic duct C) Gall bladder D) Duodenum
12. Fructose is transported across the apical membrane of enterocyte by
A) SGLT 1 B) GLUT 2 C) GLUT 4 D) GLUT 5
13. What fraction of filtered water is reabsorbed in the loop of Henle?
A) 15% B) 25% C) 35% D) 5%
14. The diuretic that acts by inhibiting Carbonic anhydrase activity exerts its effect in
A) Proximal tubule B) Loop of Henle C) Distal tubule D) Collecting duct
15. Destruction of sensory nerve fibers to the bladder leads to
A) Atonic bladder B) Neurogenic bladder
C) Hypertonic bladder D) Automatic bladder
16. Which of the following cell is responsible for bone resorption?
A) Osteoblasts B) Osteocytes C) Osteoclasts D) Hematopoietic stem cell
17. All the following increases Growth hormone secretion Except
A) Stress B) Fasting C) Exercise D) Cortisol
18. The Syndrome of inappropriate ADH secretion (SIADH) is characterized by
A) Low ADH levels B) Decrease in blood volume
C) Low blood pressure D) Low serum osmolarity
19. Double Bohr effect occurs in
A) Lungs B) Tissues C) Placenta D) Brain
20. Which of the following is not true about Progesterone?
A) Produce duct growth in the breasts
B) Stimulates the development of lobules and alveoli in the breast.
C) Is thermogenic
D) Has an antiestrogenic effect on the myometrial cells.

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

[MBBS 0323]

MARCH 2023

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION

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

FIRST YEAR – SUPPLEMENTARY (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

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Answer All Questions

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III. Multiple Choice Questions:

(20 x 1 = 20)

1. Most of the water in the human body is found in the
A) Interstitial fluid compartment B) Intracellular fluid compartment
C) Plasma compartment D) Total extracellular fluid compartment
2. Which is the major site of attachment of intracellular actin filaments?
A) Zona occludens B) Zona adherens C) Desmosomes D) Hemidesmosomes
3. Which of the following solution is hypertonic?
A) 0.9 % NaCl B) 5% dextrose C) 20% mannitol D) Distilled water
4. The total blood volume is
A) 5 ml/kg body weight B) 50 ml/kg body weight
C) 80 ml/kg body weight D) 100 ml/kg body weight
5. Erythrocyte Sedimentation Rate (ESR) is increased in
A) Anemia B) Hypofibrinogenemia C) Spherocytosis D) Polycythemia
6. The H antigen is usually present in individuals of
A) Type A and type B B) Type AB C) Type O D) All blood types
7. The minimum stimulus intensity that produces a compound action potential in nerve or muscle is called
A) Rheobase B) Chronaxie C) Twice rheobase D) Twice chronaxie
8. Contraction of muscles which help in maintaining posture against gravity is an example of
A) Isometric contraction B) Isotonic contraction
C) Lengthening contraction D) Eccentric contraction
9. The T system in cardiac muscle is located at the
A) Z-lines B) A-I junction C) M-line D) H- zone

10. Which of the following hormone is secreted by the stomach and plays an important role in the central control of food intake?
 A) Gastrin B) CCK C) Ghrelin D) peptide YY
11. Normally the angle between the anus and the rectum is approximately
 A) 15 degree B) 45 degree C) 90 degree D) 180 degree
12. In acute pancreatitis, which of the following causes disruption of pancreatic tissue and necrosis of the surrounding fat ?
 A) Trypsin B) Lecithin
 C) Lyso- phosphatidylcholine D) All of the above
13. The tubular transport maximum for glucose in a healthy young man is about
 A) 100 mg/min B) 225 mg/min C) 375 mg/min D) 500 mg/min
14. The obligatory 24 hr urine volume to maintain solute homeostasis in a healthy adult male weighing 65 kg and consuming a balanced 2000 calorie diet is approximately
 A) 100 ml B) 500 ml C) 1000 ml D) 1500 ml
15. All of the following drugs inhibit $\text{Na}^+ \text{K}^+ 2\text{Cl}^-$ cotransporter in the thick ascending limb of loop of Henle except
 A) Furosemide B) Ethacrynic acid C) Acetazolamide D) Bumetanide
16. Apparent Mineralocorticoid Excess is due to absence of
 A) 3β -hydroxysteroid dehydrogenase B) 21-hydroxylase
 C) 11β -hydroxysteroid dehydrogenase 2 D) 11-hydroxylase
17. Which of the following actions of catecholamines requires the permissive action of Glucocorticoids?
 A) Calorigenic effect B) Lipolysis
 C) Vasopressor response D) All of the above
18. Wolff-Chaikoff effect is
 A) Feedback inhibition of TSH by T_3
 B) Transient inhibition of thyroid hormone synthesis by large doses of iodide
 C) Movement of iodine into the colloid for organification
 D) Endocytosis of colloid during release of thyroid hormones
19. Mullerian inhibiting substance is secreted by
 A) Granulosa cells B) Sertoli cells C) Leydig cells D) Theca interna cells
20. All of the following are true regarding human chorionic gonadotropin except
 A) Production of testosterone in male fetuses
 B) Has luteinizing and luteotropic effect
 C) Can be detected in urine 6 days after conception
 D) Produced by trophoblast cells.

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

[MBBS 1123]

NOVEMBER 2023

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION
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FIRST YEAR – (CBME)
PAPER I – PHYSIOLOGY
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1. Which of the following cellular organelle contain oxidases?
A) Mitochondria B) Golgi Apparatus C) Lysosomes D) Peroxisomes
2. Which of the following cytoskeletal protein serve as conveyor belts for the intracellular transport of vesicles and granules?
A) Microfilament B) Intermediate filament C) Microtubule D) Desmin filaments
3. Which control mechanism operates during rapid movements of the body?
A) Positive feedback B) Negative feed back
C) Vicious Cycle D) Feed-forward control
4. Which of the following promotes the rouleaux formation?
A) Albumin B) Thrombin C) Fibrinogen D) Prothrombin
5. Hypersegmented Neutrophils are seen in
A) Hemolytic anemia B) Iron deficiency anemia
C) Megaloblastic anemia D) Aplastic anemia
6. A type of white blood cell in the alveoli of lungs
A) Littoral cells B) Dust cells C) Histiocytes D) Kupffer cells
7. Which of the following drugs would likely alleviate myasthenia gravis patient's symptoms?
A) Atropine B) Cholinesterase C) Curare D) Neostigmine
8. The calcium-binding protein that plays a key role in the regulation of smooth muscle cell contraction is
A) Dystrophin B) Calmodulin C) Troponin C D) Calcineurin
9. Which of the following is not true regarding Type I skeletal muscle fibers?
A) They are slow muscle fibers B) They have high glycolytic capacity
C) They contain myoglobin D) There are numerous mitochondria

10. The proenzyme pepsinogen is secreted mainly from which of the following structures?
A) Acinar cells of the pancreas B) Ductal cells of the pancreas
C) Epithelial cells of the duodenum D) Gastric glands of the stomach
11. The following are the functions of bile salts except
A) Reduce the surface tension
B) Responsible for emulsification of fat
C) Fats are converted into fatty acids and glycerol
D) Form micelles
12. The myenteric plexus of the oesophagus is deficient at the 'Lower Esophageal Sphincter' in which of the following condition ?
A) Gastro oesophageal reflux disease B) Achalasia cardia
C) Aerophagia D) Hirshsprung's disease
13. Which is the fundamental mechanism generating hypertonicity in the renal medullary interstitium?
A) Active transport of NaCl in thick ascending limb
B) Action of ADH in the collecting ducts
C) Passive recirculation of NaCl in the medullary interstitium
D) Urea permeability of collecting ducts
14. Most important buffer system present in the distal convoluted tubule is
A) Bicarbonate B) Phosphate C) Protein D) Ammonia
15. Angiotensin II causes all of the following except
A) Stimulation of thirst B) Aldosterone secretion
C) Increased ADH secretion D) Vasodilation
16. Metabolic syndrome of obesity includes all except
A) Hyperinsulinemia B) Hyperlipidemia
C) Accelerated atherosclerosis D) Decreased serum insulin levels
17. The binding of iodine with the thyroglobulin molecule is called
A) Iodide trapping B) Oxidation of the Iodide Ion
C) Organification D) Coupling
18. Sheehan syndrome is post partum necrosis of
A) Pancreas B) Pineal gland C) Pituitary gland D) Adrenal gland
19. In females, the first event during puberty is
A) Thelarche B) Pubarche C) Menarche D) Adrenarche
20. Which of the following inhibits synthesis and secretion of prolactin by lactotropes ?
A) Somatostatin B) Dopamine C) Oestrogen D) Oxytocin.

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

[MBBS 0124]

JANUARY 2024

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION

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FIRST YEAR – SUPPLEMENTARY (CBME)

PAPER I – PHYSIOLOGY

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1. Synthesis of lipid substances in the cell occurs at the
 - A) Granular endoplasmic reticulum
 - B) Agranular endoplasmic reticulum
 - C) Mitochondria
 - D) Peroxisome
2. Transport of lipid insoluble substances across the cell membrane through protein channels is an example of
 - A) Simple diffusion
 - B) Facilitated diffusion
 - C) Primary active transport
 - D) Secondary active transport
3. Which one of the following measurement is a reasonable indicator of plasma osmolarity?
 - A) Plasma sodium concentration
 - B) Plasma potassium concentration
 - C) Plasma bicarbonate concentration
 - D) Plasma pH
4. Initiation of skeletal muscle contraction occurs when Calcium binds with
 - A) Troponin
 - B) Tropomyosin
 - C) Myosin
 - D) Actin
5. Platelets production is regulated by
 - A) Thrombopoietin
 - B) Erythropoietin
 - C) Thymosin
 - D) Interleukin
6. Haemophilia A is due to deficiency of factor
 - A) VII
 - B) VIII
 - C) IX
 - D) X
7. Bleeding time is prolonged in
 - A) Anemia
 - B) Neutropenia
 - C) Lymphopenia
 - D) Thrombocytopenia
8. In major cross matching before blood transfusion
 - A) Donor's cells are mixed with recipient's plasma
 - B) Donor's cells are mixed with recipient's cells
 - C) Donor's plasma is mixed with recipient's cells
 - D) Donor's plasma is mixed with recipient's plasma

9. Hormone that causes secretion of pancreatic juice rich in bicarbonate ions is
A) Cholecystokinin B) Motilin C) Secretin D) Serotonin
10. Which of the following is true regarding fructose absorption in the intestine?
A) Occurs by sodium cotransport mechanism
B) Transported by facilitated diffusion
C) Transported by SGLT1
D) Transported by GLUT3
11. Which of the following cell in the stomach secretes HCl?
A) Enterochromaffin like cells B) Mucus cell
C) Parietal cell D) Peptic cell
12. Cells responsible for acid secretion in kidney
A) Type A intercalated cells B) Principal cells
C) Juxtaglomerular cells D) Mesangial cells
13. Which of the following potassium sparing diuretic drug is an aldosterone antagonist?
A) Mannitol B) Furosemide C) Spironolactone D) Triamterene
14. Renin converts
A) Angiotensinogen to Angiotensin I B) Angiotensin I to Angiotensin II
C) Angiotensin II to Angiotensin III D) Angiotensin III to Angiotensin IV
15. Which of the following is not a feature of diabetes insipidus?
A) Polyuria B) Polydipsia
C) Polyphagia D) Low specific gravity of urine
16. Inhibin inhibits
A) Prolactin B) Follicle stimulating hormone
C) Thyroid stimulating hormone D) Growth hormone
17. All of the following are features of hypothyroidism except
A) Constipation B) Fatigue C) Weight gain D) Decreased sleep
18. Sertoli cells are stimulated by
A) Testosterone B) Luteinising hormone
C) Follicle stimulating hormone D) Estrogen
19. The menstrual fluid is normally nonclotting because of the presence of
A) Heparin B) Prostaglandin E C) Prostaglandin F D) Fibrinolysin
20. Osteoporosis of bones in postmenopausal women is due to deficiency of
A) Progesterone B) Estrogen
C) Follicle stimulating hormone D) Luteinising hormone

M.B.B.S. DEGREE EXAMINATION

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

FIRST YEAR – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

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. Positive feedback mechanism is seen
A) Secretion of insulin by blood glucose B) Secretion of thyroxin by TSH
C) LH surge D) Regulation of blood pressure
2. Diffusion rate depends on all **EXCEPT**
A) Concentration gradient B) Surface area of membrane
C) Thickness of membrane D) Temperature
3. Thiosulphate is used to measure the volume of
A) Blood B) Extracellular fluid C) Intracellular fluid D) Total body water
4. Group B nerve fibers are more susceptible to
A) Hypoxia B) Temperature C) Pressure D) Local anaesthetics
5. A 45-year-old woman complains of muscle weakness which becomes worse during activity and improved by rest. She may be suffering from
A) Parkinson disease B) Lambert-Eaton syndrome
C) Myasthenia gravis D) Muscular dystrophy
6. Aspirin in low dose prevents myocardial infarction by
A) Retracting the blood clot B) Inhibiting platelets aggregation
C) Preventing platelet adhesion D) Initiating platelets activation
7. Opsonization and phagocytosis of bacteria is carried out by
A) C3a B) C3b C) C5a D) C6
8. A 30-year-old Rh-ve mother delivered her second child (Rh+ve) with signs of jaundice, anaemia, edema, and kernicterus. What will be your diagnosis?
A) Erythroblastosis fetalis B) Obstructive jaundice
C) Fanconi anaemia D) Thalassemia
9. Trypsinogen is converted to trypsin by the action of
A) Pepsin B) HCL C) Enterokinase D) Chymotrypsin

10. Myenteric plexus is present in
A) Between longitudinal and circular muscles
B) Mucosa
C) Submucosa
D) Serosa
11. Frequency of slow waves in stomach is
A) 3/minute B) 10/minute C) 15/minute D) 18/minute
12. Which of the following causes relaxation of the mesangial cell?
A) Histamine B) Norepinephrine C) Endothelins D) Dopamine
13. Macula densa in kidney is located in
A) PCT B) DCT C) Afferent Arteriole D) Efferent Arteriole
14. Spastic neurogenic bladder is seen in
A) Spinal cord transection B) Deafferentation
C) Denervation D) Bladder tumor
15. Which of the following hormone acts in the cell nucleus?
A) GnRH B) FSH C) Insulin D) Thyroid
16. Which one of the following is the clinical feature of acromegaly?
A) Height increases B) Protrusion of lower jaw
C) Height decreases D) Small tongue
17. Wolff –Chaik off effect is due to
A) Suppression of TSH secretion B) Decreased iodination of MIT
C) Decreased T3 to T4 conversion D) Large iodine intake
18. Capacitation of spermatozoa takes place in
A) Seminiferous tubules B) Epididymis
C) Female genital tract D) Vas deferens
19. Which hormone causes milk ejection from breast during breastfeeding?
A) Prolactin B) Oxytocin C) Progesterone D) Estrogen
20. Fern pattern of cervical mucus is due to
A) Estrogen B) Progesterone C) Oxytocin D) Prolactin

M.B.B.S. DEGREE EXAMINATION
(For the candidates admitted from the Academic Year 2020 -2021 Onwards)

FIRST PROFESSIONAL – (CBME) - SUPPLEMENTARY
PAPER I – PHYSIOLOGY
Q.P. Code: 526053

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. Which of the following methods is NOT used for measurement of body fluid measurement?
A) Antipyrine for total body water B) Inulin for extracellular fluid
C) Evans blue for plasma volume D) ¹²⁵I-albumin for blood volume
2. Depolarisation stage of action potential characterized by:
A) Influx of positive ions into the cell
B) Diffusion of potassium ions out of the cells
C) Cell membrane potential return to the resting state
D) Cell membrane respond to subthreshold stimulus
3. The type of membrane junction that plays role in electrical conductivity of cardiac cells is
A) Tight junction B) Gap junction C) Desmosomes D) Pacemaker cells
4. In muscle contraction all are true EXCEPT
A) A band remains unchanged B) H Zone disappears
C) I band becomes wider D) Two Z lines come closer
5. Which of the following is a presynaptic blocking agent?
A) D- tubocurarine B) Succinylcholine C) Botulinium toxin D) Physostigmine
6. All are calcium binding proteins EXCEPT
A) Calbindin B) Calmodulin C) Tropomyosin D) Troponin
7. Blood group antigens are
A) Transmitted by sex chromosomes B) Attached to plasma globulin
C) Found in sweat D) Found in saliva
8. Deficiency of vitamin K leads to decreased activity of:
A) Platelets B) Coagulation factors V and VIII
C) Coagulation factors VII, IX and X D) Fibrinolytic system
9. All of the following are steps of phagocytosis EXCEPT
A) Chemotaxis B) Oposonization C) Antigen presentation D) Diapedesis

10. Which of the following is NOT a liver function test?

- A) Blood urea B) Serum Bilirubin
C) Serum albumin D) Aspartate Transaminase
11. Which of the following statement is FALSE
A) Meissner's plexus is responsible for gastrointestinal motility
B) Auerbach's plexus is present in the muscular layer
C) Sympathetic nerves inhibit the nervous system and decrease the motility
D) Parasympathetic system is responsible for watery secretion
12. All of the following are functions of Secretin EXCEPT
A) Increases the secretion of pancreatic juice rich in bicarbonate
B) Increases alkaline bile secretion
C) Causes contraction of pyloric sphincter
D) Causes contraction of gallbladder
13. Which of the following is used to measure renal plasma flow?
A) Inulin B) Para Amino Hippuric acid C) Mannitol D) D₂O
14. In syndrome of Inappropriate Anti Diuretic Hormone (SIADH) secretion
A) ADH secretion is increased despite hyperosmolality
B) ADH secretion is increased despite hypoosmolality
C) ADH secretion is increased despite iso osmolality
D) ADH secretion is decreased despite hypoosmolality
15. Somatomedin deficiency causes
A) Pituitary dwarf B) Laron dwarf C) Hypothyroid dwarf D) African pygmies
16. Cortisol exhibits anti-inflammatory effect by
A) Increasing the capillary permeability
B) Stabilizing the lysosomal membrane
C) Increasing the migration of white blood cells
D) Increasing the release of interleukin-1 from white blood cells
17. An increase in 24hr urinary excretion of vanillylmandelic acid is characteristic feature of
A) Pheochromocytoma B) Addison's disease
C) Cushing's syndrome D) Hyperaldosteronism
18. Differentiation of external genitalia in males requires
A) Dihydrotestosterone B) 5- alpha- reductase C) Testosterone D) Aromatase 3
19. All of the following endocrine related changes occur during pregnancy EXCEPT:
A) Decreased secretion of thyroxine B) Increased secretion of glucocorticoids
C) Increased secretion of Aldosterone D) Increased secretion of parathormone
20. Placental hormone which reduces the possibility of fetal rejection is
A) Progesterone B) Estrogen C) Relaxin D) Human Chorionic Gonadotrophin

M.B.B.S. DEGREE EXAMINATION

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

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

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 among the following is negative feedback mechanism?
A) Hodgkin's cycle
B) Parturition reflex initiated by oxytocin
C) Arterial pressure regulating mechanism
D) Luteinizing hormone surge
2. Gap junctions are made up of special transmembrane proteins known as
A) Occludin B) Connexon C) Cadherin D) Claudin
3. Mechanism of secretion of neurotransmitters in response to specific stimuli is an example of
A) Exocytosis B) Endocytosis C) Transcytosis D) Diffusion
4. Specialized macrophages located in liver, lining the walls of sinusoids
A) Histiocytes B) Microglia C) Kupffer cells D) Littoral cells
5. The minimum strength of stimulus that can elicit a biological response in strength duration curve
A) Rheobase B) Utilisation time C) Chronaxie D) All or none response
6. Neutrophils migrate from blood stream into tissue by passing through junction between endothelial cells by a process called
A) Chemotaxis B) Phagocytosis C) Diapedesis D) Opsonisation
7. The jumping of nerve impulse from one node of Ranvier to another in a myelinated nerve fibre is
A) Nerve impulse B) Saltatory conduction
C) Orthodromic conduction D) Antidromic conduction
8. Complete transection of a nerve is
A) 1st degree injury B) 3rd degree injury
C) 5th degree injury D) 7th degree injury

9. Adrenarche is
A) Onset of menses
B) Cessation of menses
C) Increased secretion of adrenal androgen stimulating hormone
D) Onset of increase in adrenal androgen secretion
10. Removal of thymus in a newborn results in all except
A) Lymphocytosis
B) Atrophy of all lymphoid tissue
C) Increased susceptibility to infections
D) Failure to produce circulating antibodies to antigen
11. Milk ejection reflex is mediated by hormone
A) Prolactin B) Vasopressin C) Oestrogen D) Oxytocin
12. Autoregulation of renal blood flow occurs within mean arterial pressure range of
A) 80 – 180 mm Hg B) 30 – 90 mm Hg
C) 50 – 100 mm Hg D) 60 – 110 mm Hg
13. Lactational amenorrhea is an example of
A) Physiological primary amenorrhea B) Pathological primary amenorrhea
C) Physiological secondary amenorrhea D) Pathological secondary amenorrhea
14. Greatest source of H^+ in the body is
A) High protein diet B) End product of cellular metabolism
C) Synthesized by renal tubular cells D) Waste product metabolism
15. Antigenic determinant that is part of antigen that is recognized by immune system
A) Paratope B) Epitope C) Selectin D) Agglutinin
16. Beta HCG is secreted by
A) Placenta B) Ovary C) Corpus luteum D) Pituitary
17. Major source of ammonia production in renal tubular cells is by
A) Deamination of Glutamic acid B) Deamination of glycine
C) Deamination of glutamine D) Comes directly from arterial blood
18. Which among the following is a chologogue?
A) Bile salts B) Vagal stimulation C) Secretin D) Cholecystokinin
19. Lysozyme is present in
A) Tears B) Saliva C) Human milk D) Mucus
20. Mass peristalsis is exhibited by
A) Colon B) Stomach C) Ileum D) Jejunum

M.B.B.S. DEGREE EXAMINATION

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

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: 20 Minutes

Maximum : 20 Marks

Answer All Questions

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

SET - B

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(20 x 1 = 20)

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 - A) Histiocytes
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 - C) Kupffer cells
 - D) Littoral cells

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

[MBBS 0825]

AUGUST 2025

Sub. Code: 6053

M.B.B.S. DEGREE EXAMINATION

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

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

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. Lysozyme is present in
A) Tears B) Saliva C) Human milk D) Mucus
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A) Colon B) Stomach C) Ileum D) Jejunum
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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 I – PHYSIOLOGY

Q.P. Code: 526053

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. The blood osmolarity of a normal person is approximately
A) 100 mOsm/L B) 200 mOsm/L C) 300 mOsm/L D) 400 mOsm/L
2. Patients with diarrhoea are given oral rehydration solutions containing sodium and glucose to take advantage of which transport mechanism.
A) Uniporter transport B) Primary active transport
C) Secondary active transport D) Antiporter transport
3. A patient with right heart failure can develop generalized oedema due to which of the following changes in Starling forces?
A) Increase in capillary hydrostatic pressure
B) Decrease in capillary hydrostatic pressure
C) Increase in capillary oncotic pressure
D) Decrease in capillary oncotic pressure
4. The secretory immunoglobulin that provides localized protection and cannot cross the placenta is
A) IgA B) IgG C) IgM D) IgD
5. Innate immune response involves all the following cells EXCEPT
A) Neutrophils B) Kupffer cells C) Macrophages D) B-lymphocytes
6. The point mutation leading to sickle cell anaemia occurs in
A) Beta globin chain of haemoglobin B) Alpha globin chain of haemoglobin
C) Gamma globin chain of haemoglobin D) Delta globin chain of haemoglobin
7. When the skeletal muscle contracts, what happens to the length of the thin and thick filaments of the sarcomere?
A) The thin filaments become shorter, thick filaments do not change in length
B) The thick filaments become shorter, thin filaments do not change in length
C) The thick and thin filaments do not change in length
D) The thick and thin filaments become shorter in length
8. The unique feature of the autonomic innervation of the sweat glands is that
A) They are innervated by adrenergic preganglionic sympathetic neurons
B) They are innervated by cholinergic postganglionic sympathetic neurons
C) They are innervated by cholinergic postganglionic parasympathetic neurons
D) They are innervated by dopaminergic preganglionic parasympathetic neurons

9. In the bladder, as the volume inside initially increases, the tension exerted by smooth muscle walls of the bladder increases relatively little. Which property of smooth muscle best explains this?
A) Latch phenomenon B) Plasticity C) Auto rhythmicity D) Stress contraction
10. Short chain fatty acids that are formed by the action of gut bacteria are absorbed in the
A) Duodenum B) Ileum C) Jejunum D) Colon
11. The hormone that initiates migrating motor complex in the gastrointestinal tract during fasting is
A) Gastrin B) Secretin C) Motilin D) Cholecystokinin
12. What is the main role of cholecystokinin?
A) Promotes gastric emptying B) Decreases pancreatic enzymatic secretion
C) Increases gastric acid secretion D) Causes gall bladder contraction
13. The mechanism of action of loop diuretics is
A) Inhibition of Na-K-2Cl cotransporter B) Blocking of Na-Cl cotransporter
C) Blocking of aldosterone receptor D) Inhibition of carbonic anhydrase enzyme
14. The hydrostatic pressure in the glomerular capillaries is higher than in other systemic capillaries because the
A) Glomerular capillaries have a greater surface area than systemic capillaries
B) Efferent arteriole offers greater resistance to flow than the afferent arteriole
C) Glomerular capillary permeability is increased by the presence of fenestrations
D) Blood flows out into the peritubular capillaries from the glomerular capillaries
15. Spastic neurogenic bladder is seen in
A) Tabes dorsalis due to Syphilis B) Complete spinal cord injury
C) Tumours of Cauda equina D) Sacral dorsal root injury
16. One of the features of hyperthyroidism is
A) Weight gain B) Cold intolerance
C) Decreased pulse pressure D) Increased sweating
17. Insulin-mediated glucose uptake occurs through
A) GLUT 1 B) GLUT 2 C) GLUT 3 D) GLUT 4
18. The type of receptor to which steroid hormone binds is
A) Intracellular receptor B) Ionotropic receptor
C) Enzyme-linked receptor D) G protein-coupled receptor
19. In cervical smear examination, the fern-like pattern is due to the effect of
A) Prostaglandins B) Estrogen C) Progesterone D) Fibrinolysin
20. The Mullerian inhibitory substance is produced by
A) Yolk sac B) Leydig cells C) Sertoli cells D) Interstitial cells

M.B.B.S. DEGREE EXAMINATION

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

FIRST PROFESSIONAL – SUPPLEMENTARY (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: 20 Minutes

Maximum : 20 Marks

Answer All Questions

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SET - B

III. Multiple Choice Questions:

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1. Short chain fatty acids that are formed by the action of gut bacteria are absorbed in the
A) Duodenum B) Ileum C) Jejunum D) Colon
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A) The thin filaments become shorter, thick filaments do not change in length
B) The thick filaments become shorter, thin filaments do not change in length
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19. The unique feature of the autonomic innervation of the sweat glands is that
A) They are innervated by adrenergic preganglionic sympathetic neurons
B) They are innervated by cholinergic postganglionic sympathetic neurons
C) They are innervated by cholinergic postganglionic parasympathetic neurons
D) They are innervated by dopaminergic preganglionic parasympathetic neurons
20. In the bladder, as the volume inside initially increases, the tension exerted by smooth muscle walls of the bladder increases relatively little. Which property of smooth muscle best explains this?
A) Latch phenomenon B) Plasticity C) Auto rhythmicity D) Stress contraction

M.B.B.S. DEGREE EXAMINATION

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

FIRST PROFESSIONAL – SUPPLEMENTARY (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

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. Spastic neurogenic bladder is seen in
 - A) Tabes dorsalis due to Syphilis
 - B) Complete spinal cord injury
 - C) Tumours of Cauda equina
 - D) Sacral dorsal root injury
2. One of the features of hyperthyroidism is
 - A) Weight gain
 - B) Cold intolerance
 - C) Decreased pulse pressure
 - D) Increased sweating
3. Insulin-mediated glucose uptake occurs through
 - A) GLUT 1
 - B) GLUT 2
 - C) GLUT 3
 - D) GLUT 4
4. The type of receptor to which steroid hormone binds is
 - A) Intracellular receptor
 - B) Ionotropic receptor
 - C) Enzyme-linked receptor
 - D) G protein-coupled receptor
5. In cervical smear examination, the fern-like pattern is due to the effect of
 - A) Prostaglandins
 - B) Estrogen
 - C) Progesterone
 - D) Fibrinolysin
6. The Mullerian inhibitory substance is produced by
 - A) Yolk sac
 - B) Leydig cells
 - C) Sertoli cells
 - D) Interstitial cells
7. The blood osmolarity of a normal person is approximately
 - A) 100 mOsm/L
 - B) 200 mOsm/L
 - C) 300 mOsm/L
 - D) 400 mOsm/L
8. Patients with diarrhoea are given oral rehydration solutions containing sodium and glucose to take advantage of which transport mechanism.
 - A) Uniporter transport
 - B) Primary active transport
 - C) Secondary active transport
 - D) Antiporter transport
9. A patient with right heart failure can develop generalized oedema due to which of the following changes in Starling forces?
 - A) Increase in capillary hydrostatic pressure
 - B) Decrease in capillary hydrostatic pressure
 - C) Increase in capillary oncotic pressure
 - D) Decrease in capillary oncotic pressure

10. The secretory immunoglobulin that provides localized protection and cannot cross the placenta is
A) IgA B) IgG C) IgM D) IgD
11. Innate immune response involves all the following cells EXCEPT
A) Neutrophils B) Kupffer cells C) Macrophages D) B-lymphocytes
12. The point mutation leading to sickle cell anaemia occurs in
A) Beta globin chain of haemoglobin B) Alpha globin chain of haemoglobin
C) Gamma globin chain of haemoglobin D) Delta globin chain of haemoglobin
13. When the skeletal muscle contracts, what happens to the length of the thin and thick filaments of the sarcomere?
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15. In the bladder, as the volume inside initially increases, the tension exerted by smooth muscle walls of the bladder increases relatively little. Which property of smooth muscle best explains this?
A) Latch phenomenon B) Plasticity C) Auto rhythmicity D) Stress contraction
16. Short chain fatty acids that are formed by the action of gut bacteria are absorbed in the
A) Duodenum B) Ileum C) Jejunum D) Colon
17. The hormone that initiates migrating motor complex in the gastrointestinal tract during fasting is
A) Gastrin B) Secretin C) Motilin D) Cholecystokinin
18. What is the main role of cholecystokinin?
A) Promotes gastric emptying B) Decreases pancreatic enzymatic secretion
C) Increases gastric acid secretion D) Causes gall bladder contraction
19. The mechanism of action of loop diuretics is
A) Inhibition of Na-K-2Cl cotransporter B) Blocking of Na-Cl cotransporter
C) Blocking of aldosterone receptor D) Inhibition of carbonic anhydrase enzyme
20. The hydrostatic pressure in the glomerular capillaries is higher than in other systemic capillaries because the
A) Glomerular capillaries have a greater surface area than systemic capillaries
B) Efferent arteriole offers greater resistance to flow than the afferent arteriole
C) Glomerular capillary permeability is increased by the presence of fenestrations
D) Blood flows out into the peritubular capillaries from the glomerular capillaries

M.B.B.S. DEGREE EXAMINATION

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

FIRST PROFESSIONAL – SUPPLEMENTARY (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

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)

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A) Prostaglandins B) Estrogen C) Progesterone D) Fibrinolysin
2. The Mullerian inhibitory substance is produced by
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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MBBS 0726]

JULY 2026

Sub. Code: 6053

M.B.B.S. DEGREE EXAMINATION

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

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

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. The total body water can be measured by
A) The dye Evan's blue T- 1824 B) Mannitol
C) Aminopyrine D) Inulin
2. Role of Troponin 1 in skeletal muscles
A) Binds with calcium
B) Binds with Tropomyosin
C) Inhibit myosin actin interaction
D) Activates myosin actin cross bridge cycling
3. Each Hemoglobin molecule carries how many molecules of oxygen
A) 2 B) 4 C) 8 D) 16
4. Achlorhydria refers to
A) Inflammation of stomach mucosa
B) Increased Hydrochloricacid secretion in stomach
C) Gases in stomach
D) Stomach fails to secrete Hydrochloricacid
5. Dihydrotestosterone acts on
A) Pituitary B) External genitalia C) Internal genitalia D) Testis
6. Programmed cell death refers to
A) Necrosis B) Apoptosis C) Pinocytosis D) Phagocytosis
7. Resting membrane potential of skeletal muscle fibre is
A) - 70mv B) - 95mv C) + 60mv D) - 90mv
8. Rh antibody is of which type mainly?
A) IgA type B) IgM type C) IgG type D) IgD type
9. What is the percentage of cardiac output in renal blood flow?
A) 12.5% B) 23.5% C) 18.7% D) 30.2%

10. Pendrin is
A) Chloride Iodide ion counter transport
B) Sodium iodide symporter
C) Thyroid peroxidase
D) Sodium potassium adenosine triphosphatase
11. Effectiveness of a control system is assessed by
A) Gain B) Loss C) Recovery D) Improvement in function
12. The continued elevation of oxygen consumption above resting value that occurs during the true recovery phase of exercise
A) Endurance B) Oxygen demand
C) Oxygen utilization D) Oxygen debt
13. Gastrin secretion is inhibited by all except
A) Secretin B) Epinephrine C) Somatostatin D) Glucagon
14. All are causes of metabolic alkalosis except
A) Vomiting B) Hyperaldosteronism
C) Chronic renal failure D) Thiazide diuretics
15. GLUT-4 is utilized by
A) Brain B) Red Blood cells
C) Beta cells of pancreas D) Skeletal muscle
16. Substances transported by diffusion through a membrane using a specific carrier protein
A) Filtration B) Active transport
C) Facilitated diffusion D) Osmosis
17. Fat is maximum synthesized in
A) Adipose tissue B) Muscle C) Liver D) Intestine
18. The Normal Renal Threshold for glucose to appear in urine is
A) 220 mg/dl B) 250 mg/dl C) 275 mg/dl D) 180 mg/dl
19. In sickle cell anaemia HbS is formed due to
A) Substitution of valine for glutamic acid at position 6 in the beta chain of HBA
B) Substitution of valine for glycine acid at position 6 in the beta chain of HBA
C) Substitution of valine for glutamic acid at position 4 in the beta chain of HBA
D) Substitution of valine for glycine acid at position 4 in the beta chain if HBA
20. The muscle using extra energy in proportion to proportion to the work done refers to
A) Heat rigor B) Fenn effect
C) Muscle fatigue D) Rigor mortis

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

[MBBS 0726]

JULY 2026

Sub. Code: 6053

M.B.B.S. DEGREE EXAMINATION

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

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

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. Dihydrotestosterone acts on
A) Pituitary B) External genitalia C) Internal genitalia D) Testis
2. Programmed cell death refers to
A) Necrosis B) Apoptosis C) Pinocytosis D) Phagocytosis
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...2...

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

[MBBS 0726]

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M.B.B.S. DEGREE EXAMINATION

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

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

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. GLUT-4 is utilized by
 - A) Brain
 - B) Red Blood cells
 - C) Beta cells of pancreas
 - D) Skeletal muscle
2. Substances transported by diffusion through a membrane using a specific carrier protein
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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

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M.B.B.S. DEGREE EXAMINATION

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

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: 20 Minutes

Maximum : 20 Marks

Answer All Questions

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SET - D

III. Multiple Choice Questions:

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